NCGC National Clinical Guideline Centre

Psoriasis Guideline

Appendices A - G

Psoriasis Guideline

Appendices A-G

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Contents

Appendix A: Scope

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1 Guideline title

Psoriasis: the management of psoriasis

1.1 Short title

Psoriasis

2 The remit

The Department of Health has asked NICE: 'to produce a clinical guideline on the management of psoriasis'.

3 Clinical need for the guideline

3.1 Epidemiology

a) Psoriasis is a chronic inflammatory skin disease that typically follows a relapsing and remitting course. It is associated with joint disease in a significant minority of people.

b) There are no validated diagnostic criteria for psoriasis, so it is difficult to obtain an accurate figure for its prevalence. It is estimated to be around 1–2%, with the greatest prevalence being in white people. Men and women are equally affected. It can occur at any age, but the majority of cases occur before the age of 35 years.

c) Chronic plaque psoriasis is by far the most common variant and is characterised by well delineated red, scaly plaques. The extent of involvement is highly variable, ranging from a few localised patches at extensor sites, to generalised involvement. Distinctive nail changes occur

in around 50% of those affected and are more common in those with arthritis.

d) Other variants include:

- guttate psoriasis (a rash of small pink spots)
- flexural or 'inverse' forms (affecting skin in the body folds)
- sebopsoriasis (particularly affecting the face and central chest)
- erythrodermic psoriasis (redness and scaling over the whole body)
- pustular psoriasis (small pus-filled spots, known as palmoplantar pustulosis if it affects just the hands and feet, or as generalised pustular psoriasis if it is more widely spread).

Occasionally combinations of the different types develop simultaneously or sequentially over time in the same person.

e) The chronic, incurable nature of psoriasis means that associated morbidity is significant. People with psoriasis, like those with other major medical disorders, have reduced levels of employment and income as well as a decreased quality of life. The impact on quality of life is similar in primary care and hospital settings, and encompasses functional, psychological, and social dimensions.

f) Factors that contribute to morbidity include symptoms specifically related to the skin (for example, chronic itch, bleeding, scaling and nail involvement), problems related to treatments (mess, odour, inconvenience and time), arthritis, and the effect of living with a highly visible, disfiguring skin disease (difficulties with relationships, difficulties with securing employment and poor self esteem). Even people with minimal involvement (less than the equivalent of three palm areas) state that psoriasis has a major effect on their life.

g) The combined costs of long-term therapy and social costs of the disease have a major impact on healthcare systems and on society in general.

h) About one in four people with psoriasis experience major psychological distress, and the extent to which they feel socially stigmatised and

excluded is substantial. Doctors, including dermatologists, often fail to appreciate the extent of this disability and even when it is correctly identified, fewer than a third of people with psoriasis receive appropriate psychological interventions.

i) People with severe disease have a more than twofold increase in mortality from cardiovascular disease although it is not clear whether this increase directly relates to the psoriasis itself, or to the increased prevalence of traditional cardiovascular risk factors in people with psoriasis. These include obesity, type 2 diabetes mellitus, metabolic syndrome, excess alcohol intake or alcoholism, hyperlipidaemia (which may be partly iatrogenic, from the effects of antipsoriatic treatments such as ciclosporin and acitretin) and smoking (where long duration of smoking is associated with severe psoriasis in women).

j) Community- and hospital-based studies suggest that people with psoriasis, particularly those with severe disease, may be at increased risk of lymphoma and non-melanoma skin cancer. The relative influence of known confounders such as concomitant therapy with immunosuppressants and phototherapy, smoking, and alcohol is not clear.

k) The significant reduction in quality of life and psychosocial disability suffered by people with psoriasis underlines the need for prompt, effective treatment, and long-term disease control.

3.2 Current practice

a) Traditional topical therapies (such as corticosteroids, vitamin D3 analogues, dithranol and tar preparations) are used to treat mild to moderate disease. Adherence to topical therapy regimens is often poor, but can be improved by giving attention to cosmetic acceptability, local side effect profiles, formulation, and practicalities of application.

b) People with moderate to severe psoriasis (approximately one in four people with the condition) may need second-line therapies because of the extent and/or severity of the disease. These include phototherapy (broad- or narrow-band ultraviolet [UV] B light, with or without supervised

application of complex topical therapies such as dithranol or crude coal tar), photochemotherapy (psoralen plus UVA light, this combination is known as PUVA), and systemic agents such as ciclosporin, methotrexate, acitretin and fumarates.

c) All of these interventions can be associated with long-term toxicity and some people with psoriasis have treatment-resistant disease. Also, phototherapy is not available to many because of geographical, logistical or other constraints.

d) Over the past 5 years, a number of biological therapies that use molecules designed to block specific molecular steps important in the development of psoriasis have been licensed for use in moderate to severe psoriasis. These include TNF antagonists (adalimumab, etanercept and infliximab) and ustekinumab (anti-IL12-23 monoclonal antibody). These agents are approved for use by NICE, subject to certain disease severity criteria.

e) Recent guidelines from the British Association of Dermatologists, NICE guidance and the UK marketing authorisation for these drugs, recommend that biological therapies should generally be reserved for people in whom standard treatments have failed or cannot be used. But there remain important exceptional circumstances in which biological therapy should be used earlier in the disease course.

f) For most people psoriasis is managed in primary care, with specialist referral being needed at some point for up to 30% of people.

g) Commonly cited triggers for referral include

- diagnostic uncertainty
- request for further counselling or education, including demonstration of topical treatment
- symptoms not responding to appropriately-used topical therapy
- psoriasis at sites that are difficult to treat (scalp, face, palms, soles or genital area)
- adverse reactions to topical therapies

- need for systemic therapy, phototherapy, day treatment, or inpatient admission
- disability preventing work or causing excessive time off work
- presence of psoriatic arthritis and acute unstable psoriasis, for which urgent referral may be justified.

h) People on systemic therapy receive ongoing supervision in secondary care, sometimes with shared care arrangements for drug monitoring in primary care. Tertiary centres with access to multidisciplinary teams with experience in multiple drug therapies provide specialist care for the minority of people with severe, recalcitrant disease. A recent UK audit demonstrated wide variations in practice, and in particular in access to specialist treatments (including biological agents), appropriate drug monitoring and psychological services.

i) Psoriasis is a common, chronic disease, associated with profound psychosocial morbidity and important comorbidities. Effective treatments are available. Some treatments are expensive, all require appropriate monitoring and some may be accessed only in specialist care settings.

j) Evidence indicates that a substantial proportion of people with psoriasis are currently dissatisfied with their treatment. There is a clear need for a guideline on the management of psoriasis to improve patient satisfaction and outcomes.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, ‘Further information’).

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health, but it was decided to cover only management and to exclude diagnosis. This was because it is a clinical diagnosis that, in the majority of cases, is straightforward and there are no routinely used diagnostic tests. Following initial discussions, we have decided to focus on areas of particularly diverse, uncertain or unsafe practice (see section 4.3).

The areas that will be addressed by the guideline are described in the following sections.

4.1 Population

4.1.1 Groups that will be covered

a) Children and adults with a diagnosis of psoriasis.

b) Consideration will be given to the specific needs, if any, of people with psoriatic arthritis.

4.1.2 Groups that will not be covered

a) Children and adults who do not have a diagnosis of psoriasis.

4.2 Healthcare setting

a) All settings in which healthcare for psoriasis is delivered by the NHS.

4.3 Clinical management

4.3.1 Key clinical issues that will be covered

a) Evaluation of disease severity and impact on people with psoriasis.

b) Identification of psoriatic arthritis.

c) Management of psoriasis including, for example:

- topical therapy:
  - corticosteroids
  - vitamin D analogues
  - coal tar (with or without phototherapy)
  - dithranol (with or without phototherapy)
- phototherapy (narrow band UVB)
- photochemotherapy (psoralen and UVA)
- systemic therapy:
  - ciclosporin
  - methotrexate
  - acitretin.

Note that guideline recommendations will normally fall within licensed indications; exceptionally, and only if clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

d) Self-management.

e) Management of the psychological impact of psoriasis.

f) Combination and sequencing of treatments.

4.3.2 Clinical issues that will not be covered

a) Diagnosis.

b) Management of psoriatic arthritis.

c) Complementary and alternative treatments.

d) Fumaric acid esters[a].

4.4 Main outcomes

The following outcome measures might be looked at, depending on each individual clinical question:

a) Health related quality of life, for example CDLQI (Children's Dermatology Life Quality Index), DLQI (Dermatology Life Quality Index) and/or EQ-5D (European Quality of Life-5 Dimensions).

b) Scales of objective disease severity, for example Physician's Global Assessment and/or Psoriasis Area Severity Index (PASI).

c) Length of hospital stay.

d) Time to recurrence.

e) Maintenance of remission/relapse rate.

[a] Fumaric acid esters are not licensed for any indication within the UK and therefore we are not able to consider this treatment within the guideline.

f) Treatment adherence.

g) Withdrawal rates.

h) Adverse events.

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further detail on the methods can be found in 'The guidelines manual' (see ‘Further information’).

4.6 Status

4.6.1 Scope

This is the final scope.

4.6.2 Timing

The development of the guideline recommendations will begin in January 2011.

5 Related NICE guidance

5.1 Published guidance

5.1.1 NICE guidance to be incorporated

This guideline will incorporate the following NICE guidance:

- Ustekinumab for the treatment of adults with moderate to severe psoriasis. NICE technology appraisal guidance 180 (2009). Available from www.nice.org.uk/guidance/TA180
- Adalimumab for the treatment of adults with psoriasis. NICE technology appraisal guidance 146 (2008). Available from www.nice.org.uk/guidance/TA146
- Infliximab for the treatment of adults with psoriasis. NICE technology appraisal guidance 134 (2008). Available from www.nice.org.uk/guidance/TA134

- Etanercept and efalizumab for the treatment of adults with psoriasis. NICE technology appraisal guidance 103 (2006). Available from www.nice.org.uk/guidance/TA103

5.1.2 Other related NICE guidance

- Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis. NICE technology appraisal guidance 199 (2010). Available from www.nice.org.uk/guidance/TA199
- Alcohol-use disorders: physical complications. NICE clinical guideline 100 (2010). Available from www.nice.org.uk/guidance/CG100
- Alcohol-use disorders – preventing harmful drinking. NICE public health guidance 24 (2010). Available from www.nice.org.uk/guidance/PH24
- Medicines adherence. NICE clinical guideline 76 (2009). Available from www.nice.org.uk/guidance/CG76
- Smoking cessation services. NICE public health guidance 10 (2008). Available from www.nice.org.uk/guidance/PH10
- Grenz rays therapy for inflammatory skin conditions. NICE interventional procedure guidance 236 (2007). Available from www.nice.org.uk/guidance/IPG236
- Obesity. NICE clinical guideline 43 (2006). Available from www.nice.org.uk/guidance/CG43

5.2 Guidance under development

NICE is currently developing the following related guidance (details available from the NICE website):

- ABT-874 for the treatment of moderate to severe chronic plaque psoriasis. NICE technology appraisal guidance. Publication expected December 2011. (This appraisal may be incorporated into the psoriasis guideline, subject to the review process with consultees and commentators.)

6 Further information

Information on the guideline development process is provided in:

- ‘How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS’

- ‘The guidelines manual’.

These are available from the NICE website (www.nice.org.uk/GuidelinesManual). Information on the progress of the guideline will also be available from the NICE website (www.nice.org.uk).

Appendix B: Declarations of interest

B.1 Catherine Smith (Chair)

GDG meeting	Declaration of Interests	Action taken
On appointment 6.5.10	Non-personal pecuniary interest: Our research unit receives research and training funds from a number of pharmaceutical companies that manufacture drugs that are used to treat psoriasis and these include Serono, Wyeth (now Pfizer), Schering-Plough, Janssen-Cilag. As an expert in the field of treatments for psoriasis, I have been an invited speaker at a number of educational symposia that have been sponsored by the companies above. Personal non-pecuniary interest: As chair and author of the guideline on biological therapy in psoriasis, we systematically reviewed the evidence for these interventions and published recommendations based on this systematic review.	Declare and participate.
First GDG meeting 20.1.11	Non-personal pecuniary interest: Our research unit receives research and training funds from a number of pharmaceutical companies that manufacture drugs that are used to treat psoriasis and these include Serono, Wyeth (now Pfizer), Schering-Plough, Janssen-Cilag. As an expert in the field of treatments for psoriasis, I have been an invited speaker at a number of educational symposia sponsored by the companies above. I am co-investigator in a number of clinical trials sponsored by: Novartis, Janssen-Cilag, Maruho, Abbott, Centocor, Merck, Abbott Labs., Psoriasis Association, GSTT Charity, British Association of Dermatologists, Schering Plough, Pfizer, Wyeth. I am CI on the following research grants (which I administer) but none of these are pharma sponsored: British Skin Foundation - Discovering the genetic basis of Acne Vulgaris; Psoriasis Association - Pharamco-genetic markers of systemic treatment outcomes in patients with severe psoriasis - open; Guy's and St Thomas' Charity -	Declare and participate.

GDG meeting	Declaration of Interests	Action taken
	Non-invasive measurement of liver fibrosis. Personal non-pecuniary interest: As chair and first author of the guideline on biological therapy in psoriasis, we systematically reviewed the evidence for these interventions and published recommendations based on this systematic review. I am the Chair of the BAD BIR Steering Committee.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	Non-personal pecuniary interest: Research grant from Galderma for research project investigating genetic basis of acne vulgaris (2 year programme of research). This research project is a collaborative project, set up between Kings College London and Galderma. I am CI on the accrual of the clinical / DNA dataset to be used in the planned Genome Wide Association Study. This part of the project was funded by the British Skin Foundation and supported by the NIHR comprehensive research network. The funding to perform the genetic analysis is being provided by Galderma. Professor Richard Trembath is the lead investigator on this part of the project I am co-investigator. I have no direct fiscal responsibility or authority over the monies provided by Galderma.	Declare and participate.
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	Non-personal pecuniary interest: I have been invited to give a lecture at a biologics update meeting. The meeting is funded by a pharmaceutical company. There is no personal pecuniary interest; the pharmaceutical company provides funding for research staff at St John's Institute, part of King's College London. My contract of employment is with Guy's and St Thomas' NHS Trust and I also work at St John's Institute.	Declare and participate.

GDG meeting	Declaration of Interests	Action taken
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.2 Christine Bundy

GDG meeting	Declaration of Interests	Action taken
On appointment 5.10.10	Personal pecuniary interest: I hold a Scientific Advisory Board position with Simple Healthcare Products for which I receive an honorarium for attending	No action necessary.

GDG meeting	Declaration of Interests	Action taken
	approximately three meetings per year.	
First GDG meeting 20.1.11	Personal pecuniary interest: membership of Educational Advisory Board funded by Abbott. Personal non-pecuniary interest: I have conducted a research project on psoriasis that was funded by PAPAA (Psoriasis and Psoriatic Arthritis Alliance charity).	Withdraw from discussing evidence and formulating recommendations for biologics.
Second GDG Meeting 17.2.11	Personal pecuniary interest: I am an expert advisor to Abbott specialist education advisory group for which I receive a fee. This is involved with establishing education and training support for Dermatology specialist clinicians in the areas of psychological aspects of psoriasis. I hold a Scientific Advisory Board position with Simple Healthcare Products for which I receive an honorarium for attending approximately three meetings per year.	Withdraw from discussing evidence and formulating recommendations for biologics.
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	Personal pecuniary interest: I hold a Scientific Advisory Board position with Simple Healthcare Products for which I receive an honorarium for attending approximately three meetings per year. I have been invited onto a medical education steering group to address the skills of clinicians working in Dermatology to detect and manage psychological problems in patients. I will receive an honorarium for attending meetings to develop learning materials from Abbott pharmaceuticals who fund but do not directly input to the project. Pfizer pharmaceuticals have joint funded with the MRC a PhD studentship within the University and I am the lead supervisor on that project.	Withdraw from discussing evidence and formulating recommendations for biologics.
Fifth GDG meeting 20.5.11	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	Non-personal pecuniary interest: I have conducted CBT trial having received charitable funding for the research (PAPAA).	Declare and participate.
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.3 David Chandler

GDG meeting	Declaration of Interests	Action taken
On appointment 15.9.10	No interests declared.	No action necessary.

GDG meeting	Declaration of Interests	Action taken
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
meeting 1.12.11		
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	Personal non-pecuniary interest: My employer has submitted stakeholder comments, but I didn't see or have any input into the submission.	Declare and participate.

B.4 James Ferguson

GDG meeting	Declaration of Interests	Action taken
On appointment 12.10.10	Personal pecuniary interest: Director of Ambicare Ltd., - Co-founder / Co-investigator of a light emitting device used in the treatment of skin cancer (but not psoriasis). Director of Spectratox Ltd. - Drug-induced phototoxicity, randomised controlled trials (CRO - charity owned) (also not related to psoriasis).	Declare and participate.
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
12.4.11		
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.5 Paul Hepple

GDG meeting	Declaration of Interests	Action taken
On appointment 23.11.10	None declared.	No action needed.
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
meeting 4.11.11		
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.6 Karina Jackson

GDG meeting	Declaration of Interests	Action taken
On appointment 1.10.10	Personal pecuniary interest: Consultancy work on Abbott educational advisory board. Non-personal pecuniary interest: Unrestricted grant from Abbott laboratories Ltd to support nurse observer visits (preceptorship programme) to St John's Institute of Dermatology.	Withdraw from discussing the evidence and formulating recommendations for biologics until December 2011.
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
meeting 12.4.11		
Fifth GDG meeting 20.5.11	Non-personal pecuniary interest: I have been invited to give a lecture at a biologics update meeting on 19.9.11. The meeting is funded by a pharmaceutical company. There is no personal pecuniary interest; the pharmaceutical company provides funding for research staff at St John's Institute, part of King's College London. My contract of employment is with Guy's and St Thomas' NHS Trust.	No change to action previously agreed in relation to biologics.
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting	Non-personal pecuniary interest: Educational grants to support the further	Declare and participate.

GDG meeting	Declaration of Interests	Action taken
10.7.12	development of a parental education programme on eczema management. Grants to be received from Leo Pharma, Dermal Laboratories, Astellas and T & R Derma	

B.7 Neil McHugh

GDG meeting	Declaration of Interests	Action taken
On appointment 7.10.10	Personal pecuniary interest: I have received payment for membership of advisory group panels for Abbott Laboratories (October 2010) and Schering-Plough (June 2010). Non personal pecuniary interest: My research team have received investigator initiated unrestricted research grants from Abbott Laboratories.	Withdraw from discussing the evidence and making recommendations for biologics.
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.8 Ruth Murphy

GDG meeting	Declaration of Interests	Action taken
On appointment 20.1.11	Personal pecuniary interest: in the last 2 years I have accepted a fee for non-promotional educational lectures about psoriasis from Abbott (July 2010) and Janssen-Cilag (December 2010). I have received sponsorship by way of registration fees, accommodation and standard class travel to attend the American Academy of Dermatology x1	Withdraw from discussions and formulating recommendations on biologics until December 2011.

GDG meeting	Declaration of Interests	Action taken
	(March 2010) and the British Association of Dermatology x1 (July 2010), European Academy of Dermatology and venerology x1 (October 2010) Wyeth Pfizer, Abbott, Janssen-Cilag.	
First GDG meeting 20.1.11	Personal pecuniary interest: I am the principal investigator for the TRANSIT trial in Nottingham commencing January 2010 ending July 2011.	No action necessary.
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
4.11.11		
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.9 Jillian Peters

GDG meeting	Declaration of Interests	Action taken
On appointment 20.1.11	Non-personal pecuniary interest: Member of the Oversight committee of the All Party Parliamentary group on skin.	No action necessary.
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
12.4.11		
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.10 Natasha Smeaton

GDG meeting	Declaration of Interests	Action taken
On appointment 17.12.10	No interests declared.	
First GDG meeting 20.1.11	Personal family interest: sister is NHS consultant in dermatology based at Newport Hospital.	No action necessary.
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
meeting 4.11.11		
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.11 Claire Strudwicke

GDG meeting	Declaration of Interests	Action taken
On appointment 1.10.10	No interests declared.	
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	Personal non-pecuniary interest: Trustee of the Psoriasis Association (expenses received only).	Declare and participate.
Fourth GDG	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
meeting 12.4.11		
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	Personal non-pecuniary interest: My advocacy group of which I am a Trustee has submitted stakeholder comments, but I didn't see or have any input into the submission.	Declare and participate.

B.12 Roderick Tucker

GDG meeting	Declaration of Interests	Action taken
On appointment 4.12.10	Personal pecuniary interest: I have given lectures on medicine use reviews for pharmacists and lectures on primary care management of psoriasis supported by Leo Pharma.	Withdraw from discussing the evidence and making recommendations for vitamin D analogues and combined formulations of vitamin D analogies and potent corticosteroids.
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	Personal pecuniary interest: I have received a grant from Reckitts Benkiser (who make the emollient E45) which has the following aims: 1) to produce a prototype pharmacist-delivered educational intervention aimed at parents of children with eczema; 2) to delineate the steps required to deliver the educational intervention; 3) to pilot the feasibility of identifying, recruiting and following up patient participants. The money has been paid directly to me (£15,000) of which £8,500 is for my time commitment (one day/week for 12 months) and the rest is to be paid to the university of Leeds where I will be collaborating with two researchers. I am in the process of drawing up a sub-contract (from the university) between the university and myself for the study.	No action necessary.
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
13.7.11		
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

B.13 Richard Warren

GDG meeting	Declaration of Interests	Action taken
On appointment 15.10.10	Personal pecuniary interest: I have received from Abbott Pharma, Wyeth (now Pfizer), Schering Plough (now MSD), Janssen Cilag and Leo Pharma for talks and / or consultancy work. All of these companies are involved in the production of therapies for psoriasis.	Withdraw from discussing the evidence and formulating recommendations for biologics.

GDG meeting	Declaration of Interests	Action taken
	Non-personal pecuniary interest: I have been the joint applicant on a successful PhD studentship which will be funded by Abbott Pharma. The work undertaken on the PhD is a basic science PhD related to psoriasis.	
First GDG meeting 20.1.11	Personal pecuniary interest: In the past 5 years I have received honoraria from Abbott Pharma, Wyeth (now Pfizer), Schering Plough (now MSD), Janssen Cilag and Leo Pharma for talks and / or consultancy work. All of these companies are involved in the production of therapies for psoriasis. Non-personal pecuniary interest: I have been the joint applicant on a successful PhD studentship which will be funded by Abbott Pharma. The work undertaken on the PhD is a basic science PhD related to psoriasis. I am the supervisor of a departmental research nurse funded by Leo Pharma.	Withdraw from discussing the evidence and formulating recommendations for biologics.
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	Non-personal pecuniary interest: Phase 4 clinical trial involving Dovobet versus Dovobet and enhanced education input and support to assess compliance of the two regimens. Run by the University of Hamburg and supported by an unrestricted grant from Leo (CIs -Professor Reich and Mroweiz) and I am the UK PI. To run over a 52 week period starting in Autumn 2011.	Declare and participate.

GDG meeting	Declaration of Interests	Action taken
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	Personal pecuniary interest: I am being a paid speaker at world summit of psoriasis in Buenos Aires on 30th August 2011. This event is funded by Abbott, a manufacturer of a biologic agent.	Withdraw from discussing the evidence and formulating recommendations for biologics.
Eighth GDG meeting 10.10.11	Personal pecuniary interest: Involved in the Psoriasis Progressive Initiative (PPI) funded by an unrestricted educational grant to Kiel University by Abbott. I am the UK member of the PPI Steering committee.	Withdraw from discussing the evidence and formulating recommendations for biologics.
Ninth GDG meeting 11.10.11	No change to declarations of interest.	
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	Personal pecuniary interest: January 2012: Involved in the Psoriasis Progressive Initiative (PPI) funded by an unrestricted educational grant to Kiel University by Abbott. I am the UK member of the PPI Steering committee. Meeting takes place in January 2012 but the project is ongoing with potentially more meetings in the future. February 2012: Invited to speak in Dublin at an event sponsored by Janssen. February 2012: sitting on an advisory board run by Abbott.	Withdraw from discussing the evidence and formulating recommendations for biologics.
Fourteenth GDG meeting	Personal pecuniary interest: Speaker at Abbott's symposium at the annual British Association of Dermatologists meeting in	Withdraw from discussing the evidence and formulating recommendations for biologics.

GDG meeting	Declaration of Interests	Action taken
10.7.12	July 2012 in Birmingham.	

B.14 NCGC members

GDG meeting	Declaration of Interests	Action taken
On appointment	In receipt of NICE commissions.	
First GDG meeting 20.1.11	No change to declarations of interest.	
Second GDG Meeting 17.2.11	No change to declarations of interest.	
Third GDG Meeting 17.3.11	No change to declarations of interest.	
Fourth GDG meeting 12.4.11	No change to declarations of interest.	
Fifth GDG meeting 20.5.11	No change to declarations of interest.	
Sixth GDG meeting 13.7.11	No change to declarations of interest.	
Seventh GDG meeting 6.9.11	No change to declarations of interest.	
Eighth GDG meeting 10.10.11	No change to declarations of interest.	
Ninth GDG meeting	No change to declarations of interest.	

GDG meeting	Declaration of Interests	Action taken
11.10.11		
Tenth GDG meeting 4.11.11	No change to declarations of interest.	
Eleventh GDG meeting 1.12.11	No change to declarations of interest.	
Twelfth GDG meeting 23.1.12	No change to declarations of interest.	
Thirteenth GDG meeting 17.2.12	No change to declarations of interest.	
Fourteenth GDG meeting 10.7.12	No change to declarations of interest.	

Appendix C: Review protocols

C.1 Principles of care

Component	Description
Review question	What strategies can best support people with psoriasis (all types) to self-manage the condition effectively?
Objectives	The aim of this review is to establish the best way to provide support to people with psoriasis to allow effective self-management of the condition.
Population	All people with psoriasis
Subgroups	The following groups will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Psoriatic arthritis
Intervention	• Self-management support (including for example education packages, interactive programmes, access to nurse specialist)
Comparison	• As above or standard care alone (the pharmacological intervention usually received by a person with psoriasis of a given severity and/or educational interventions)
Outcomes	• Patient satisfaction • Concordance with treatment • Reduced distress/anxiety/depression (change in HADS) • Reduced disease severity (change in PASI) • Reduced stress (PLSI) • Improved quality of life (change in DLQI/PDI) • Service use
Study design	Systematic reviews and RCTs; if no RCTs are available cohort studies and case-control studies will be sought (before and after comparisons would be excluded)
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered (note that this non-pharmacological intervention is not thought to act differently among different dermatological conditions, although the psychological stresses and impact on quality of life associated with psoriasis may be unique; therefore, a population cut-off of at least 40% psoriasis was decided upon)
Setting	• Primary • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate

C.2 Assessment and referral

C.2.1 Tools for assessing disease severity and impact

Component	Description
Review question	In people with psoriasis (all types), which are the most effective tools to assess the (a) severity and (b) impact of disease across all levels of healthcare provision and at any stage of the disease journey?
Objectives	The aim of this review is to compare the validity of available tools (psoriasis-specific or dermatology-specific but validated in psoriasis) to assess the severity and impact of psoriasis in all people with the disease, including at first presentation and follow-up visits.
Population	All people with psoriasis
Subgroups	The following groups will be considered separately if data are present: • People with psoriasis at high impact or difficult to treat sites • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis
Intervention	Severity: PASI, target plaque scores, SPI, BSA, SAPASI, PGA, LS-PGA, Copenhagen psoriasis severity index, photography, GSS, PSSI, s-mPASI, HN-PASI, S-PaGA, NAPSI Impact: DLQI, CDLQI, Skindex-17 or -29, scalpdex, Dermatology Quality of Life scales, The Dermatology Specific Quality of Life Instrument, Impact of Psoriasis Questionnaire, PSORIQoL, PQoL-12, SPI, PDI, PLSI, Questionnaire on Experience with Skin Complaints
Comparison	As above
Outcomes	• Construct validity – convergent and divergent • Inter-rater reliability • Intra-rater reliability • Internal consistency • Repeatability • Practicability • Sensitivity to change
Study design	Validity and reliability studies or systematic reviews
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Primary care. • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using domains relevant for validity and reliability studies as no NICE checklists are available. Synthesis of data • Data will be presented in tabular format with narrative summary.

C.2.2 Diagnostic tools for Psoriatic Arthritis

Component	Description
Review question	In people with psoriasis (all types), which is the most accurate diagnostic tool compared with clinical diagnosis by a rheumatologist to help a non-specialist identify psoriatic arthritis?
Objectives	The aim of this review is to determine what is the most accurate tool for use in people with psoriasis in non-rheumatological settings to identify those with likely psoriatic arthritis to prompt referral
Population	All people with psoriasis
Subgroups	The following groups will be considered separately if data are present: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis
Intervention	• Psoriatic Arthritis Screening and Evaluation Tool (PASE) • Psoriasis Epidemiology Screening Tool (PEST) • Toronto Psoriatic Arthritis Screen (ToPAS) • Psoriatic Arthritis Questionnaire (PAQ) • Modified PAQ (mPAQ)
Comparison	• Classification Criteria for Psoriatic Arthritis (CASPAR), • Moll and Wright criteria • Standard clinical diagnosis
Outcomes	• Specificity • Sensitivity • Negative predictive value • Positive predictive value • Positive likelihood ratio • Negative likelihood ratio
Study design	Diagnostic cohort or case-control studies
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Primary care. • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using the QUADAS-II checklist. Synthesis of data • Diagnostic meta-analysis will be conducted where appropriate.

C.2.3 Specialist referral for Psoriatic Arthritis

Component	Description
Review question	In people with psoriasis (all types) and suspected psoriatic arthritis, how quickly should referral to a specialist be made in order to minimise the impact of disease on

	symptoms, joint damage and quality of life?
Objectives	The aim of this review is to estimate the impact of timing of referral to a specialist on the outcomes of people with psoriasis who have suspected psoriatic arthritis
Population	All people with psoriasis and suspected psoriatic arthritis
Subgroups	The following groups will be considered separately if data are present: • Children • Polyarthritis at presentation • Different psoriasis severities • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Site of psoriasis
Prognostic factors	• Timing of referral
Outcomes	• Quality of life : HAQ, EQ5D • Disease symptoms/signs: Pain, tenderness, joint swelling (or second-line therapy as a surrogate) • Joint damage: Clinical (e.g. joint damage), radiological (e.g. Sharp, Larsen, Steinbrocker) • Biochemical markers : CRP and ESR • Mortality • Cardiovascular events
Study design	Prospective observational studies
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Primary care. • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists Synthesis of data • Meta-analysis will be conducted where appropriate. • Effect estimates, with their 95% confidence intervals, will be extracted from the papers.

C.2.4 Identification of comorbidities

Component	Description
Review question	Are people with psoriasis at higher risk than people without psoriasis for significant comorbidities and are there subgroups within the psoriasis population at a further increased risk?
Objectives	The aim of this review is to compare the incidence of specific comorbidities in people with psoriasis (all types) with the prevalence in the general population and to determine whether there are subgroups within the psoriasis population at a further increased risk.
Population	All people with psoriasis
Prognostic factors	• Psoriasis
Subgroups for	The following prognostic factors will be considered for subgroup analysis if data are

prognosis	present: • Children • Severity of psoriasis (mild vs severe; may be indicated by hospital admission/treatment in secondary care) • Treatments used (e.g., phototherapy/immunosuppressive drug use – including biological therapies) • Lifestyle markers (smoking, alcohol)
Outcomes	Incidence of the following comorbidities: • Obesity • Cardiovascular disease (including stroke) • Alcohol-related disease • Cancer (skin cancer, lymphoma, or overall cancer risk) • Liver disease (especially NASH/NAFLD) • Diabetes mellitus • Hypertension • Depression • Inflammatory bowel disease
Study design	• Systematic reviews • RCTs • Cohort studies • Case-control studies • Case series (with a suitable comparator group)
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Primary care. • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists Synthesis of data • Meta-analysis will be conducted where appropriate • Effect estimates, with their 95% confidence intervals, will be extracted from the papers.

C.3 Topical therapies for chronic plaque psoriasis

C.3.1 Topical therapies for trunk and limb chronic plaque psoriasis

Component	Description
Review question	In people with chronic plaque psoriasis of the trunk and/or limbs, what are the clinical effectiveness, safety, tolerability, and cost effectiveness of topical vitamin D or vitamin D analogues, potent or very potent corticosteroids, tar, dithranol and retinoids compared with placebo or vitamin D or vitamin D analogues, and of combined or concurrent vitamin D analogues and potent corticosteroids compared with potent corticosteroid or vitamin D or vitamin D analogue alone?
Objectives	The aims of this review are to assess the clinical and cost-effectiveness and safety of

	topical vitamin D or vitamin D analogues, potent or very potent corticosteroids, tar, dithranol and retinoids for the trunk and/or limbs compared with placebo and with vitamin D or vitamin D analogues, as well as combined/concurrent vitamin D or vitamin D analogues compared with potent corticosteroid or vitamin D or vitamin D analogue alone; and to establish the period of time that topical therapies should be administered for before efficacy is reviewed and the patient is moved on to alternative therapy if topicals are ineffective.
Population	All people with chronic plaque psoriasis of the trunk and/or limbs
Subgroups	The following groups will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis The following factors will be considered for subgroup analysis if heterogeneity is present: • Duration of treatment • Individual agents within the vitamin D or vitamin D analogue and corticosteroid classes • Within- and between-patient randomisation • Disease severity • Formulation • Dose • Skin type/ethnicity • Psoriatic arthritis
Intervention	• Vitamin D or vitamin D analogues (calcipotriol/calcipotriene [Dovonex], calcitriol [Silkis], tacalcitol [Curatoderm]), • Potent corticosteroids (betamethasone dipropionate [Betnovate-RD], betamethasone valerate [Betacap, Betesil, Bettamousse, Betnovate, Cutivate, Diprosone, Elocon], budesonide, fluticasone propionate [Cutivate], mometasone furoate [Elocon], fluocinolone acetonide [Synalar], beclomethasone dipropionate, triamcinolone acetonide, hydrocortisone butyrate [Locoid, Locoid Crelo, Metosyn, Nerisone, Synalar]) • Very potent corticosteroids (clobetasol propionate [Clarelux, Dermovate], diflucortolone valerate [Nerisone]), • Combined (combined product containing calcipotriol monohydrate and betamethasone dipropionate) or concurrent vitamin D or vitamin D analogue and potent corticosteroid (one applied in the morning and one in the evening) • Tar (Carbo-Dome, Cocois, Exorex, Psoriderm, Sebco, Coal Tar Solution, BP Pinetarsol, Polytar, Emollient, Psoriderm); • Dithranol (Dithrocream, Micanol, Psorin); • Retinoids (tazarotene [Zorac]) Note: only UK licensed interventions will be considered
Comparison	For all monotherapies: • Vitamin D or vitamin D analogues or placebo/vehicle For combined/concurrent vitamin D or vitamin D analogues and potent corticosteroid: • Potent corticosteroid or vitamin D or vitamin D analogues alone
Outcomes	• Clear/nearly clear or marked improvement (at least 75% improvement on Investigator's assessment of overall global improvement (IAGI) or clear/nearly clear/minimal (not mild) on Physician's Global Assessment (PGA)) • Clear/nearly clear or marked improvement (at least 75% improvement on Patient's assessment of overall global improvement (PAGI) or clear/nearly clear/minimal (not

	mild) on Patient's Global Assessment) • Percentage change in PASI • Change in DLQI • Duration of remission • Time-to-remission or time-to-maximum effect • Withdrawal due to toxicity • Withdrawal due to lack of efficacy • Skin atrophy
Study design	RCTs or systematic reviews
Population size and directness	• Sample size greater than 25 per arm • Efficacy data to be reported for the primary end point of the trial if multiple time points are reported • No restrictions on treatment duration • Studies with indirect populations will not be considered • Studies only comparing different dosages or formulations of the same intervention will not be included • Studies comparing interventions within the classes of either vitamin D or vitamin D analogues or corticosteroids will not be included (unless the comparison is for frequency of administration e.g., once or twice daily dosing) • Studies assessing the whole body (including scalp, flexures and face), that do not stratify results by site of involvement will be included in this review.
Setting	• Primary care. • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate • Data on all vitamin D or vitamin D analogues will be pooled into one analysis as will data on any potent corticosteroids and on very potent corticosteroids The following information will also be recorded: • Who is administering the treatment (patient or HCP) • Number of applications/quantity of topical used • Setting • Formulation

C.3.2 Topical therapies for high impact or difficult to treat sites

Component	Description
Review question	In people with chronic plaque psoriasis at high impact or difficult-to-treat sites (scalp, flexures, face), what are the clinical effectiveness, safety, tolerability and cost effectiveness of vitamin D or vitamin D analogues, mild to very potent corticosteroids, combined or concurrent vitamin D or vitamin D analogue and potent corticosteroid, pimecrolimus, tacrolimus, tar, dithranol and retinoids compared with placebo, corticosteroids or vitamin D or vitamin D analogues?
Objectives	The aims of this review are to assess the clinical and cost-effectiveness and safety of available topical therapies for chronic plaque psoriasis at high impact or difficult-to-

	treat sites (scalp, flexures, face); and to establish the period of time that topical therapies should be administered for at these sites before efficacy is reviewed and the patient is moved on to alternative therapy if topicals are ineffective.
Population	All people with chronic plaque psoriasis at high impact or difficult-to-treat sites (scalp, flexures, face)
Subgroups	The following groups will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis The following factors will be considered for subgroup analysis if heterogeneity is present: • Duration of treatment • Individual agents within the vitamin D or vitamin D analogue and corticosteroid classes • Within- and between-patient randomisation • Disease severity • Formulation • Dose • Skin type/ethnicity • Psoriatic arthritis
Intervention	• Vitamin D or vitamin D analogues (calcipotriol/calcipotriene [Dovonex], calcitriol [Silkis], tacalcitol [Curatoderm]) • Mild to very potent corticosteroids (hydrocortisone [Dioderm, Mildison, Synalar], clobetasone butyrate [Eumovate], fludroxycortide [Haelan], alclometasone dipropionate [Modrasone], fluocortolone [Ultralanum Plain], betamethasone dipropionate [Betnovate-RD], betamethasone valerate [Betacap, Betesil, Bettamousse, Betnovate, Cutivate, Diprosone, Elocon], budesonide, fluticasone propionate [Cutivate], mometasone furoate [Elocon], fluocinolone acetonide [Synalar], beclomethasone dipropionate, triamcinolone acetonide, hydrocortisone butyrate [Locoid, Locoid Crelo, Metosyn, Nerisone, Synalar], clobetasol propionate [Clarelux, Dermovate, Etrivex], diflucortolone valerate [Nerisone]) • Combined [combined product containing calcipotriol monohydrate and betamethasone dipropionate, Xamiol] or concurrent vitamin D or vitamin D analogue and potent corticosteroid (one applied in the morning and one in the evening) • Pimecrolimus [Elidel] • Tacrolimus [Protopic] • Tar [Carbo-Dome, Cocois, Exorex, Psoriderm, Sebco, Coal Tar Solution, BP Pinetarsol, Polytar, Emollient, Psoriderm] • Dithranol [Dithrocream, Micanol, Psorin] • Retinoids (tazarotene [Zorac])
Comparison	• Placebo/vehicle • Corticosteroids • Vitamin D or vitamin D analogues
Outcomes	• Clear/nearly clear or marked improvement (at least 75% improvement on Investigator's assessment of overall global improvement (IAGI) or clear/nearly clear/minimal (not mild) on Physician's Global Assessment (PGA)) • Clear/nearly clear or marked improvement (at least 75% improvement on Patient's assessment of overall global improvement (PAGI) or clear/nearly clear/minimal (not mild) on Patient's Global Assessment) • Percentage change in PASI

	• Change in DLQI • Duration of remission • Time-to-remission or time-to-maximum effect • Withdrawal due to toxicity • Withdrawal due to lack of efficacy • Skin atrophy
Study design	RCTs or systematic reviews
Population size and directness	• Sample size greater than 25 per arm • Efficacy data to be reported for the primary end point of the trial if multiple time points are reported • No restrictions on treatment duration • Studies with indirect populations will not be considered • Studies only comparing different dosages or formulations of the same intervention will not be included • Studies comparing interventions within the classes of either vitamin D or vitamin D analogues or corticosteroids will not be included (unless the comparison is for frequency of administration e.g., once or twice daily dosing) • Studies assessing the whole body (including scalp, flexures and face), that do not stratify results by site of involvement will be included in this review.
Setting	• Primary care. • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate • Data on all vitamin D or vitamin D analogues will be pooled into one analysis as will data on any potent corticosteroids and on very potent corticosteroids The following information will also be recorded: • Who is administering the treatment (patient or HCP) • Number of applications/quantity of topical used • Setting • Formulation

C.4 Phototherapy

C.4.1 Phototherapy

Component	Description
Review question	In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of BBUVB, NBUVB and PUVA compared with each other or placebo/no treatment?
Objectives	The aim of this review is to asses the clinical- and cost-effectiveness and safety of the different phototherapies used as monotherapy compared with each other and with placebo or no treatment.
Population	All people with psoriasis

Subgroups	The following groups/interventions will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Bath and oral PUVA • Hand and foot PUVA • Psoriatic arthritis The following factors will be considered for subgroup analysis if heterogeneity is present: • Treatment frequency • Skin type (I-II vs III-VI) • Ethnicity • Disease severity • Between vs within-patient randomisation
Intervention	• BB-UVB • NBUVB • PUVA (bath or oral administration of psoralen)
Comparison	• Placebo/no treatment • BB-UVB • NBUVB • PUVA (bath or oral administration of psoralen)
Outcomes	• PASI75 • PASI50 • Change in PASI (mean improvement) • Clear or nearly clear (minimal residual activity/PASI>90/0 or 1 on PGA) • Relapse (time-to-event data if available otherwise ordinal data accepted) • Time (or number of treatments) to remission/max response • Change in DLQI • Burn (grade 3 erythema or grade 2 erythema with >50% BSA involved) • Cataracts
Study design	RCTs or systematic reviews
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate Additional data recorded • Home vs hospital setting • Different numbers of a phototherapy treatment per week • PUVA vs UVA + placebo

C.4.2 Phototherapy combined with acitretin

Component	Description
Review question	In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of acitretin plus UVB (NBUVB and BBUVB) and acitretin plus PUVA compared with their monotherapies and compared with each other?
Objectives	The aim of this review is to asses the clinical and cost-effectiveness and safety of NBUVB and PUVA combined with acitretin compared with each other and with acitretin, UVB and PUVA as monotherapies.
Population	All people with psoriasis
Subgroups	The following groups/interventions will be considered separately if data are available: • Children • Narrowband and broadband UVB • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Bath and oral PUVA • Hand and foot PUVA • Psoriatic arthritis The following factors will be considered for subgroup analysis if heterogeneity is present: • Treatment frequency • Skin type (I-II vs III-VI) • Ethnicity • Disease severity • Between vs within-patient randomisation
Intervention	• Acitretin + UVB (re-UVB) • Acitretin + PUVA (re-PUVA) Note: only consider bath and oral administration of psoralen for PUVA will be considered and etretinate is not included
Comparison	• Acitretin • UVB • PUVA • re-NBUVB • re-PUVA
Outcomes	• PASI75 • PASI50 • Change in PASI (mean improvement) • Clear or nearly clear (minimal residual activity/PASI>90/0 or 1 on PGA) • Time-to-relapse • Relapse (time-to-event data if available otherwise ordinal data accepted) • Change in DLQI • Burn (grade 3 erythema or grade 2 erythema with >50% BSA involved); • Cataracts • Number of UV treatments (as a surrogate for cumulative dose)
Study design	RCTs or systematic reviews
Population size	• No limitations on sample size.

and directness	• Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate

C.4.3 Dithranol, coal tar and vitamin D or vitamin D analogues combined with UVB

Component	Description
Review question	In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of UVB (NBUVB or BBUVB) combined with dithranol, coal tar or vitamin D or vitamin D analogues compared with UVB alone or topical therapy alone?
Objectives	The aim of this review is to assess the clinical and cost-effectiveness and safety of UVB used in combination with topical therapies compared with UVB or topical monotherapies.
Population	All people with psoriasis
Subgroups	The following groups/interventions will be considered separately if data are available: • Children • Narrowband and broadband UVB • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Bath and oral PUVA • Hand and foot PUVA • Psoriatic arthritis The following factors will be considered for subgroup analysis if heterogeneity is present: • Treatment frequency • Skin type (I-II vs III-VI) • Ethnicity • Disease severity • Between vs within-patient randomisation
Intervention	• UVB + dithranol, • UVB + coal tar • UVB + calcipotriol, calcitriol or tacalcitol
Comparison	• UVB • Dithranol • Coal tar • Calcipotriol, calcitriol or tacalcitol
Outcomes	• PASI75 • PASI50 • Change in PASI (mean improvement)

	• Clear or nearly clear (minimal residual activity/PASI>90/0 or 1 on PGA) • Relapse (time-to-event data if available otherwise ordinal data accepted) • Time to remission/max response • Change in DLQI • Burn (grade 3 erythema or grade 2 erythema with >50% BSA involved) • Cataracts Number of UV treatments (as a surrogate for cumulative dose)
Study design	RCTs or systematic reviews
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate

C.4.4 Phototherapy, systemic therapy, tar and risk of skin cancer

Component	Description
Review question	In people with psoriasis (all types) who have been exposed to coal tar, phototherapy (BBUVB, NBUVB and PUVA) or systemic non-biological or biological therapy, what is the risk of skin cancer compared with people not exposed to these interventions and which individuals are at particular risk?
Objectives	The aim of this review is to determine the risk of skin cancer in people who have been exposed to coal tar, phototherapy or systemic non-biological or biological therapy compared to an unexposed cohort and to establish whether there are particular subgroups of the population at higher risk.
Population	All people with psoriasis who have been exposed to coal tar, phototherapy (BB-UVB, NBUVB and PUVA), systemic non-biological or biological therapy
Prognostic factors	• NB-UVB • BB-UVB • PUVA • Methotrexate • Ciclosporin • Acitretin • Biological therapies (adalimumab, infliximab, etanercept, ustekinumab) • Coal tar
Subgroups for prognosis	The following prognostic factors will be considered for subgroup analysis if data are present: • Children • Fair skin (Fitzpatrick phototype 1-3) • Smoking status • Alcohol consumption status • Concomitant or previous immunosuppressive treatments • Duration of previous systemic treatment

	• Disease severity • Previous skin cancer • Cumulative exposure to previous treatment (phototherapy [BB-UVB, NBUVB and PUVA – systemic and topical] or systemic non-biological or biological therapy or coal tar) • Family history of skin cancer • Age at first exposure
Outcomes	Incidence of the following comorbidities: • Melanoma skin cancer • Non melanoma skin cancer – stratified as squamous cell carcinoma and basal cell carcinoma if data are available
Study design	• Systematic reviews • RCTs • Cohort studies
Population size and directness	• At least 10 events per covariate (for accurate multivariate analysis to be possible) • Studies with indirect populations will not be considered • Follow-up >12 months (as cancer does not develop immediately)
Setting	• Primary care • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists Synthesis of data • Meta-analysis will be conducted where appropriate • Effect estimates, with their 95% confidence intervals, will be extracted from the papers.

C.5 Systemic non-biological therapy

Component	Description
Review question	In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of systemic methotrexate, ciclosporin and acitretin compared with each other or with placebo?
Objectives	The aim of this review is to asses the clinical and cost-effectiveness and safety of systemic methotrexate, cyclosporine and acitretin compared with each other and with placebo or no treatment.
Population	All people with psoriasis
Subgroups	The following groups will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Psoriatic arthritis The following factors will be considered for subgroup analysis if heterogeneity is present: • Intervention dose • Frequency of administration

	• Disease severity • Skin type and ethnicity
Intervention	• Methotrexate, • Cyclosporine • Acitretin
Comparison	• Placebo • Methotrexate, • Cyclosporine • Acitretin
Outcomes	• PASI75 • PASI50 • Change in PASI (mean improvement) • Clear or nearly clear (minimal residual activity/PASI>90/0 or 1 on PGA) • Improvement (for PPP) • Relapse (time-to-event data if available otherwise ordinal data accepted) • Time to remission/max response • Change in DLQI • Severe adverse events • For MTX: hepatotoxicity, marrow suppression and pneumonitis • For acitretin: hyperlipidaemia, hepatotoxicity, skeletal AEs and cheilitis • For CSA: renal impairment, hypertension, gout and hyperuricaemia • Withdrawal due to toxicity
Study design	RCTs or systematic reviews Cohort or case-control studies for long-term safety data
Population size and directness	• Sample size >10 • Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate

C.6 Methotrexate and risk of hepatotoxicity

Component	Description
Review question	In people with psoriasis (all types) who are being treated with methotrexate, are there specific groups who are at high risk of hepatotoxicity?
Objectives	The aim of this review is to compare the prevalence of hepatotoxicity among specific patient groups while taking methotrexate to determine whether they are at a particular risk of this complication.
Population	All people with psoriasis being treated or considered for treatment with methotrexate
Subgroups	The following groups will be considered separately if data are available:

	• Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis
Prognostic factors	• Metabolic syndrome • Diabetes • Obesity • Hypertension • Hypercholesterolaemia • Alcohol • Liver disease • Hepatitis B or C • Pre-existing liver disease • Infectious hepatitis
Outcomes	• Biopsy grade • Biopsy grade progression • Periportal inflammation • Fatty change • Fibrosis • Cirrhosis • Abnormal liver function tests
Study design	Systematic reviews, cohort studies, case-control studies and case series
Population size and directness	• Sample size ≥30 • Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists. Synthesis of data • Meta-analysis will be conducted where appropriate • Effect estimates, with their 95% confidence intervals, will be extracted from the papers.

C.7 Methotrexate and monitoring for hepatotoxicity

Component	Description
Review question	In people with psoriasis (all types) who are being treated with methotrexate or who are about to begin treatment with methotrexate, what is the optimum non-invasive method of monitoring hepatotoxicity (fibrosis or cirrhosis) compared with liver biopsy?
Objectives	The aim of this review is to determine the most accurate method of monitoring for liver damage in people with psoriasis who are being treated with or about to begin treatment with MTX.
Population	All people with psoriasis being treated/referred for treatment with methotrexate
Subgroups	The following groups will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate,

	flexural or sebopsoriasis • Psoriatic arthritis
Intervention	• Imaging techniques - liver ultrasound, liver scintigraphy, ultrasound elastography (achieved using the FibroScan®) • serum markers: serial pro-collagen III, the enhanced liver fibrosis (ELF) panel (tissue inhibitor of matrix metalloproteinase 1 (TIMP 1), hyaluronic acid (HA) and pro-collagen III), and FibroTest • AST to platelet ratio index (APRI) • Standard liver function tests (e.g., Alanine aminotransferase (ALT), alkaline phosphatase (ALP), aspartate aminotransferase (AST), total bilirubin, albumin, total protein, lactate dehydrogenase (LDH), gamma-glutamyl transferase (GGT) and prothrombin time (PT))
Comparison	• Liver biopsy
Outcomes	• Specificity • Sensitivity • Negative predictive value • Positive predictive value • Positive likelihood ratio • Negative likelihood ratio
Study design	Diagnostic cohorts and case-control studies
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using the QUADAS-II checklist. Synthesis of data • Diagnostic meta-analysis will be conducted where appropriate.

C.8 Systemic biological therapy

Component	Description
Review question	In people with chronic plaque psoriasis eligible to receive biological therapy, if the first biological agent fails, which is the next effective, safe and cost effective strategy?
Objectives	The aim of this review is to asses the clinical and cost-effectiveness and safety of etanercept, infliximab, adalimumab and ustekinumab in people with chronic plaque psoriasis who have already received one biological agent.
Population	All people with chronic plaque psoriasis

Subgroups	The following groups will be considered separately if data are available: • Children
Intervention	• Second line etanercept, infliximab, adalimumab or ustekinumab
Comparison	• Etanercept, infliximab, adalimumab, ustekinumab (first-line or second line), methotrexate, ciclosporin, acitretin, placebo
Outcomes	• PASI75 • PASI50 • Change in PASI • Clear or nearly clear (minimal residual activity/PASI>90/0 or 1 on PGA); • Relapse (time-to-event data if available otherwise ordinal data accepted) • Time to remission/maximum response • Change in DLQI • Severe adverse events • Withdrawal due to toxicity
Study design	Systematic reviews, RCTs, comparative observational trials
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered.
Setting	• Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate

C.9 Cognitive behavioural therapy

Component	Description
Review question	In people with psoriasis (all types), how effective are cognitive behavioural therapy (group and individual) interventions alone or as an adjunct to standard care compared with standard care alone for managing psychological aspects of the disease in reducing distress and improving quality of life?
Objectives	The aim of this review is to establish the clinical and cost effectiveness of CBT interventions for managing psychological aspects of psoriasis in order to reduce stress and improve quality of life.
Population	All people with psoriasis
Subgroups	The following groups will be considered separately if data are available: • Children • Different psoriasis phenotypes – e.g., pustular, erythrodermic, plaque, guttate, flexural or sebopsoriasis • Psoriatic arthritis
Intervention	• Psychological management (CBT – group and individual) in addition to or instead of

	standard care
Comparison	• Standard care alone (the pharmacological intervention usually received by a person with psoriasis of a given severity and/or educational interventions)
Outcomes	• Reduced distress/anxiety/depression (change in Hospital Anxiety and Depression Scale (HADS)/Beck Depression Inventory (BDI)/Speilberger State Trait Anxiety Inventory (STAI)) • Reduced stress (change in Psoriasis Life Stress Inventory (PLSI)) • Improved quality of life (change in Dermatology Life Quality Index (DLQI)/Psoriasis Disability Index (PDI)) • Reduced psoriasis severity (change in PASI)
Study design	Systematic reviews and RCTs; if no RCTs are available cohort studies and case-control studies will be sought
Population size and directness	• No limitations on sample size. • Studies with indirect populations will not be considered. • Any treatment duration with at least 6-months post-psychological intervention follow-up will be considered
Setting	• Primary • Secondary care • Tertiary care • Community settings in which NHS care is received.
Search Strategy	See appendix D
Review Strategy	Appraisal of methodological quality • The methodological quality of each study will be assessed using NICE checklists and the quality of the evidence will be assessed by GRADE for each outcome. Synthesis of data • Meta-analysis will be conducted where appropriate

C.10 Health economics literature review protocol

Health economics literature review protocol	
Objectives	The aim is to identify economic studies relevant to the review questions for the guideline set out above
Criteria	Populations, interventions and comparators as specified in the review protocols above. Must be a relevant economic study design (cost-utility analysis, cost-benefit analysis, cost-effectiveness analysis, cost-consequence analysis, comparative cost analysis)
Search strategy	See appendix D, section D.4
Review strategy	Study assessment: • NICE economic evaluation checklist{National Institute for Health and Clinical Excellence, 2009 NICE2009C /id} **Inclusion/exclusion criteria:** • If a study is rated as both 'Directly applicable' and 'Minor limitations' (by economic evaluation checklist) then it should be *included* in the guideline. An economic evidence table should be completed and it should be included in the economic profile • If a study is rated as either 'Not applicable' or 'Very serious limitations' then it should be *excluded* from the guideline. It should not be included in the economic profile and there is no need to include an evidence table. • If a study is rated as 'Partially applicable' and/or 'Potentially serious limitations' then

	there is *discretion* over whether it should be included. The health economist should make a decision based on the relative applicability and quality of the available evidence for that question. The ultimate aim being to include studies that are helpful for decision making in the context of the guideline. Also exclude: • Unpublished reports • Abstract-only studies • Letter • Editorials • Reviews of economic evaluations[b] • Foreign language articles **Where there is discretion** The health economist should be guided by the following hierarchies. *Setting:* • UK NHS • OECD countries with predominantly public health insurance systems (e.g. France, Germany, Sweden) • OECD countries with predominantly private health insurance systems (e.g. USA, Switzerland) • Non-OECD settings (always 'Not applicable') *Economic study type:* • Cost-utility analysis • Other type of full economic evaluation (cost-benefit analysis or cost-effectiveness analysis) • Comparative cost analyses • Cost of illness studies (always 'Not applicable') *Year of analysis:* • The more recent the study, the more applicable it is *Quality of effectiveness data used in the economic analysis:* • The more closely the effectiveness data used in the economic analysis matches with the studies included for the clinical review the more useful the analysis will be to decision making for the guideline.

Appendix D: Literature search strategies

Search strategies used for the Psoriasis guideline were run in accordance with the NICE Guidelines Manual 2009: http://www.nice.org.uk/media/5F2/44/The_guidelines_manual_2009_-_All_chapters.pdf

All searches were run up to 08/03/2012 unless otherwise stated. Any studies added to the databases after this date were not included unless specifically stated in the text.

b Recent reviews will be ordered although not reviewed. The bibliographies will be checked for relevant studies, which will then be ordered.

Clinical searches

Searches for **clinical reviews** were run in Medline (OVID), Embase (OVID), the Cochrane Library (Wiley) and CINAHL (EBSCO). Typically, searches were constructed in the following way:

- A PICO format was used for intervention searches. **Population** (P) terms were combined with **Intervention** (I) and sometimes **Comparison** (C) terms (as indicated in the tables under each individual question in Section A.3). An intervention can be a drug, a procedure or a diagnostic test. **Outcomes** (O) are rarely used in search strategies for interventions. Study type filters were added where appropriate (see A.1).

In addition to the databases outlined above, search A.3.14 and A.3.15 were run in PsycINFO (OVID). Where possible searches were limited to papers published in English. All search results retrieved on Cinahl were restricted to exclude Medline records.

Economic searches

Searches for **economic evidence** were run in Medline (Ovid), Embase (Ovid), the NHS Economic Evaluations Database (NHS EED), the Health Technology Assessment (HTA) database and the Health Economic Evaluation Database (HEED). NHS EED and HTA were searched via the Centre for Reviews and Dissemination (CRD) interface. For Medline and Embase an economic filter was added to the same clinical search strategy (see A.1.4). All other economic searches were conducted using only population terms.

Section D.1	**Study filter terms**
A.1.1	Systematic reviews (SR)
A.1.2	Randomized controlled trials (RCT)
A.1.3	Observational studies
A.1.4	Economic studies
A.1.5	Quality of life studies
A.1.6	Diagnostic accuracy
Section A.2	**Standard population search strategy** This population was used for all search questions unless stated.
Section A.3	**Searches for specific questions** with intervention (and population where different from A.2)
A.3.1	Assessment tools
A.3.2	Diagnostic tools for psoriatic arthritis
A.3.3	Specialist referral for psoriatic arthritis
A.3.4	Incidence of comorbidities
A.3.5	Risk of skin cancer
A.3.6	Topical therapy
A.3.7	Phototherapy
A.3.8	Phototherapy combined with acitretin
A.3.9	Topicals combined with UVB
A.3.10	Systemic non-biological therapy
A.3.11	Methotrexate and the risk of hepatotoxicity
A.3.12	Methotrexate and monitoring for hepatotoxicity
A.3.13	Sequencing of biological therapy
A.3.14	Cognitive behavioural therapy

A.3.15	Self management
Section A.4	**Economic searches**
A.4.1	Economic evaluations
A.4.2	Quality of life studies

D.1 Study design search terms

D.1.1 Systematic review (SR) search terms

Medline and Embase search terms

1.	review.pt. or review.ti. or "review"/
2.	(systematic* or evidence*or methodol* or quantitativ* or analys* or assessment*).ti,sh,ab.
3.	1 and 2
4.	meta-analysis.pt.
5.	meta-analysis/
6.	meta-analysis as topic/
7.	"systematic review"/
8.	(meta-analy* or metanaly* or metaanaly* or meta analy*).ti,ab.
9.	((systematic* or evidence* or methodol* or quantitativ*) adj5 (review* or survey* or overview*)).ti,ab,sh.
10.	((pool* or combined or combining) adj2 (data or trials or studies or results)).ti,ab.
11.	or/3-10

D.1.2 Randomised controlled trial (RCT) search terms

Medline search terms

1.	randomized controlled trial.pt.
2.	controlled clinical trial.pt.
3.	randomized.ab.
4.	placebo.ab.
5.	randomly.ab.
6.	clinical trials as topic.sh.
7.	trial.ti.
8.	or/1-7

Embase search terms

1.	random*.ti,ab.
2.	factorial*.ti,ab.
3.	(crossover* or cross over* or cross-over*).ti,ab.
4.	((doubl* or singl*) adj blind*).ti,ab.
5.	(assign* or allocat* or volunteer*).ti,ab.
6.	crossover procedure/
7.	double blind procedure/
8.	single blind procedure/
9.	randomized controlled trial/
10.	or/1-9

D.1.3 Observational studies search terms

Medline search terms

1.	exp clinical trial/
2.	exp clinical trials as topic/
3.	exp evaluation studies/ or follow-up studies/ or prospective studies/
4.	exp epidemiological studies/
5.	cohort stud$.ti,ab.
6.	case control stud$.ti,ab.
7.	((crossover or cross-over or cross over) adj2 (design$ or stud$ or procedure$ or trial$)).ti,ab.
8.	or/1-7

Embase search terms

1.	controlled study/
2.	clinical study/ or major clinical study/ or clinical trial/ or phase 1 clinical trial/ or phase 2 clinical trial/ or phase 3 clinical trial/ or phase 4 clinical trial/
3.	exp longitudinal study/
4.	exp cohort analysis/
5.	cohort studies.ti,ab.
6.	(cross adj2 over adj2 (study or design)).ti,ab.
7.	crossover procedure/
8.	or/1-7

D.1.4 Health economic search terms

Medline search terms

1.	economics/
2.	value of life/
3.	exp "costs and cost analysis"/
4.	exp economics, hospital/
5.	exp economics, medical/
6.	economics, nursing/
7.	economics, pharmaceutical/
8.	exp "fees and charges"/
9.	exp budgets/
10.	budget*.ti,ab.
11.	cost*.ti.
12.	(economic* or pharmaco?economic*).ti.
13.	(price* or pricing*).ti,ab.
14.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15.	(financ* or fee or fees).ti,ab.
16.	(value adj2 (money or monetary)).ti,ab.
17.	or/1-16

Embase search terms

1.	health economics/
2.	exp economic evaluation/
3.	exp health care cost/

4.	exp fee/
5.	budget/
6.	funding/
7.	budget*.ti,ab.
8.	cost*.ti.
9.	(economic* or pharmaco?economic*).ti.
10.	(price* or pricing*).ti,ab.
11.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
12.	(financ* or fee or fees).ti,ab.
13.	(value adj2 (money or monetary)).ti,ab.
14.	or/1-13

D.1.5 Quality of life search terms

Medline search terms

1.	quality-adjusted life years/
2.	sickness impact profile/
3.	(quality adj2 (wellbeing or well being)).ti,ab.
4.	sickness impact profile.ti,ab.
5.	disability adjusted life.ti,ab.
6.	(qal* or qtime* or qwb* or daly*).ti,ab.
7.	(euroqol* or eq5d* or eq 5d*).ti,ab.
8.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
9.	(health utility* or utility score* or disutilit*).ti,ab.
10.	(hui or hui1 or hui2 or hui3).ti,ab.
11.	health* year* equivalent*.ti,ab.
12.	(hye or hyes).ti,ab.
13.	rosser.ti,ab.
14.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
15.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
16.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
17.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
18.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
19.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
20.	or/1-20

Embase search terms

1.	quality adjusted life year/
2.	"quality of life index"/
3.	short form 12/ or short form 20/ or short form 36/ or short form 8/
4.	sickness impact profile/
5.	(quality adj2 (wellbeing or well being)).ti,ab.
6.	sickness impact profile.ti,ab.
7.	disability adjusted life.ti,ab.
8.	(qal* or qtime* or qwb* or daly*).ti,ab.
9.	(euroqol* or eq5d* or eq 5d*).ti,ab.

10.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
11.	(health utility* or utility score* or disutilit*).ti,ab.
12.	(hui or hui1 or hui2 or hui3).ti,ab.
13.	health* year* equivalent*.ti,ab.
14.	(hye or hyes).ti,ab.
15.	rosser.ti,ab.
16.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
17.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
18.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
19.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
20.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
21.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
22.	or/1-21

D.1.6 Diagnostic accuracy

Medline and Embase search terms

1.	exp *prognosis/
2.	prognos*.ti.
3.	prevalence/
4.	incidence/
5.	(prevalence or incidence).ti.
6.	sensitiv$.ti,ab,hw.
7.	diagnos$.ti,ab,hw.
8.	di.fs.
9.	or/1-8

D.2 Standard population search strategy

Medline search terms

1.	psoria*.ti,ab,hw.
2.	(pustulo* adj3 palm*).ti,ab,hw.
3.	or/1-2
4.	letter.pt.
5.	letter/
6.	letter$/
7.	editorial.pt.
8.	historical article.pt.
9.	anecdote.pt.
10.	commentary.pt.
11.	note.pt.
12.	case report/
13.	case report$.pt.
14.	case study/
15.	case study.pt.
16.	exp animal/ not human/

17.	nonhuman/
18.	exp animal studies/
19.	animals, laboratory/
20.	exp experimental animal/
21.	exp animal experiment/
22.	exp animal model/
23.	exp rodentia/
24.	exp rodents/
25.	exp rodent/
26.	or/4-25
27.	3 not 26

Embase search terms

1.	exp psoriasis/
2.	psoria*.ti,ab,hw.
3.	(pustulo* adj3 palm*).ti,ab,hw.
4.	or/1-3
5.	letter.pt.
6.	letter/
7.	letter$/
8.	editorial.pt.
9.	historical article.pt.
10.	anecdote.pt.
11.	commentary.pt.
12.	note.pt.
13.	case report/
14.	case report$.pt.
15.	case study/
16.	case study.pt.
17.	exp animal/ not human/
18.	nonhuman/
19.	exp animal studies/
20.	animals, laboratory/
21.	exp experimental animal/
22.	exp animal experiment/
23.	exp animal model/
24.	exp rodentia/
25.	exp rodents/
26.	exp rodent/
27.	or/5-26
28.	4 not 27

Cinahl search terms

S1	psoria*
S2	pustulo* n3 palm*
S3	S1 and S2

Cochrane search terms

#1	psoria*:ti,ab,kw
#2	pustulo* near/3 palm*:ti,ab,hw
#3	(#1 or #2)

PsycINFO search terms

1.	psoria*.mp.

D.3 Searches for specific questions

D.3.1 Assessment tools

Q. In people with psoriasis (all types), which are the most effective tools to assess the (a) severity and (b) impact of disease across all levels of healthcare provision and at any stage of the disease journey?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Assessment tools		RCTs, SRs, Observational studies and Diagnostic accuracy [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	(PASI or SPI or SAPASI or LS-PGA or PSSI or s-mPASI or hn-PASI or S-PaGA or GSS or PGA or BSA or NAPSI).ti,ab.
2.	(psoria* adj3 index).ti,ab.
3.	(global adj (assess* or severity)).ti,ab.
4.	body surface area.ti,ab.
5.	photography.ti,ab.
6.	"psoriasis area and severity index".ti,ab.
7.	(DLQI or CDLQI or IPSO or PSPRIoL or PQoL-12 or PDI or PLSI or QES or SkinDex29 or Scalpdex).ti,ab.
8.	((dermatology or psoriasis) adj2 quality).ti,ab.
9.	(psoriasis adj4 (questionnaire or inventory)).ti,ab.
10.	psoriasis life stress inventory.ti,ab.
11.	(questionnaire adj4 skin complaints).ti,ab.
12.	severity of illness index/
13.	"quality of life"/
14.	questionnaires/
15.	or/1-14

Embase search terms

1.	(PASI or SPI or SAPASI or LS-PGA or PSSI or s-mPASI or hn-PASI or S-PaGA or GSS or PGA or BSA or NAPSI).ti,ab.
2.	(psoria* adj3 index).ti,ab.
3.	(global adj (assess* or severity)).ti,ab.
4.	body surface area.ti,ab.
5.	photography.ti,ab.

6.	"psoriasis area and severity index".ti,ab.
7.	(DLQI or CDLQI or IPSO or PSPRIoL or PQoL-12 or PDI or PLSI or QES or SkinDex* or Scalpdex).ti,ab.
8.	((dermatology or psoriasis) adj2 quality).ti,ab.
9.	(psoriasis adj4 (questionnaire or inventory)).ti,ab.
10.	psoriasis life stress inventory.ti,ab.
11.	(questionnaire adj4 skin complaints).ti,ab.
12.	exp disease severity/ or exp scoring system/
13.	exp "quality of life"/
14.	exp questionnaire/
15.	or/1-14

Cinahl search terms

S1	PASI or SPI or SAPASI or LS-PGA or PSSI or s-mPASI or hn-PASI or S-PaGA or GSS or PGA or BSA or NAPSI
S2	psoria* n3 index
S3	global n1 assess* or global n1 severity
S4	body surface area
S5	photography
S6	"psoriasis area and severity index"
S7	dermatology n2 quality or psoriasis n2 quality
S8	psoriasis n4 questionnaire or psoriasis n4 inventory or questionnaire n4 skin complaint
S9	(MM "severity of illness indices") or (MM "severity of illness")
S10	(MM "quality of life")
S11	(MH "questionnaires")
S12	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11

Cochrane search terms

#1	(PASI or SPI or SAPASI or LS-PGA or PSSI or s-mPASI or hn-PASI or S-PaGA or GSS or PGA or BSA or NAPSI):ti,ab
#2	psoria* near/3 index:ti,ab
#3	(global near/1 (assess* or severity)):ti,ab
#4	body surface area:ti,ab
#5	photography:ti,ab
#6	"psoriasis area and severity index":ti,ab
#7	(DLQI or CDLQI or IPSO or PSPRIoL or "PQoL-12" or PDI or PLSI or QES or SkinDex29 or Scalpdex):ti,ab
#8	((dermatology or psoriasis) near/2 quality):ti,ab
#9	(psoriasis near/4 (questionnaire or inventory)):ti,ab
#10	(questionnaire near/4 skin complaints):ti,ab
#11	MeSH descriptor severity of illness index, this term only
#12	MeSH descriptor quality of life explode all trees
#13	MeSH descriptor questionnaires explode all trees
#14	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13)

D.3.2 Diagnostic tools for psoriatic arthritis

Q. In people with psoriasis (all types), which is the most accurate diagnostic tool compared with clinical diagnosis by a rheumatologist to help a non-specialist identify psoriatic arthritis?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Diagnostic tools			All years – 08/03/2012

Medline and Embase search terms

1.	"psoriatic arthritis screening and evaluation".ti,ab.
2.	"psoriasis epidemiology screening tool".ti,ab.
3.	"toronto psoriatic arthritis".ti,ab.
4.	alenius.ti,ab.
5.	"classification criteria for psoriatic arthritis".ti,ab.
6.	(PASE or PEST or ToPAS or CASPAR).ti,ab.
7.	toronto.ti,ab.
8.	exp mass screening/
9.	(screen* adj tool*).ti,ab.
10.	or/1-9

Cinahl search terms

S1	(MH "health screening+")
S2	(MM "instrument validation")
S3	screen* n2 tool*
S4	evaluat* n2 tool*
S5	PASE or PEST or ToPAS or CASPAR
S6	toronto
S7	alenius
S8	classification criteria and psoriatic arthritis
S9	epidemiology and screening
S10	psoriatic arthritis screening
S11	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10

Cochrane search terms

#1	psoriatic arthritis screening:ti,ab
#2	psoriasis epidemiology screening:ti,ab
#3	toronto psoriatic arthritis:ti,ab
#4	(classification criteria) and (psoriatic arthritis)
#5	(PASE or PEST or ToPAS or CASPAR):ti,ab
#6	toronto:ti,ab
#7	MeSH descriptor mass screening, this term only
#8	screen* near tool*:ti,ab
#9	evaluat* adj tool*:ti,ab
#10	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9)

D.3.3 Specialist referral for psoriatic arthritis

Q. In people with psoriasis (all types) and suspected psoriatic arthritis, how quickly should referral to a specialist be made in order to minimise the impact of disease on symptoms, joint damage and quality of life?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Referral		RCTs, SRs and Observational studies [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	disease progression/
2.	exp "referral and consultation"/
3.	exp patient referral/
4.	early diagnosis/
5.	delayed diagnosis/
6.	(early adj2 (diagnos* or treat* or refer*)).ti,ab.
7.	(late adj2 (diagnos* or treat* or refer*)).ti,ab.
8.	(refer* adj2 (specialist* or rheumatologist*)).ti,ab.
9.	((early or urgent or delay* or timely) adj2 (referral* or diagnos*)).ti,ab.
10.	exp *prognosis/
11.	prognos*.ti.
12.	incidence/ or prevalence/
13.	(incidence or prevalence).ti,ab.
14.	natural history/
15.	time factors/
16.	or/1-15

Embase search terms

1.	disease course/
2.	patient referral/
3.	early diagnosis/
4.	delayed diagnosis/
5.	(early adj2 (diagnos*or treat* or refer*)).ti,ab.
6.	(late adj2 (diagnos* or treat* or refer*)).ti,ab.
7.	(refer* adj2 (specialist* or rheumatologist*)).ti,ab.
8.	((early or urgent or delay* or timely) adj2 (referral* or diagnos*)).ti,ab.
9.	exp *prognosis/
10.	prognos*.ti.
11.	prevalence/
12.	incidence/
13.	(prevalence or incidence).ti.
14.	history/
15.	time/
16.	or/1-15

Cinahl search terms

S1	(MH "disease progression")
S2	(MH "referral and consultation")
S3	(MH "early diagnosis+")
S4	(MH "diagnosis, delayed")
S5	early n2 diagnos* or early n2 treatment* or early n2 refer*
S6	late n2 diagnos* or late n2 treatment* or late n2 refer*
S7	refer* n2 specialist* or refer* n2 rheumatologist*
S8	urgent n2 referral* or urgent n2 diagnos* or delay* n2 referral* or delay* n2 diagnos* or timely n2 referral* or timely n2 diagnos**
S9	(MH "prognosis+")
S10	(MH "prevalence")
S11	(MH "incidence")
S12	incidence or prevalence or prognos*
S13	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12

Cochrane search terms

#1	MeSH descriptor disease progression, this term only
#2	MeSH descriptor referral and consultation explode all trees
#3	MeSH descriptor early diagnosis, this term only
#4	MeSH descriptor delayed diagnosis explode all trees
#5	early near/2 diagnos*:ti,ab
#6	early next treatment*:ti,ab
#7	early near/2 refer*:ti,ab
#8	late near/2 diagnos*:ti,ab
#9	late next treatment*:ti,ab
#10	late near/2 refer*:ti,ab
#11	(refer* near/2 (specialist* or rheumatologist*)):ti,ab
#12	((early or urgent or delay* or timely) near/2 (referral* or diagnos*)):ti,ab
#13	MeSH descriptor prognosis explode all trees
#14	prognos*:ti
#15	MeSH descriptor prevalence, this term only
#16	MeSH descriptor incidence, this term only
#17	(prevalence or incidence):ti
#18	MeSH descriptor time factors, this term only
#19	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18)

D.3.4 Incidence of comorbidities

Q. Are people with psoriasis at higher risk than people without psoriasis for significant comorbidities and are there subgroups within the psoriasis population at a further increased risk?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Comorbidity risk factors		RCTs, SRs and Observational studies [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	exp comorbidity/
2.	comorbid*.ti,ab.
3.	1 or 2
4.	exp obesity/
5.	obes*.ti,ab.
6.	body mass index/ or body weight/
7.	('body mass index' or bmi).ti,ab.
8.	metabolic syndrome x/
9.	exp cardiovascular diseases/
10.	hypertens*.ti,ab.
11.	(essential adj hypertension).ti,ab.
12.	(isolat* adj hypertension).ti,ab.
13.	(elevat* adj2 blood adj pressur*).ti,ab.
14.	(high adj blood adj pressur*).ti,ab.
15.	(increase* adj2 blood pressur*).ti,ab.
16.	((systolic or diastolic or arterial) adj2 pressur*).ti,ab.
17.	myocardial infarct*.ti,ab.
18.	((cardiac or heart) adj (infarct* or attack* or arrest* or event*)).ti,ab.
19.	heart failure.ti,ab.
20.	exp stroke/
21.	(stroke or strokes or cva or poststroke$ or apoplexy or "cerebrovascular accident").ti,ab.
22.	((cerebro$ or brain or brainstem or cerebral$) adj3 (infarct$ or accident$)).ti,ab.
23.	exp dyslipidemias/
24.	(hyperlipid?emia* or dyslipid?emia*).ti,ab.
25.	exp alcohol drinking/
26.	exp smoking/
27.	exp tobacco, smokeless/
28.	exp alcoholic beverages/
29.	exp alcohol-related disorders/
30.	(smoking or smoker*).ti,ab.
31.	tobacco*.ti,ab.
32.	alcohol*.ti,ab.
33.	exp neoplasms/
34.	(cancer* or lymphoma*).ti,ab.
35.	exp liver diseases/
36.	(liver adj3 (disease* or disorder*)).ti,ab.
37.	(cirrhosis or fibrosis).ti,ab.
38.	exp diabetes mellitus/ or exp glycosuria/ or exp hyperglycemia/ or exp hyperinsulinism/ or exp hypoglycemia/
39.	diabet*.ti,ab.
40.	exp inflammatory bowel diseases/
41.	ibd.ti,ab.
42.	(bowel adj3 (disease* or disorder*)).ti,ab.
43.	colitis*.ti,ab.

44.	crohn*.ti,ab.
45.	exp depression/ or exp stress, psychological/
46.	exp depressive disorder/
47.	(depress* or dysphori* or dysthym* or melanchol* or seasonal affective*).ti,ab.
48.	or/4-47
49.	3 or 48

Embase search terms

1.	exp comorbidity/
2.	comorbid*.ti,ab.
3.	1 or 2
4.	exp obesity/
5.	obes*.ti,ab.
6.	exp body mass/ or exp body weight/
7.	('body mass index' or bmi).ti,ab.
8.	metabolic syndrome x/
9.	exp cardiovascular diseases/
10.	hypertens*.ti,ab.
11.	(essential adj hypertension).ti,ab.
12.	(isolat* adj hypertension).ti,ab.
13.	(elevat* adj2 blood adj pressur*).ti,ab.
14.	(high adj blood adj pressur*).ti,ab.
15.	(increase* adj2 blood pressur*).ti,ab.
16.	((systolic or diastolic or arterial) adj2 pressur*).ti,ab.
17.	myocardial infarct*.ti,ab.
18.	((cardiac or heart) adj (infarct* or attack* or arrest* or event*)).ti,ab.
19.	heart failure.ti,ab.
20.	exp stroke/
21.	(stroke or strokes or cva or poststroke$ or apoplexy or "cerebrovascular accident").ti,ab.
22.	((cerebro$ or brain or brainstem or cerebral$) adj3 (infarct$ or accident$)).ti,ab.
23.	exp dyslipidemia/
24.	exp hyperlipidemia/
25.	(hyperlipid?emia* or dyslipid?emia*).ti,ab.
26.	exp drinking behavior/
27.	exp alcoholism/
28.	exp alcoholic beverage/
29.	exp smoking/
30.	exp smokeless tobacco/
31.	(smoking or smoker*).ti,ab.
32.	tobacco*.ti,ab.
33.	alcohol*.ti,ab.
34.	exp neoplasm/
35.	(cancer* or lymphoma*).ti,ab.
36.	exp liver disease/
37.	(liver adj3 (disease* or disorder*)).ti,ab.

38.	(cirrhosis or fibrosis).ti,ab.
39.	exp diabetes mellitus/ or exp glycosuria/ or exp hyperglycemia/ or exp hyperinsulinism/ or exp hypoglycemia/
40.	diabet*.ti,ab.
41.	exp enteritis/
42.	ibd.ti,ab.
43.	(bowel adj3 (disease* or disorder*)).ti,ab.
44.	colitis*.ti,ab.
45.	crohn*.ti,ab.
46.	exp depression/
47.	exp psychological stress/
48.	(depress* or dysphori* or dysthym* or melanchol* or seasonal affective*).ti,ab.
49.	or/4-48
50.	3 or 49

Cinahl search terms

S1	(MH "comorbidity")
S2	comorbid*
S3	(MH "obesity+")
S4	obes*
S5	(MH "body weight+") OR (MH "body mass index")
S6	body mass index
S7	bmi
S8	(MH "metabolic syndrome X+")
S9	(MH "cardiovascular diseases+")
S10	hypertens*
S11	elevat* n2 blood pressur*
S12	increase* n2 blood pressur*
S13	systolic n2 pressur*
S14	diastolic n2 pressur*
S15	arterial n2 pressur*
S16	myocardial infarct*
S17	heart n2 infarct* or cardiac n2 infarct*
S18	heart n2 attack* or cardiac n2 attack*
S19	heart n2 arrest* or cardiac n2 arrest*
S20	heart n2 event* or cardiac n2 event*
S21	heart n1 failure
S22	vascular n2 disease* or arterial n2 disease
S23	(MH "stroke")
S24	stroke or strokes or cva or poststroke or apoplexy or cerebrovascular accident
S25	cerebro* n3 infarct* or cerebro* n3 accident* or brain* n3 infarct* or brain* n3 accident* or brainstem* n3 infarct* or brainstem* n3 accident* or cerebral* n3 infarct* or cerebral* n3 accident*
S26	(MH "hyperlipidemia+")
S27	hyperlipidemia or hyperlipidaemia or dyslipidemia or dyslipidaemia
S28	(MH "drinking behavior+")

S29	(MH "alcoholic beverages+")
S30	(MH "alcohol-related disorders+")
S31	(MH "smoking+")
S32	(MH "tobacco, smokeless")
S33	smoker* or smoking or alcohol* or tobacco*
S34	(MH "neoplasms+")
S35	cancer* or lymphoma* or carcinoma* or melanoma*
S36	(MH "liver diseases+")
S37	liver n3 disease*
S38	liver n3 disorder*
S39	cirrhosis or fibrosis
S40	(Mh "diabetes mellitus+") or (mh "hypoglycemia+") or (mh "hyperinsulinism+") or (mh "hyperglycemia+") or (mh "hyperinsulinemia")
S41	diabet*
S42	(MH "inflammatory bowel diseases+")
S43	ibd or colitis* or crohn*
S44	bowel n3 disease* or bowel n3 disorder*
S45	(MH "affective disorders+") or (mh "depression")
S46	(MH "stress, psychological+")
S47	depress* or dysphori* or melanchol* or seasonal affective*
S48	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18 or S19 or S20 or S21 or S22 or S23 or S24 or S25 or S26 or S27 or S28 or S29 or S30 or S31 or S32 or S33 or S34 or S35 or S36 or S37 or S38 or S39 or S40 or S41 or S42 or S43 or S44 or S45 or S46 or S47

Cochrane search terms

#1	MeSH descriptor comorbidity explode all trees
#2	comorbid*:ti,ab
#3	MeSH descriptor obesity explode all trees
#4	obes*:ti,ab.
#5	MeSH descriptor body mass index explode all trees
#6	"body mass index":ti,ab
#7	BMI:ti,ab.
#8	MeSH descriptor metabolic syndrome X explode all trees
#9	MeSH descriptor cardiovascular diseases explode all trees
#10	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9)
#11	hypertens*:ti,ab
#12	(elevat* near/2 blood next pressur*):ti,ab
#13	(increase* near/2 blood next pressur*):ti,ab
#14	((systolic or diastolic or arterial) near/2 pressur*):ti,ab
#15	myocardial infarct*:ti,ab
#16	((heart or cardiac) next (infarct* or attack* or arrest* or event*)):ti,ab
#17	heart failure:ti,ab
#18	((vascular or arterial) next disease):ti,ab
#19	MeSH descriptor stroke explode all trees
#20	(#11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19)

#21	(stroke or strokes or cva or poststroke* or apoplexy or "cerebrovascular accident"):ti,ab
#22	((cerebro* or brain or brainstem or cerebral*) near/3 (infarct* or accident*)):ti,ab
#23	MeSH descriptor dyslipidemias explode all trees
#24	(hyperlipidemia* or dyslipidemia* or hyperlipidaemia* or dyslipidaemia*):ti,ab
#25	MeSH descriptor alcohol-related disorders explode all trees
#26	MeSH descriptor drinking behavior explode all trees
#27	MeSH descriptor alcoholic beverages explode all trees
#28	MeSH descriptor smoking explode all trees
#29	MeSH descriptor tobacco, smokeless explode all trees
#30	(#21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29)
#31	(smoking or smoker*):ti,ab
#32	tobacco*:ti,ab
#33	alcohol*:ti,ab
#34	MeSH descriptor neoplasms explode all trees
#35	(cancer* or lymphoma* or carcinoma* or melanoma*):ti,ab
#36	MeSH descriptor liver diseases explode all trees
#37	(liver near/3 (disease* or disorder*)):ti,ab
#38	(cirrhosis or fibrosis):ti,ab
#39	MeSH descriptor diabetes mellitus explode all trees
#40	(#31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39)
#41	MeSH descriptor glycosuria explode all trees
#42	MeSH descriptor hyperglycemia explode all trees
#43	MeSH descriptor hyperinsulinism explode all trees
#44	MeSH descriptor hypoglycemia explode all trees
#45	diabet*:ti,ab
#46	MeSH descriptor inflammatory bowel diseases explode all trees
#47	IBD:ti
#48	(bowel near/3 (disorder* or disease*)):ti,ab
#49	colitis*:ti,ab
#50	(#41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49)
#51	crohn*:ti,ab
#52	MeSH descriptor depression explode all trees
#53	MeSH descriptor stress, psychological explode all trees
#54	MeSH descriptor depressive disorder explode all trees
#55	(depress* or dysphori* or dysthym* or melanchol* or seasonal affective*):ti,ab
#56	(#10 or #20 or #30 or #40 or #50 or #51 or #52 or #53 or #54 or #55)

D.3.5 Risk of skin cancer

Q. In people with psoriasis (all types) who have been exposed to coal tar, phototherapy (BBUVB, NBUVB and PUVA), systemic non-biological or biological therapy, what is the risk of skin cancer compared with people not exposed to these interventions and which individuals are at particular risk?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Skin cancer	Phototherapy or		All years –

Population	Intervention	Comparison	Study filter used	Date parameters
		systemic therapy or topical therapy [Medline and Embase only]		08/03/2012

Medline search terms

1.	exp skin neoplasms/
2.	(skin adj3 (cancer* or neoplasm* or tumo?r or malignan*)).ti,ab.
3.	exp carcinoma, squamous cell/
4.	exp carcinoma, basal cell/
5.	exp melanoma/
6.	or/1-5
7.	exp phototherapy/
8.	exp photochemotherapy/
9.	photo?chemotherap*.ti,ab.
10	photo?therap*.ti,ab.
11	exp ultraviolet rays/
12	exp ultraviolet therapy/
13	ultra?violet*.ti,ab.
14	(uv*2 or uv?a or uv?b or nb?uv* or bb?uv*).ti,ab.
15	psoralen*.ti,ab.
16	exp laser, excimer/
17	(excimer adj3 laser*).ti,ab.
18	helio?therap*.ti,ab.
19	sun?bed*.ti,ab.
20	((narrow?band or broad?band) and (uv*2 or ultra?violet*)).ti,ab.
21	tl?01.ti,ab.
22	methotrexate/
23	methotrexate.ti,ab.
24	(cyclosporin or ciclosporin or cyclosporine or ciclosporine or deximune or neoral or sandimmun or sandimmune or restasis or cicloral).ti,ab.
25	cyclosporine/
26	acitretin/
27	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*).ti,ab.
28	exp coal tar/
29	(coal tar or psoriderm or alphosyl or capasal).ti,ab.
30	(carbo-dome or exorex or cocois or sebco or pinetarsol).ti,ab.
31	(gelcosar or gelcotar or pragmatar or polytar or tarcortin or capasal or ionil or pentrax).ti,ab.
32	(t adj gel).ti,ab.
33	carbo dome.ti,ab.
34	t?gel.ti,ab.
35	(etanercept or infliximab or adalimumab or ustekinumab).ti,ab.
36	exp biological therapy/
37	(biologic* adj3 therap*).ti,ab.
38	(embrel or remicade or humira or stelara).ti,ab.

39	or/7-38
40	6 and 39

Embase search terms

1.	exp skin tumor/
2.	(skin adj3 (cancer* or neoplasm* or tumo?r or malignan*)).ti,ab.
3.	exp melanoma/
4.	basal cell carcinoma/
5.	squamous cell carcinoma/
6.	or/1-5
7.	exp phototherapy/
8.	exp photochemotherapy/
9.	photo?chemotherap*.ti,ab.
10.	phototherap*.ti,ab.
11.	exp ultraviolet radiation/
12.	ultra?violet*.ti,ab.
13.	(uv*2 or uv?a or uv?b or nb?uv* or bb?uv*).ti,ab.
14.	puva*.ti,ab.
15.	psoralen*.ti,ab.
16.	exp excimer laser/
17.	(excimer adj3 laser*).ti,ab.
18.	helio?therap*.ti,ab.
19.	sun?bed*.ti,ab.
20.	((narrow?band or broad?band) and (uv*2 or ultra?violet*)).ti,ab.
21.	tl?01.ti,ab.
22.	methotrexate/
23.	methotrexate.ti,ab.
24.	(cyclosporin or ciclosporin or cyclosporine or ciclosporine or deximune or neoral or sandimmun or sandimmune or restasis or cicloral).ti,ab.
25.	cyclosporin/ or cyclosporin a/
26.	etretin/
27.	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*).ti,ab.
28.	exp coal tar/
29.	(coal tar or psoriderm or alphosyl or capasal or carbo-dome or 'carbo dome' or exorex or cocois or sebco or pinetarsol or gelcosar or gelcotar or pragmatar or polytar or tarcortin or capasal or ionil or pentrax).ti,ab.
30.	(t adj gel).ti,ab.
31.	t?gel.ti,ab.
32.	exp etanercept/
33.	exp infliximab/
34.	exp adalimumab/
35.	exp ustekinumab/
36.	(etanercept or infliximab or adalimumab or ustekinumab).ti,ab.
37.	(embrel or remicade or humira or stelara).ti,ab.
38.	exp biological therapy/

39.	(biologic* adj3 therap*).ti,ab.
40.	or/7-39
41.	6 and 40

Cinahl search terms

S1	(MH "skin neoplasms+")
S2	skin and (cancer* or neoplasm* or tumor* or tumour* or malignan*)
S3	(MH "melanoma+")
S4	(MH "carcinoma, basal cell")
S5	(MH "carcinoma, squamous cell+")
S6	S1 or S2 or S3 or S4 or S5

Cochrane search terms

#1	MeSH descriptor skin neoplasms explode all trees
#2	(skin near/3 (cancer* or neoplasm* or tumo?r or malignan*)):ti,ab,kw
#3	((squamous or basal) near/2 carcinoma):ti,ab,kw
#4	melanoma:ti,ab,kw
#5	(#1 or #2 or #2 or #4)

D.3.6 Topical therapy

The following two questions were searched using a single strategy:

Q. In people with chronic plaque psoriasis of the trunk and/or limbs, what are the clinical effectiveness, safety, tolerability, and cost effectiveness of topical vitamin D or vitamin D analogues, potent or very potent corticosteroids, tar, dithranol and retinoids compared with placebo or vitamin D analogues, and of combined or concurrent vitamin D or vitamin D analogues and potent corticosteroids compared with potent corticosteroid or vitamin D or vitamin D analogues alone?

Q. In people with chronic plaque psoriasis at high impact or difficult-to-treat sites (scalp, flexures, face), what are the clinical effectiveness, safety, tolerability and cost effectiveness of vitamin D or vitamin D analogues, mild to very potent corticosteroids, combined or concurrent vitamin D or vitamin D analogue and potent corticosteroid, pimecrolimus, tacrolimus, tar, dithranol and retinoids compared with placebo, corticosteroids or vitamin D or vitamin D analogues?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Topical therapies		RCTs [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	coal tar/
2.	coal tar.tw.
3.	alphosyl.tw.
4.	carbo dome.tw.
5.	clinitar.tw.
6.	exorex.tw.
7.	gelcosal.tw.
8.	gelcotar.tw.

9.	pragmatar.tw.
10.	psorigel.tw.
11.	balneum.tw.
12.	polytar.tw.
13.	psoriderm.tw.
14.	tarcortin.tw.
15.	cocois.tw.
16.	(t adj gel).tw.
17.	capasal.tw.
18.	ceanel.tw.
19.	clinitar.tw.
20.	ionil.tw.
21.	meted.tw.
22.	pentrax.tw.
23.	anthralin/
24.	dithranol.tw.
25.	dithrocream.tw.
26.	micanol.tw.
27.	psorin.tw.
28.	betesil.tw.
29.	clarelux.tw.
30.	etrivex.tw.
31.	xamiol.tw.
32.	pinetarsol.tw.
33.	sebco.tw.
34.	emollient*.tw.
35.	budesonide/
36.	budesonide.tw.
37.	(vitamin adj d adj2 analogue$).tw.
38.	(vitamin adj d adj2 derivative$).tw.
39.	calcipotriol.tw.
40.	calcipotriene.tw.
41.	dovonex.tw.
42.	dovobet.tw.
43.	tacalcitol.tw.
44.	curatoderm.tw.
45.	tazarotene.tw.
46.	zorac.tw.
47.	calcitriol/
48.	silkis.tw.
49.	maxacalcitol.tw.
50.	tacrolimus/
51.	tacrolimus.tw.
52.	protopic.tw.
53.	pimecrolimus/

54.	pimecrolimus.tw.
55.	elidel.tw.
56.	topical retinoid$.tw.
57.	topical macrolactam$.tw.
58.	topical immunosuppressant$.tw.
59.	exp adrenal cortex hormones/
60.	corticosteroid$.tw.
61.	cortico steroid$.tw.
62.	exp hydrocortisone/
63.	cobadex.tw.
64.	dioderm.tw.
65.	efcortelan.tw.
66.	hydrocortisyl.tw.
67.	mildison.tw.
68.	alphaderm.tw.
69.	calmurid.tw.
70.	hydrocortisone butyrate.tw.
71.	locoid.tw.
72.	alclometasone dipropionate.tw.
73.	modrasone.tw.
74.	beclomethasone/
75.	beclomet$asone dipropionate.tw.
76.	propaderm.tw.
77.	exp betamethasone/
78.	betamethasone esters.tw.
79.	betamethasone.tw.
80.	betacap.tw.
81.	betnovate.tw.
82.	diprosone.tw.
83.	diprosalic.tw.
84.	bettamousse.tw.
85.	clobetasol propionate.tw.
86.	dermovate.tw.
87.	clobetasone butyrate.tw.
88.	eumovate.tw.
89.	trimovate.tw.
90.	desoximetasone/
91.	desoxymethasone.tw.
92.	desoximetasone.tw.
93.	stiedex.tw.
94.	diflucortolone/
95.	diflucortolone valerate.tw.
96.	nerisone.tw.
97.	exp fluocinolone acetonide/
98.	fluocinolone acetonide.tw.

99.	synalar.tw.
100.	fluocinonide.tw.
101.	metosyn.tw.
102.	exp fluocortolone/
103.	fluocortolone.tw.
104.	ultralanum.tw.
105.	flurandrenolone/
106.	flurandrenolone.tw.
107.	fludroxycortid$.tw.
108.	haelan.tw.
109.	fluticasone propionate.tw.
110.	cutivate.tw.
111.	halcinonide.tw.
112.	halciderm.tw.
113.	mometasone furoate.tw.
114.	elocon.tw.
115.	exp triamcinolone/
116.	triamcinolone acetonide.tw.
117.	adcortyl.tw.
118.	aureocort.tw.
119.	nystadermal.tw.
120.	tri-adcortyl.tw.
121.	or/1-120

Embase search terms

1.	coal tar/
2.	(coal tar or alphosyl or carbo dome or clinitar or exorex or cocois or t gel or capasal or ceanel or ionil or meted or pentrax).ti,ab.
3.	(gelcosal or gelcotar or pragmatar or psoriderm or psorigel or balneum or polytar or tarcortin or dithranol or dithrocream).ti,ab.
4.	(anthralin or micanol or psorin or vitamin d analogue$ or vitamin d derivative$).ti,ab.
5.	dithranol/ or tazarotene/
6.	(betesil or clarelux or etrivex or xamiol or pinetarsol or sebco or emollient*).tw.
7.	(calcipotriol or calcipotriene or dovonex or dovobet or tacalcitol or curatoderm or tazarotene or zorac or silkis or maxacalcitol).ti,ab.
8.	vitamin d derivative/ or calcipotriol/ or calcitriol/ or tacalcitol/
9.	budesonide/ or budesonide.tw.
10.	(vitamin adj d adj2 analog*).tw.
11.	(vitamin adj d adj2 derivativ*).tw.
12.	pimecrolimus/
13.	tacrolimus/
14.	(tacrolimus or protopic or pimecrolimus or elidel).tw.
15.	topical retinoid*.tw.
16.	topical macrolactam*.tw.
17.	topical immunosuppressant*.tw.
18.	exp corticosteroid/

19.	exp hydrocortisone/
20.	(corticosteroid$ or cortico steroid$ or hydrocortisone or cobadex or dioderm or efcortelan).ti,ab.
21.	(hydrocortisyl or mildison or alphaderm or calmurid).ti,ab.
22.	(locoid or modrasone or beclomethasone dipropionate).ti,ab.
23.	(alclometasone diproprionate or propaderm or betamethasone or betamethasone esters or betacap or betnovate or diprosone).ti,ab.
24.	(diprosalic or bettamousse or clobetasol propionate or dermovate or clobetasone butyrate).ti,ab.
25.	exp betamethasone/
26.	(eumovate or trimovate or desoxymethasone or desoxymetasone or desoximethasone or desoximetasone or stiedex).ti,ab.
27.	(diflucortolone valerate or nerisone or fluocinolone acetonide or synalar or fluocinonide or metosyn).ti,ab.
28.	(ultralanum or flurandrenolone or fludroxycortid* or haelan or fluticasone propionate or cutivate or halcinonide or halciderm).ti,ab.
29.	(mometasone furoate or elocon or adcortyl or aureocort or nystadermal or tri adcortyl).ti,ab.
30.	beclometasone/ or psoralon/ or psoraderm/ or psoradexan/ or psorin/
31.	beclometasone dipropionate/ or urea/ or hydrocortisone butyrate/ or hydrocortisone plus urea/
32.	alclometasone dipropionate/ or betamethasone dipropionate/ or betamethasone valerate/ or diflucortolone/
33.	clobetasol propionate/ or clobetasone butyrate/ or desoximetasone/ or diflucortolone valerate/ or fluocinonide/ or fluticasone propionate/
34.	fluocinolone/ or halcinonide/ or mometasone furoate/ or triamcinolone acetonide/
35.	fluocortolone/ or fluocortolone.tw.
36.	fluocinolone acetonide/
37.	fludroxycortide/
38.	exp triamcinolone/
39.	triamcinolone acetonide/ or triamcinolone acetonide.tw.
40.	or/1-39

Cinahl search terms

S1.	(MH "keratolytic agents")
S2.	*tar* or *gel* or alphosyl or carbodome or exorex or balneum or cocois or capasal or ceanel or ionil or meted
S3.	vitamin and d
S4.	pentrax or anthralin or dithr* or miconol or psorin or psoriderm or calcipo* or dovo* or *calcit* or curatoderm
S5.	tazarotene or zorac or silkis
S6.	tacrolimus or pimecrolimus or protopic or elidel
S7.	betesil or clarelux or etrivex or xamiol or pinetarsol or sebco or emollient*
S8.	(MH "budesonide") or "budesonide"
S9.	topical retinoid* or topical macrolactam* or topical immunosuppressant*
S10.	(MH "adrenal cortex hormones+")
S11.	(MH "hydrocortisone")
S12.	corticosteroid* or cortico steroid*
S13.	hydrocort* or cobadex or efcortalan or *derm or *dermal or *movate or mildison or calmurid

	or locoid or alcometasone or modrasone
S14.	beclo* or betametha* or betacap or betnovate or bettamousse or dipro* or clobetaso* or desox* or stiedex or diflucortolone or nerisone or fluocino*
S15.	synalar or metosyn or fluocortolone or ultralanum or flurandrenolone or fludroxycortide or haelan or fluticasone or cutivate or halci* or mometasone or elocon
S16.	triamcinolone or *cort or *cortyl
S17.	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16

Cochrane search terms

#1.	MeSH descriptor coal tar, this term only
#2.	"coal tar"
#3.	"carbo dome"
#4.	(pragmatar or psorigel or balneum or polytar)
#5.	(alphosyl)
#6.	(clinitar or exorex or gelcosal or gelcotar)
#7.	(psoriderm or tarcortin or cocois)
#8.	"t gel"
#9.	(capasal or ceanel or clinitar or ionil)
#10.	(meted or pentrax)
#11.	betesil or clarelux or etrivex or xamiol or pinetarsol or sebco or emollient*
#12.	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11)
#13.	MeSH descriptor anthralin, this term only
#14.	(dithranol or dithrocream or micanol or psorin)
#15.	(vitamin next d next analog*)
#16.	(vitamin next d next derivative*)
#17.	(calcipotriol or calcipotriene or dovonex or dovobet)
#18.	(tacalcitol or curatoderm or tazarotene or zorac)
#19.	MeSH descriptor calcitriol explode all trees
#20.	(silkis or maxacalcitol)
#21.	(#13 or #14 or #15 or #16 or #17 or #18 or #19 or #20)
#22.	MeSH descriptor tacrolimus, this term only
#23.	(tacrolimus or pimecrolimus or elidel or protopic)
#24.	(topical next retinoid*)
#25.	(topical next macrolactam*)
#26.	(topical next immunosuppressant*)
#27.	MeSH descriptor adrenal cortex hormones explode all trees
#28.	MeSH descriptor budesonide explode all trees
#29.	budesonide
#30.	(corticosteroid* or (cortico next steroid*))
#31.	MeSH descriptor hydrocortisone explode all trees
#32.	(hydrocortisone or cobadex or dioderm or efcortelan or hydrocortisyl or mildison or alphaderm or calmurid)
#33.	(#22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32)
#34.	hydrocortisone butyrate
#35.	alclometasone dipropionate
#36.	(modrasone or locoid or propaderm)

#37.	MeSH descriptor beclomethasone, this term only
#38.	beclomethasone dipropionate
#39.	MeSH descriptor betamethasone explode all trees
#40.	betamethasone esters
#41.	(betamethasone or betacap or betnovate or diprosone)
#42.	(diprosalic or bettamousse)
#43.	clobetasol propionate
#44.	(#34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 or #43)
#45.	clobetasone butyrate
#46.	(eumovate or trimovate or dermovate)
#47.	MeSH descriptor desoximetasone, this term only
#48.	(desoxymethasone or desoximetasone or stiedex)
#49.	MeSH descriptor diflucortolone, this term only
#50.	diflucortolone valerate
#51.	MeSH descriptor fluocinolone acetonide explode all trees
#52.	fluocinolone acetonide
#53.	(synalar or fluocinonide or metosyn or nerisone or elocon)
#54.	MeSH descriptor fluocortolone explode all trees
#55.	(fluocortolone or ultralanum or flurandrenolone or haelan)
#56.	(#45 or #46 or #47 or #48 or #49 or #50 or #51 or #52 or #53 or #54 or #55)
#57.	MeSH descriptor flurandrenolone, this term only
#58.	fludroxycortide
#59.	fluticasone propionate
#60.	(cutivate or halcinonide or halciderm)
#61.	MeSH descriptor halcinonide, this term only
#62.	mometasone furoate
#63.	triamcinolone
#64.	MeSH descriptor triamcinolone explode all trees
#65.	triamcinolone acetonide
#66.	MeSH descriptor triamcinolone acetonide, this term only
#67.	(adcortyl or aureocort or nystadermal or triadcortyl)
#68.	(#57 or #58 or #59 or #60 or #61 or #62 or #63 or #64 or #65 or #66 or #67)
#69.	(#12 or #21 or #33 or #44 or #56 or #68)

D.3.7 Phototherapy

Q. In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of BBUVB, NBUVB and PUVA compared with each other or placebo / no treatment?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Phototherapy		RCTs and SRs [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	exp phototherapy/

2.	exp photochemotherapy/
3.	photochemotherap*.ti,ab.
4.	phototherap*.ti,ab.
5.	exp ultraviolet rays/
6.	exp ultraviolet therapy/
7.	ultra?violet*.ti,ab.
8.	ultra violet*.ti,ab.
9.	(UV or UVB or UVA).ti,ab.
10.	PUVA*.ti,ab.
11.	psoralen*.ti,ab.
12.	exp laser, excimer/
13.	(excimer adj3 laser*).ti,ab.
14.	heliotherap*.ti,ab.
15.	sunbed*.ti,ab.
16.	sun bed*.ti,ab.
17.	or/1-16

Embase search terms

1.	exp phototherapy/
2.	exp photochemotherapy/
3.	photochemotherap*.ti,ab.
4.	phototherap*.ti,ab.
5.	exp ultraviolet radiation/
6.	ultra?violet*.ti,ab.
7.	(UV or UVB or UVA).ti,ab.
8.	PUVA*.ti,ab.
9.	psoralen*.ti,ab.
10.	exp excimer laser/
11.	(excimer adj3 laser*).ti,ab.
12.	heliotherap*.ti,ab.
13.	sunbed*.ti,ab.
14.	sun bed*.ti,ab.
15.	ultra violet*.ti,ab.
16.	or/1-15

Cinahl search terms

S1.	(MH "phototherapy+")
S2.	(MH "photochemotherapy+")
S3.	photochemotherap* or phototherap*
S4.	(MH "ultraviolet rays")
S5.	(MH "ultraviolet therapy")
S6.	(MH "puva therapy+")
S7.	ultraviolet* or ultra violet*
S8.	UV or UVB or UVA
S9.	PUVA* or psoralen*
S10.	(MH "laser therapy+")

S11.	excimer n3 laser*
S12.	heliotherap* or sunbed* or sun bed*
S13.	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12

Cochrane search terms

#1	MeSH descriptor phototherapy explode all trees
#2	MeSH descriptor photochemotherapy explode all trees
#3	MeSH descriptor ultraviolet rays explode all trees
#4	MeSH descriptor ultraviolet therapy explode all trees
#5	photochemotherap*:ti,ab
#6	phototherap*:ti,ab
#7	(ultra violet* or ultraviolet*):ti,ab
#8	(UV or UVB or UVA):ti,ab
#9	PUVA*:ti,ab
#10	psoralen*:ti,ab
#11	MeSH descriptor lasers, excimer explode all trees
#12	(excimer near/3 laser*):ti,ab
#13	heliotherap*:ti,ab
#14	sunbed*:ti,ab
#15	sun bed*:ti,ab
#16	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15)

D.3.8 Phototherapy combined with acitretin

Q. In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of acitretin plus UVB (NBUVB and BBUVB) and acitretin plus PUVA compared with their monotherapies and compared with each other?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Phototherapy	Acitretin		All years – 08/03/2012

Medline search terms

1.	exp phototherapy/
2.	exp photochemotherapy/
3.	photochemotherap*.ti,ab.
4.	phototherap*.ti,ab.
5.	exp ultraviolet rays/
6.	exp ultraviolet therapy/
7.	ultraviolet*.ti,ab.
8.	(UV or UVA).ti,ab.
9.	ultra violet*.ti,ab.
10.	PUVA*.ti,ab.
11.	psoralen*.ti,ab.
12.	exp laser, excimer/
13.	(excimer adj3 laser*).ti,ab.
14.	heliotherap*.ti,ab.

15.	sunbed*.ti,ab.
16.	sun bed*.ti,ab.
17.	or/1-16
18.	acitretin/
19.	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*).ti,ab.
20.	18 or 19
21.	17 and 20

Embase search terms

1.	exp phototherapy/
2.	exp photochemotherapy/
3.	photochemotherap*.ti,ab.
4.	phototherap*.ti,ab.
5.	exp ultraviolet radiation/
6.	ultra?violet*.ti,ab.
7.	ultra violet*.ti,ab.
8.	(UV or UVA).ti,ab.
9.	PUVA*.ti,ab.
10.	psoralen*.ti,ab.
11.	exp excimer laser/
12.	(excimer adj3 laser*).ti,ab.
13.	heliotherap*.ti,ab.
14.	sunbed*.ti,ab.
15.	sun bed*.ti,ab.
16.	or/1-15
17.	etretin/
18.	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*).ti,ab.
19.	17 or 18
20.	16 and 19

Cinahl search terms

S1	(MH "phototherapy+")
S2	(MH "photochemotherapy+")
S3	photochemotherap* or phototherap*
S4	(MH "ultraviolet rays")
S5	(MH "ultraviolet therapy")
S6	(MH "PUVA therapy+")
S7	ultraviolet* or ultra violet*
S8	UV or UVA
S9	puva* or psoralen*
S10	(MH "laser therapy+")
S11	excimer n3 laser*
S12	heliotherap* or sunbed* or sun bed*
S13	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12

S14	acitretin* or isoacitretin* or soriatan* or soriatane CK or etretin* or neotigason* or tigason*
S15	S13 and S14

Cochrane search terms

#1	MeSH descriptor phototherapy explode all trees
#2	MeSH descriptor photochemotherapy explode all trees
#3	MeSH descriptor ultraviolet Rays explode all trees
#4	MeSH descriptor ultraviolet Therapy explode all trees
#5	photochemotherap*:ti,ab
#6	phototherap*:ti,ab
#7	(ultra violet* or ultraviolet*):ti,ab
#8	(UV or UVA):ti,ab
#9	puva*:ti,ab
#10	psoralen*:ti,ab
#11	MeSH descriptor lasers, excimer explode all trees
#12	(excimer near/3 laser*):ti,ab
#13	heliotherap*:ti,ab
#14	sunbed*:ti,ab
#15	sun bed*:ti,ab
#16	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15)
#17	MeSH descriptor acitretin explode all trees
#18	(acitretin* or isoacitretin* or soriatan* or soriatane CK or etretin* or neotigason* or tigason*):ti,ab
#19	(#17 or #18)
#20	(#16 and #19)

D.3.9 Topicals combined with UVB

Q. In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of UVB (NBUVB and BBUVB) combined with dithranol, coal tar or vitamin D or vitamin D analogues compared with UVB alone or topical therapy alone?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Ultra-violet therapy	Topical therapy		All years – 08/03/2012

Medline search terms

1.	exp ultraviolet therapy/ or exp ultraviolet rays/
2.	(nbUVB or UVB or UV-B or "UV B").ti,ab.
3.	(("narrow band" or narrowband) and (uvb or ultraviolet*)).ti,ab.
4.	(TL01 or "TL 01" or TL-01 or TLO1).ti,ab.
5.	ultra violet*.ti,ab.
6.	or/1-5
7.	exp coal tar/
8.	(coal tar or psoriderm or alphosyl or capasal).ti,ab.
9.	(carbo-dome or exorex or cocois or sebco or pinetarsol).ti,ab.
10.	(gelcosar or gelcotar or pragmatar or polytar or tarcortin or capasal or ionil or pentrax).ti,ab.

11.	(T adj gel).ti,ab.
12.	'carbo dome'.ti,ab.
13.	T?gel.ti,ab.
14.	exp anthralin/
15.	(dithranol or dithrocream or micanol or psorin).ti,ab.
16.	exp calcitriol/
17.	(vitamin adj d adj2 analog*).ti,ab.
18.	(vitamin adj d adj2 derivative*).ti,ab.
19.	(calcipotriol or calcipotriene or dovonex or dovobet or xamiol or calcitriolor or rocaltrol or silkis or maxacalcitriol or tacalcitriol or curatoderm).ti,ab.
20.	or/7-19
21.	6 and 20

Embase search terms

1.	exp ultraviolet radiation/
2.	(nbUVB or UVB or UV-B or "UV B").ti,ab.
3.	(("narrow band" or narrowband) and (uvb or ultraviolet*)).ti,ab.
4.	(TL01 or "TL 01" or TL-01 or TLO1).ti,ab.
5.	ultra violet*.ti,ab.
6.	or/1-5
7.	exp coal tar/
8.	(coal tar or psoriderm or alphosyl or capasal or carbo-dome or 'carbo dome' or exorex or cocois or sebco or pinetarsol or gelcosar or gelcotar or pragmatar or polytar or tarcortin or capasal or ionil or pentrax).ti,ab.
9.	(T adj gel).ti,ab.
10.	T?gel.ti,ab.
11.	exp anthralin/
12.	exp dithranol derivative/ or exp dithranol/
13.	exp psorin/
14.	(dithranol or dithrocream or micanol or psorin).ti,ab.
15.	exp calcitriol/
16.	exp calcipotriol/ or exp betamethasone dipropionate plus calcipotriol/
17.	exp tacalcitol/
18.	(vitamin adj d adj2 analog*).ti,ab.
19.	(vitamin adj d adj2 derivative*).ti,ab.
20.	(calcipotriol or calcipotriene or dovonex or dovobet or xamiol or calcitriolor or rocaltrol or silkis or maxacalcitriol or tacalcitriol or curatoderm).ti,ab.
21.	or/7-20
22.	6 and 21

Cinahl search terms

S1	(MH "ultraviolet rays") OR (MH "ultraviolet therapy")
S2	NBUVB or UVB or UV-B or UV n1 B
S3	narrow band or narrow band
S4	uvb or ultraviolet* or ultra violet*
S5	S1 or S2 or S3 or S4
S6	coal tar* or psoriderm or alphosyl or capasal or exorex or cocois or sebco or pinetarsol or

	gelcosar or gelcotar or pragmatar or tarcotin
S7	ionil or pentrax or carbo-dome or carbo dome or t n1 gel
S8	anthralin or dithra* or micanol or psorin
S9	(MH "calcitriol")
S10	(MH "vitamin D+")
S11	calcipotriol or calcipotriene or dovonex or dovobet or xamiol or calcitriol or rocaltrol or silkis or maxacalcitriol or tacalcitriol or curatoderm
S12	S6 or S7 or S8 or S9 or S10 or S11
S13	vitamin n1 d
S14	analog* or derivative*
S15	S13 or S14
S16	S12 and S15
S17	S5 and S16

Cochrane search terms

#1	MeSH descriptor ultraviolet rays explode all trees
#2	MeSH descriptor ultraviolet therapy explode all trees
#3	NBUVB or UVB or UV-B:ti,ab
#4	UV near B:ti,ab
#5	((narrow band or narrowband) and (uvb or ultraviolet*)):ti,ab
#6	TL01 or TLO1:ti,ab
#7	Tl-01:ti,ab
#8	TL near 01:ti,ab
#9	ultra violet*:ti,ab
#10	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9)
#11	MeSH descriptor coal tar explode all trees
#12	coal tar* or psoriderm or alphosyl or capasal or exorex or cocois or sebco or pinetarsol or gelcosar or gelcotar or pragmatar or polytar or tarcortin or ionil or pentrax:ti,ab.
#13	(T near gel*) or T?Gel:ti.ab
#14	carbo-dome or carbo dome:ti,ab
#15	MeSH descriptor anthralin explode all trees
#16	dithr* or micanol or psorin:ti,ab.
#17	MeSH descriptor xalcitriol explode all trees
#18	MeSH descriptor vitamin D explode all trees
#19	vitamin near d near/2 analog*:ti,ab
#20	vitamin near d near/2 derivative*:ti,ab
#21	calcipotriol or calcipotriene or dovonex or dovobet or xamiol or calcitriol or rocaltrol or silkis or maxacalcitriol or tacalcitriol or curatoderm:ti,ab
#22	(#11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21)
#23	(#10 and #22)

D.3.10 Systemic non-biological therapy

Q. In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of systemic methotrexate, ciclosporin and acitretin compared with each othr or with placebo?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Systemic therapy		RCTs, SRs, Observational studies and Diagnostic accuracy [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	methotrexate/
2.	methotrexate.ti,ab.
3.	(cyclosporin or ciclosporin or cyclosporine or ciclosporine or deximune or neoral or sandimmun or sandimmune or restasis or cicloral).ti,ab.
4.	cyclosporine/
5.	acitretin/
6.	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*).ti,ab.
7.	or/1-6

Embase search terms

1.	methotrexate/
2.	methotrexate.ti,ab.
3.	(cyclosporin or ciclosporin or cyclosporine or ciclosporine or deximune or neoral or sandimmun or sandimmune or restasis or cicloral).ti,ab.
4.	cyclosporin/ or cyclosporin a/
5.	etretin/
6.	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*).ti,ab.
7.	or/1-6

Cinahl search terms

S1	acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*
S2	methotrexate
S3	cyclosporin or ciclosporin or cyclosporine or ciclosporine or deximune or neoral or sandimmun or sandimmune or restasis or cicloral
S4	S1 or S2 or S3

Cochrane search terms

#1	MeSH descriptor acitretin explode all trees
#2	(acitretin* or isoacitretin* or soriatan* or soriatane ck or etretin* or neotigason* or tigason*):ti,ab
#3	methotrexate:ti,ab,kw
#4	(cyclosporin or ciclosporin or cyclosporine or ciclosporine or deximune or neoral or sandimmun or sandimmune or restasis or cicloral):ti,ab,kw
#5	MeSH descriptor cyclosporine explode all trees
#6	(#1 or #2 or #3 or #4 or #5)

D.3.11 Methotrexate and risk of hepatotoxicity

Q. In people with psoriasis (all types) who are being treated with methotrexate, are there specific groups who are at high risk of hepatotoxicity?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Methotrexate	Risk factors		All years – 08/03/2012

Medline and Embase search terms

1.	methotrexate/
2.	methotrexate.ti,ab.
3.	or/1-2
4.	(adverse* adj2 (effect* or reaction* or event*)).ti,ab,hw.
5.	side effect*.ti,ab,hw.
6.	toxic*.ti,ab,hw.
7.	(drug* adj2 safe*).ti,ab,hw.
8.	(complication* or tolerability).ti,ab,hw.
9.	(ae or to).fs.
10.	or/4-9
11.	exp risk/
12.	exp causality/
13.	et.fs.
14.	(risk$ adj2 (factor$ or assessment$)).ti,ab,hw.
15.	(logistic$ adj model$).ti,ab,hw.
16.	or/11-15
17.	(cirrhosis or fibrosis).ti,ab.
18.	(liver adj3 disease*).ti,ab.
19.	or/17-18
20.	3 and (10 or 16 or 19)

Cinahl search terms

S1.	methotrexate
S2.	cirrhosis or fibrosis
S3.	liver n3 disease*
S4.	S2 or S3
S5.	S1 and S4

Cochrane search terms

#1.	methotrexate:ti,ab,kw
#2.	cirrhosis or fibrosis:ti
#3.	liver near/3 disease*:ti
#4.	(#2 or #3)
#5.	(#1 and #4)

D.3.12 Methotrexate and monitoring of hepatotoxicity

Q. In people with psoriasis (all types) who are being treated with methotrexate or who are about to begin treatment with methotrexate, what is the optimum non-invasive method of monitoring hepatotoxicity (fibrosis or cirrhosis) compared with liver biopsy?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Methotrexate	Hepatotoxicity		All years – 08/03/2012

Medline and Embase search terms

1.	methotrexate/
2.	methotrexate.ti,ab.
3.	or/1-2
4.	(liver or hepat* or fibrosis or cirrho*).ti,ab.
5.	3 and 4

Cinahl search terms

S1.	methotrexate
S2.	liver or hepat* or fibrosis or cirrho*
S3.	S1 and S2

Cochrane search terms

#1.	methotrexate:ti,ab,kw
#2.	(liver or hepat* or fibrosis or cirrho*):ti,ab
#3.	(#1 and #2)

D.3.13 Sequencing of biological therapy

Q. In people with chronic plaque psoriasis eligible to receive biological therapy, if the first biological agent fails, which is the next effective, safe and cost effective strategy?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Biological therapy		RCTs, SRs, Observational studies and Diagnostic accuracy [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	(etanercept or infliximab or adalimumab or ustekinumab).ti,ab,kw.
2.	exp biological therapy/
3.	(biological adj3 therap*).ti,ab.
4.	(embrel or remicade or humira or stelara).ti,ab.
5.	antibodies, monoclonal/
6.	interleukins/ or exp interleukin-12/ or exp interleukin-23/
7.	exp receptors, tumor necrosis factor/
8.	(biologic* adj3 drug*).ti,ab.
9.	(TNF adj1 (antagonis* or inhibit*)).ti,ab.
10.	'T cell helper'.ti,ab.
11.	anti-TNF.ti,ab.
12.	or/1-11

Embase search terms

1.	exp etanercept/
2.	exp infliximab/

3.	exp adalimumab/
4.	exp ustekinumab/
5.	(etanercept or infliximab or adalimumab or ustekinumab).ti,ab,kw.
6.	(embrel or remicade or humira or stelara).ti,ab.
7.	exp biological therapy/
8.	(biologic* adj3 (therap* or drug*)).ti,ab.
9.	exp monoclonal antibody/
10.	exp tumor necrosis factor receptor/
11.	exp interleukin 12/
12.	interleukin 23/
13.	(TNF adj1 (antagonis* or inhibit*)).ti,ab.
14.	't cell helper'.ti,ab.
15.	anti-TNF.ti,ab.
16.	or/1-15

Cinahl search terms

S1.	(MH "biological therapy+")
S2.	(MH "antibodies, monoclonal+")
S3.	(MH "interleukins+")
S4.	(MH "tumor necrosis factor")
S5.	etanercept or infliximab or adalimumab or ustekinumab
S6.	embrel or remicade or humira or stelara
S7.	biologic* n3 drug* or biologic* n3 therap*
S8.	TNF n1 antagonis* or TNF n1 inhibit* or anti-TNF
S9.	S1 or S2 or S3 or S4 or S5 or S7 or S8

Cochrane search terms

#1.	MeSH descriptor biological therapy, this term only
#2.	MeSH descriptor antibodies, monoclonal explode all trees
#3.	MeSH descriptor interleukin-12 explode all trees
#4.	MeSH descriptor interleukin-23 explode all trees
#5.	MeSH descriptor receptors, tumor necrosis factor explode all trees
#6.	etanercept or infliximab or adalimumab or ustekinumab:ti,ab,kw
#7.	embrel or remicade or humira or stelara:ti,ab
#8.	embrel or remicade or humira or stelara:ti,ab
#9.	biologic* near/3 drug*:ti,ab
#10.	biologic* near/3 therap*:ti,ab.
#11.	(TNF near/1 (antagonis* or inhibit*)):ti,ab
#12.	anti-TNF:ti,ab
#13.	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12)

D.3.14 Cognitive behavioural therapy

Q. In people with psoriasis (all types), how effective are cognitive behavioural therapy (group and individual) interventions alone or as an adjunct to standard care compared with standard care alone for managing psychological aspects of the disease in reducing distress and improving quality of life?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Cognitive behavioural therapy		RCTs, SRs, Observational studies and Diagnostic accuracy [Medline and Embase only]	All years – 08/03/2012

Medline and Embase search terms

1.	behavior therapy/
2.	cognitive therapy/
3.	psychotherapy/
4.	(psycho* adj3 therap*).tw.
5.	psychotherap*.tw.
6.	psychoeducation.tw.
7.	CBT.tw.
8.	((cognit$ or behavio?r$ or metacognit$) adj5 (analy$ or interven$ or modif$ or program$ or psychoanaly$ or psychotherap$ or restructur$ or retrain$ or technique$ or therap$ or train$ or treat$)).tw.
9.	counsel*.mp.
10.	or/1-9

Cinahl search terms

S1.	(MH "behavior therapy") OR (MH "cognitive therapy") OR (MH "psychotherapy")
S2.	psycho* n3 therap*
S3.	psychotherap*
S4.	psychoeducation
S5.	CBT
S6.	(cognit* or behavior* or behaviour* or metacognit*) and (analy* or interven* or modif* or program* or psychoanaly* or psychotherap* or restructur* or retrain* or technique* or therap* or train* or treat*)
S7.	counsel*
S8.	S1 or S2 or S3 or S4 or S5 or S6 or S7

Cochrane search terms

#1.	MeSH descriptor behavior therapy explode all trees
#2.	MeSH descriptor cognitive therapy, this term only
#3.	MeSH descriptor psychotherapy explode all trees
#4.	(psycho* near3 therap*):ti,ab
#5.	psychotherap*:ti,ab
#6.	psychoeducation:ti,ab
#7.	CBT:ti,ab
#8.	(cognit* near5 (analy* or interven* or modif* or program* or psychoanaly* or psychotherap* or restructur* or retrain* or technique* or therap* or train* or treat*)):ti,ab
#9.	(behavior* near5 (analy* or interven* or modif* or program* or psychoanaly* or psychotherap* or restructur* or retrain* or technique* or therap* or train* or treat*)):ti,ab
#10.	(behaviour* near5 (analy* or interven* or modif* or program* or psychoanaly* or psychotherap* or restructur* or retrain* or technique* or therap* or train* or treat*)):ti,ab
#11.	(metacognit* near5 (analy* or interven* or modif* or program* or psychoanaly* or psychotherap* or restructur* or retrain* or technique* or therap* or train* or treat*)):ti,ab

#12.	counsel*:ti,ab
#13.	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12)

PsycInfo search terms

1.	cognitive therapy/ or cognitive techniques/ or behavior modification/ or cognitive behavior therapy/ or cognitive restructuring/ or psychotherapy/ or rational emotive behavior therapy/ or self instructional training/ or self management/
2.	behavior therapy/ or behavior modification/ or psychotherapy/
3.	(psycho* adj3 therap*).tw.
4.	psychotherap*.tw.
5.	psychoeducation.tw.
6.	CBT.tw.
7.	((cognit$ or behavio?r$ or metacognit$) adj5 (analy$ or interven$ or modif$ or program$ or psychoanaly$ or psychotherap$ or restructur$ or retrain$ or technique$ or therap$ or train$ or treat$)).tw.
8.	counsel*.mp.
9.	or/1-8

D.3.15 Self-management

Q. What strategies can best support people with psoriasis (all types) to self-manage the condition effectively?

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Intervention	Comparison	Study filter used	Date parameters
Psoriasis	Patient information		RCTs, SRs, Observational studies and Diagnostic accuracy [Medline and Embase only]	All years – 08/03/2012

Medline search terms

1.	((self or home) adj2 (care or manag*)).ti,ab.
2.	((patient* or health) adj2 (information* or educat* or knowledge)).ti,ab.
3.	(patient* adj3 (literature or leaflet* or booklet* or pamphlet* or questionnaire* or survey* or handout* or internet or website*)).ti,ab.
4.	(information* adj (need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
5.	((adherence or concordance or compliance) adj3 (drug* or treatment* or medication*)).ti,ab.
6.	exp self care/
7.	patient education as topic/
8.	exp "patient acceptance of health care"/
9.	access to information/
10.	home care services/
11.	community health services/
12.	health services accessibility/
13.	patient-centered care/
14.	"continuity of patient care"/
15.	exp consumer health information/
16.	health care surveys/

17.	focus groups/
18.	pamphlets/
19.	telemedicine/
20.	or/1-19

Embase search terms

1.	((home or self) adj2 (care or manag*)).ti,ab.
2.	((patient* or health) adj2 (information* or educat* or knowledge)).ti,ab.
3.	(patient* adj3 (literature or leaflet* or booklet* or pamphlet* or questionnaire* or survey* or handout* or internet or website*)).ti,ab.
4.	(information* adj (need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
5.	((adherence or concordance or compliance) adj3 (drug* or treatment* or medication*)).ti,ab.
6.	exp self care/
7.	patient education/
8.	exp patient attitude/
9.	patient information/
10.	patient decision making/
11.	access to information/
12.	home care/
13.	health care survey/
14.	health care access/
15.	access to information/
16.	exp telehealth/
17.	*patient care/
18.	or/1-17

Cinahl search terms

S1.	self n2 care
S2.	self n2 manag*
S3.	home n2 care
S4.	home n2 manag*
S5.	patient* n2 information*
S6.	patient* n2 educat*
S7.	patient* n2 knowledge
S8.	health n2 information*
S9.	health n2 educat*
S10.	health n2 knowledge
S11.	information* need*
S12.	information* support*
S13.	information* seek*
S14.	information* access*
S15.	information* disseminat*
S16.	nurs*
S17.	patient n3 literature
S18.	patient* n3 leaflet*

S19.	patient* n3 booklet*
S20.	patient* n3 pamphlet*
S21.	patient* n3 questionnaire*
S22.	patient n3 survey*
S23.	patient n3 handout*
S24.	patient n3 internet
S25.	patient n3 website*
S26.	drug* n3 adherence
S27.	drug* n3 concordance
S28.	drug* n3 compliance
S29.	treatment* n3 adherence
S30.	drug* n3 concordance
S31.	drug* n3 compliance
S32.	medication* n3 adherence
S33.	drug* n3 concordance
S34.	drug* n3 compliance
S35.	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18 or S19 or S20 or S21 or S22 or S23 or S24 or S25 or S26 or S27 or S28 or S29 or S30 or S32 or S33 or S34

Cochrane search terms

#1.	((self or home) near/2 (care or manag*)):ti,ab
#2.	((patient* or health) near/2 (information* or educat* or knowledge)):ti,ab
#3.	(patient* near/2 (literature or leaflet* or booklet* or pamphlet* or questionnaire* or survey* or handout* or internet or website*)):ti,ab
#4.	(information* next (need* or requirement* or support* or seek* or access* or disseminat*)):ti,ab
#5.	((adherence or concordance or compliance) near/3 (drug* or treatment* or medication*)):ti,ab
#6.	MeSH descriptor self care explode all trees
#7.	MeSH descriptor patient education as topic, this term only
#8.	MeSH descriptor patient acceptance of health care explode all trees
#9.	MeSH descriptor access to information, this term only
#10.	MeSH descriptor home care services, this term only
#11.	MeSH descriptor community health services, this term only
#12.	MeSH descriptor health services accessibility, this term only
#13.	MeSH descriptor patient-centered care, this term only
#14.	MeSH descriptor continuity of patient care, this term only
#15.	MeSH descriptor consumer health information explode all trees
#16.	MeSH descriptor health care surveys, this term only
#17.	MeSH descriptor focus groups, this term only
#18.	MeSH descriptor pamphlets, this term only
#19.	MeSH descriptor telemedicine, this term only
#20.	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19)

PsycInfo search terms

1.	((self or home) adj2 (care or manag*)).ti,ab.
2.	(patient* adj3 (literature or leaflet* or booklet* or pamphlet* or questionnaire* or survey* or handout* or internet or website*)).ti,ab.
3.	(information* adj (need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
4.	((adherence or concordance or compliance) adj3 (drug* or treatment* or medication*)).ti,ab.
5.	or/2-5
6.	client education/
7.	treatment compliance/
8.	exp client attitudes/
9.	information seeking/
10.	home care/
11.	exp "continuum of care"/
12.	or/1-11

D.4 Economic searches

D.4.1 Economic evaluations

Economic searches were run in Medline and Embase by combining the standard population with the economic filter and limiting by date range (see table below). Economic searches were executed in the HEED and Centre for Reviews and Dissemination (CRD) (NHS EED and HTA) databases by simply running a standard population without a date limitation. Search terms for the HEED and CRD databases are given below.

Search constructed by combining the columns in the following table using the and Boolean operator

Population	Study filter used	Date parameters
Psoriasis	Economic [only Embase and Medline]	• 2008- 08/03/2012 (Medline and Embase) • All years -08/03/2012 (NHS EED, HTA and HEED)

HEED search terms

1.	AX = psoria*

CRD search terms

1.	psoria*

D.4.2 Quality of life studies

Quality of life (QOL) searches were run in Medline and Embase by combining the standard population with the QOL filter (A.1.5) without a date limitation.

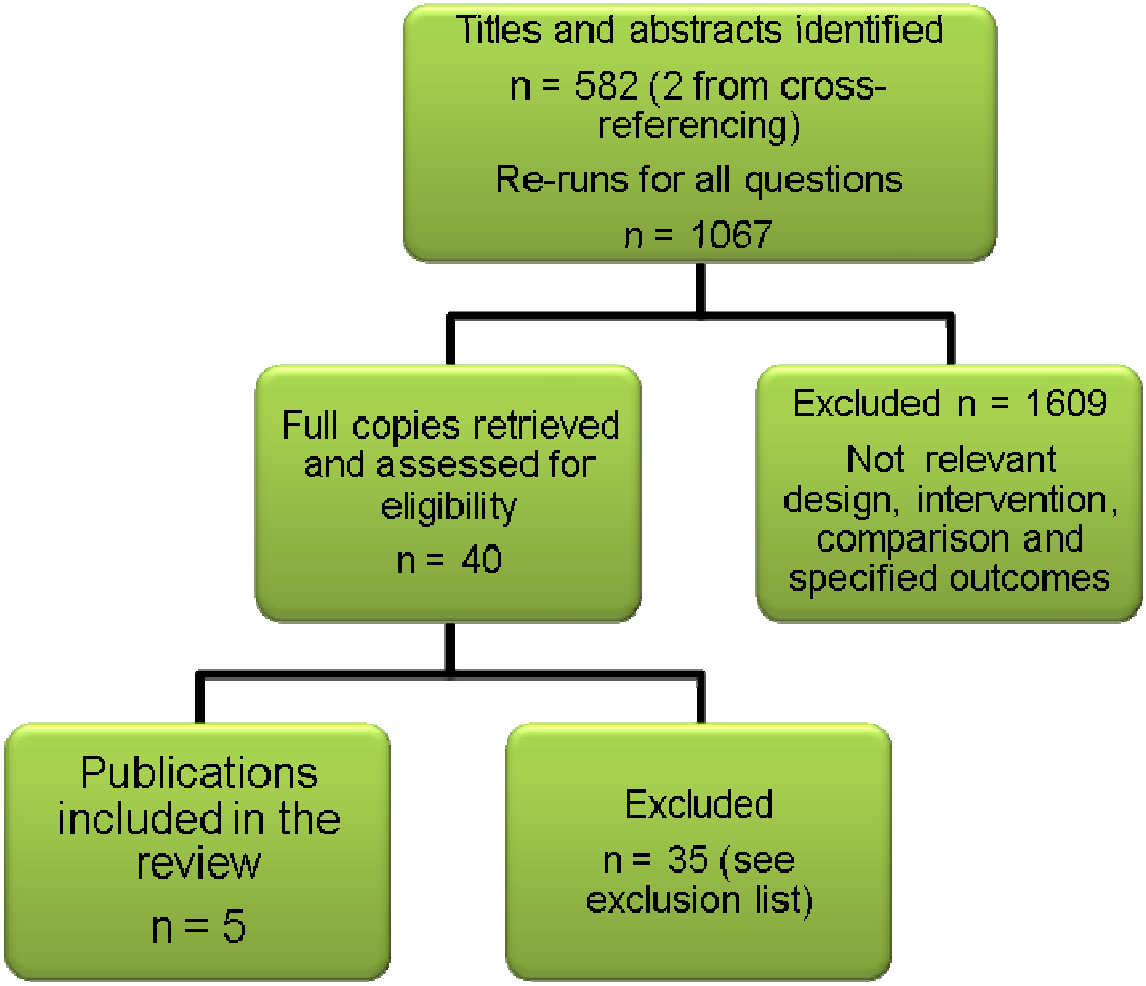
Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Study filter used	Date parameters
Psoriasis	QOL [only Embase and Medline]	All years -08/03/2012

Appendix E: Clinical evidence – study selection flowcharts studies

E.1 Chapter 6: Principles of care

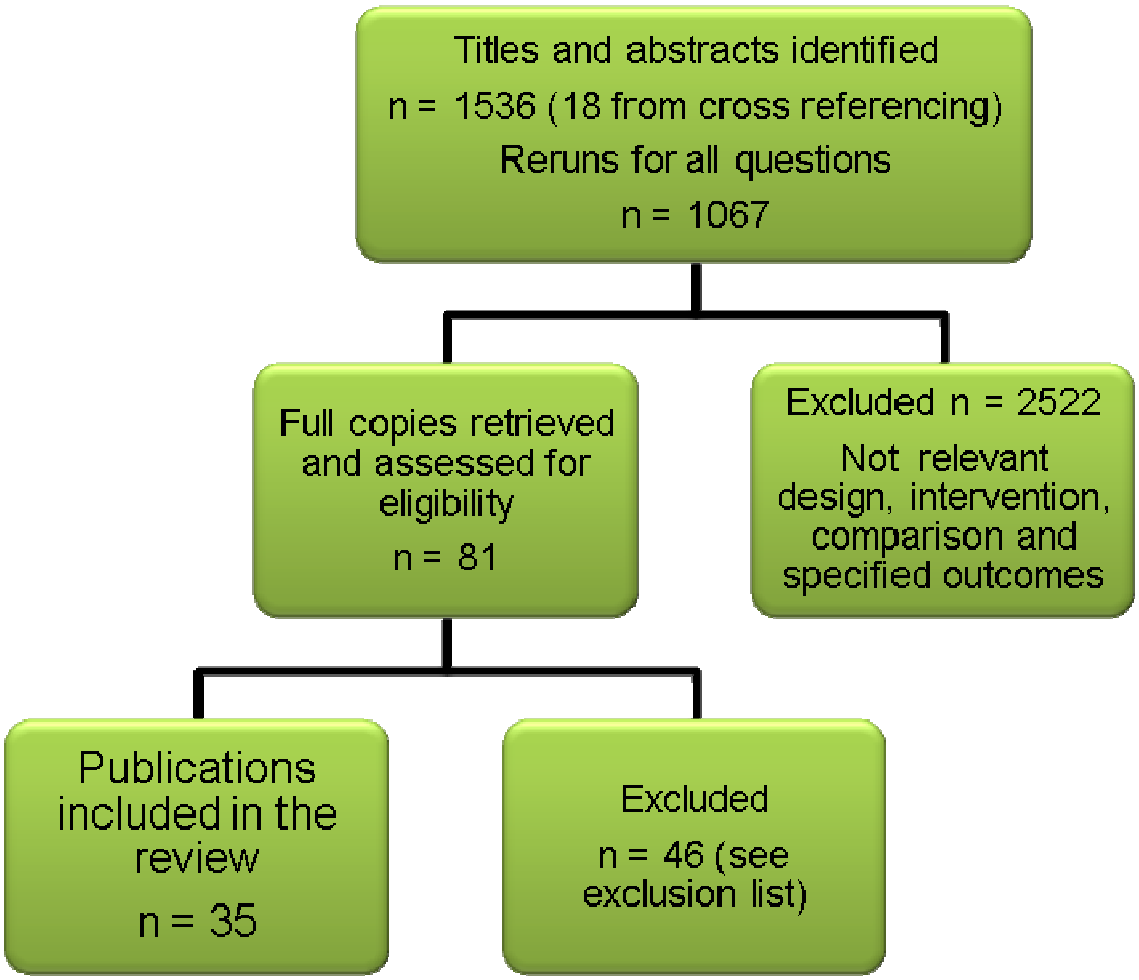
What strategies can best support people with psoriasis (all types) to self-manage the condition effectively?



E.2 Chapter 7: Assessment and referral

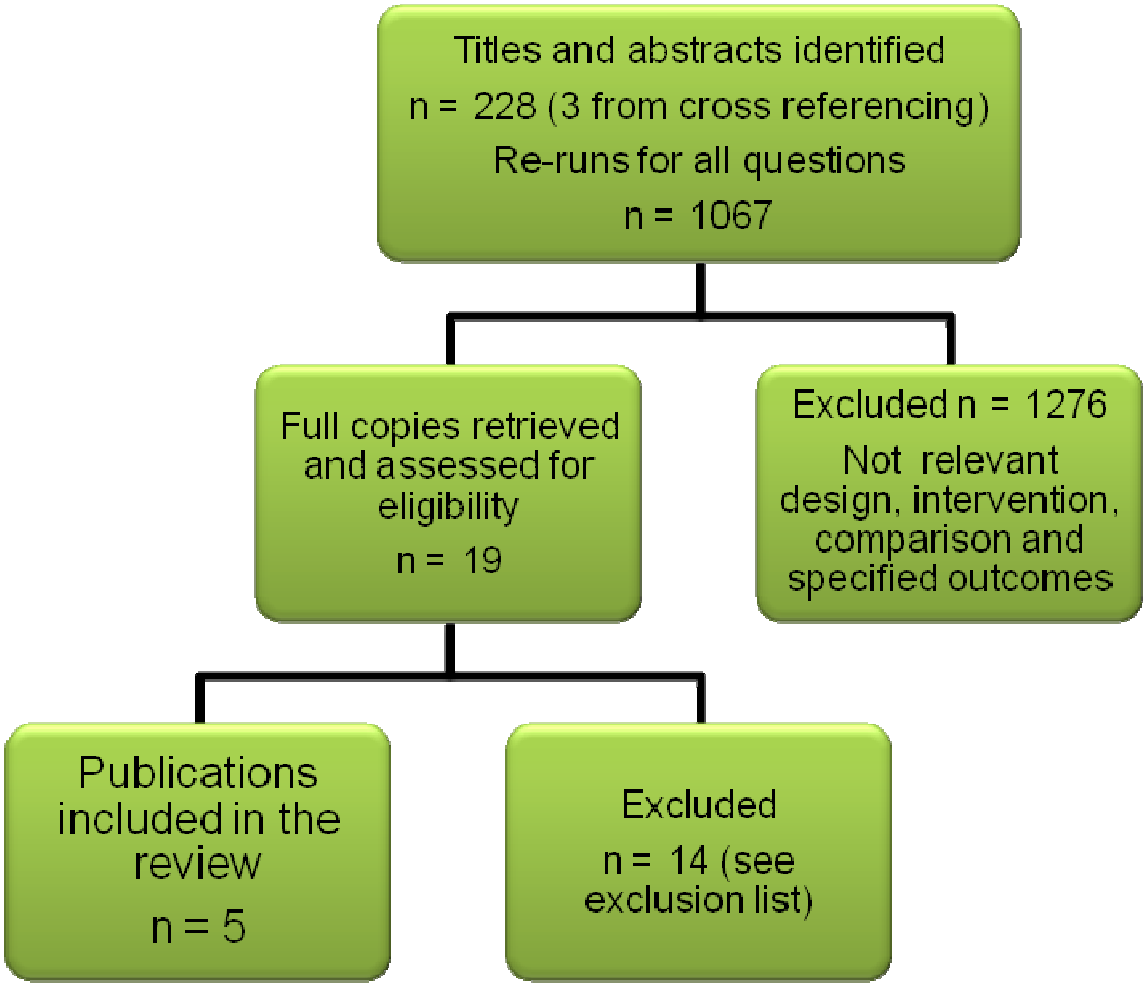
E.2.1 Tools for assessing disease severity and impact

Review question: In people with psoriasis (all types), which are the most effective tools to assess the (a) severity and (b) impact of disease across all levels of healthcare provision and at any stage of the disease journey?



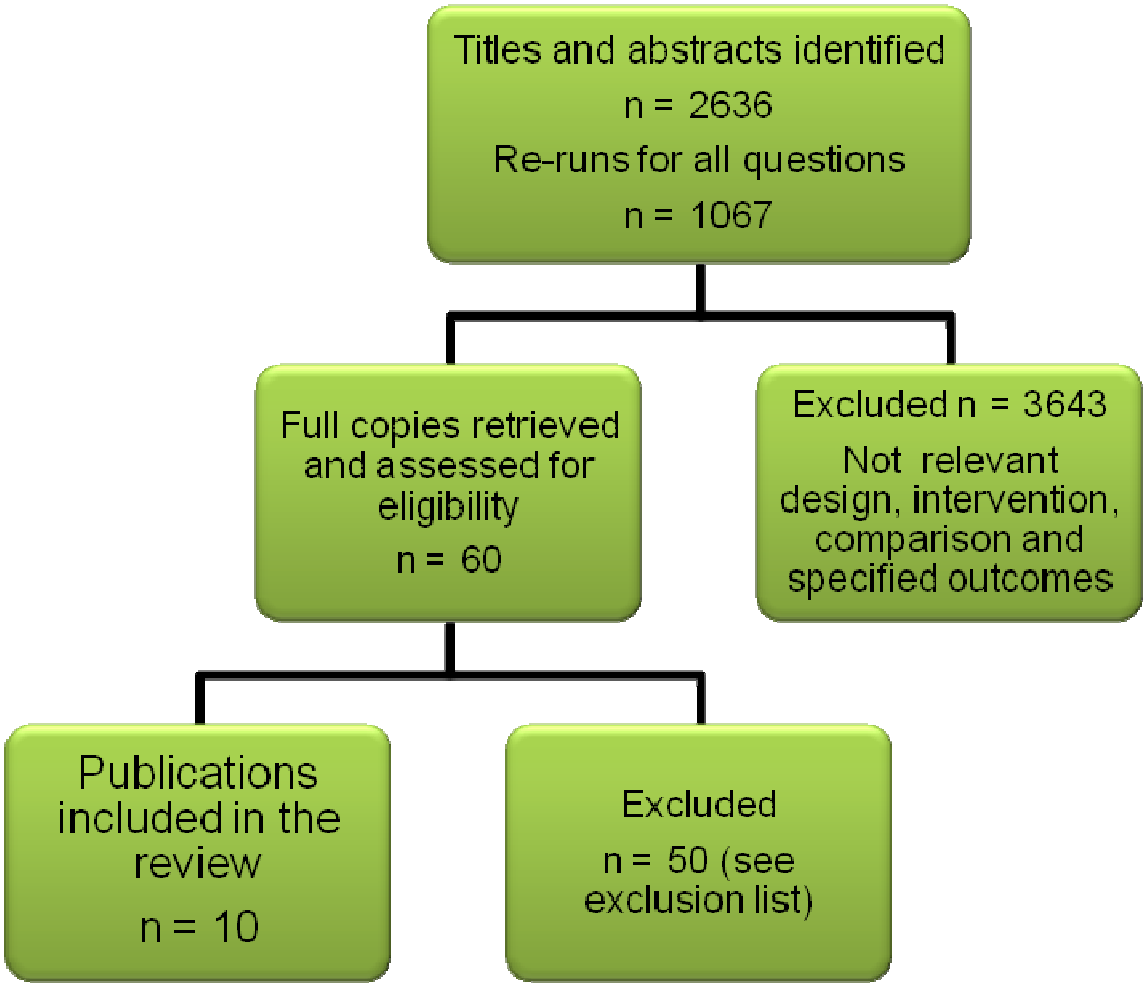
E.2.2 Diagnostic tools for Psoriatic Arthritis

In people with psoriasis (all types), which is the most accurate diagnostic tool compared with clinical diagnosis by a rheumatologist to help a non-specialist identify psoriatic arthritis?



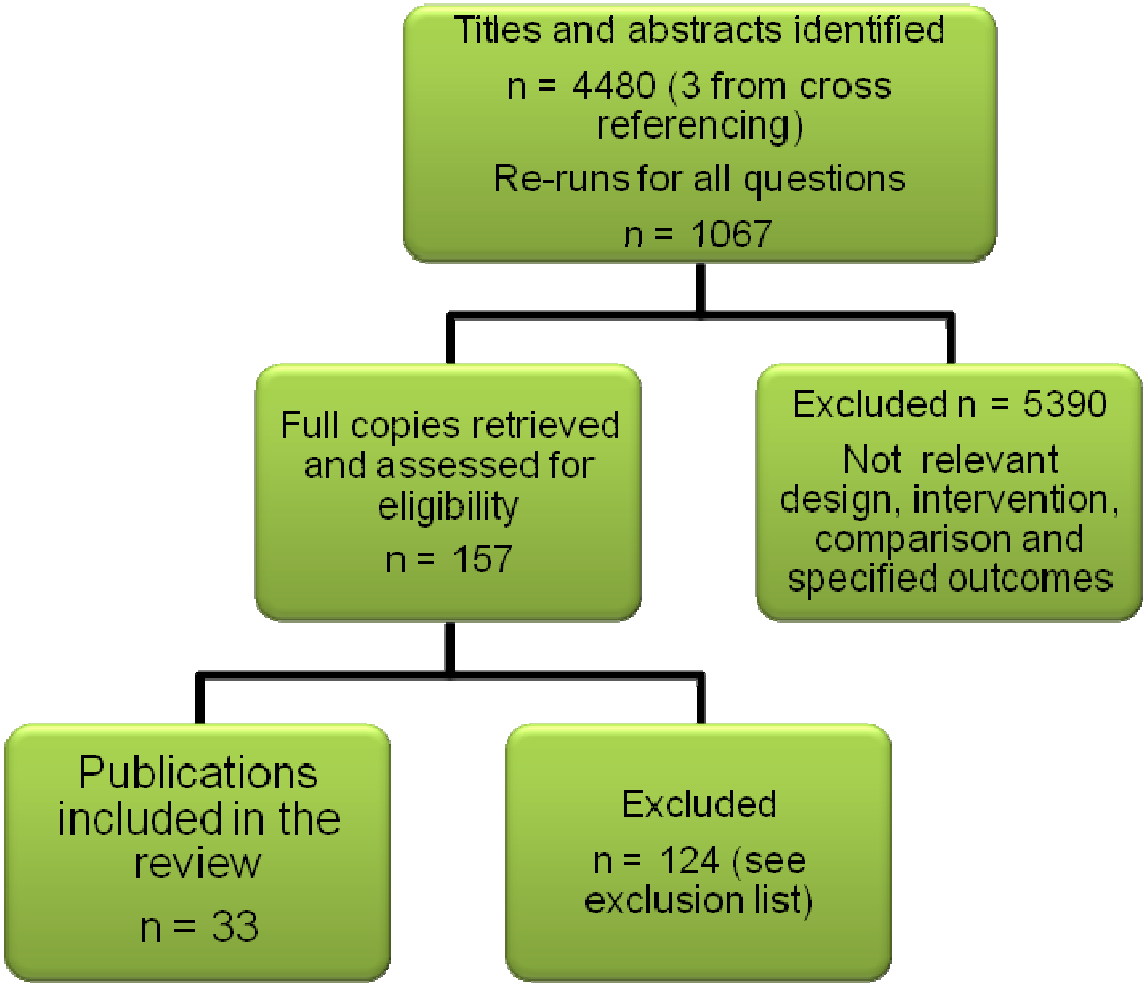
E.2.3 Specialist referral for Psoriatic Arthritis

In people with psoriasis (all types) and suspected psoriatic arthritis, how quickly should referral to a specialist be made in order to minimise the impact of disease on symptoms, joint damage and quality of life?



E.2.4 Identification of comorbidities

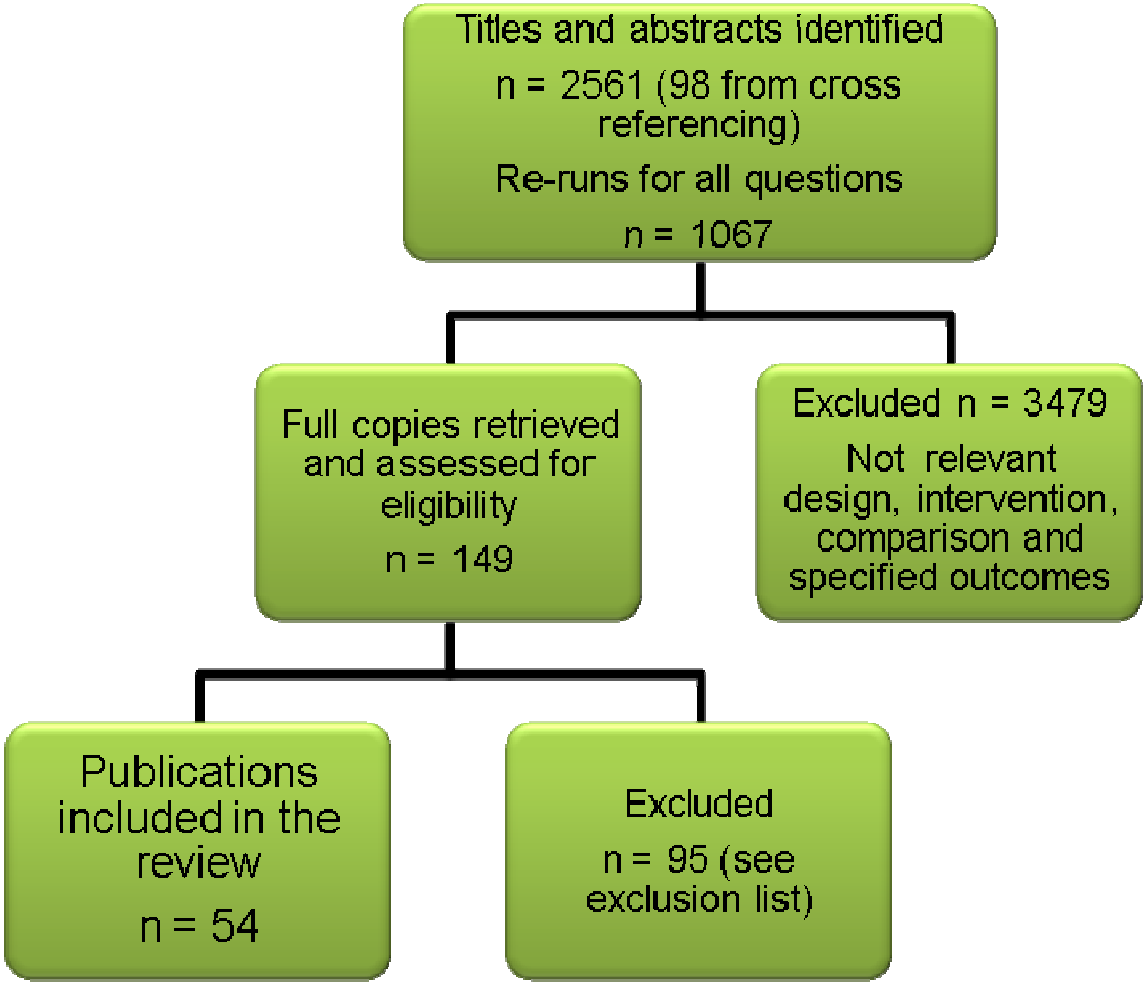
Are people with psoriasis (all types) at higher risk than people without psoriasis for significant comorbidities and are there subgroups within the psoriasis population at a further increased risk?



E.3 Chapter 8: Topical therapies for chronic plaque psoriasis

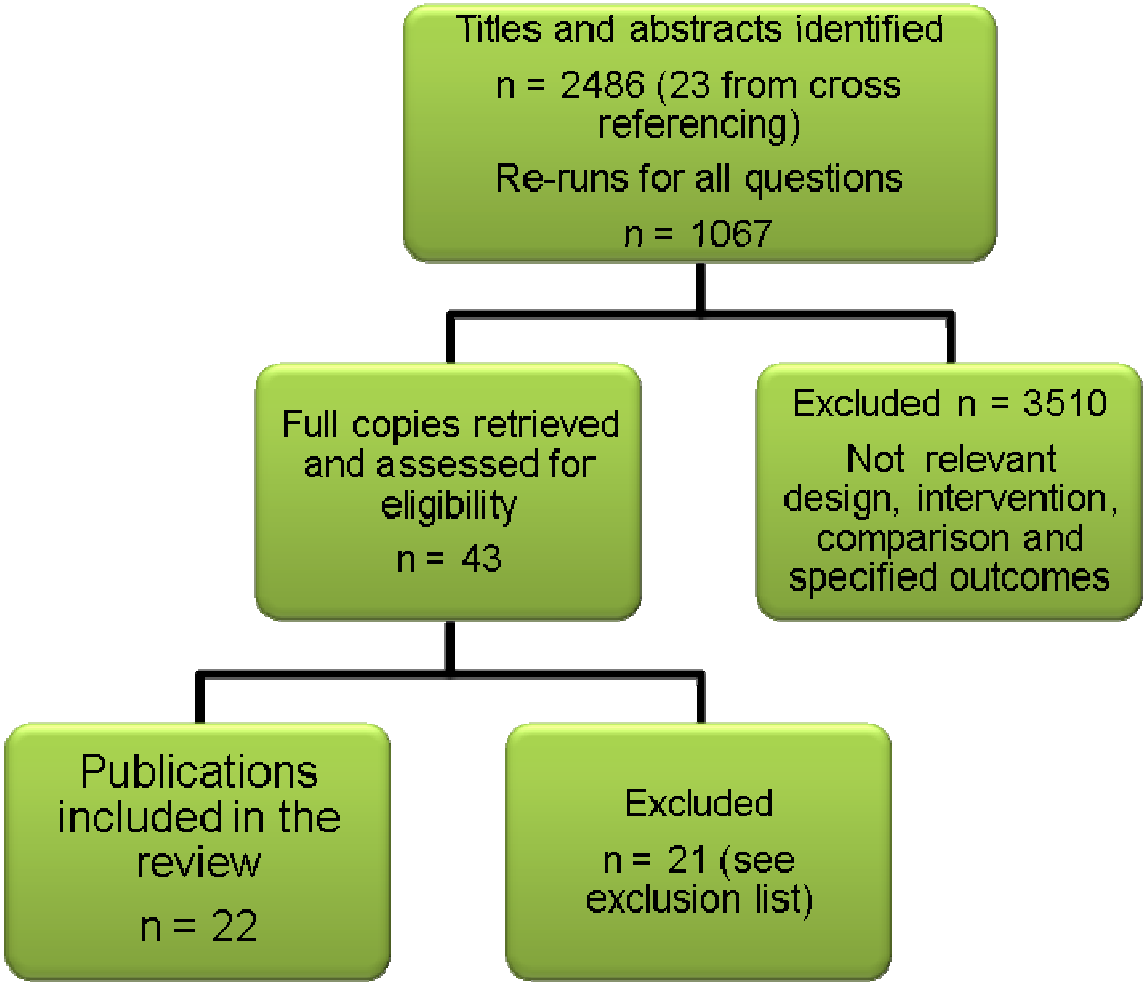
E.3.1 Topical therapies for trunk and limb chronic plaque psoriasis

In people with chronic plaque psoriasis of the trunk and/or limbs, what are the clinical effectiveness, safety, tolerability, and cost effectiveness of topical vitamin D or vitamin D analogues, potent or very potent corticosteroids, tar, dithranol and retinoids compared with placebo or vitamin D or vitamin D analogues, and of combined or concurrent vitamin D or vitamin D analogues and potent corticosteroids compared with potent corticosteroid or vitamin D or vitamin D alone?



E.3.2 Topical therapies for high impact or difficult to treat sites

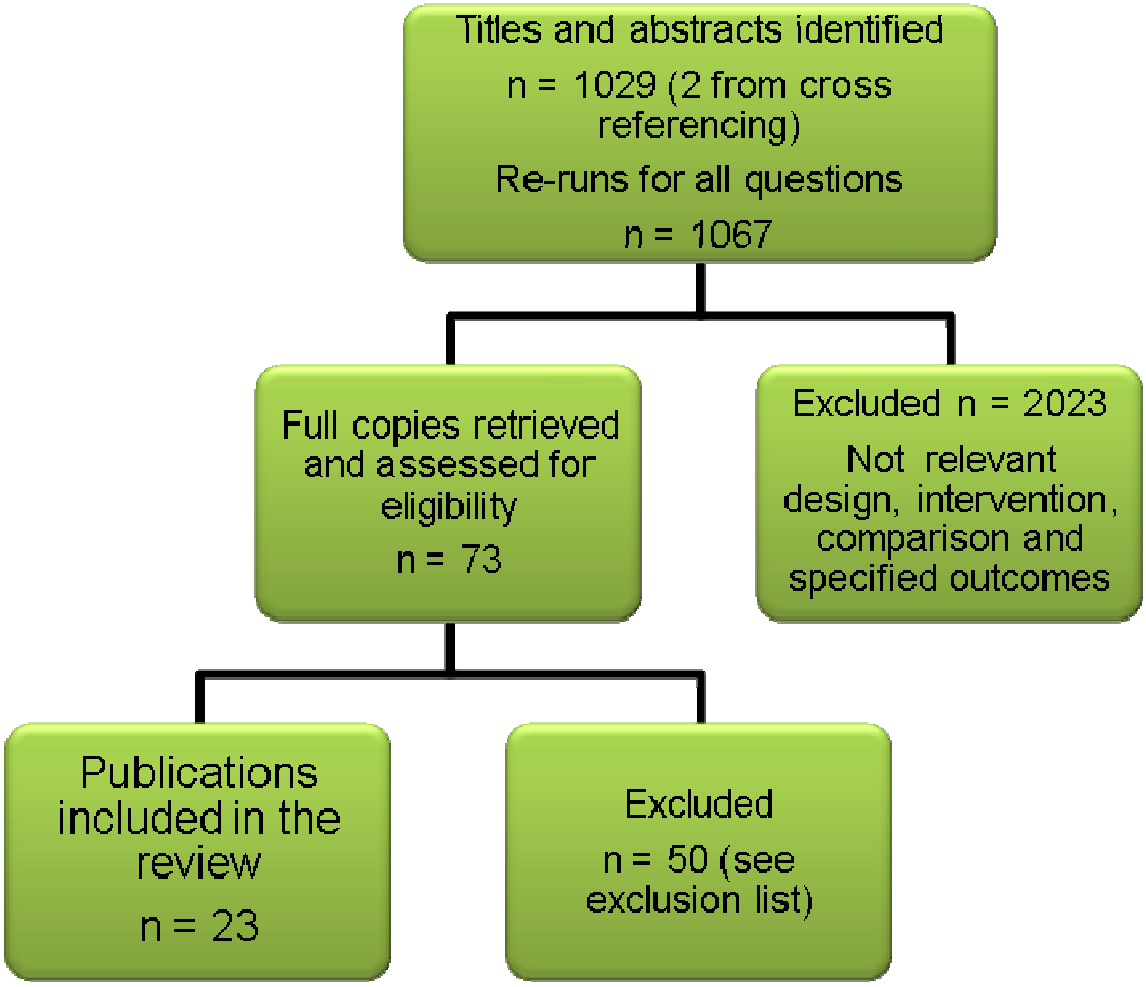
In people with chronic plaque psoriasis at high impact or difficult-to-treat sites (scalp, flexures, face), what are the clinical effectiveness, safety, tolerability and cost effectiveness of vitamin D or vitamin D analogues, mild to very potent corticosteroids, combined or concurrent vitamin D or vitamin D analogue and potent corticosteroid, pimecrolimus, tacrolimus, tar, dithranol and retinoids compared with placebo, corticosteroids or vitamin D or vitamin D analogues?



E.4 Chapter 9: Phototherapy

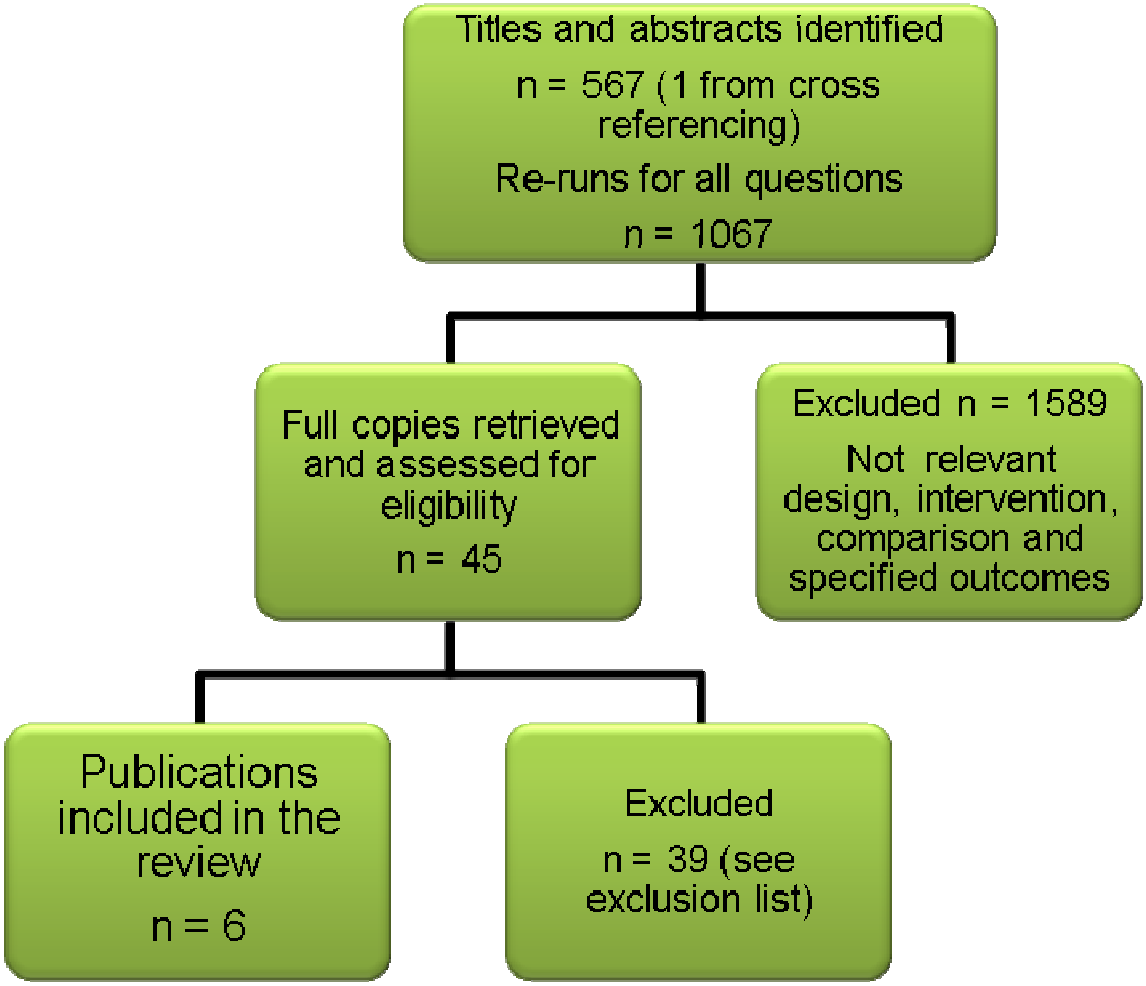
E.4.1 Phototherapy

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of BBUVB, NBUVB and PUVA compared with each other or placebo/no treatment?



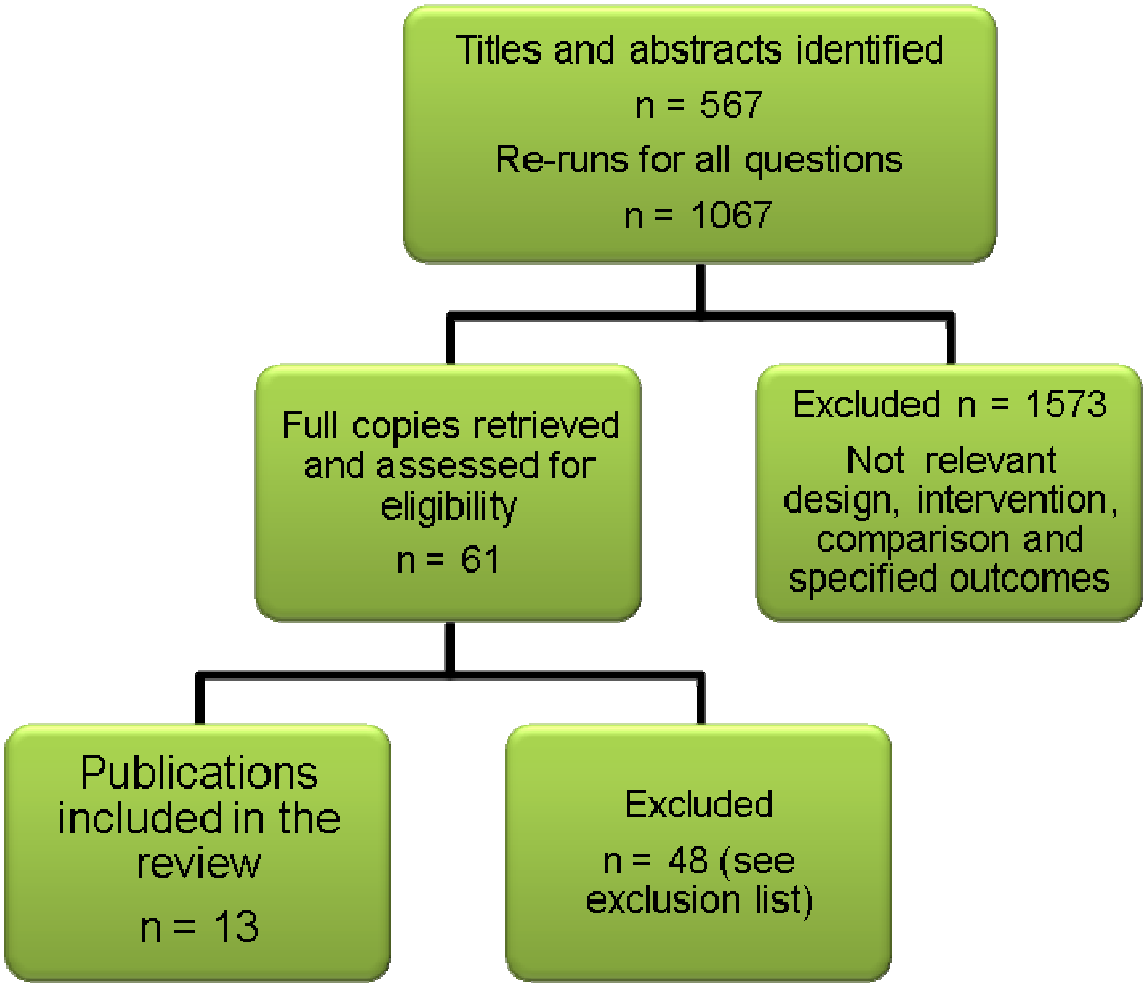
E.4.2 Phototherapy combined with acitretin

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of acitretin plus UVB (NBUVB and BBUVB) and acitretin plus PUVA compared with their monotherapies and compared with each other?



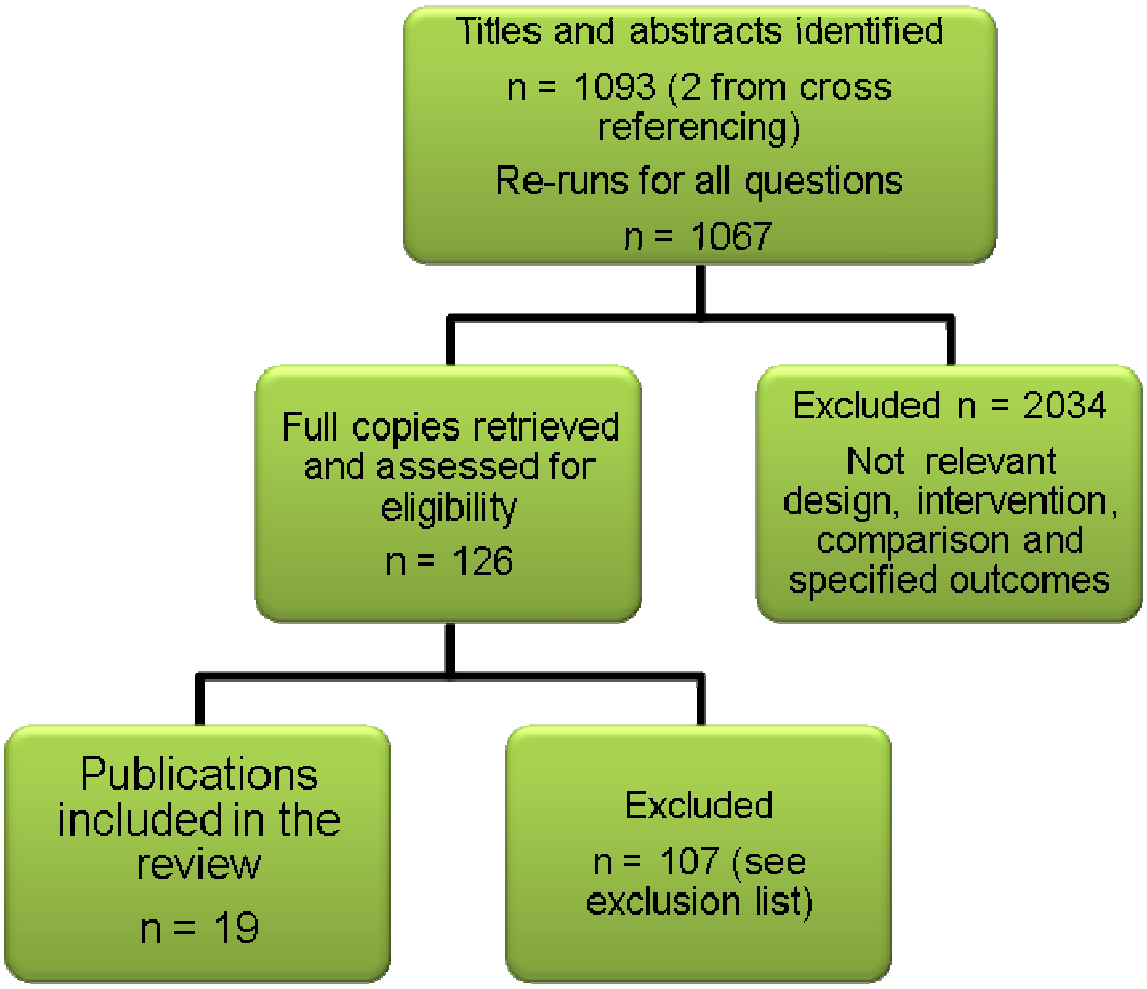
E.4.3 Dithranol, coal tar and vitamin D or vitamin D analogues combined with UVB

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of UVB (NBUVB or BBUVB) combined with dithranol, coal tar or vitamin D or vitamin D analogues compared with UVB alone or topical therapy alone?



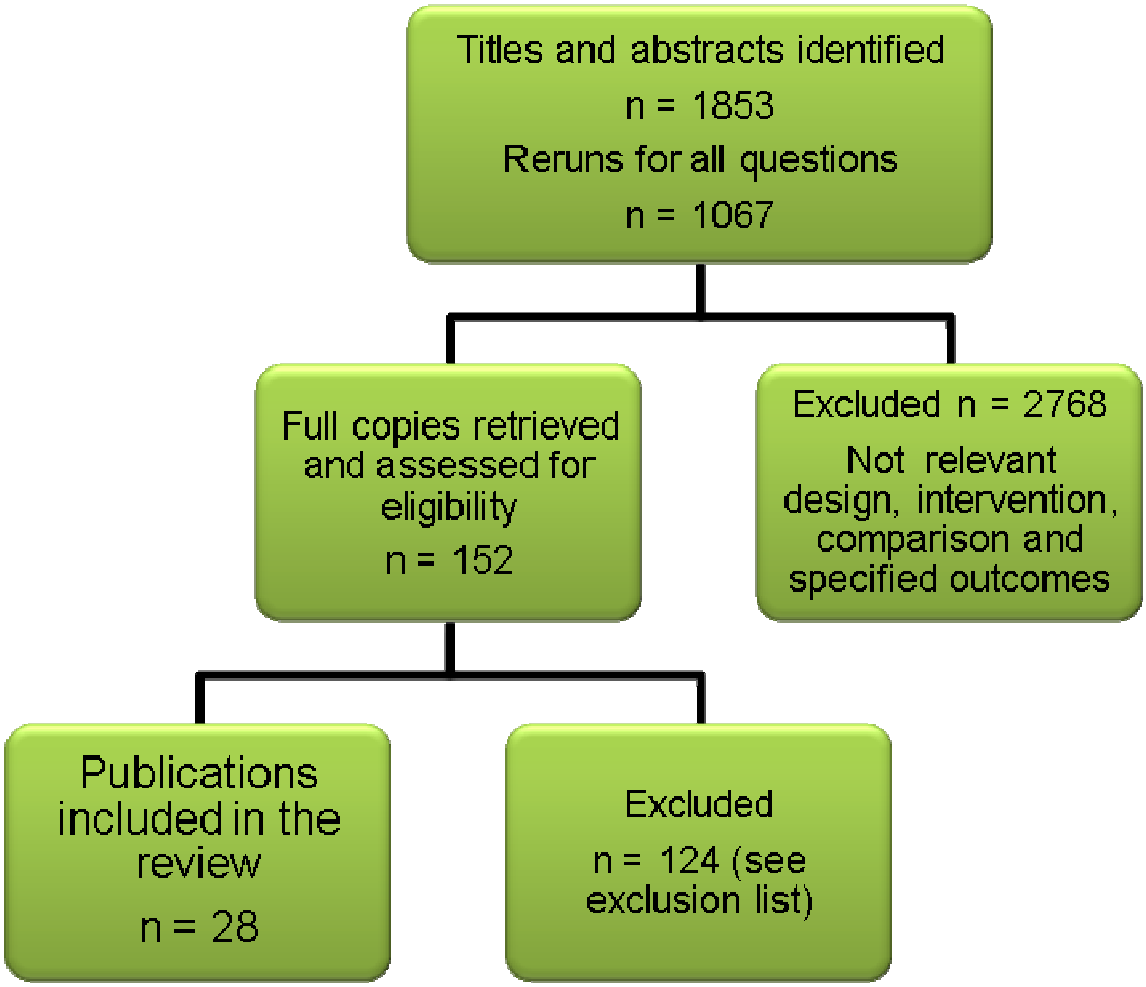
E.4.4 Phototherapy, systemic therapy, tar and risk of skin cancer

In people with psoriasis (all types) who have been exposed to coal tar, phototherapy (BBUVB, NBUVB and PUVA), systemic therapy or biologic therapy, what is the risk of skin cancer compared with people not exposed to these interventions and which individuals are at particular risk?



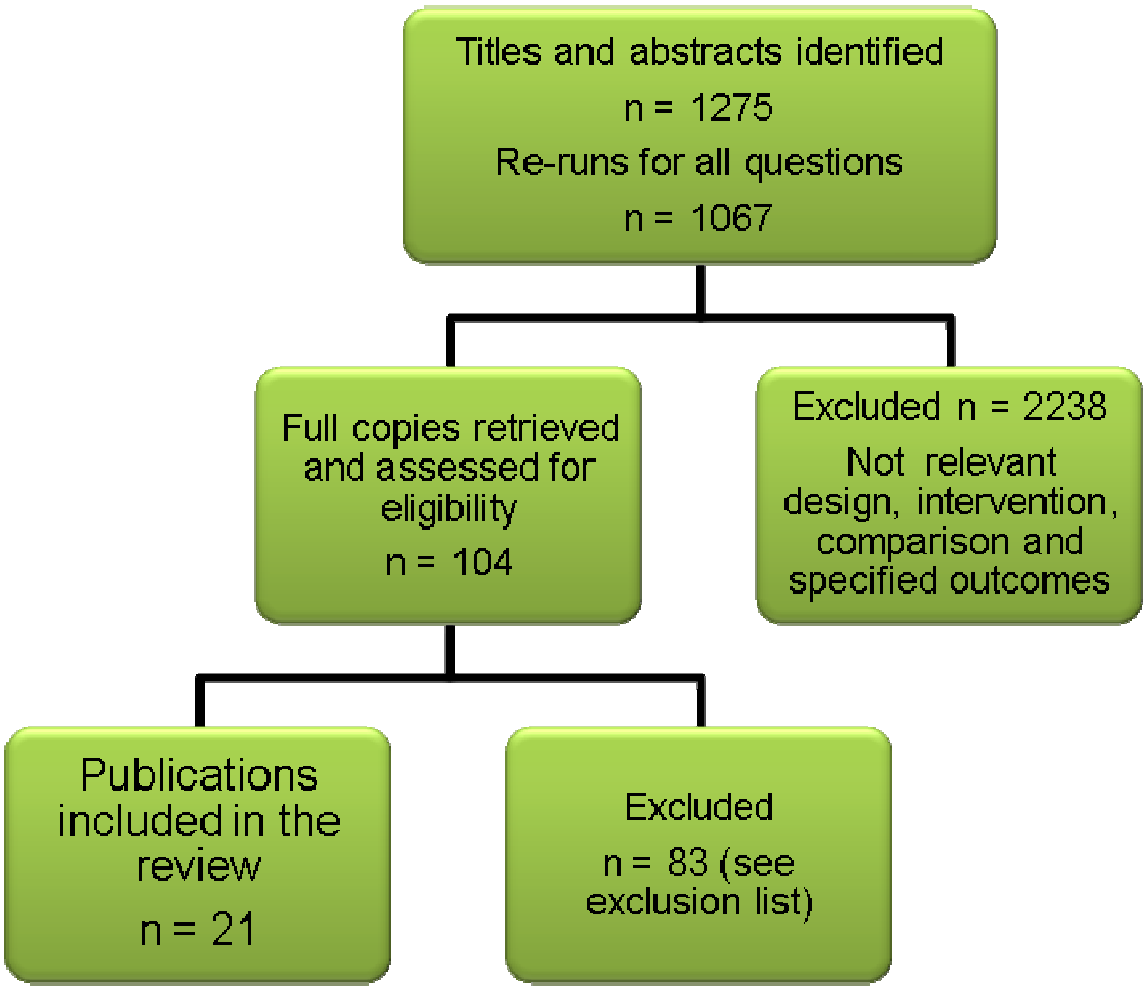
E.5 Chapter 10: Systemic non-biological therapy

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of systemic methotrexate, ciclosporin and acitretin compared with each other or with placebo?



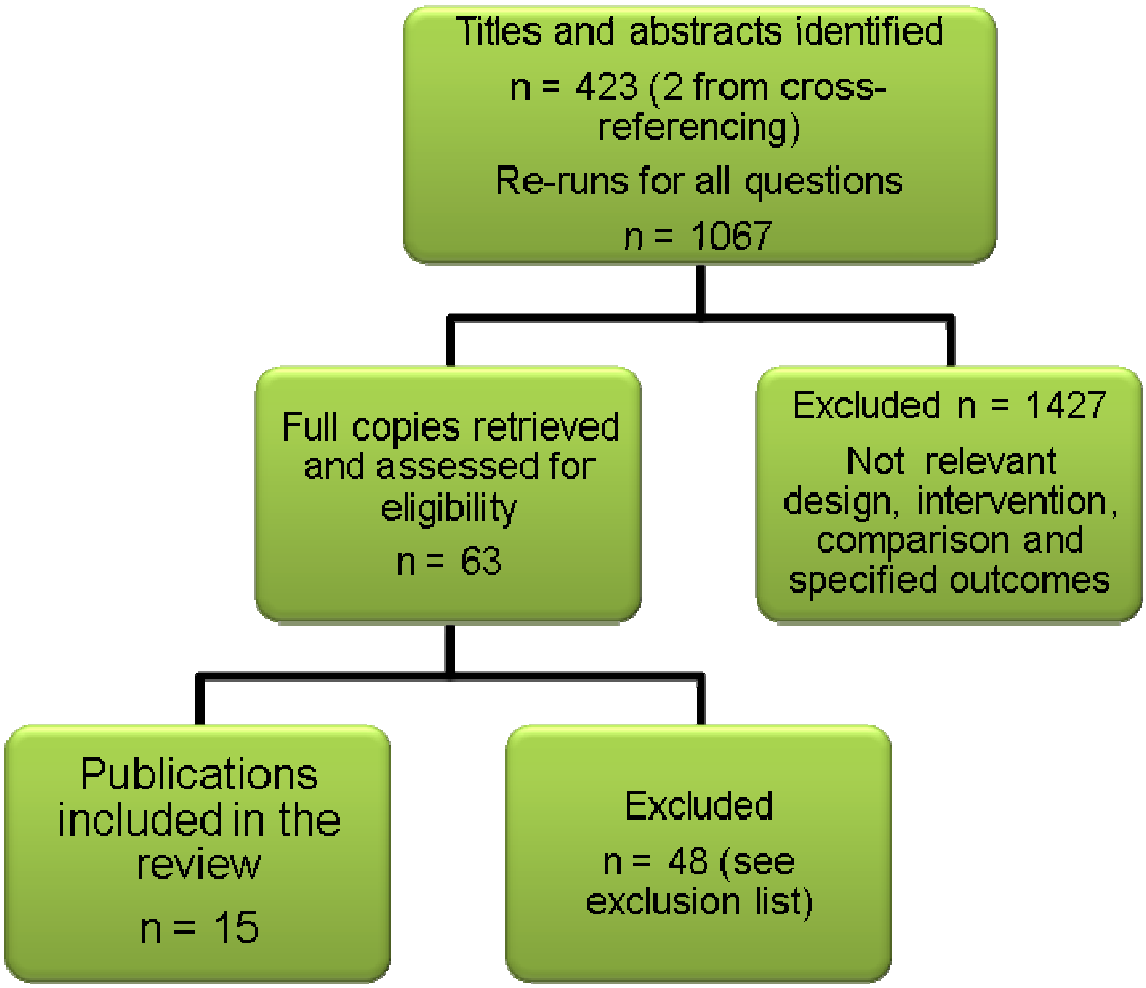
E.6 Chapter 11: Methotrexate and risk of hepatotoxicity

In people with psoriasis (all types) who are being treated with methotrexate, are there specific groups who are at high risk of hepatotoxicity?



E.7 Chapter 12: Methotrexate and monitoring for hepatotoxicity

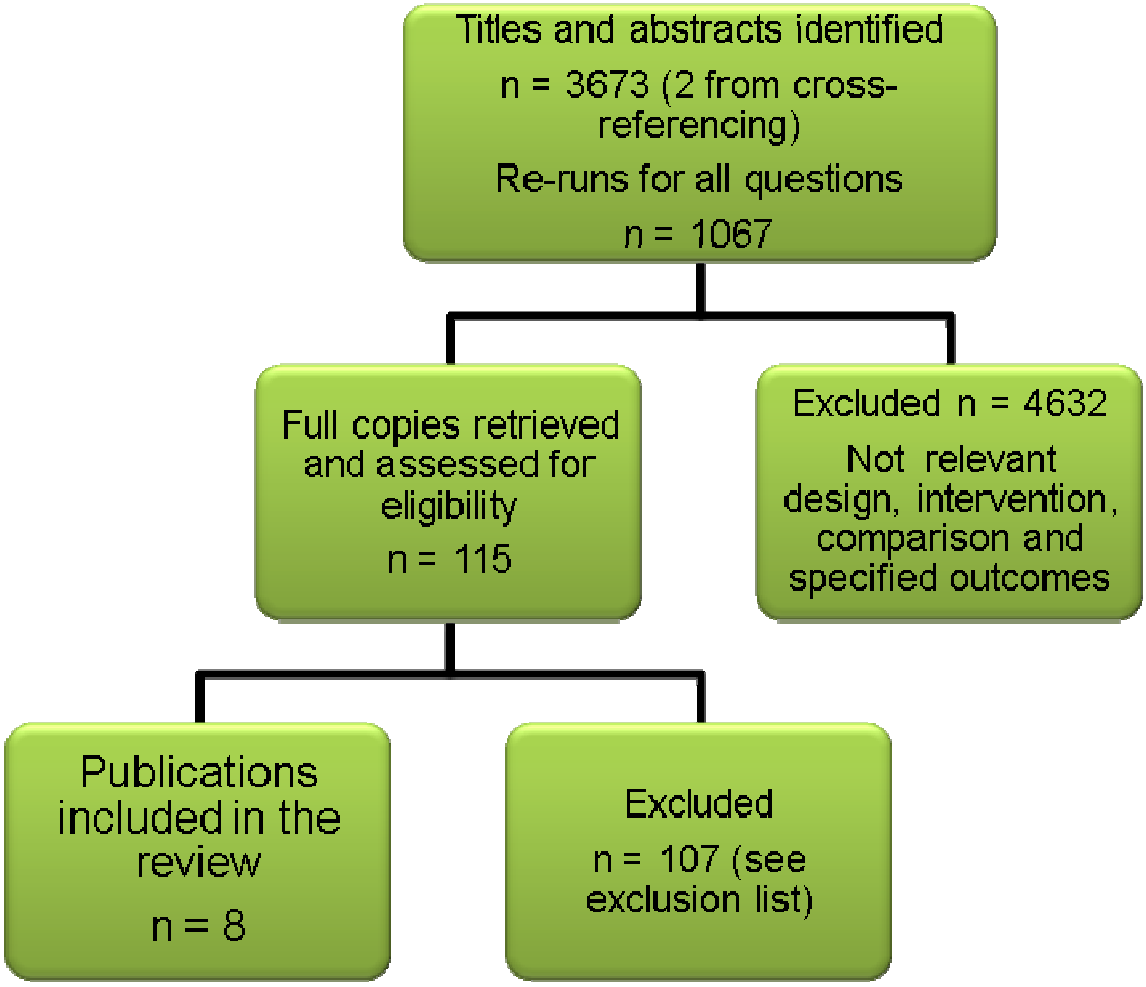
In people with psoriasis (all types) who are being treated with methotrexate or who are about to begin treatment with methotrexate, what is the optimum non-invasive method of monitoring hepatotoxicity (fibrosis or cirrhosis) compared with liver biopsy?



E.8 Chapter 13: Systemic biological therapy

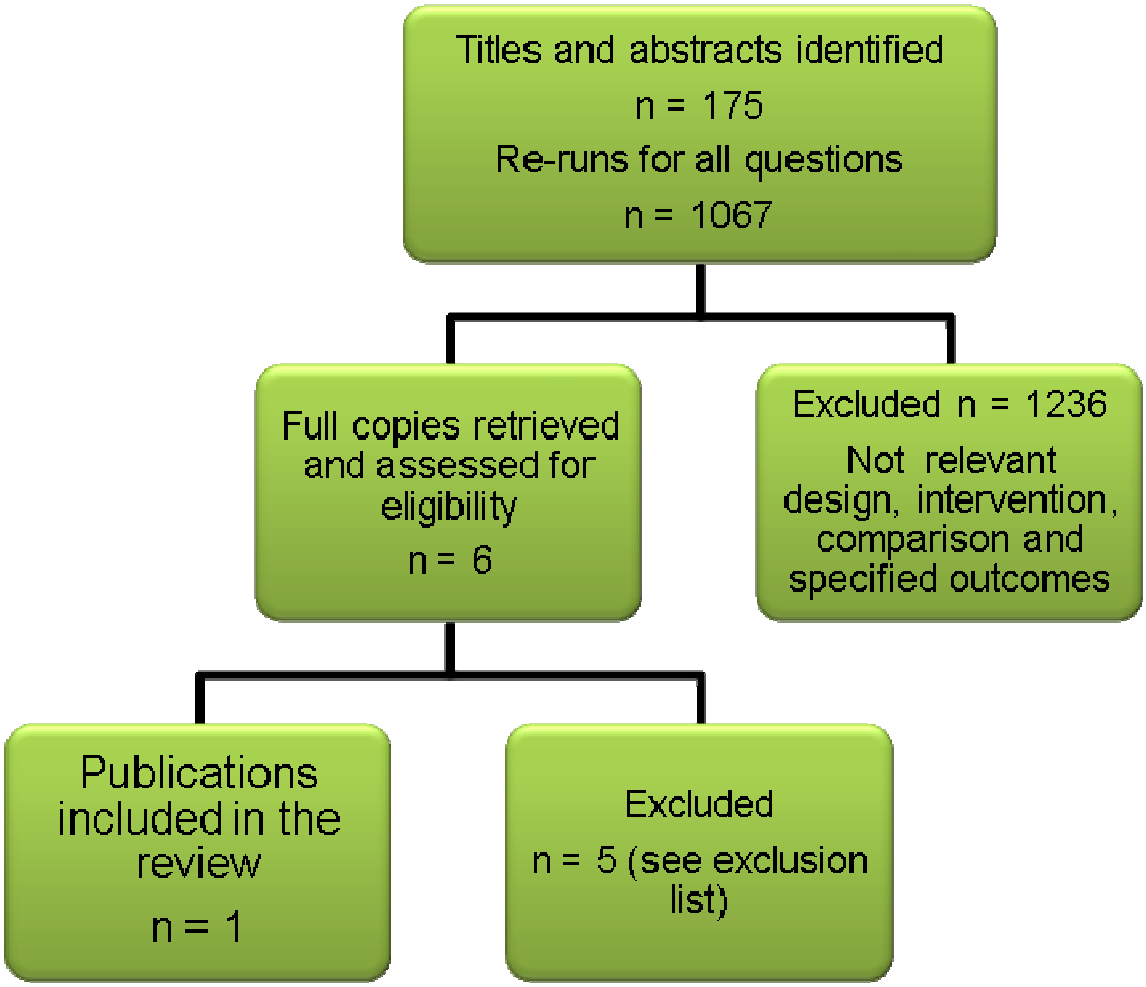
In people with chronic plaque psoriasis eligible to receive biologics, if the first biologic fails, which is the next effective, safe and cost effective strategy?

Note that for this question in addition to the published sources in the diagram below, six additional unpublished data sources were retrieved via the call for evidence.



E.9 Chapter 14: Cognitive behavioural therapy

In people with psoriasis (all types), how effective are cognitive behavioural therapy (group and individual) interventions alone or as an adjunct to standard care compared with standard care alone for managing psychological aspects of the disease in reducing distress and improving quality of life?



Appendix F: Excluded studies

F.1 Chapter 6: Assessment

F.1.1 Tools for assessing disease severity and impact

Review question: In people with psoriasis (all types), which are the most effective tools to assess the (a) severity and (b) impact of disease across all levels of healthcare provision and at any stage of the disease journey?

Excluded n = 46

Ref ID	Reason for exclusion
D. M. Ashcroft. Clinical measures of disease severity and outcome in psoriasis: A critical appraisal of their quality. Br.J.Dermatol. 141 (2):185-191, 1999. ASHCROFT1999	SR: few studies reviewed per tool and all included studies ordered
M. Augustin and A. Ogilvie. Methods of outcomes measurement in nail psoriasis. Dermatology 221 Suppl 1:23-28, 2010. AUGUSTIN2010	Incorrect outcomes: No psychometric evaluation of tools
M. K. A. Basra. The Dermatology Life Quality Index 1994-2007: A comprehensive review of validation data and clinical results. Br.J.Dermatol. 159 (5):997-1035, 2008. BASRA2008	SR on DLQI – all relevant studies included
M. Basra, A. M. Zammit, S. Salek, and A. Finlay. Application of rasch analysis to psoriasis family index (PFI) - A novel psoriasis-specific quality of life instrument for family members and partners of psoriasis patients. J.Invest.Dermatol. 131:S49, 2011. BASRA2011	Incorrect study type: Abstract only Incorrect tool
S. Cassell, J. D. Bieber, P. Rich, Z. N. Tutuncu, S. J. Lee, K. C. Kalunian, C. W. Wu, and A. Kavanaugh. The modified Nail Psoriasis Severity Index: validation of an instrument to assess psoriatic nail involvement in patients with psoriatic arthritis. J.Rheumatol. 34 (1):123-129, 2007. CASSELL2007	100% PsA population and rheumatology setting; incorrect intervention: modified NAPSI
V. Chandran, A. Gottlieb, R. J. Cook, K. C. Duffin, A. Garg, P. Helliwell, A. Kavanaugh, G. G. Krueger, R. G. Langley, C. Lynde, N. McHugh, P. Mease, I. Olivieri, P. Rahman, C. F. Rosen, C. Salvarani, D. Thaci, S. M. Toloza, M. Y. Wong, Q. M. Zhou, and D. Gladman. International multicenter psoriasis and psoriatic arthritis reliability trial for the assessment of skin, joints, nails, and dactylitis. Arthritis & Rheumatism 61 (9):1235-1242, 2009. CHANDRAN2009	100% PsA population and rheumatology setting
S. Chen, J. Yeung, and M. M. Chren. Scalpdex: a quality-of-life instrument for scalp dermatitis. Arch.Dermatol. 138 (6):803-807, 2002. CHEN2002	Not psoriasis specific (48% psoriasis; 52% seborrheic dermatitis); scalpdex

Ref ID	Reason for exclusion
C. Chow, Z. Zhang, M. T. Goldfarb, M. J. Simpson, and C. N. Ellis. Evaluation of psoriasis area and severity index, static physician's global assessment, and lattice system-physician's global assessment for assessing psoriasis severity. J.Invest.Dermatol. 131:S81, 2011. CHOW2011	Incorrect study type: Abstract only
M. E. A. de Jager, P. C. M. Van de Kerkhof, E. M. G. J. De Jong, and M. M. B. Seyger. A cross-sectional study using the Children's Dermatology Life Quality Index (CDLQI) in childhood psoriasis: negative effect on quality of life and moderate correlation of CDLQI with severity scores. Br.J.Dermatol. 163 (5):1099-1101, 2010. DEJAGER2010B	Incorrect tool: Dutch version of CDLQI – not UK relevant
J. de Korte, F. M. Mombers, M. A. Sprangers, and J. D. Bos. The suitability of quality-of-life questionnaires for psoriasis research: a systematic literature review. Arch.Dermatol. 138 (9):1221-1227, 2002. DEKORTE2002	SR: reports test-retest reliability (r), construct validity, content validity and internal consistency (Cronbach α) for DQOLS, DSQoLI and Skindex-29, all relevant studies included
S. R. Feldman, A. R. Clark, A. P. Venkat, A. B. Fleischer, R. T. Anderson, and R. Rajagopalan. The Self-Administered Psoriasis Area and Severity Index provides an objective measure of psoriasis severity. Br.J.Dermatol. 152 (2):382-383, 2005. FELDMAN2005	Incorrect study type: Letter
A. Y. Finlay and S. E. Kelly. Psoriasis--an index of disability. Clin.Exp.Dermatol. 12 (1):8-11, 1987. FINLAY1987	Incorrect outcomes
A. Y. Finlay. Dermatology Life Quality Index (DLQI) - A simple practical measure for routine clinical use. Clin.Exp.Dermatol. 19 (3):210-216, 1994. FINLAY1994	Mixed population (12% psoriasis)
A. Y. Finlay. Quality of life assessments in dermatology. Seminars in Cutaneous Medicine & Surgery 17 (4):291-296, 1998. FINLAY1998	Literature review
A. Gottlieb, U. Chaudhari, D. Baker, M. Perate, and L. T. Dooley. The National Psoriasis Foundation Psoriasis Score (NPF-PS) system versus the Psoriasis Area Severity Index (PASI) and Physician's Global Assessment (PGA): a comparison. Journal of Drugs in Dermatology: JDD 2 (3):260-266, 2003. GOTTLIEB2003	Wrong comparison: correlation of NPF-PS to PASI or PGA but not PGA vs PASI
M. Harari, J. Shani, E. Hristakieva, A. Stanimirovic, W. Seidl, and A. Burdo. Clinical evaluation of a more rapid and sensitive Psoriasis Assessment Severity Score (PASS), and its comparison with the classic method of Psoriasis Area and Severity Index (PASI), before and after climatotherapy at the Dead-Sea. Int.J.Dermatol. 39 (12):913-918, 2000.	Incorrect comparison: PASS vs PASI; incorrect outcomes

Ref ID	Reason for exclusion
HARARI2000	
H. Iyatomi, H. Oka, M. Hagiwara, A. Miyake, M. Kimoto, K. Ogawa, and M. Tanaka. Computerized quantification of psoriasis lesions with colour calibration: preliminary results. Clin.Exp.Dermatol. 34 (7):830-833, 2009. IYATOMI2009	Incorrect comparison: Automated assessment of photographs correlated with PASI (N=5); sensitivity and specificity
C. C. Jacobson and A. B. Kimball. Rethinking the Psoriasis Area and Severity Index: the impact of area should be increased. Br.J.Dermatol. 151 (2):381-387, 2004. JACOBSON2004	Incorrect comparison: correlation of PASI to PLASI and PEASI
G. B. Jemec and H. C. Wulf. The applicability of clinical scoring systems: SCORAD and PASI in psoriasis and atopic dermatitis. Acta Derm.Venereol. 77 (5):392-393, 1997. JEMEC1997	Indirect population: 50% psoriasis; incorrect comparison
J. Koo. The development of a disease-specific questionnaire to assess quality of life for psoriasis patients: An analysis of the reliability, validity, and responsiveness of the psoriasis quality of life questionnaire. Dermatology and Psychosomatics 3 (4):171-179, 2002. KOO2002	Incorrect comparison: PQoL 48-item version not the final PQOL 12
S. Kreft, M. Kreft, A. Resman, P. Marko, and K. Z. Kreft. Computer-aided measurement of psoriatic lesion area in a multicenter clinical trial--comparison to physician's estimations. J.Dermatol.Sci. 44 (1):21-27, 2006. KREFT2006	Incorrect comparison: Manual vs computer-aided BSA measurement; incorrect outcomes
M. S. F. Lewis-Jones. The Children's Dermatology Life Quality Index (CDLQI): Initial validation and practical use. Br.J.Dermatol. 132 (6):942-949, 1995. LEWISJONES1995	CDLQI – test-retest reliability; but mixed population, psoriasis 11% (n=25)
A. Lloyd, P. Swinburn, K. S. Boye, E. Edson, and L. Bowman. Development of a disease specificversion of the eq-5d foruse in psoriasis. Value Health 14 (3):A56, 2011. LLOYD2011	Incorrect study type: Abstract only
B. A. Louden, D. J. Pearce, W. Lang, and S. R. Feldman. A Simplified Psoriasis Area Severity Index (SPASI) for rating psoriasis severity in clinic patients. Dermatol.Online J. 10 (2):7, 2004. LOUDEN2004	Incorrect comparisons: SPASI correlation with PASI and SPASI
P. J. Magin, C. D. Pond, W. T. Smith, A. B. Watson, and S. M. Goode. Correlation and agreement of self-assessed and objective skin disease severity in a cross-sectional study of patients with acne, psoriasis, and atopic eczema. Int.J.Dermatol. 50 (12):1486-1490, 2011. MAGIN2011	Incorrect population: not psoriasis only

Ref ID	Reason for exclusion
R. Marks, S. P. Barton, D. Shuttleworth, and A. Y. Finlay. Assessment of disease progress in psoriasis. Arch.Dermatol. 125 (2):235-240, 1989. MARKS1989	Literature review
R. Marks. Measurement of the response to treatment in psoriasis. Journal of Dermatological Treatment 7 (SUPPL. 1):S7-S10, 1996. MARKS1996	Literature review
E. Mazzotti, A. Picardi, F. Sampogna, F. Sera, P. Pasquini, D. Abeni, and IDI Multipurpose Psoriasis Research on Vital Experiences (IMPROVE) Study Group. Sensitivity of the Dermatology Life Quality Index to clinical change in patients with psoriasis. Br.J.Dermatol. 149 (2):318-322, 2003. MAZZOTTI2003	Not UK relevant: Italian version of DLQI
E. Mazzotti. Psychometric properties of the Dermatology Life Quality Index (DLQI) in 900 Italian patients with psoriasis. Acta Derm.Venereol. 85 (5):409-413, 2005. MAZZOTTI2005	Italian version of DLQI
T. Nijsten, F. Sampogna, R. S. Stern, and D. Abeni. The reduced Impact of Psoriasis Questionnaire has good psychometric properties in Italian patients. Dermatology 215 (4):348-351, 2007. NIJSTEN2007	Incorrect comparisons: Correlation of Rasch-reduced IPSO with Skindex-29 Italian patients
T. Nijsten, D. M. Meads, J. de Korte, F. Sampogna, J. Gelfand, K. Ongenae, A. W. Evers, and M. Augustin. Cross-cultural inequivalence of dermatology-specific health-related quality of life instruments in psoriasis patients.[Erratum appears in J Invest Dermatol. 2008 Oct;128(10):2545]. J.Invest.Dermatol. 127 (10):2315-2322, 2007. NIJSTEN2007A	Incorrect outcomes: cross-cultural inequivalence of DLQI and Skindex-29,
Calogero Pagliarello, Anna Calza, Cristina Di Pietro, and Stefano Tabolli. Self-reported psoriasis severity and quality of life assessment at Comano spa. Eur.J.Dermatol. 22 (1):111-116, 2012. PAGLIARELLO2012	Incorrect tool: Italian versions of Skindex-17 and SAPASI
S. Panigalli, D. Coccarielli, L. Germi, G. P. Trevisan, and C. Veller-Fornasa. Non-randomized pilot study on the evaluation of the quality of life and psychosocial stress before and after systemic therapy in patients affected by moderate to severe psoriasis. Journal of Biological Regulators & Homeostatic Agents 23 (2):111-117, 2009. PANIGALLI2009	Incorrect outcomes: compares within score before and after treatment (PASI, PLSI) but no correlation calculated; no between-score comparisons
B. Quintard, A. Constant, M. L. Bouyssou-Gauthier, C. Paul, F. Truchetet, P. Thomas, Y. Guiguen, and A. Taieb. Validation of a specific health-related quality of life instrument in a large cohort of patients with psoriasis: The qualipso questionnaire. Acta Derm.Venereol. 91 (6):660-665, 2011. QUINTARD2011	Incorrect tool
P. Rich and R. K. Scher. Nail Psoriasis Severity Index: a useful tool for	NAPSI inter-rater agreement

Ref ID	Reason for exclusion
evaluation of nail psoriasis. J.Am.Acad.Dermatol. 49 (2):206-212, 2003. RICH2003	but only presented graphically – no statistics calculated
A. H. Robinson, M. Kardos, and A. B. Kimball. The degree of correlation between the physician's global assessment (PGA) and psoriasis area and severity index (PASI) in randomized controlled trials of biologic agents for moderate to severe plaque psoriasis. J.Invest.Dermatol. 131:S88, 2011. ROBINSON2011	Incorrect study type: Abstract only
A. Rossi, V. D. Mandel, V. Garelli, E. Mari, M. C. Fortuna, M. Carlesimo, A. Richetta, M. Scarno, A. Trucchia, and S. Calvieri. Videodermoscopy Scalp Psoriasis Severity Index (VSCAPSI): A useful tool for evaluation of scalp psoriasis. Eur.J.Dermatol. 21 (4):546-551, 2011. ROSSI2011	Incorrect tool and incorrect outcomes
F. Sampogna, S. Tabolli, B. Soderfeldt, B. Axtelius, U. Aparo, D. Abeni, and IDI Multipurpose Psoriasis Research on Vital Experiences (IMPROVE) Investigators. Measuring quality of life of patients with different clinical types of psoriasis using the SF-36. Br.J.Dermatol. 154 (5):844-849, 2006. SAMPOGNA2006	Incorrect comparison: Correlations between SF-36 and Skindex/PDL/DLQI (subscales)
L. Savolainen, J. Kontinen, J. Roning, and A. Oikarinen. Application of machine vision to assess involved surface in patients with psoriasis. Br.J.Dermatol. 137 (3):395-400, 1997. SAVOLAINEN1997	Incorrect comparison: correlates automated (by new colour segmentation method) and manual BSA measurement
Francesca Sampogna, Irene Styles, Stefano Tabolli, and Damiano Abeni. Measuring quality of life in psoriasis: the CALIPSO questionnaire. Eur.J.Dermatol. 21 (1):67-78, 2011. SAMPOGNA2011	Incorrect tool and incorrect outcomes
F. Sampogna, A. Spagnoli, Pietro C. Di, C. Pagliarello, A. Paradisi, S. Tabolli, and D. Abeni. Field performance of the Skindex-17 quality of life questionnaire: A comparison with the Skindex-29 in a sample of 220 outpatients with psoriasis and 2267 with other skin conditions. British Journal of Dermatology.Conference: 6th International Congress on Psoriasis: From Gene to Clinic London United Kingdom.Conference Start: 20111201 Conference End: 20111203.Conference Publication: (var.pagings) 165 (6):e36, 2011. SAMPOGNA2011A	Abstratc only: insufficient detail
G. Schmid-Ott. Dimensions of stigmatization in patients with psoriasis in a 'Questionnaire on Experience with Skin Complaints'. Dermatology 193 (4):304-310, 1996. SCHMIDOTT1996	Incorrect comparisons: QES vs patient-reported ‘amount of burden’
G. Schmid-Ott, H. W. Kuensebeck, B. Jaeger, T. Werfel, K. Frahm, J. Ruitman, A. Kapp, and F. Lamprecht. Validity study for the stigmatization experience in atopic dermatitis and psoriatic patients. Acta Derm.Venereol. 79 (6):443-447, 1999.	Incorrect comparison: DLQI vs TSK scales

Ref ID	Reason for exclusion
SCHMIDOTT1999	
R. A. Torres, S. A. Silva, R. F. Magalhaes, A. M. Morcillo, and P. E. Velho. Comparison of quality of life questionnaires and their correlation with the clinical course of patients with psoriasis. Anais Brasileiros de Dermatologia 86 (1):45-49, 2011. TORRES2011	Incorrect tool: Portuguese versions – not UK relevant
J. Twiss, S. McKenna, S. Crawford, and L. Doward. Scaling properties of two commonly used outcome measures in dermatology-the dermatology life quality index (DLQI) and the psoriasis quality of life scale (PSORIQoL). Value Health 13 (7):A244, 2010. TWISS2010	Incorrect study type: Abstract only Incorrect outcomes
J. Twiss, D. M. Meads, E. P. Preston, S. R. Crawford, and S. P. McKenna. Can we rely on the Dermatology Life Quality Index as a measure of the impact of psoriasis or atopic dermatitis? J.Invest.Dermatol. 132 (1):76-84, 2012. TWISS2012	Incorrect outcomes
From cross referencing	
R. T. Anderson and R. Rajagopalan. Development and validation of a quality of life instrument for cutaneous diseases. J.Am.Acad.Dermatol. 37 (1):41-50, 1997. ANDERSON1997	Incorrect population: Contact dermatitis and acne vulgaris
M. M. Chren, R. J. Lasek, L. M. Quinn, E. N. Mostow, and S. J. Zyzanski. Skindex, a quality-of-life measure for patients with skin disease: reliability, validity, and responsiveness. J.Invest.Dermatol. 107 (5):707-713, 1996. CHREN1996	Indirect population: Not psoriasis-specific (6% psoriatic; n=11); no stratified results
M. M. Chren, R. J. Lasek, L. M. Quinn, and K. E. Covinsky. Convergent and discriminant validity of a generic and a disease-specific instrument to measure quality of life in patients with skin disease. J.Invest.Dermatol. 108 (1):103-107, 1997. CHREN1997	Indirect population: not psoriasis-specific population (6% psoriatic – n=9)
M. M. Chren, R. J. Lasek, S. A. Flocke, and S. J. Zyzanski. Improved discriminative and evaluative capability of a refined version of Skindex, a quality-of-life instrument for patients with skin diseases. Arch.Dermatol. 133 (11):1433-1440, 1997. CHREN1997A	Incorrect intervention and population: Skindex-29; mixed population (6% psoriasis; n=44)
J. de Korte, M. A. Sprangers, F. M. Mombers, and J. D. Bos. Quality of life in patients with psoriasis: a systematic literature review. J.Investig.Dermatol.Symp.Proc. 9 (2):140-147, 2004. DEKORTE2004	Review, relevant studies ordered, correlation between disease severity and QoL
S. R. Feldman, A. R. Clark, A. P. Venkat, A. B. Fleischer, R. T. Anderson, and R. Rajagopalan. The Self-Administered Psoriasis Area and Severity Index provides an objective measure of psoriasis severity.	Incorrect study type: Letter

Ref ID	Reason for exclusion
Br.J.Dermatol. 152 (2):382-383, 2005. FELDMAN2005	
A. Y. Finlay, M. S. Salek, and J. Haney. Intramuscular alefacept improves health-related quality of life in patients with chronic plaque psoriasis. Dermatology 206 (4):307-315, 2003. FINLAY2003	Incorrect outcome reporting: Inexact Cronbach coefficient (≥0.77 for DLQI and DQOLS)
K. A. Katz. Psoriasis Area and Severity Index 50 as an endpoint in psoriasis trials: an unconvincing proposal. J.Am.Acad.Dermatol. 53 (3):547-551, 2005. KATZ2005	Incorrect study type: Letter
G. G. Krueger, R. G. Langley, A. Y. Finlay, C. Griffiths, J. M. Woolley, D. Lalla, and A. Jahreis. Patient-reported outcomes of psoriasis improvement with etanercept therapy: results of a randomized phase III trial. Br.J.Dermatol. 153 (6):1192-1199, 2005. KRUEGER2005	Incorrect study type (not designed to assess sensitivity to change): % change in DLQI scores (difference between placebo and treatment group)
V. Lewis and A. Y. Finlay. 10 years experience of the Dermatology Life Quality Index (DLQI). J.Investig.Dermatol.Symp.Proc. 9 (2):169-180, 2004. LEWIS2004	Review, not psoriasis-specific, relevant studies ordered
V. Lewis and A. Y. Finlay. A critical review of Quality-of-Life Scales for Psoriasis. Dermatol.Clin. 23 (4):707-716, 2005. LEWIS2005	Literature review: few studies reviewed per tool and all relevant included studies ordered
C. C. Long, A. Y. Finlay, and R. W. Averill. The rule of hand: 4 hand areas = 2 FTU = 1 g. Arch.Dermatol. 128 (8):1129-1130, 1992. LONG1992	Incorrect study type and population: Letter and not psoriasis specific
A. Menter, M. Kosinski, B. W. Bresnahan, K. Papp, and J. E. Ware, Jr. Impact of efalizumab on psoriasis-specific patient-reported outcomes. Results from three randomized, placebo-controlled clinical trials of moderate to severe plaque psoriasis. Journal of Drugs in Dermatology 3 (1):27-38, 2004. MENTER2004	Incorrect study type (not designed to assess sensitivity to change): Mean change in DLQI scores (placebo group vs treatment group)
C. Mork and A. Wahl. Improved quality of life among patients with psoriasis after supervised climate therapy at the Canary Islands. J.Am.Acad.Dermatol. 47 (2):314-316, 2002. MORK2002	Incorrect study type (not designed to assess sensitivity to change): Standardised response mean for DLQI and PASI
S. Tiling-Grosse and J. Rees. Assessment of area of involvement in skin disease: a study using schematic figure outlines. Br.J.Dermatol. 128 (1):69-74, 1993. TILINGGROSSE1993	Incorrect population and outcome
P. van de Kerkhof. On the limitations of the psoriasis area and severity	Incorrect study type: Letter

Ref ID	Reason for exclusion
index (PASI). Br.J.Dermatol. 126 (2):205, 1992. VANDERKERKHOF1992	
D. A. Vardy, D. Guberman, D. A. Lichtenstein, and S. N. Klaus. Assessment of severity score in patients with psoriasis. Br.J.Dermatol. 129 (3):349-350, 1993. VARDY1993	Incorrect study type: Letter
S. Weisman, C. R. Pollack, and R. W. Gottschalk. Psoriasis disease severity measures: comparing efficacy of treatments for severe psoriasis. Journal of Dermatological Treatment 14 (3):158-165, 2003. WEISMAN2003	Literature review: few studies reviewed per tool and all included studies ordered

F.1.2 Diagnostic tools for Psoriatic Arthritis

In people with psoriasis (all types), which is the most accurate diagnostic tool compared with clinical diagnosis by a rheumatologist to help a non-specialist identify psoriatic arthritis?

Excluded n = 14

Study excluded	Reason
A. Cauli, D. D. Gladman, A. Mathieu, I. Olivieri, G. Porru, P. P. Tak, C. Sardu, I. Ujfalussy, R. Scarpa, A. Marchesoni, W. J. Taylor, A. Spadaro, J. L. Fernandez-Sueiro, C. Salvarani, J. R. Kalden, E. Lubrano, S. Carneiro, F. Desiati, J. A. Flynn, S. D'Angelo, A. Vacca, A. W. R. Van Kuijk, M. G. Catanoso, M. Gruenke, R. Peluso, W. J. Parsons, N. Ferrara, P. Contu, P. S. Helliwell, and P. J. Mease. Patient global assessment in psoriatic arthritis: A multicenter GRAPPA and OMERACT study. J.Rheumatol. 38 (5):898-903, 2011. CAULI2011	Incorrect tools
V. Chandran, C. T. Schentag, D. D. Gladman, and W. J. Taylor. Sensitivity and specificity of the CASPAR criteria for psoriatic arthritis in a family medicine clinic setting... Arthritis Rheum. 2006 Aug;54(8):2665-73. *J.Rheumatol.* 35 (10):2069-2070, 2008. CHANDRAN2008	Incorrect study type: Letter to the editor
V. Chandran and D. D. Gladman. Toronto Psoriatic Arthritis Screening (ToPAS) questionnaire: A report from the GRAPPA 2009 Annual Meeting. *J.Rheumatol.* 38 (3):546-547, 2011. CHANDRAN2011	Incorrect study type: conference report
L. Congi and E. Roussou. Clinical application of the CASPAR criteria for psoriatic arthritis compared to other existing criteria. *Clin.Exp.Rheumatol.* 28 (3):304-310, 2010. CONGI2010	Incorrect comparison: CASPAR vs other diagnostic tools (Moll and Wright, Bennet's, Vasey and Espinoza, Fournié's, ESSG, McGonagle and Gladman)
S. D'Angelo, G. A. Mennillo, M. S. Cutro, P. Leccese, A. Nigro, A. Padula, and I. Olivieri. Sensitivity of the classification of psoriatic arthritis criteria in early psoriatic arthritis. *J.Rheumatol.* 36 (2):368-370, 2009. DANGELO2009	Incorrect comparison: Sensitivity of CASPAR in early PsA vs rheumatologist's opinion
P. Dominguez, D. D. Gladman, P. Helliwell, P. J. Mease, M. E.	Incorrect study type: Review of sensitivity

Study excluded	Reason
Husni, and A. A. Qureshi. Development of screening tools to identify psoriatic arthritis. *Curr.Rheumatol.Rep.* 12 (4):295-299, 2010. DOMINGUEZ2010	and specificity of ToPAS, PEST and PASE – relevant refs ordered
M. Khraishi, J. Mong, G. Mugford, and I. Landells. The electronic psoriasis and arthritis screening questionnaire (ePASQ): A sensitive and specific tool to diagnose psoriatic arthritis patients. J.Cutan.Med.Surg. 15 (3):143-149, 2011. KHRAISHI2011A	Incorrect intervention: not a listed screening tool
P. M. Peloso, P. Hull, and B. Reeder. The psoriasis and arthritis questionnaire (PAQ) in detection of arthritis among patients with psoriasis. *Arthritis Rheum.* 40:S64, 1997. PELOSO1997	Incorrect article type: abstract – insufficient information to appraise and analyse
T. Pincus, M. J. Bergman, R. Maclean, and Y. Yazici. Complex measures and indices for clinical research compared with simple patient questionnaires to assess function, pain, and global estimates as rheumatology "vital signs" for usual clinical care. *Rheum.Dis.Clin.N.Am.* 35 (4):779-786, 2009. PINCUS2009	Narrative review and incorrect comparisons
A. A. Qureshi, P. Dominguez, K. C. Duffin, D. D. Gladman, P. Helliwell, P. J. Mease, and M. E. Husni. Psoriatic arthritis screening tools. *J.Rheumatol.* 35 (7):1423-1425, 2008. QURESHI2008	Incorrect study type: Summary of meeting proceedings
M. L. Stoll, P. Lio, R. P. Sundel, and P. A. Nigrovic. Comparison of Vancouver and International League of Associations for rheumatology classification criteria for juvenile psoriatic arthritis. Arthritis Care Res. 59 (1):51-58, 2008. STOLL2008	Incorrect comparison: Diagnostic criteria for juvenile PsA (ILAR vs Vancouver criteria)
D. P. Symmons, M. Lunt, G. Watkins, P. Helliwell, S. Jones, N. McHugh, and D. Veale. Developing classification criteria for peripheral joint psoriatic arthritis. Step I. Establishing whether the rheumatologist's opinion on the diagnosis can be used as the "gold standard". *J.Rheumatol.* 33 (3):552-557, 2006. SYMMONS2006	Incorrect comparison: rheumatologist's opinion vs rheumatologist's opinion
W. J. Taylor and P. S. Helliwell. Development of diagnostic criteria for psoriatic arthritis: methods and process. *Curr.Rheumatol.Rep.* 6 (4):299-305, 2004. TAYLOR2004	Incorrect comparison: Sensitivity and specificity of Moll and Wright, Bennet's, Vasey and Espinoza, Fournié's, ESSG, McGonagle and Gladman tools
W. Taylor, D. Gladman, P. Helliwell, A. Marchesoni, P. Mease, H. Mielants, and CASPAR Study Group. Classification criteria for psoriatic arthritis: development of new criteria from a large international study. *Arthritis Rheum.* 54 (8):2665-2673, 2006. TAYLOR2006	Incorrect comparison: Sensitivity and specificity of CASPAR, Moll and Wright, Bennet's, Vasey and Espinoza, Fournié's, ESSG, McGonagle and Gladman tools vs rheumatologist's opinion

F.1.3 Specialist referral for Psoriatic Arthritis

In people with psoriasis (all types) and suspected psoriatic arthritis, how quickly should referral to a specialist be made in order to minimise the impact of disease on symptoms, joint damage and quality of life?

Excluded n = 50

Study excluded	Reason
Anandarajah, A.P.R. & Ritchlin, C.T. 2009. The diagnosis and treatment of early psoriatic arthritis. *Nature Reviews Rheumatology*, 5, (11) 634-641 ANANDARAJAH2009	Incorrect study type: Narrative review
Emilio Buschiazzo, Jose A. Maldonado-Cocco, Pablo Arturi, Gustavo Citera, Alberto Berman, Alejandro Nitsche, Oscar L. Rillo, and Respondia Group. Epidemiology of spondyloarthritis in Argentina. American Journal of the Medical Sciences 341 (4):289-292, 2011. BUSCHIAZZO2011	Incorrect population: not early PsA and not stratified
Brockbank, J.E., Stein, M., Schentag, C.T., & Gladman, D.D. 2005. Dactylitis in psoriatic arthritis: a marker for disease severity? *Annals of the Rheumatic Diseases*, 64, (2) 188-190 BROCKBANK2005	Incorrect population: Dactylitis
C. A. Chang, A. B. Gottlieb, and P. F. Lizzul. Management of psoriatic arthritis from the view of the dermatologist. Nat.Rev.Rheumatol. 7 (10):588-598, 2011. CHANG2011	Review – relevant studies included
Cantini, F., Niccoli, L., Nannini, C., Kaloudi, O., & Cassarà, E. 2010. Psoriatic arthritis: A systematic review. *International Journal of Rheumatic Diseases*, 13, (4) 300-317 CANTINI2010	SR – no relevant data
Christophers, E., Barker, J.N., Griffiths, C.E., Dauden, E., Milligan, G., Molta, C., Sato, R., & Boggs, R. 2010. The risk of psoriatic arthritis remains constant following initial diagnosis of psoriasis among patients seen in European dermatology clinics. *Journal of the European Academy of Dermatology and Venereology*, 24, (5) 548-554 CHRISTOPHERS2010	Incorrect outcomes: Risk of PsA in PS
Cohen, M.R., Reda, D.J., & Clegg, D.O. 1999. Baseline relationships between psoriasis and psoriatic arthritis: analysis of 221 patients with active psoriatic arthritis. Department of Veterans Affairs Cooperative Study Group on Seronegative Spondyloarthropathies. *Journal of Rheumatology*, 26, (8) 1752-1756 COHEN1999	Incorrect outcomes: Pattern of skin disease in PsA
Cresswell, L., Chandran, V., Farewell, V.T., & Gladman, D.D. 2011. Inflammation in an individual joint predicts damage to that joint in psoriatic arthritis. *Annals of the Rheumatic Diseases*, 70, (2) 305-308 CRESSWELL2011	Incorrect comparison
Matteo Nicola Dario Di Minno, Salvatore Iervolino, Rosario Peluso, Raffaele Scarpa, Giovanni Di Minno, and RRDs study group Ca. Carotid intima-media thickness in psoriatic arthritis: differences between tumor necrosis factor-alpha blockers and traditional disease-modifying antirheumatic drugs. Arteriosclerosis, Thrombosis & Vascular Biology 31 (3):705-712, 2011. DIMINNO2011	Incorrect population: not early PsA and not stratified
Elkayam, O., Ophir, J., Yaron, M., & Caspi, D. 2000. Psoriatic arthritis: interrelationships between skin and joint	Incorrect comparison

Study excluded	Reason
manifestations related to onset, course and distribution. *Clinical Rheumatology*, 19, (4) 301-305 ELKAYAM2000	
Fitzgerald, O. & Kane, D. 1997. Clinical, immunopathogenic, and therapeutic aspects of psoriatic arthritis. [Review] [60 refs]. *Current Opinion in Rheumatology*, 9, (4) 295-301 FITZGERALD1997	Incorrect study type: Narrative review
Gladman, D.D. & Farewell, V.T. 1999. Progression in psoriatic arthritis: role of time varying clinical indicators. *Journal of Rheumatology*, 26, (11) 2409-2413 GLADMAN1999	Incorrect outcomes and comparison
Gladman, D.D., Antoni, C., Mease, P.J., Clegg, D.O., & Nash, P. 2005. Psoriatic arthritis: epidemiology, clinical features, course, and outcome. *Annals of the Rheumatic Diseases*, 64, (Suppl 2) ii14-ii17 GLADMAN2005A	Incorrect study type: Narrative review
Gladman, D.D., Farewell, V.T., & Nadeau, C. 1995. Clinical indicators of progression in psoriatic arthritis: multivariate relative risk model. *Journal of Rheumatology*, 22, (4) 675-679 GLADMAN1995	Incorrect outcomes: Predictive factors
Gladman, D.D., Hing, E.N., Schentag, C., & Cook, R.J. 2001. Remission in psoriatic arthritis. *Journal of Rheumatology*, 28, (5) 1045-1048 GLADMAN2001	Incorrect study type: Remission study
Gladman, D.D., Mease, P.J., Choy, E.H., Ritchlin, C.T., Perdok, R.J., & Sasso, E.H. 2010. Risk factors for radiographic progression in psoriatic arthritis: subanalysis of the randomized controlled trial ADEPT. *Arthritis Research & Therapy*, 12, (3) R113 GLADMAN2010	Incorrect study type and outcomes
Harty, L. & Veale, D.J. 2010. How early should psoriatic arthritis be treated with a TNF-blocker? *Current Opinion in Rheumatology*, 22, (4) 393-396 HARTY2010	Incorrect study type: Narrative review
L. C. Harty, C. T. Ng, C. Fearon, C. A. Murray, O. Fitzgerald, and D. J. Veale. Joint tenderness and swelling in biologic-treated inflammatory arthritis patients - A tricky trade off? Int.J.Clin.Pract. 66 (2):128-131, 2012. HARTY2012	Incorrect population: not early PsA and not stratified
Kaipiainen-Seppanen, O. 1996. Incidence of psoriatic arthritis in Finland. *British Journal of Rheumatology*, 35, (12) 1289-1291 KAIPIAINEN1996	Incorrect study type and outcomes
Majed Khraishi, Don Macdonald, Emmanouil Rampakakis, J. Vaillancourt, and John S. Sampalis. Prevalence of patient-reported comorbidities in early and established psoriatic arthritis cohorts. Clin.Rheumatol. 30 (7):877-885, 2011. KHRAISHI2011	Incorrect study type: Cross sectional study
Koo, E., Balogh, Z., & Gomor, B. 1991. Juvenile psoriatic arthritis. *Clinical Rheumatology*, 10, (3) 245-249	Incorrect study type and outcomes

Study excluded	Reason
KOO1991	
Lavie, F., Salliot, C., Dernis, E., Claudepierre, P., Schaeverbeke, T., Tebib, J., Goupille, P., Cantagrel, A., Flipo, R.M., Gaudin, P., Le Loet, X., Maillefert, J.F., Paul, C., Saraux, A., Wendling, D., & Combe, B. 2009. Prognosis and follow-up of psoriatic arthritis with peripheral joint involvement: development of recommendations for clinical practice based on published evidence and expert opinion. *Joint, Bone, Spine: Revue du Rhumatisme*, 76, (5) 540-546 LAVIE2009	Incorrect study type and outcomes
Laws, P., Barton, A., & Warren, R.B. 2010. Psoriatic arthritis - What the dermatologist needs to know. *Journal of the European Academy of Dermatology and Venereology*, 24, (11) 1270-1277 LAWS2010A	Incorrect study type: Narrative review
Love, T.J., Gudbiornsson, B., Gudjonsson, J.E., & Valdimarsson, H. 2007. Psoriatic arthritis in Reykjavik, Iceland: Prevalence, demographics, and disease course. *Journal of Rheumatology*, 34, (10) 2082-2088 LOVE2007	Incorrect study type: Cross-sectional study
LY. Y. Leung, K. W. Ho, L. S. Tam, T. Y. Zhu, L. W. Kwok, T. K. Li, E. W. Kun, and E. K. Li. Evaluation of spinal mobility measurements in predicting axial psoriatic arthritis. Clin.Rheumatol. 30 (9):1157-1162, 2011. LEUNG2011	Incorrect comparison
Madland, T.M., Apalset, E.M., Johannessen, A.E., Rossebö, B., & Brun, J.G. 2005. Prevalence, disease manifestations, and treatment of psoriatic arthritis in Western Norway. *Journal of Rheumatology*, 32, (10) 1918-1922 MADLAND2005	Incorrect study type: Prevalence study
Mease, P.J. & Goffe, B.S. 2005. Diagnosis and treatment of psoriatic arthritis. *Journal of the American Academy of Dermatology*, 52, (1) 1-19 MEASE2005	Incorrect study type: Narrative review
Mease, P.J. 2006. Management of psoriatic arthritis: The therapeutic interface between rheumatology and dermatology. *Current Rheumatology Reports*, 8, (5) 348-354 MEASE2006	Incorrect study type: Narrative review
Mease, P.J., Kivitz, A.J., Burch, F.X., Siegel, E.L., Cohen, S.B., Ory, P., Salonen, D., Rubenstein, J., Sharp, J.T., Dunn, M., & Tsuji, W. 2006. Continued inhibition of radiographic progression in patients with psoriatic arthritis following 2 years of treatment with etanercept. *Journal of Rheumatology*, 33, (4) 712-721 MEASE2006A	Incorrect comparison: RCT of etanercept in PsA
Mease, P.J., Woolley, J.M., Singh, A., Tsuji, W., Dunn, M., & Chiou, C.F. 2010. Patient-reported outcomes in a randomized trial of etanercept in psoriatic arthritis. *Journal of Rheumatology*, 37, (6) 1221-1227 MEASE2010	Incorrect comparison: RCT of etanercept in PsA
Morgan C, Lunt M, Bunn D, Scott DG, Symmons DP. Five-year outcome of a primary-care-based inception cohort of patients with inflammatory polyarthritis plus psoriasis. *Rheumatology.* 2007; 46(12):1819-1823.	Incorrect population: Not only PsA

Study excluded	Reason
MORGAN2007	
Nossent, J.C. & Gran, J.T. 2009. Epidemiological and clinical characteristics of psoriatic arthritis in northern Norway. *Scandinavian Journal of Rheumatology*, 38, (4) 251-255 NOSSENT2009	Incorrect study type: Retrospective
Olivieri, I., D'Angelo, S., Palazzi, C., & Padula, A. 2010. Advantages in early recognition and treatment of psoriatic arthritis. *International Journal of Clinical Rheumatology*, 5, (4) 461-473 OLIVIERI2010	Incorrect study type: Narrative review
Prasad, P.V., Bikku, B., Kaviarasan, P.K., & Senthilnathan, A. 2007. A clinical study of psoriatic arthropathy. *Indian Journal of Dermatology, Venereology and Leprology*, 73, (3) 166-170 PRASAD2007	Incorrect study type and outcomes
Prey, S., Paul, C., Bronsard, V., Puzenat, E., Gourraud, P.A., Aractingi, S., Aubin, F., Bagot, M., Cribier, B., Joly, P., Jullien, D., Maitre, M.L., Richard-Lallemand, M.A., & Ortonne, J.P. 2010. Assessment of risk of psoriatic arthritis in patients with plaque psoriasis: a systematic review of the literature. [Review] [25 refs]. *Journal of the European Academy of Dermatology and Venereology*, 24, (Suppl 2) 31-35 PREY2010	Incorrect outcomes: prevalence
Quilon, A., III & Brent, L. 2010. The primary care physician's guide to inflammatory arthritis: diagnosis. *Journal of Musculoskeletal Medicine*, 27, (6) 223 available from: http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010702716&site=ehost-live QUILON2010	Incorrect study type: Narrative review
Qureshi, A.A., Husni, M.E., & Mody, E. 2005. Psoriatic arthritis and psoriasis: need for a multidisciplinary approach. [Review] [25 refs]. *Seminars in Cutaneous Medicine and Surgery*, 24, (1) 46-51 QURESHI2005	Incorrect study type: Narrative review
Reich, K., Kruger, K., Mossner, R., & Augustin, M. 2009. Epidemiology and clinical pattern of psoriatic arthritis in Germany: a prospective interdisciplinary epidemiological study of 1511 patients with plaque-type psoriasis. *British Journal of Dermatology*, 160, (5) 1040-1047 REICH2009	Incorrect study type and outcomes
Saber, T.P., Ng, C.T., Renard, G., Lynch, B.M., Pontifex, E., Walsh, C.A., Grier, A., Molloy, M., Bresnihan, B., Fitzgerald, O., Fearon, U., & Veale, D.J. 2010. Remission in psoriatic arthritis: is it possible and how can it be predicted? *Arthritis Research & Therapy*, 12, (3) R94 SABER2010	Incorrect study type and outcomes
Scarpa, R., Peluso, R., Atteno, M., Manguso, F., Spano, A., Iervolino, S., Di Minno, M., Costa, L., & Del Puente, A. 2008. The effectiveness of a traditional therapeutical approach in early psoriatic arthritis: Results of a pilot randomised 6-month trial with methotrexate. *Clinical Rheumatology*, 27, (7) 823-826 SCARPA2008	Incorrect study type and outcomes
SQ. Shang, L. S. Tam, G. W. K. Yip, J. E. Sanderson, Q. Zhang, E.	Incorrect population: not early PsA and

Study excluded	Reason
K. SM. Li, and C. M. Yu. High prevalence of subclinical left ventricular dysfunction in patients with psoriatic arthritis. J.Rheumatol. 38 (7):1363-1370, 2011. SHANG2011	not stratified
Shbeeb, M., Uramoto, K.M., Gibson, L.E., O'Fallon, W.M., & Gabriel, S.E. 2000. The epidemiology of psoriatic arthritis in Olmsted County, Minnesota, USA, 1982-1991. *Journal of Rheumatology*, 27, (5) 1247-1250 SHBEEB2000	Incorrect outcomes/study type: No duration data
C. Solovan, C. Ciacli, S. R. Gotia, and S. L. Gotia. Bone alkaline phosphatase, lumbar total score in psoriatic arthritis patients. J.Invest.Dermatol. 131:S37, 2011. SOLOVAN2011	Incorrect study type: Abstract only – insufficient information
Stoll, M.L., Zurakowski, D., Nigrovic, L.E., Nichols, D.P., Sundel, R.P., & Nigrovic, P.A. 2006. Patients with juvenile psoriatic arthritis comprise two distinct populations. *Arthritis & Rheumatism*, 54, (11) 3564-3572 STOLL2006	Incorrect study type and outcomes
Svensson, B., Holmström, G., Lindqvist, U.R., & Psoriatic Arthritis Register Group of the Swedish Society of Rheumatology 2002. Development and early experiences of a Swedish psoriatic arthritis register. *Scandinavian Journal of Rheumatology*, 31, (4) 221-225 SVENSSON2002	Data also presented in LINDQVIST2008
Taccari, E., Spadaro, A., & Riccieri, V. 1996. Correlations between peripheral and axial radiological changes in patients with psoriatic polyarthritis. *Joint, Bone, Spine: Revue du Rhumatisme*, 63, (1) 17-23 TACCARI1996	Incorrect study type: Retrospective
Torre Alonso, J.C., Rodriquez Perez, A., Arribas Castrillo, J.M., Ballina Garcia, J., Riestra Noriega, J.L., & Lopez Larrea, C. 1991. Psoriatic arthritis (PA): a clinical, immunological and radiological study of 180 patients. *British Journal of Rheumatology*, 30, (4) 245-250 TORREALONSO1991	Patients with established PsA only – no duration of disease given
Trontzas, P., Andrianakos, A., Miyakis, S., Pantelidou, K., Vafiadou, E., Garantziotou, V., Voudouris, C., & ESCORDIG study group 2005. Seronegative spondyloarthropathies in Greece: a population-based study of prevalence, clinical pattern, and management. The ESORDIG study. *Clinical Rheumatology*, 24, (6) 583-589 TRONTZAS2005	Incorrect study type and outcomes
Wilson FC, Icen M, Crowson CS, McEvoy MT, Gabriel SE, Kremers HM. Incidence and clinical predictors of psoriatic arthritis in patients with psoriasis: a population-based study.[Erratum appears in Arthritis Rheum. 2010 Apr;62(4):574]. *Arthritis & Rheumatism.* 2009; 61(2):233-239. WILSON2009	Incorrect study type: Retrospective
Zink, A., Listing, J., Klindworth, C., Zeidler, H., & German Collaboratrive Arthritis Centre 2001. The national database of the German Collaborative Arthritis Centres: I. Structure, aims, and patients. *Annals of the Rheumatic Diseases*, 60, (3) 199-206	Incorrect population: rheumatoid arthritis

Study excluded	Reason
ZINK2001	

F.1.4 Identification of comorbidities

Are people with psoriasis (all types) at higher risk than people without psoriasis for significant comorbidities and are there subgroups within the psoriasis population at a further increased risk?

Excluded n = 124

Study excluded	Reason
Ole Ahlehoff. Psoriasis and Cardiovascular Disease. Dan.Med.Bull. 58 (11):B4347, 2011. AHLEHOFF2011A	Review of all 4 studies All included individually
O. Ahlehoff, J. Lindhardsen, J. B. Olesen, M. G. Charlot, G. H. Gislason, L. Skov, C. Torp-Pedersen, and P. R. Hansen. Prognosis after percutaneous coronary intervention in patients with psoriasis: A cohort study using Danish nationwide registries. European Heart Journal 32:234, 2011. AHLEHOFF2011C	Incorrect study type: Abstract only
N. Al-Mutairi, S. Al-Farag, A. Al-Mutairi, and M. Al-Shiltawy. Comorbidities associated with psoriasis: an experience from the Middle East. J.Dermatol. 37 (2):146-155, 2010. ALMUTAIRI2010	Incorrect study type: Retrospective case-control study
E. Altobelli, R. Petrocelli, M. Maccarone, G. Altomare, G. Argenziano, A. Giannetti, A. Peserico, G. A. Vena, S. Tiberti, S. Chimenti, and K. Peris. Risk factors of hypertension, diabetes and obesity in Italian psoriasis patients: a survey on socio-demographic characteristics, smoking habits and alcohol consumption. Eur.J.Dermatol. 19 (3):252-256, 2009. ALTOBELLI2009	Incorrect study type and comparison
H. Amital, Y. Arnson, G. Chodick, and V. Shalev. Hepatotoxicity rates do not differ in patients with rheumatoid arthritis and psoriasis treated with methotrexate. Rheumatology 48 (9):1107-1110, 2009. AMITAL2009	Incorrect outcomes
A. W. Armstrong, J. Han, T. Li, J. P. Forman, and A. A. Qureshi. Psoriasis and risk of hypertension in US women. J.Invest.Dermatol. 131:S37, 2011. ARMSTRONG2011B	Incorrect study type: Abstract only
R. Aslam, A. Qadir, and F. Asad. Psychiatric morbidity in dermatological out-patients: An issue to be recognized. J.Pakistan Assoc.Dermatol. 17 (4):235-239, 2007. ASLAM2007	Incorrect study type: No control group.
M. Augustin and A. Ogilvie. Methods of outcomes measurement in nail psoriasis. Dermatology 221 (Suppl 1):23-28, 2010. AUGUSTIN2010	Incorrect study type: Cross-sectional study
M. Augustin, K. Reich, G. Glaeske, I. Schaefer, and M. Radtke. Co-morbidity and age-related prevalence of psoriasis: Analysis of health insurance data in Germany. Acta Derm.Venereol. 90 (2):147-151, 2010. AUGUSTIN2010A	Incorrect study type: Cross-sectional study
M. Augustin, G. Glaeske, M. A. Radtke, E. Christophers, K. Reich, and I. Schafer. Epidemiology and comorbidity of psoriasis in children. Br.J.Dermatol. 162 (3):633-636, 2010. AUGUSTIN2010B	Incorrect study type: no control group Incorrect outcomes: prevalence data

Study excluded	Reason
R. S. Azfar and J. M. Gelfand. Psoriasis and metabolic disease: epidemiology and pathophysiology. [Review] [52 refs]. Current Opinion in Rheumatology 20 (4):416-422, 2008. AZFAR2008	Incorrect study type: Narrative review
P. L. Bailin, J. P. Tindall, H. H. Roenigk, Jr., and M. D. Hogan. Is methotrexate therapy for psoriasis carcinogenic? A modified retrospective-prospective analysis. J.Am.Med.Assoc. 232 (4):359-362, 1975. BAILIN1975	Incorrect study type and outcomes
A. Balci, D. D. Balci, Z. Yonden, I. Korkmaz, J. Z. Yenin, E. Celik, N. Okumus, and E. Egilmez. Increased amount of visceral fat in patients with psoriasis contributes to metabolic syndrome. Dermatology 220 (1):32-37, 2010. BALCI2010	Incorrect study type: Case control study
S. M. Bhate, G. R. Sharpe, J. M. Marks, S. Shuster, and W. M. Ross. Prevalence of skin and other cancers in patients with psoriasis. Clin.Exp.Dermatol. 18 (5):401-404, 1993. BHATE1993	Incorrect study type: Retrospective case-control study
S. Birkenfeld, J. Dreiher, D. Weitzman, and A. D. Cohen. Coeliac disease associated with psoriasis. Br.J.Dermatol. 161 (6):1331-1334, 2009. BIRKENFELD2009	Incorrect study type: Case control study Incorrect outcomes: prevalence data
W. H. Boehncke and S. Boehncke. Cardiovascular morbidity in psoriasis: Epidemiology, pathomechanisms, and clinical consequences. G.Ital.Dermatol.Venereol. 143 (5):307-313, 2008. BOEHNCKE2008	Incorrect outcomes: prevalence Narrative review
W.-H. Boehncke and W. Sterry. Psoriasis: a systemic inflammatory disorder. Clinic, pathogenesis and therapeutic perspectives: review article. JDDG - Journal of the German Society of Dermatology 7 (11):946-952, 2009. BOEHNCKE2009	Incorrect outcomes: prevalence Narrative review
W. H. Boehncke, S. Boehncke, A. M. Tobin, and B. Kirby. The 'psoriatic march': a concept of how severe psoriasis may drive cardiovascular comorbidity. Experimental Dermatology 20 (4):303-307, 2011. BOEHNCKE2011	Incorrect outcomes: prevalence Narrative review
S. Bremmer, A. S. Van Voorhees, S. Hsu, N. J. Korman, M. G. Lebwohl, M. Young, B. F. Bebo, Jr., A. Blauvelt, and National Psoriasis Foundation. Obesity and psoriasis: from the Medical Board of the National Psoriasis Foundation. [Review]. J.Am.Acad.Dermatol. 63 (6):1058-1069, 2010. BREMMER2010	Incorrect outcomes: prevalence systematic review of treatments
A. Campanati, O. Simonetti, B. Silvestri, B. Mannello, G. Ferretti, C. Bartocci, M. Montroni, and A. Offidani. Anticardiolipin antibodies expression in psoriasis. G.Ital.Dermatol.Venereol. 139 (3):165-170, 2004. CAMPANATI2004	Incorrect outcomes: lipid serum parameters
Y. T. Chang, T. J. Chen, P. C. Liu, Y. C. Chen, Y. J. Chen, Y. L. Huang, J. S. Jih, C. C. Chen, D. D. Lee, W. J. Wang, M. W. Lin, and H. N. Liu. Epidemiological study of psoriasis in the national health insurance database in Taiwan. Acta Derm.Venereol. 89 (3):262-266, 2009. CHANG2009	Incorrect study type: Cross-sectional study
J. C. Chaput, T. Poynard, S. Naveau, D. Penso, O. Durrmeyer, and D. Suplisson. Psoriasis, alcohol, and liver disease. BMJ 291 (6487):25, 1985. CHAPUT1985	Incorrect study type: Abstract
Y. J. Chen, C. Y. Wu, J. L. Shen, S. Y. Chu, C. K. Chen, Y. T. Chang, and C. M. Chen. Psoriasis independently associated with hyperleptinemia contributing to	Incorrect study type: Case-control study.

Study excluded	Reason
metabolic syndrome. Arch.Dermatol. 144 (12):1571-1575, 2008. CHEN2008	
Y. J. Chen, J. L. Shen, C. Y. Wu, Y. T. Chang, C. M. Chen, and F. Y. Lee. Elevated plasma osteopontin level is associated with occurrence of psoriasis and is an unfavorable cardiovascular risk factor in patients with psoriasis. J.Am.Acad.Dermatol. 60 (2):225-230, 2009. CHEN2009	Incorrect study type
Juan Cheng, Dayu Kuai, Li Zhang, Xueqin Yang, and Bing Qiu. Psoriasis increased the risk of diabetes: a meta-analysis. Arch Dermatol Res 304 (2):119-125, 2012. CHENG2010	Incorrect study type: meta-analysis of prevalence studies
E. Christophers. Psoriasis comorbidities reflect distinct mechanisms of disease. G.Ital.Dermatol.Venereol. 142 (5):513-518, 2007. CHRISTOPHER2007	Incorrect study type: Narrative review
E. Christophers. Comorbidities in psoriasis. Clinics in Dermatology 25 (6):529-534, 2007. CHRISTOPHER2007A	Incorrect study type: Narrative review
A. D. Cohen, H. Gilutz, Y. Henkin, D. Zahger, J. Shapiro, D. Y. Bonneh, and D. A. Vardy. Psoriasis and the metabolic syndrome. Acta Derm.Venereol. 87 (6):506-509, 2007. COHEN2007	Incorrect outcomes: prevalence not incidence
A. D. Cohen, Y. Shapiro, B. Davidovici, J. Meyerovitch, L. Vidavsky, D. A. Vardy, R. Shalev, A. Sikurel, and J. Dreiher. Psoriasis and ischemic heart disease: A case-control study. G.Ital.Dermatol.Venereol. 142 (4):299-302, 2007. COHEN2007A	Incorrect outcomes: prevalence not incidence
A. D. Cohen, J. Dreiher, Y. Shapiro, L. Vidavsky, D. A. Vardy, B. Davidovici, and J. Meyerovitch. Psoriasis and diabetes: a population-based cross-sectional study. J.Eur.Acad.Dermatol.Venereol. 22 (5):585-589, 2008. COHEN2008	Incorrect study type: Retrospective cross-sectional study
A. D. Cohen, M. Sherf, L. Vidavsky, D. A. Vardy, J. Shapiro, and J. Meyerovitch. Association between psoriasis and the metabolic syndrome. A cross-sectional study. Dermatology 216 (2):152-155, 2008. COHEN2008A	Incorrect study type: Retrospective case control study
A. D. Cohen, D. Weitzman, and J. Dreiher. Psoriasis and hypertension: a case-control study. Acta Derm.Venereol. 90 (1):23-26, 2010. COHEN2010	Incorrect outcomes: prevalence not incidence
E. Dommasch and J. M. Gelfand. Is there truly a risk of lymphoma from biologic therapies? Dermatol.Ther. 22 (5):418-430, 2009. DOMMASCH2009	Incorrect outcomes: Risk of lymphoma from biologic therapies.
J. Dreiher, D. Weitzman, B. Davidovici, J. Shapiro, and A. D. Cohen. Psoriasis and dyslipidaemia: a population-based study. Acta Derm.Venereol. 88 (6):561-565, 2008. DREIHER2008	Incorrect study type: Retrospective cross-sectional study.
R. J. Driessen, J. B. Boezeman, P. C. van de Kerkhof, and E. M. de Jong. Cardiovascular risk factors in high-need psoriasis patients and its implications for biological therapies. J.Dermatol.Treat. 20 (1):42-47, 2009. DRIESSEN2009A	Incorrect comparison group: other dermatological conditions
D. G. Federman, M. Shelling, S. Prodanovich, C. G. Gunderson, and R. S. Kirsner. Psoriasis: An opportunity to identify cardiovascular risk. Br.J.Dermatol. 160 (1):1-7, 2009.	Incorrect study type: Narrative review

Study excluded	Reason
FEDERMAN2009	
G. Girolomoni and A. Gottlieb. Focus on psoriatic arthritis and comorbidities. Expert Rev.Dermatol. 3 (4 SUPPL 1):S35-S36, 2008. GIROLOMONI2008	Incorrect study type: Narrative review
P. Gisondi, G. Tessari, A. Conti, S. Piaserico, S. Schianchi, A. Peserico, A. Giannetti, and G. Girolomoni. Prevalence of metabolic syndrome in patients with psoriasis: a hospital-based case-control study. Br.J.Dermatol. 157 (1):68-73, 2007. GISONDI2007	Incorrect study type: Case-control study
P. Gisondi, G. Targher, G. Zoppini, and G. Girolomoni. Non-alcoholic fatty liver disease in patients with chronic plaque psoriasis. J.Hepatol. 51 (4):758-764, 2009. GISONDI2009	Incorrect study type: Cross-sectional
D. D. Gladman, M. Ang, L. Su, B. D. Tom, C. T. Schentag, and V. T. Farewell. Cardiovascular morbidity in psoriatic arthritis. Ann.Rheum.Dis. 68 (7):1131-1135, 2009. GLADMAN2009A	Incorrect population: psoriatic arthritis.
A. B. Gottlieb, C. Chao, and F. Dann. Psoriasis comorbidities. J.Dermatol.Treat. 19 (1):5-21, 2008. GOTTLIEB2008A	Incorrect study type: Narrative review
W. Gulliver. Long-term prognosis in patients with psoriasis. Br.J.Dermatol. 159 (SUPPL.2):2-9, 2008. GULLIVER2008	Incorrect study type: Narrative review
M. A. Gupta and A. K. Gupta. Depression and suicidal ideation in dermatology patients with acne, alopecia areata, atopic dermatitis and psoriasis. Br.J.Dermatol. 139 (5):846-850, 1998. GUPTA1998	Incorrect comparison group: other dermatological conditions
M. A. Gupta and A. K. Gupta. Psychiatric and Psychological Co-Morbidity in Patients with Dermatologic Disorders: Epidemiology and Management. Am.J.Clin.Dermatol. 4 (12):833-842, 2003. GUPTA2003	Incorrect study type: Narrative review
K. M. Halprin, M. Comerford, and J. R. Taylor. Cancer in patients with psoriasis. J.Am.Acad.Dermatol. 7 (5):633-638, 1982. HALPRIN1982	Incorrect comparison group: diabetes
C. Han, J. H. Lofland, N. Zhao, and B. Schenkel. Increased prevalence of psychiatric disorders and health care-associated costs among patients with moderate-to-severe psoriasis. J.Drug.Dermatol. 10 (8):843-850, 2011. HAN2011	Incorrect study type: case-control prevalence study
M. D. Herron, M. Hinckley, M. S. Hoffman, J. Papenfuss, C. B. Hansen, K. P. Callis, and G. G. Krueger. Impact of obesity and smoking on psoriasis presentation and management. Arch.Dermatol. 141 (12):1527-1534, 2005. HERRON2005	Incorrect study type: Cross-sectional study
Y. H. Huang, L. C. Yang, R. Y. Hui, Y. C. Chang, Y. W. Yang, C. H. Yang, Y. H. Chen, W. H. Chung, Y. Z. Kuan, and C. S. Chiu. Relationships between obesity and the clinical severity of psoriasis in Taiwan. J.Eur.Acad.Dermatol.Venereol. 24 (9):1035-1039, 2010. HUANG2010	Incorrect study type: Cross-sectional study
R. L. Hui, W. Lide, J. Chan, J. Schottinger, M. Yoshinaga, and M. Millares. Association between exposure to topical tacrolimus or pimecrolimus and cancers. Annals of Pharmacotherapy 43 (12):1956-1963, 2009.	Incorrect population: atopic dermatitis or eczema.

Study excluded	Reason
HUI2009	
A. Inerot, C. Enerback, F. Enlund, T. Martinsson, L. Samuelsson, J. Wahlstrom, and G. Swanbeck. Collecting a set of psoriasis family material through a patient organization; clinical characterisation and presence of additional disorders. BMC Dermatology 5 , 2005. Article Number, 2005. INEROT2005	Incorrect study type: survey Incorrect prognostic factors: genetics
Z. Javidi, N. T. Meibodi, and Y. Nahidi. Serum lipids abnormalities and psoriasis. Indian J.Dermatol. 52 (2):89-92, 2007. JAVIDI2007	Incorrect study type: Case-control study
P. Jensen, C. Zachariae, P. R. Hansen, and L. Skov. Normal endothelial function in patients with mild-to-moderate psoriasis: A case-control study. Acta Derm.Venereol. 91 (5):516-520, 2011. JENSEN2011	Incorrect study type: case-control study
Y. Jin, F. Zhang, S. Yang, Y. Kong, F. Xiao, Y. Hou, X. Fan, and X. Zhang. Combined effects of HLA-Cw6, body mass index and waist-hip ratio on psoriasis vulgaris in Chinese Han population. J.Dermatol.Sci. 52 (2):123-129, 2008. JIN2008	Incorrect study type: case-control study.
R. S. Jyothi, K. S. Govindswamy, and K. Gurupadappa. Psoriasis: an oxidative stress condition. Journal of Clinical and Diagnostic Research 5 (2):252-253, 2011. JYOTHI2011	Incorrect outcomes: serum lipids, MDA, fasting blood glucose, AST and ALT levels and vitamin E.
S. Kaur, K. Zilmer, C. Kairane, M. Kals, and M. Zilmer. Clear differences in adiponectin level and glutathione redox status revealed in obese and normal-weight patients with psoriasis. Br.J.Dermatol. 159 (6):1364-1367, 2008. KAUR2008B	Incorrect outcomes: Plasma concentrations
A. B. Kimball, D. Robinson, Jr., Y. Wu, C. Guzzo, N. Yeilding, C. Paramore, K. Fraeman, and M. Bala. Cardiovascular disease and risk factors among psoriasis patients in two US healthcare databases, 2001-2002. Dermatology 217 (1):27-37, 2008. KIMBALL2008A	Incorrect study type: Cross-sectional, prevalence-based study.
A. B. Kimball, A. Guerin, D. Latremouille-Viau, A. P. Yu, S. Gupta, Y. Bao, and P. Mulani. Coronary heart disease and stroke risk in patients with psoriasis: retrospective analysis. Am.J.Med. 123 (4):350-357, 2010. KIMBALL2010	Incorrect study type: Retrospective analysis of 3 RCTs of treatments
C. Koebnick, M. H. Black, N. Smith, J. K. Der-Sarkissian, A. H. Porter, S. J. Jacobsen, and J. J. Wu. The association of psoriasis and elevated blood lipids in overweight and obese children. Journal of Pediatrics 159 (4):577-583, 2011. KOEBNICK2011	Incorrect study type: Cross-sectional
M. S. Krathen, A. B. Gottlieb, and P. J. Mease. Pharmacologic immunomodulation and cutaneous malignancy in rheumatoid arthritis, psoriasis, and psoriatic arthritis. [Review]. J.Rheumatol. 37 (11):2205-2215, 2010. KRATHEN2010	Incorrect study type: Treatment outcomes
H. M. Kremers, M. T. McEvoy, F. J. Dann, and S. E. Gabriel. Heart disease in psoriasis. J.Am.Acad.Dermatol. 57 (2):347-354, 2007. KREMERS2007	Incorrect study type: Narrative review
Sinead M. Langan, Nicole M. Seminara, Daniel B. Shin, Andrea B. Troxel, Stephen E. Kimmel, Nehal N. Mehta, David J. Margolis, and Joel M. Gelfand. Prevalence of Metabolic Syndrome in Patients with Psoriasis: A Population-Based Study in the United Kingdom. J.Invest.Dermatol., 2011. LANGAN2011	Incorrect study type: Cross-sectional study of prevalence

Study excluded	Reason
F. I. Lee, S. V. Bellary, and C. Francis. Increased occurrence of psoriasis in patients with Crohn's disease and their relatives. American Journal of Gastroenterology 85 (8):962-963, 1990. LEE1990	Incorrect study type
V. Leibovici, L. Canetti, S. Yahalomi, R. Cooper-Kazaz, O. Bonne, A. Ingber, and E. Bachar. Well being, psychopathology and coping strategies in psoriasis compared with atopic dermatitis: a controlled study. J.Eur.Acad.Dermatol.Venereol. 24 (8):897-903, 2010. LEIBOVICI2010	Incorrect comparison group: atopic dermatitis
B. Lindegard. Diseases associated with psoriasis in a general population of 159,200 middle-aged, urban, native Swedes. Dermatologica 172 (6):298-304, 1986. LINDEGARD1986	Incorrect study type: Prevalence
B. Lindelof, G. Eklund, S. Liden, and R. S. Stern. The prevalence of malignant tumors in patients with psoriasis. J.Am.Acad.Dermatol. 22 (6 Pt 1):1056-1060, 1990. LINDELOF1990	Incorrect study type: no comparator group
Thorvardur Jon Love, Abrar A. Qureshi, Elizabeth Wood Karlson, Joel M. Gelfand, and Hyon K. Choi. Prevalence of the metabolic syndrome in psoriasis: results from the National Health and Nutrition Examination Survey, 2003-2006. Arch.Dermatol. 147 (4):419-424, 2011. LOVE2011	Incorrect study type: Cross-sectional survey
M. Makredes, D. Robinson, Jr., M. Bala, and A. B. Kimball. The burden of autoimmune disease: a comparison of prevalence ratios in patients with psoriatic arthritis and psoriasis. J.Am.Acad.Dermatol. 61 (3):405-410, 2009. MAKREDES2009	Incorrect study type: Prevalence
L. Mallbris, C. T. Ritchlin, and M. Stahle. Metabolic disorders in patients with psoriasis and psoriatic arthritis. Curr.Rheumatol.Rep. 8 (5):355-363, 2006. MALLBRIS2006	Incorrect study type: Narrative review
L. Mallbris. Cardiovascular risk profile of patients with psoriasis. Forum for Nordic Dermato-Venerology 12 (1):14-17, 2007. MALLBRIS2007	Incorrect study type: Narrative review
D. J. Margolis, W. Bilker, S. Hennessy, C. Vittorio, J. Santanna, and B. L. Strom. The risk of malignancy associated with psoriasis. Arch.Dermatol. 137 (6):778-783, 2001. MARGOLIS2001	Incorrect comparison group: Hypertension
M. Mastrolonardo, A. Picardi, D. Alicino, A. Bellomo, and P. Pasquini. Cardiovascular reactivity to experimental stress in psoriasis: A controlled investigation. Acta Derm.Venereol. 86 (4):340-344, 2006. MASTROLONARDO2006	Incorrect study type: Psychophysiological study
A. Mebazaa, Asmi M. El, W. Zidi, Y. Zayani, Rouhou R. Cheikh, Ounifi S. El, F. Kanoun, M. Mokni, A. B. Osman, M. Feki, H. Slimane, and N. Kaabachi. Metabolic syndrome in Tunisian psoriatic patients: prevalence and determinants. J.Eur.Acad.Dermatol.Venereol. 25 (6):705-709, 2011. MEBAZAA2011	Incorrect study type: Case-control study
A. Menter, K. Reich, A. B. Gottlieb, M. Bala, S. Li, M. C. Hsu, C. Guzzo, J. Diels, and J. M. Gelfand. Adverse drug events in infliximab-treated patients compared with the general and psoriasis populations. J.Drug.Dermatol. 7 (12):1137-1146, 2008. MENTER2008B	Incorrect study type: Treatment outcomes
A. Menter, C. E. Griffiths, P. W. Tebbey, E. J. Horn, W. Sterry, and Psoriasis	Incorrect study type:

Study excluded	Reason
Council International. Exploring the association between cardiovascular and other disease-related risk factors in the psoriasis population: the need for increased understanding across the medical community. [Review]. J.Eur.Acad.Dermatol.Venereol. 24 (12):1371-1377, 2010. MENTER2010	Narrative review
L. Miele, S. Vallone, C. Cefalo, G. La Torre, C. Di Stasi, F. M. Vecchio, M. D'Agostino, M. L. Gabrieli, V. Vero, M. Biolato, M. Pompili, G. Gasbarrini, G. Rapaccini, P. Amerio, C. De Simone, and A. Grieco. Prevalence, characteristics and severity of non-alcoholic fatty liver disease in patients with chronic plaque psoriasis. J.Hepatol. 51 (4):778-786, 2009. MIELE2009	Incorrect study type: Cross-sectional
N. Mohar and F. Gruber. Skin cancer in psoriasis - clinical and statistic observations. Acta Derm.Venereol. 64 (SUPPL. 113):123-126, 1984. MOHAR1984	Incorrect comparison group: skin cancer
H. Montaudie, E. Sbidian, C. Paul, A. Maza, A. Gallini, S. Aractingi, F. Aubin, H. Bachelez, B. Cribier, P. Joly, D. Jullien, Maitre M. Le, L. Misery, M. A. Richard, and J. P. Ortonne. Methotrexate in psoriasis: a systematic review of treatment modalities, incidence, risk factors and monitoring of liver toxicity. J.Eur.Acad.Dermatol.Venereol. 25 Suppl 2:12-18, 2011. MONTAUDIE2011	Incorrect study type: systematic review of treatments
U. Mrowietz, J. T. Elder, and J. Barker. The importance of disease associations and concomitant therapy for the long-term management of psoriasis patients. Arch Dermatol Res 298 (7):309-319, 2006. MROWIETZ2006	Incorrect study type: Symposium proceedings.
A. L. Neimann, D. B. Shin, X. Wang, D. J. Margolis, A. B. Troxel, and J. M. Gelfand. Prevalence of cardiovascular risk factors in patients with psoriasis. J.Am.Acad.Dermatol. 55 (5):829-835, 2006. NEIMANN2006	Incorrect study type: Cross-sectional study of prevalence
N. Nisa and M. Qazi. Prevalence of metabolic syndrome in patients with psoriasis. Indian J.Dermatol.Venereol.Leprol. 76 (6):662-665, 2010. NISA2010	Incorrect study type: Case-control study
R. V. Patel, M. L. Shelling, S. Prodanovich, D. G. Federman, and R. S. Kirsner. Psoriasis and vascular disease-risk factors and outcomes: A systematic review of the literature. Journal of General Internal Medicine 26 (9):1036-1049, 2011. PATEL2011	Systematic review – relevant studies included
C. F. Paul, V. C. Ho, C. McGeown, E. Christophers, B. Schmidtmann, J. C. Guillaume, V. Lamarque, and L. Dubertret. Risk of malignancies in psoriasis patients treated with cyclosporine: a 5 y cohort study. J.Invest.Dermatol. 120 (2):211-216, 2003. PAUL2003	Incorrect population: all ciclosporin treated – not representative of all people with psoriasis
D. J. Pearce, A. E. Morrison, K. B. Higgins, M. M. Crane, R. Balkrishnan, A. B. Fleischer, Jr., and S. R. Feldman. The comorbid state of psoriasis patients in a university dermatology practice. J.Dermatol.Treat. 16 (5-6):319-323, 2005. PEARCE2005	Incorrect study type: Retrospective chart review.
A. Peserico, G. Zanetti, S. Padovan, P. Bertoli, C. V. Fornasa, R. Cipriani, G. B. Ambrosio, S. Zamboni, and A. Pagnan. Relationship between body weight and blood pressure and some metabolic parameters in psoriatic patients. Br.J.Dermatol. 118 (2):191-194, 1988. PESERICO1988	Incorrect outcomes: Metabolic parameters and blood pressure
A. Picardi, E. Mazzotti, and P. Pasquini. Prevalence and correlates of suicidal ideation among patients with skin disease. J.Am.Acad.Dermatol. 54 (3):420-	Incorrect population: Skin disease not specifically

Study excluded	Reason
426, 2006. PICARDI2006	psoriasis
A. Pietrzak and B. Lecewicz-Torun. Activity of serum lipase [EC 3.1.1.3] and the diversity of serum lipid profile in psoriasis. Medical Science Monitor 8 (1):CR9-CR13, 2002. PIETRZAK2002	Incorrect outcomes: lipid serum parameters
A. Pietrzak, K. Janowski, J. Lopatynski, G. Chodorowska, A. Ignatowicz, S. Steuden, A. Witczak, D. Krasowska, and T. M. Lotti. Psoriasis and heart. Something new under the sun. G.Ital.Dermatol.Venereol. 141 (5):457-463, 2006. PIETRZAK2006	Incorrect study type: Narrative review
A. Pietrzak, I. Jastrzebska, D. Krasowska, G. Chodorowska, J. Tabarkiewicz, K. Tomasiewicz, J. Urban, J. Chojnacka, J. Piskorz, and J. Rolinski. Serum pancreatic lipase [EC 3.1.1.3] activity, serum lipid profile and peripheral blood dendritic cell populations in normolipidemic males with psoriasis. Journal of Molecular Catalysis B: Enzymatic 40 (3-4):144-154, 2006. PIETRZAK2006A	Incorrect outcomes: Serum lipid profiles
A. Pietrzak, J. Kadzielewski, K. Janowski, J. Rolinski, D. Krasowska, G. Chodorowska, T. Paszkowski, E. Kapec, I. Jastrzbska, J. Tabarkiewicz, and T. Lotti. Lipoprotein (a) in patients with psoriasis: associations with lipid profiles and disease severity. Int.J.Dermatol. 48 (4):379-387, 2009. PIETRZAK2009	Incorrect outcomes: Lipid profiles.
S. Piskin, F. Gurkok, G. Ekuklu, and M. Senol. Serum lipid levels in psoriasis. Yonsei Medical Journal 44 (1):24-26, 2003. PISKIN2003A	Incorrect outcomes: Serum lipid levels.
S. Prodanovich, R. S. Kirsner, J. D. Kravetz, F. Ma, L. Martinez, and D. G. Federman. Association of psoriasis with coronary artery, cerebrovascular, and peripheral vascular diseases and mortality. Arch.Dermatol. 145 (6):700-703, 2009. PRODANOVICH2009	Incorrect study type: Cross-sectional study
S. V. Ramagopalan, C. J. Wotton, A. E. Handel, D. Yeates, and M. J. Goldacre. Risk of venous thromboembolism in people admitted to hospital with selected immune-mediated diseases: record-linkage study. BMC Medicine 9:1, 2011. RAMAGOPALAN2011	Incorrect study type: Cross-sectional study
K. Reich, R. G. Langley, M. Lebwohl, P. Szapary, C. Guzzo, N. Yeilding, S. Li, M. C. Hsu, and C. E. Griffiths. Cardiovascular safety of ustekinumab in patients with moderate to severe psoriasis: results of integrated analyses of data from phase II and III clinical studies. Br.J.Dermatol. 164 (4):862-872, 2011. REICH2011	Incorrect study type: Cross-sectional study Treatment outcomes (ustekinumab)
D. Robinson, Jr., M. Hackett, J. Wong, A. B. Kimball, R. Cohen, M. Bala, and IMID Study Group. Co-occurrence and comorbidities in patients with immune-mediated inflammatory disorders: an exploration using US healthcare claims data, 2001-2002. Curr.Med.Res.Opin. 22 (5):989-1000, 2006. ROBINSON2006	Incorrect study type: Cross-sectional study Cross-sectional study
P. Rocha-Pereira, A. Santos-Silva, I. Rebelo, A. Figueiredo, A. Quintanilha, and F. Teixeira. Dislipidemia and oxidative stress in mild and in severe psoriasis as a risk for cardiovascular disease. Clin.Chim.Acta 303 (1-2):33-39, 2001. ROCHAPEREIRA2001	Incorrect study type: Case-control study
P. A. J. Russo, R. Ilchef, and A. Cooper. Psychiatric morbidity in psoriasis: A review. Australas.J.Dermatol. 45 (3):155-160, 2004. RUSSO2004	Incorrect study type: Narrative review

Study excluded	Reason
C. Ryan, C. L. Leonardi, J. G. Krueger, A. B. Kimball, B. E. Strober, K. B. Gordon, R. G. Langley, J. A. De Lemos, Y. Daoud, D. Blankenship, S. Kazi, D. H. Kaplan, V. E. Friedewald, and A. Menter. Association between biologic therapies for chronic plaque psoriasis and cardiovascular events: A meta-analysis of randomized controlled trials. JAMA 306 (8):864-871, 2011. RYAN2011	Incorrect comparison
J. Schmitt and D. E. Ford. Psoriasis is independently associated with psychiatric morbidity and adverse cardiovascular risk factors, but not with cardiovascular events in a population-based sample. J.Eur.Acad.Dermatol.Venereol. 24 (8):885-892, 2010. SCHMITT2010	Incorrect outcomes: prevalence not incidence
D. Seckin, L. Tokgozoglu, and S. Akkaya. Are lipoprotein profile and lipoprotein (a) levels altered in men with psoriasis? J.Am.Acad.Dermatol. 31 (3 Pt 1):445-449, 1994. SECKIN1994	Incorrect outcomes: Lipoprotein profile and levels.
N. M. Seminara, R. S. Azfar, D. B. Shin, A. B. Troxel, D. J. Margolis, and J. M. Gelfand. Patients with psoriasis are at an increased risk of diabetes - A population based study. J.Invest.Dermatol. 131:S35, 2011. SEMINARA2011	Incorrect study type: Abstract only
J. Shapiro, A. D. Cohen, M. David, E. Hodak, G. Chodik, A. Viner, E. Kremer, and A. Heymann. The association between psoriasis, diabetes mellitus, and atherosclerosis in Israel: a case-control study. J.Am.Acad.Dermatol. 56 (4):629-634, 2007. SHAPIRO2007	Incorrect outcomes: prevalence not incidence
K. E. Smedby, H. Hjalgrim, J. Askling, E. T. Chang, H. Gregersen, A. Porwit-MacDonald, C. Sundstrom, M. Akerman, M. Melbye, B. Glimelius, and H. O. Adami. Autoimmune and chronic inflammatory disorders and risk of non-Hodgkin lymphoma by subtype. J.Natl.Cancer Inst. 98 (1):51-60, 2006. SMEDBY2006	Incorrect population: autoimmune and chronic inflammatory disorders
K. E. Smedby, C. M. Vajdic, M. Falster, E. A. Engels, O. Martinez-Maza, J. Turner, H. Hjalgrim, P. Vineis, Costantini A. Seniori, P. M. Bracci, E. A. Holly, E. Willett, J. J. Spinelli, Vecchia C. La, T. Zheng, N. Becker, Sanjose S. De, B. C. Chiu, Maso L. Dal, P. Cocco, M. Maynadie, L. Foretova, A. Staines, P. Brennan, S. Davis, R. Severson, J. R. Cerhan, E. C. Breen, B. Birmann, A. E. Grulich, and W. Cozen. Autoimmune disorders and risk of non-Hodgkin lymphoma subtypes: a pooled analysis within the InterLymph Consortium. Blood 111 (8):4029-4038, 2008. SMEDBY2008	Incorrect study type: Pooled analysis of 12 case-control studies
D. H. Solomon, T. J. Love, C. Canning, and S. Schneeweiss. Risk of diabetes among patients with rheumatoid arthritis, psoriatic arthritis and psoriasis. Ann.Rheum.Dis. 69 (12):2114-2117, 2010. SOLOMON2010	Incorrect population: risk in rheumatology patients
D. M. Sommer, S. Jenisch, M. Suchan, E. Christophers, and M. Weichenthal. Increased prevalence of the metabolic syndrome in patients with moderate to severe psoriasis. Arch Dermatol Res 298 (7):321-328, 2006. SOMMER2006	Incorrect study type: Cross-sectional study
R. S. Stern and R. Lange. Cardiovascular disease, cancer, and cause of death in patients with psoriasis: 10 years prospective experience in a cohort of 1,380 patients. J.Invest.Dermatol. 91 (3):197-201, 1988. STERN1988A	Incorrect population: all PUVA treated – not representative of all people with psoriasis
R. S. Stern, E. Fitzgerald, C. N. Ellis, N. Lowe, M. T. Goldfarb, and R. D. Baughman. The safety of etretinate as long-term therapy for psoriasis: results of the etretinate follow-up study. J.Am.Acad.Dermatol. 33 (1):44-52, 1995.	Incorrect population: all etretinate treated – not representative of all

Study excluded	Reason
STERN1995	people with psoriasis
R. S. Stern and L. H. Vakeva. Noncutaneous malignant tumors in the PUVA follow-up study: 1975-1996. J.Invest.Dermatol. 108 (6):897-900, 1997. STERN1997A	Incorrect population: all PUVA treated – not representative of all people with psoriasis
R. S. Stern and A. Huibregtse. Very severe psoriasis is associated with increased noncardiovascular mortality but not with increased cardiovascular risk. J.Invest.Dermatol. 131 (5):1159-1166, 2011. STERN2011	Incorrect population: all PUVA treated – not representative of all people with psoriasis
J. C. Szepietowski, A. Pietrzak, A. Michalak-Stoma, and G. Chodorowska. Lipid disturbances in psoriasis: an update. Mediat.Inflamm. 2010, 2010. SZEPIETOWSKI2010	Incorrect study type: Narrative review
L. S. Tam, B. Tomlinson, T. T. Chu, M. Li, Y. Y. Leung, L. W. Kwok, T. K. Li, T. Yu, Y. E. Zhu, K. C. Wong, E. W. Kun, and E. K. Li. Cardiovascular risk profile of patients with psoriatic arthritis compared to controls--the role of inflammation. Rheumatology 47 (5):718-723, 2008. TAM2008	Incorrect study type: Cross-sectional study
A. Tavani, Vecchia C. La, S. Franceschi, D. Serraino, and A. Carbone. Medical history and risk of Hodgkin's and non-Hodgkin's lymphomas. European Journal of Cancer Prevention 9 (1):59-64, 2000. TAVANI2000	Incorrect study type: Case-control study
A. M. Tobin, D. J. Veale, O. Fitzgerald, S. Rogers, P. Collins, D. O'Shea, and B. Kirby. Cardiovascular disease and risk factors in patients with psoriasis and psoriatic arthritis. [Review]. J.Rheumatol. 37 (7):1386-1394, 2010. TOBIN2011	Incorrect study type: Case control study
T.-F. Tsai, T.-S. Wang, S.-T. Hung, P. I. C. Tsai, B. Schenkel, M. Zhang, and C.-H. Tang. Epidemiology and comorbidities of psoriasis patients in a national database in Taiwan. J.Dermatol.Sci. 63 (1):40-46, 2011. TSAI2011	Incorrect study type: Cross-sectional study
T. F. Tsai, J. C. Ho, M. Song, P. Szapary, C. Guzzo, Y. K. Shen, S. Li, K. J. Kim, T. Y. Kim, J. H. Choi, and J. I. Youn. Efficacy and safety of ustekinumab for the treatment of moderate-to-severe psoriasis: A phase III, randomized, placebo-controlled trial in Taiwanese and Korean patients (PEARL). J.Dermatol.Sci. 63 (3):154-163, 2011. TSAI2011A	Incorrect study type: prevalence
L. Vakeva, S. Reitamo, E. Pukkala, S. Sarna, and A. Ranki. Long-term follow-up of cancer risk in patients treated with short-term cyclosporine. Acta Derm.Venereol. 88 (2):117-120, 2008. VAKEVA2008	Incorrect study type: Treatment outcomes
Kural B. Vanizor, A. Orem, G. U. Cimsit, Y. E. Yandi, and M. Calapoglu. Evaluation of the atherogenic tendency of lipids and lipoprotein content and their relationships with oxidant-antioxidant system in patients with psoriasis. Clin.Chim.Acta 328 (1-2):71-82, 2003. VANIZOR2003	Incorrect outcomes: lipid and lipoprotein content
G. A. Vena, G. Altomare, F. Ayala, E. Berardesca, P. Calzavara-Pinton, S. Chimenti, A. Giannetti, G. Girolomoni, T. Lotti, P. Martini, G. Mazzaglia, A. Peserico, Guerra A. Puglisi, G. Sini, N. Cassano, and C. Cricelli. Incidence of psoriasis and association with comorbidities in Italy: a 5-year observational study from a national primary care database. Eur.J.Dermatol. 20 (5):593-598, 2010. VENA2010	Incorrect study type: Cross-sectional study

Study excluded	Reason
E. M. Volf, D. E. Levine, M. A. Michelon, S. C. Au, E. Patvardhan, N. Dumont, D. S. Loo, J. Kuvin, and A. B. Gottlieb. Assessor-blinded study of the metabolic syndrome and surrogate markers of increased cardiovascular risk in children with moderate-to-severe psoriasis compared with age-matched population of children with warts. J.Drug.Dermatol. 10 (8):900-901, 2011. VOLF2011	Incorrect control group
C. Warnecke, I. Manousaridis, R. Herr, D. D. Terris, M. Goebeler, S. Goerdt, and W. K. Peitsch. Cardiovascular and metabolic risk profile in german patients with moderate and severe psoriasis: A case control study. Eur.J.Dermatol. 21 (5):761-770, 2011. WARNECKE2011	Incorrect study type: Case-control study
Y. Wu, S. Li, Y. Wang, and N. Yeilding. Prevalence of cardiovascular risk factors and other comorbidities among psoriasis patients Abstract P2769. American Academy of Dermatology 65th Annual Meeting February 2-6, 2007. J.Am.Acad.Dermatol. 56 (2):AB191, 2007. WU2007	Incorrect study type: Abstract
Y. Wu, D. Mills, and M. Bala. Psoriasis: cardiovascular risk factors and other disease comorbidities. J.Drug.Dermatol. 7 (4):373-377, 2008. WU2008	Incorrect study type: Case-control study
J. Xiao, L. H. Chen, Y. T. Tu, X. H. Deng, and J. Tao. Prevalence of myocardial infarction in patients with psoriasis in central China. J.Eur.Acad.Dermatol.Venereol. 23 (11):1311-1315, 2009. XIAO2009	Incorrect study type: Cross-sectional prevalence study
C. Zhang, K. J. Zhu, H. F. Zheng, Y. Cui, F. S. Zhou, Y. L. Chen, X. F. Tang, M. Li, F. Y. Zhang, X. Fan, X. B. Zuo, S. Yang, L. D. Sun, and X. J. Zhang. The effect of overweight and obesity on psoriasis patients in Chinese Han population: a hospital-based study. J.Eur.Acad.Dermatol.Venereol. 25 (1):87-91, 2011. ZHANG2011	Incorrect study type: Case-control study

F.1.5 Phototherapy, systemic therapy, tar and skin cancer risk

In people with psoriasis (all types) who have been exposed to coal tar, phototherapy (BBUVB, NBUVB and PUVA), systemic therapy or biologic therapy, what is the risk of skin cancer compared with people not exposed to these interventions and which individuals are at particular risk?

Excluded n = 108

Study excluded	Reason
Anonymous. British National Formulary, London:BMJ Group Pharmaceutical Press, 2010. ABDULLAHI1989	Incorrect population: 45% psoriasis
E. A. Abel. PUVA carcinogenesis. West.J.Med. 134 (1):50-51, 1981. ABEL1981	Incorrect publication type: commentary
P. E. Andrews, G. M. Farrow, and J. E. Oesterling. Squamous cell carcinoma of the scrotum: long-term followup of 14 patients. J.Urol. 146 (5):1299-1304, 1991. ANDREWS1991	Incorrect population No control/comparison group
R. Angele, B. Schneider, and E. G. Jung. PUVA therapy does not modify arsenic carcinogenesis in psoriatics. Dermatologica 166 (3):141-145, 1983. ANGELE1983	No control/comparison group

Study excluded	Reason
F. Arellano. Risk of cancer with cyclosporine in psoriasis. Int.J.Dermatol. 36 (Suppl 1):15-17, 1997. ARELLANO1997	Insufficient follow-up <12 mo
F. Aubin, E. Puzenat, P. Arveux, P. Louvat, E. Quencez, and P. Humbert. Genital squamous cell carcinoma in men treated by photochemotherapy. A cancer registry-based study from 1978 to 1998. Br.J.Dermatol. 144 (6):1204-1206, 2001. AUBIN2001	Incorrect population: not psoriasis specific
P. L. Bailin, J. P. Tindall, H. H. Roenigk, Jr., and M. D. Hogan. Is methotrexate therapy for psoriasis carcinogenic? A modified retrospective-prospective analysis. J.Am.Med.Assoc. 232 (4):359-362, 1975. BAILIN1975	Incorrect outcomes: not skin cancer
C. D. Bajdik, R. P. Gallagher, G. Astrakianakis, G. B. Hill, S. Fincham, and D. I. McLean. Non-solar ultraviolet radiation and the risk of basal and squamous cell skin cancer. Br J Cancer. 73(12): 1612–1614, 1996. BAJDIK1996	Incorrect population
E. L. Baker, C. I. Coleman, K. M. Reinhart, O. J. Phung, A. Ashaye, L. Kugelman, W. T. Chen, White C. Michael, J. Mather, C. M. Mamolo, J. C. Cappelleri, and Jr Baker. Safety of biologic treatments for moderate to severe plaque psoriasis: A systematic review, basic meta-analysis, and Bayesian mixed treatment comparison. Pharmacotherapy 31 (10):327e-328e, 2011. BAKER2011	Incorrect study type: Abstract only
S. M. Behnam, S. E. Behnam, and J. Y. Koo. Review of cyclosporine immunosuppressive safety data in dermatology patients after two decades of use. Journal of drugs in dermatology : JDD 4 (2):189-194, 2005. BEHNAM2005	Narrative review - all relevant articles ordered
M. A. M. Berends, R. J. B. Driessen, A. M. G. Langewouters, J. B. Boezeman, P. C. M. Van de Kerkhof, and E. M. G. J. De Jong. Etanercept and efalizumab treatment for high-need psoriasis. Effects and side effects in a prospective cohort study in outpatient clinical practice. J.Dermatol.Treat. 18 (2):76-83, 2007. BERENDS2007	Insufficient follow-up No adjustment for confounders
B. Berne, T. Fischer, G. Michaelsson, and P. Noren. Long-term safety of trioxsalen bath PUVA treatment: An 8-year follow-up of 149 psoriasis patients. Photodermatology 1 (1):18-22, 1984. BERNE1984	Retrospective No control/comparison group
S. M. Bhate, G. R. Sharpe, J. M. Marks, S. Shuster, and W. M. Ross. Prevalence of skin and other cancers in patients with psoriasis. Clin.Exp.Dermatol. 18 (5):401-404, 1993. BHATE1993	No control/comparison group
R. Bissonnette, V. Ho, and R. G. Langley. Safety of conventional systemic agents and biologic agents in the treatment of psoriasis. J.Cutan.Med.Surg. 13 (SUPPL. 2):S67-S76, 2009. BISSONNETTE2009A	Narrative review: all relevant studies ordered
J. D. Brewer, A. R. Hoverson Schott, and R. K. Roenigk. Multiple squamous cell carcinomas in the setting of psoriasis treated with etanercept: a report of four cases and review of the literature. Int.J.Dermatol. 50 (12):1555-1559, 2011. BREWER2011	Incorrect study type: retrospective case report
B. A. Bridges, M. Greaves, P. E. Polani, and N. Wald. Do treatments available for psoriasis patients carry a genetic or carcinogenic risk? Mutat.Res. 86 (3):279-304, 1981.	Narrative review: all relevant studies ordered

Study excluded	Reason
BRIDGES1981	
A. M. Brunasso, M. Puntoni, C. Salvini, C. Delfino, P. Curcic, A. Gulia, and C. Massone. Tolerability and safety of biological therapies for psoriasis in daily clinical practice: a study of 103 Italian patients. Acta Derm.Venereol. 91 (1):44-49, 2011. BRUNASSO2011	Not adjusted and insufficient reporting
I. Bruynzeel, W. Bergman, H. M. Hartevelt, C. C. A. Kenter, E. A. Van de Velde, A. A. Schothorst, and D. Suurmond. 'High single-dose' European PUVA regimen also causes an excess of non-melanoma skin cancer. Br.J.Dermatol. 124 (1):49-55, 1991. BRUYNZEEL1991	Incorrect outcomes
G. R. Burmester, P. Mease, B. A. C. Dijkmans, K. Gordon, D. Lovell, R. Panaccione, J. Perez, and A. L. Pangan. Adalimumab safety and mortality rates from global clinical trials of six immune-mediated inflammatory diseases. Ann.Rheum.Dis. 68 (12):1863-1869, 2009. BURMESTER2009	Narrative review - all relevant articles ordered
Y. J. Chen, C. Y. Wu, T. J. Chen, J. L. Shen, S. Y. Chu, C. B. Wang, and Y. T. Chang. The risk of cancer in patients with psoriasis: A population-based cohort study in Taiwan. J.Am.Acad.Dermatol. 65 (1):84-91, 2011. CHEN2011	Incorrect outcomes: any malignancy
T. Y. Chuang, J. Tse, and D. J. Cripps. A preliminary study on the link between PUVA and skin cancer. Int.J.Dermatol. 28 (7):438-440, 1989. CHUANG1989	Retrospective Sample size too small
T. Y. Chuang, L. A. Heinrich, M. D. Schultz, G. T. Reizner, R. C. Kumm, and D. J. Cripps. PUVA and skin cancer. A historical cohort study on 492 patients. J.Am.Acad.Dermatol. 26 (2 Pt 1):173-177, 1992. CHUANG1992	Retrospective Sample size too small
S. E. Cockayne and P. J. August. PUVA photocarcinogenesis in Cheshire. Clin.Exp.Dermatol. 22 (6):300-301, 1997. COCKAYNE1997	Retrospective Sample size too small
N. H. Cox, S. K. Jones, and D. J. Downey. Cutaneous and ocular side-effects of oral photochemotherapy: Results of an 8-year follow-up study. Br.J.Dermatol. 116 (2):145-152, 1987. COX1987	Incorrect control group No adjustment for confounders
P. Diak, J. Siegel, Grenade L. La, L. Choi, S. Lemery, and A. McMahon. Tumor necrosis factor alpha blockers and malignancy in children: Forty-eight cases reported to the food and drug administration. Arthritis and Rheumatism 62 (8):2517-2524, 2010. DIAK2010	Incorrect population: not psoriasis
E. Dommasch and J. M. Gelfand. Is there truly a risk of lymphoma from biologic therapies? Dermatol.Ther. 22 (5):418-430, 2009. DOMMASCH2009	Incorrect outcomes: not skin cancer
E. D. Dommasch, K. Abuabara, D. B. Shin, J. Nguyen, A. B. Troxel, and J. M. Gelfand. The risk of infection and malignancy with tumor necrosis factor antagonists in adults with psoriatic disease: A systematic review and meta-analysis of randomized controlled trials. J.Am.Acad.Dermatol. 64 (6):1035-1050, 2011. DOMMASCH2011	Insufficient follow-up: <1-yr
R. J. B. Driessen, J. B. Boezeman, P. C. M. Van de Kerkhof, and E. M. G. J. De Jong. Three-year registry data on biological treatment for psoriasis: The influence of patient characteristics on treatment outcome. Br.J.Dermatol. 160	No control/comparison group

Study excluded	Reason
(3):670-675, 2009. DRIESSEN2009	
J. M. Elwood, R. P. Gallagher, and P. J. Stapleton. No association between malignant melanoma and acne or psoriasis: results from the Western Canada Melanoma Study. Br.J.Dermatol. 115 (5):573-576, 1986. ELWOOD1986	Incorrect interventions
A. Eskelinen, K. Halme, A. Lassus, and J. Idanpaan-Heikkila. Risk of cutaneous carcinoma in psoriatic patients treated with PUVA. Photodermatology 2 (1):10-14, 1985. ESKELINEN1985	Insufficient reporting and inappropriate analysis
E. M. Farber and L. Nall. Psoriasis and ultraviolet radiation. Cutis 52 (3):145-152, 1993. FARBER1993	Narrative review - no relevant articles
T. K. Fitzpatrick and T. B. Momtaz. The benefits and risks of long-term puva photochemotherapy. Dermatol.Clin. 16 (2):227-234, 1998. FITZPATRICK1998	Narrative review - all relevant articles ordered
A. B. Forman, Jr Roenigk, W. A. Caro, and M. L. Magid. Long-term follow-up of skin cancer in the PUVA-48 cooperative study. Arch.Dermatol. 125 (4):515-519, 1989. FORMAN1989	Retrospective
M. Garcia-Bustinduy, M. Escoda, F. J. Guimera, M. Saez, S. Dorta, E. Fagundo, R. Sanchez-Gonzalez, A. Noda-Cabrera, and R. Garcia-Montelongo. Safety of long-term treatment with cyclosporin A in resistant chronic plaque psoriasis: a retrospective case series. J.Eur.Acad.Dermatol.Venereol. 18 (2):169-172, 2004. GARCIABUSTINDUY2004	Retrospective No control/comparison group
J. M. Gelfand, J. Berlin, Voorhees A. Van, and D. J. Margolis. Lymphoma Rates Are Low but Increased in Patients with Psoriasis: Results from a Population-Based Cohort Study in the United Kingdom. Arch.Dermatol. 139 (11):1425-1429, 2003. GELFAND2003	Incorrect outcomes: not skin cancer
M. J. Goldoft and N. S. Weiss. Incidence of male genital skin tumors: Lack of increase in the United States. Cancer Causes Control 3 (1):91-93, 1992. GOLDOFT1992	Incorrect population
A. B. Gottlieb, C. Chao, and F. Dann. Psoriasis comorbidities. J.Dermatol.Treat. 19 (1):5-21, 2008. GOTTLIEB2008A	Narrative review: not stratified by treatments
Alice B. Gottlieb, Kenneth Gordon, Edward H. Giannini, Philip Mease, Juan Li, Yun Chon, Judy Maddox, Haoling H. Weng, Joseph Wajdula, Shao Lee Lin, and Scott W. Baumgartner. Clinical trial safety and mortality analyses in patients receiving etanercept across approved indications. J.Drug.Dermatol. 10 (3):289-300, 2011. GOTTLIEB2011	Insufficient follow-up and reporting
C. E. Griffiths, B. E. Strober, P. C. van de Kerkhof, V. Ho, R. Fidelus-Gort, N. Yeilding, C. Guzzo, Y. Xia, B. Zhou, S. Li, L. T. Dooley, N. H. Goldstein, and A. Menter. Comparison of ustekinumab and etanercept for moderate-to-severe psoriasis. New Engl.J.Med. 362 (2):118-128, 2010. GRIFFITHS2010	No comparative data for data >1yr
P. Gritiyarangsan, J. Sindhavananda, P. Rungrairatanaroj, and P. Kullavanijaya. Cutaneous carcinoma and PUVA lentigines in Thai patients treated with oral PUVA. Photodermatology Photoimmunology and Photomedicine 11 (4):174-177, 1995.	Retrospective No control/comparison group Insufficient reporting

Study excluded	Reason
GRITTYARANGSANI1995	and no adjustment for confounders
K. M. Halprin. Psoriasis, skin cancer, and PUVA. J.Am.Acad.Dermatol. 2 (4):334-339, 1980. HALPRIN1980	Incorrect study type: comment
K. M. Halprin, M. Comerford, and J. R. Taylor. Cancer in patients with psoriasis. J.Am.Acad.Dermatol. 7 (5):633-638, 1982. HALPRIN1982	Incorrect comparison
A. Hannuksela, E. Pukkala, M. Hannuksela, and J. Karvonen. Cancer incidence among Finnish patients with psoriasis treated with trioxsalen bath PUVA. J.Am.Acad.Dermatol. 35 (5 I):685-689, 1996. HANNUKSELA1996	Retrospective Sample size too small
A. Hannuksela-Svahn, E. Pukkala, L. Koulu, C. T. Jansen, and J. Karvonen. Cancer incidence among Finnish psoriasis patients treated with 8- methoxypsoralen bath PUVA. J.Am.Acad.Dermatol. 40 (5 I):694-696, 1999. HANNUKSELASVAHN1999A	Only one case observed
A. Hannuksela-Svahn, E. Pukkala, E. Laara, K. Poikolainen, and J. Karvonen. Psoriasis, its treatment, and cancer in a cohort of Finnish patients. J.Invest.Dermatol. 114 (3):587-590, 2000. HANNUKSELASVAHN2000	Retrospective case control
C. C. Harris. Malignancy during methotrexate and steroid therapy for psoriasis. Arch.Dermatol. 103 (5):501-504, 1971. HARRIS1971	Case report
T. Henseler and E. Christophers. Risk of skin tumors in psoralen- and ultraviolet A-treated patients. Natl.Cancer Inst.Monogr. 66:217-219, 1984. HENSLER1984	Retrospective Incorrect comparison and insufficient reporting
T. Henseler, E. Christophers, and H. Honigsmann. Skin tumors in the European PUVA Study. Eight-year follow-up of 1,643 patients treated with PUVA for psoriasis. J.Am.Acad.Dermatol. 16 (1 PART I):108-116, 1987. HENSLER1987	No control/comparison group and no adjustment for confounders
H. Honigsmann, K. Wolff, and F. Gschnait. Keratoses and nonmelanoma skin tumors in long-term photochemotherapy (PUVA). J.Am.Acad.Dermatol. 3 (4):406-414, 1980. HONIGSMANN1980	Incorrect outcomes
S. J. Jo, H. H. Kwon, M. R. Choi, and J. I. Youn. No evidence for increased skin cancer risk in Koreans with skin phototypes III-V treated with narrowband UVB phototherapy. Acta Derm.Venereol. 91 (1):40-43, 2011. JO2011	Retrospective Comparison group not matched
S. K. Jones, R. M. Mackie, D. J. Hole, and C. R. Gillis. Further evidence of the safety of tar in the management of psoriasis. Br.J.Dermatol. 113 (1):97-101, 1985. JONES1985	Insufficient reporting and sample size too small
K. A. Katz, I. Marcil, and R. S. Stern. Incidence and risk factors associated with a second squamous cell carcinoma or basal cell carcinoma in psoralen + ultraviolet light-treated psoriasis patients. J.Invest.Dermatol. 118 (6):1038-1043, 2002. KATZ2002	Incorrect outcomes
M. S. Krathen, A. B. Gottlieb, and P. J. Mease. Pharmacologic immunomodulation and cutaneous malignancy in rheumatoid arthritis, psoriasis, and psoriatic arthritis. [Review]. J.Rheumatol. 37 (11):2205-2215,	Narrative review: all relevant studies included

Study excluded	Reason
2010. KRATHEN2010	
R. G. Langley, B. E. Strober, Y. Gu, S. J. Rozzo, and M. M. Okun. Benefit-risk assessment of tumour necrosis factor antagonists in the treatment of psoriasis. Br.J.Dermatol. 162 (6):1349-1358, 2010. LANGLEY2010A	Insufficient follow-up <12 months
O. Larko and G. Swanbeck. Is UVB treatment of psoriasis safe? A study of extensively UVB-treated psoriasis patients compared with a matched control group. Acta Derm.Venereol. 62 (6):507-512, 1982. LARKO1982	Retrospective Sample size too small
A. Lassus, T. Reunala, and J. Idanpaa-Heikkila. PUVA treatment and skin cancer: a follow-up study. Acta Derm.Venereol. 61 (2):141-145, 1981. LASSUS 1981	Retrospective
E. Lee, J. Koo, and T. Berger. UVB phototherapy and skin cancer risk: A review of the literature. Int.J.Dermatol. 44 (5):355-360, 2005. LEE2005A	Narrative review: all relevant studies included
C. L. Leonardi, A. B. Kimball, K. A. Papp, N. Yeilding, C. Guzzo, Y. Wang, S. Li, L. T. Dooley, K. B. Gordon, and Investigators Study. Efficacy and safety of ustekinumab, a human interleukin-12/23 monoclonal antibody, in patients with psoriasis: 76-week results from a randomised, double-blind, placebo-controlled trial (PHOENIX 1).[Erratum appears in Lancet. 2008 May 31;371(9627):1838]. Lancet 371 (9625):1665-1674, 2008. LEONARDI2008	Insufficient follow-up <12months
L. R. Lever and P. M. Farr. Skin cancers or premalignant lesions occur in half of high-dose PUVA patients. Br.J.Dermatol. 131 (2):215-219, 1994. LEVER1994	Retrospective
B. Lindelof, G. Eklund, S. Liden, and R. S. Stern. The prevalence of malignant tumors in patients with psoriasis. J.Am.Acad.Dermatol. 22 (6 Pt 1):1056-1060, 1990. LINDELOF1990	Retrospective Not adjusted
B. Lindelof, B. Sigurgeirsson, E. Tegner, O. Larko, A. Johannesson, B. Berne, O. B. Christensen, T. Andersson, M. Torngren, L. Molin, E. Nylander-Lundqvist, and L. Emtestam. PUVA and cancer: A large-scale epidemiological study. Lancet 338 (8759):91-93, 1991. LINDELOF1991	Retrospective
B. Lindelof, B. Sigurgeirsson, E. Tegner, O. Larko, and B. Berne. Comparison of the carcinogenic potential of trioxsalen bath PUVA and oral methoxsalen PUVA: A preliminary report. Arch.Dermatol. 128 (10):1341-1344, 1992. LINDELOF1992	Retrospective
B. Lindelof and B. Sigurgeirsson. PUVA and cancer: A case-control study. Br.J.Dermatol. 129 (1):39-41, 1993. LINDELOF1993	Retrospective Case control
B. Lindelof, B. Sigurgeirsson, E. Tegner, O. Larko, A. Johannesson, B. Berne, B. Ljunggren, T. Andersson, L. Molin, E. Nylander-Lundqvist, and L. Emtestam. PUVA and cancer risk: the Swedish follow-up study. Br.J.Dermatol. 141 (1):108-112, 1999. LINDELOF1999	Retrospective 64% psoriasis
R. Lindskov. Skin carcinomas and treatment with photochemotherapy (PUVA). Acta Derm.Venereol. 63 (3):223-226, 1983. LINDSKOV1983	Retrospective Case control

Study excluded	Reason
E. Lobel, K. Paver, and R. King. The relationship of skin cancer to PUVA therapy in Australia. Australas.J.Dermatol. 22 (3):100-103, 1981. LOBEL1981	Retrospective Not adjusted for confounders and insufficient reporting
R. M. Mackie and C. P. Fitzsimons. Risk of carcinogenicity in patients with psoriasis treated with methotrexate or PUVA singly or in combination. J.Am.Acad.Dermatol. 9 (3):467-469, 1983. MACKIE1983	Incorrect publication type: editorial
H. Maier, M. Schemper, B. Ortel, M. Binder, A. Tanew, and H. Honigsmann. Skin tumors in photochemotherapy for psoriasis: A single-center follow-up of 496 patients. Dermatology 193 (3):185-191, 1996. MAIER1996	Retrospective
M. G. H. Mali-Gerrits, D. Gaasbeek, J. Boezeman, and P. C. M. Van de Kerkhof. Psoriasis therapy and the risk of skin cancers. Clin.Exp.Dermatol. 16 (2):85-89, 1991. MALIGERRITS1991	Retrospective Inappropriate control group and data not adjusted
D. J. Margolis, W. Bilker, S. Hennessy, C. Vittorio, J. Santanna, and B. L. Strom. The risk of malignancy associated with psoriasis. Arch.Dermatol. 137 (6):778-783, 2001. MARGOLIS2001	Retrospective Incorrect control group
T. Markham, A. Watson, and S. Rogers. Adverse effects with long-term cyclosporin for severe psoriasis. Clin.Exp.Dermatol. 27 (2):111-114, 2002. MARKHAM2002	No control/comparison group Incorrect outcomes
K. E. McKenna, C. C. Patterson, J. Handley, S. Mcginn, and G. Allen. Cutaneous neoplasia following PUVA therapy for psoriasis. Br.J.Dermatol. 134 (4):639-642, 1996. McKENNA1996	Retrospective
A. Menter and D. L. Cram. The Goeckerman regimen in two psoriasis day care centers. J.Am.Acad.Dermatol. 9 (1):59-65, 1983. MENTER1983	No control/comparison group
A. Menter, K. Reich, A. B. Gottlieb, M. Bala, S. Li, M. C. Hsu, C. Guzzo, J. Diels, and J. M. Gelfand. Adverse drug events in infliximab-treated patients compared with the general and psoriasis populations. J.Drug.Dermatol. 7 (12):1137-1146, 2008. MENTER2008B	Incorrect outcomes: no skin cancer data
N. Mohar and F. Gruber. Skin cancer in psoriasis - clinical and statistic observations. Acta Derm.Venereol. 64 (SUPPL. 113):123-126, 1984. MOHAR1984	Insufficient reporting
A. Y. Moore and B. S. Richardson. Long-term use of adalimumab in the treatment of moderate to severe plaque psoriasis: A review of the literature. Clinical, Cosmetic and Investigational Dermatology 3 (pp 49-58):-58, 2010. MOORE2010	Review – no comparator group
Tamar Nijsten and Robert S. Stern. How epidemiology has contributed to a better understanding of skin disease. J.Invest.Dermatol. 132 (3 Pt 2):994-1002, 2012. NIJSTEN2012A	Incorrect study type: Narrative review
A. Nyfors and H. Jensen. Frequency of malignant neoplasms in 248 long-term methotrexate-treated psoriatics. A preliminary study. Dermatologica 167 (5):260-261, 1983. NYFORS1983	Incorrect outcomes: all malignant neoplasms (not stratified in control expected rate)

Study excluded	Reason
J. H. Olsen, H. Moller, and G. Frentz. Malignant tumors in patients with psoriasis. J.Am.Acad.Dermatol. 27 (5 I):716-722, 1992. OLSEN1992	Incorrect outcomes
M. L. Pang, J. E. Murase, and J. Koo. An updated review of acitretin - A systemic retinoid for the treatment of psoriasis. Expert Opin.Drug Metabol.Toxicol. 4 (7):953-964, 2008. PANG2008	Narrative review – all relevant studies included
K. A. Papp, R. G. Langley, M. Lebwohl, G. G. Krueger, P. Szapary, N. Yeilding, C. Guzzo, M. C. Hsu, Y. Wang, S. Li, L. T. Dooley, K. Reich, and Investigators Study. Efficacy and safety of ustekinumab, a human interleukin-12/23 monoclonal antibody, in patients with psoriasis: 52-week results from a randomised, double-blind, placebo-controlled trial (PHOENIX 2). Lancet 371 (9625):1675-1684, 2008. PAPP2008	Insufficient follow-up <1yr
P. C. M. Pasker-De Jong, G. Wielink, P. G. M. Van Der Valk, and G. J. Van der Wilt. Treatment with UV-B for psoriasis and nonmelanoma skin cancer: A systematic review of the literature. Arch.Dermatol. 135 (7):834-840, 1999. PASKERDEJONG1999	Narrative review – all relevant studies included
R. V. Patel, L. N. Clark, M. Lebwohl, and J. M. Weinberg. Treatments for psoriasis and the risk of malignancy. J.Am.Acad.Dermatol. 60 (6):1001-1017, 2009. PATEL2009	Narrative review – all relevant studies included
M. Pavlovsky, S. Baum, D. Shpiro, L. Pavlovsky, and F. Pavlotsky. Narrow band UVB: Is it effective and safe for paediatric psoriasis and atopic dermatitis? J.Eur.Acad.Dermatol.Venereol. 25 (6):727-729, 2011. PAVLOCSKY2011	No control/comparison group
I. A. Pion, K. L. Koenig, and H. W. Lim. Is dermatologic usage of coal tar carcinogenic? A review of the literature. Dermatol.Surg. 21 (3):227-231, 1995. PION1995	Narrative review - all relevant articles ordered
M. R. Pittelkow, H. O. Perry, and S. A. Muller. Skin cancer in patients with psoriasis treated with coal Tar. A 25-year follow-up study. Arch.Dermatol. 117 (8):465-468, 1981. PITTELKOW1981	Retrospective Not adjusted for confounders
H. Reshad, F. Challoner, D. J. Pollock, and H. Baker. Cutaneous carcinoma in psoriatic patients treated with PUVA. Br.J.Dermatol. 110 (3):299-305, 1984. RESHAD1984	Insufficient reporting
J. H. Roelofzen, K. K. Aben, U. T. Oldenhof, P. J. Coenraads, H. A. Alkemade, P. C. van de Kerkhof, P. G. Van Der Valk, and L. A. Kiemeney. No increased risk of cancer after coal tar treatment in patients with psoriasis or eczema. J.Invest.Dermatol. 130 (4):953-961, 2010. ROELOFZEN2010	Retrospective
H. H. Roenigk, Jr. and W. A. Caro. Skin cancer in the PUVA-48 cooperative study. J.Am.Acad.Dermatol. 4 (3):319-324, 1981. ROENIGK1981	No controlling for confounders
A. M. Ros, G. Wennersten, and B. Lagerholm. Long-term photochemotherapy for psoriasis: A histopathological and clinical follow-up study with special emphasis on tumour incidence and behavior of pigmented lesions. Acta Derm.Venereol. 63 (3):215-221, 1983. ROS1983	No comparator group No skin cancer observed
A. A. Schothorst, H. Slaper, R. Schouten, and D. Suurmond. UVB doses in maintenance psoriasis phototherapy versus solar UVB exposure.	Inappropriate control population

Study excluded	Reason
Photodermatology 2 (4):213-220, 1985. SCHOTHORST1985	
S. E. Shephard and R. G. Panizzon. Carcinogenic risk of bath PUVA in comparison to oral PUVA therapy. Dermatology 199 (2):106-112, 1999. SHEPHARD1999	Narrative review: all relevant studies included
C. H. Smith, K. Jackson, S. J. Bashir, A. Perez, A. L. Chew, A. M. Powell, M. Wain, and J. N. Barker. Infliximab for severe, treatment-resistant psoriasis: a prospective, open-label study. Br.J.Dermatol. 155 (1):160-169, 2006. SMITH2006	No control/comparison group
R. S. Stern, S. Zierler, and J. A. Parrish. Skin carcinoma in patients with psoriasis treated with topical tar and artificial ultraviolet radiation. Lancet 315 (8171):732-735, 1980. STERN1980	Incorrect study type: Case-control
R. S. Stern, S. Zierler, and J. A. Parrish. Methotrexate used for psoriasis and the risk of noncutaneous or cutaneous malignancy. Cancer 50 (5):869-872, 1982. STERN1982	Incorrect study type: retrospective case-control
R. Stern, S. Zierler, and J. A. Parrish. Psoriasis and the risk of cancer. J.Invest.Dermatol. 78 (2):147-149, 1982. STERN1982A	Incorrect study type: Case-control
R. S. Stern, J. Scotto, and T. R. Fears. Psoriasis and susceptibility to nonmelanoma skin cancer. J.Am.Acad.Dermatol. 12 (1 I):67-73, 1985. STERN1985	Retrospective
R. S. Stern and E. J. Lunder. Risk of squamous cell carcinoma and methoxsalen (psoralen) and UV-A radiation (PUVA): A meta-analysis. Arch.Dermatol. 134 (12):1582-1585, 1998. STERN1998	Review: all relevant studies included
R. S. Stern. Malignant melanoma in patients treated for psoriasis with PUVA. Photodermatology, Photoimmunology and Photomedicine 15 (1):37-38, 1999. STERN1999	Incorrect publication type: commentary
R. S. Stern. Lymphoma risk in psoriasis: results of the PUVA follow-up study. Arch.Dermatol. 142 (9):1132-1135, 2006. STERN2006	Incorrect outcomes: not skin cancer
H. M. Studniberg and P. Weller. PUVA, UVB, psoriasis, and nonmelanoma skin cancer. J.Am.Acad.Dermatol. 29 (6):1013-1022, 1993. STUDNIBERG1993	Narrative review – all relevant studies included
A. Takashima, E. Matsunami, K. Yamamoto, S. Kitajima, and N. Mizuno. Cutaneous carcinoma and 8-methoxypsoralen and ultraviolet A (PUVA) lentigines in Japanese patients with psoriasis treated with topical PUVA: a follow-up study of 214 patients. Photodermatology Photoimmunology and Photomedicine 7 (5):218-222, 1990. TAKASHIMA1990	No control/comparison group
A. Tanew, H. Honigsmann, and B. Ortel. Nonmelanoma skin tumors in long-term photochemotherapy treatment of psoriasis: An 8-year follow-up study. J.Am.Acad.Dermatol. 15 (5 I):960-965, 1986. TANEW1986	No adjustment for confounders Insufficient reporting
W. Torinuki and H. Tagami. Incidence of skin cancer in Japanese psoriatic patients treated with either methoxsalen phototherapy, Goeckerman regimen, or both therapies. A 10-year follow-up study. J.Am.Acad.Dermatol. 18 (6):1278-1281, 1988. TORINUKI1988	No adjustment for confounders Insufficient reporting

Study excluded	Reason
E. E. Uhlenhake and S. R. Feldman. Efficacy and safety of ustekinumab and etanercept for the treatment of psoriasis. Expert Opinion on Biological Therapy 10 (7):1105-1112, 2010. UHLENHAKE2010	Narrative review – all relevant studies included
L. Vakeva, S. Reitamo, E. Pukkala, S. Sarna, and A. Ranki. Long-term follow-up of cancer risk in patients treated with short-term cyclosporine. Acta Derm.Venereol. 88 (2):117-120, 2008. VAKEVA2008	Incorrect outcomes: not skin cancer
M. Weischer, A. Blum, F. Eberhard, M. Rocken, and M. Berneburg. No evidence for increased skin cancer risk in psoriasis patients treated with broadband or narrowband UVB phototherapy: A first retrospective study. Acta Derm.Venereol. 84 (5):370-374, 2004. WEISCHER2004	No comparison group Sample size too small

F.2 Chapter 7: Topical therapies for chronic plaque psoriasis

F.2.1 Topical therapies for trunk and limb chronic plaque psoriasis

In people with chronic plaque psoriasis of the trunk and/or limbs, what are the clinical effectiveness, safety, tolerability, and cost effectiveness of topical vitamin D or vitamin D analogues, potent or very potent corticosteroids, tar, dithranol and retinoids compared with placebo or vitamin D or vitamin D analogues, and of combined or concurrent vitamin D or vitamin D analogues and potent corticosteroids compared with potent corticosteroid or vitamin D or vitamin D analogue alone?

Excluded n = 95

Study excluded	Reason
W. Abramovits, A. Perlmutter, and A. K. Gupta. Taclonex (calcipotriene 0.005% and betamethasone dipropionate 0.064%) ointment. SKINmed 5 (3):136-138, 2006. ABRAMOVITIS2006	Incorrect study type: Narrative review
W. Abramovits. Calcitriol 3 microg/g ointment: an effective and safe addition to the armamentarium in topical psoriasis therapy. J.Drug.Dermatol. 8 (8 Suppl):S17-S22, 2009. ABRAMOVITIS2009	Incorrect study type: Narrative review
G. Agrup, A. Bjornberg, T. Elmros, O. Groth, M. Hannuksela, A. Lassus, L. Salde, M. Skogh, and K. Thomsen. Clinical trial of a potent non-halogenated topical steroid, Budesonide. Acta Derm.Venereol. 61 (2):180-182, 1981. AGRUP1981	Insufficient sample size
J. S. Angelo, B. R. Kar, and J. Thomas. Comparison of clinical efficacy of topical tazarotene 0.1% cream with topical clobetasol propionate 0.05% cream in chronic plaque psoriasis: a double-blind, randomized, right-left comparison study. Indian Journal of Dermatology, Venereology & Leprology 73 (1):65, 2007. ANGELO2007	Incorrect comparison: tazarotene vs clobetasol
A. Arevalo. Calcipotriol versus coal tar in Mexican patients with psoriasis. Journal of the European Academy of Dermatology & Venereology 5 (Suppl 1):S92, 1995. AREVALO1995	Insufficient sample size Incorrect study type: abstract only

Study excluded	Reason
P. J. Ashurst. Hydrocortisone 17-butyrate, a new synthetic topical corticosteroid. British Journal of Clinical Practice 26 (6):263-266, 1972. ASHURST1972	Incorrect study type: narrative review
J. Austad, J. R. Bjerke, B. T. Gjertsen, S. Helland, J. K. Livden, T. Morken, and N. J. Mork. Clobetasol propionate followed by calcipotriol is superior to calcipotriol alone in topical treatment of psoriasis. J.Eur.Acad.Dermatol.Venereol. 11 (1):19-24, 1998. AUSTAD 1998	Incorrect outcomes
J. Bailey and B. Whitehair. Topical treatments for chronic plaque psoriasis. Am.Fam.Physician 81 (5):596-597, 2010. BAILEY2010	Incorrect study type: Abstract
J. Bazex, O. Binet, M. Bombart, P. Brun, O. Carreau, J. Chevrant-Breton, Beer P. De, C. Grognard, G. Guillet, F. Mahuzier, C. Martinet, J. M. Mazer, P. Morel, J. P. Ortonne, A. Ostojic, J. P. Noble, M. Pascal, and A. Pons-Guiraud. Psoriasis: New therapeutic modality by calcipotriol and betamethasone dipropionate. Nouvelles Dermatologiques 13 (10):746-751, 1994. BAZEX1994	Incorrect language: not in English
S. Bernstein, H. Donsky, W. Gulliver, D. Hamilton, S. Nobel, and R. Norman. Treatment of mild to moderate psoriasis with Relieva, a Mahonia aquifolium extract--a double-blind, placebo-controlled study. Am.J.Ther. 13 (2):121-126, 2006. BERNSTEIN2006	Incorrect comparison
T. Bhutani, K. B. Zitelli, and J. Koo. Yin-yang strategy: proposing a new, effective, repeatable, sequential therapy for psoriasis. [Review]. J.Drug.Dermatol. 10 (8):831-834, 2011. BHUTANI2011A	Incorrect study type: Opinion article
G. Bosco and A. Leoni. A double-blind trial of a new dermosteroid (Clobetasol propionate) in 23 patients. Giornale Italiano di Dermatologia / Minerva Dermatologica 114 (11):613-616, 1979. BOSCO1979	Incorrect language: not in English
I. Brouda, B. Edison, A. Van Cott, and B. A. Green. Tolerability and cosmetic acceptability of liquor carbonis distillate (coal tar) solution 15% as topical therapy for plaque psoriasis. Cutis 85 (4):214-220, 2010. BROUDA2010	Incorrect outcomes
A. C. Brown, J. Koett, D. W. Johnson, N. M. Semaskvich, P. Holck, D. Lally, L. Cruz, R. Young, B. Higa, and S. Lo. Effectiveness of kukui nut oil as a topical treatment for psoriasis. Int.J.Dermatol. 44 (8):684-687, 2005. BROWN2005	Incorrect comparison: kukui nut oil vs mineral oil placebo
K. Buder, P. Knuschke, and G. Wozel. Evaluation of methylprednisolone aceponate, tacrolimus and combination thereof in the psoriasis plaque test using sum score, 20-MHz-ultrasonography and optical coherence tomography. Int.J.Clin.Pharmacol.Therapeut. 48 (12):814-820, 2010. BUDER2010	Incorrect comparison
P. Calzavara-Pinton, M. T. Rossi, R. Sala, and M. Venturini. The separate daily application of tacalcitol 4 microg/g ointment and budesonide 0.25 mg/g cream is more effective than the single daily application of a two compound ointment containing calcipotriol 50 microg/g and betamethasone dipropionate 0.5 mg/g. G.Ital.Dermatol.Venereol. 146 (4):295-299, 2011. CALZAVARA2011	Incorrect outcomes Insufficient sample size
C. L. Carroll, S. R. Feldman, F. T. Camacho, and R. Balkrishnan. Better medication adherence results in greater improvement in severity of psoriasis.	Insufficient sample size

Study excluded	Reason
Br.J.Dermatol. 151 (4):895-897, 2004. CARROLL2004	
C. L. Carroll, J. Clarke, F. Camacho, R. Balkrishnan, and S. R. Feldman. Topical tacrolimus ointment combined with 6% salicylic acid gel for plaque psoriasis treatment. Arch.Dermatol. 141 (1):43-46, 2005. CARROLL2005	Insufficient sample size
N. Cassano, A. Miracapillo, C. Coviello, F. Loconsole, M. Bellino, and G. A. Vena. Treatment of psoriasis vulgaris with the two-compound product calcipotriol/betamethasone dipropionate followed by different formulations of calcipotriol. Clin.Druf Investig. 26 (4):227-233, 2006. CASSANO2006	Incorrect study type: not randomised
C. Crosti, A. F. Finzi, E. Mian, and C. Scarpa. Calcipotriol in psoriasis vulgaris: a controlled trial comparing betamethasone dipropionate + salicylic acid. Int.J.Dermatol. 36 (7):537-539, 1997. CROSTI1997	Incorrect comparison
J. de Korte, P. G. Van Der Valk, M. A. Sprangers, R. J. Damstra, A. C. Kunkeler, R. L. Lijnen, A. P. Oranje, M. A. de Rie, de Waard-van der Spek FB, C. W. Hol, and P. C. van de Kerkhof. A comparison of twice-daily calcipotriol ointment with once-daily short-contact dithranol cream therapy: quality-of-life outcomes of a randomized controlled trial of supervised treatment of psoriasis in a day-care setting. Br.J.Dermatol. 158 (2):375-381, 2008. DEKORTE2008	Incorrect outcomes
J. Q. Del Rosso and E. T. Conte. An investigator-blinded evaluation of fluocinonide 0.1% cream in the treatment of atopic dermatitis and psoriasis vulgaris. Cosmetic Dermatology 20 (9):545-552, 2007. DELROSSO2007	Insufficient sample size
A. Dobozy and N. Simon. Clinical experience with hydrocortisone 17-butyrate ('Locoid'): results of a double-blind trial in psoriasis and eczema. Pharmatherapeutica 1 (9):588-592, 1977. DOBOZY1997	Incorrect comparison: steroid vs steroid
G. A. Duweb, O. Abuzariba, M. Rahim, M. al-Taweel, and S. A. Abdulla. Scalp psoriasis: topical calcipotriol 50 micrograms/g/ml solution vs. betamethasone valerate 1% lotion. International Journal of Clinical Pharmacology Research 20 (3-4):65-68, 2000. DUWEB2000	Insufficient sample size
G. Duweb, J. Alhaddar, and M. Abuhamida. Psoriasis vulgaris: once-versus twice-daily application of calcipotriol cream. International Journal of Tissue Reactions 27 (4):155-158, 2005. DUWEB2005A	Incorrect study type: not randomised
J. J. Emer, A. Frankel, A. Sohn, and M. Lebwohl. A randomized, double-blind, placebo- controlled study to evaluate the safety and efficacy of ammonium lactate lotion 12% and halobetasol propionate ointment 0.05% in the treatment and maintenance of psoriasis. J.Clin.Aesthetic Dermatol. 4 (2):28-39, 2011. EMER2011	Incorrect comparison
B. Eskicirak, E. Zemheri, and A. Cerkezoglu. The treatment of psoriasis vulgaris: 1% topical methotrexate gel. Int.J.Dermatol. 45 (8):965-969, 2006. ESKICIRAK2006	Incorrect intervention
B. Farkas, A. Dobozy, A. Horvath, J. Hunyadi, and I. Schneider. Comparison of tacalcitol ointment with short-contact dithranol therapy in the treatment of psoriasis vulgaris: A randomized multicentre, open prospective study on	Incorrect outcomes

Study excluded	Reason
efficacy and safety. J.Dermatol.Treat. 10 (2):93-99, 1999. FARKAS1999	
C. Fleming, C. Ganslandt, and G. P. Leese. Short- and long-term safety assessment of a two-compound ointment containing calcipotriene/betamethasone dipropionate (Taclonex/Daivobet/Dovobet ointment): hypothalamic-pituitary-adrenal axis function in patients with psoriasis vulgaris. J.Drug.Dermatol. 9 (8):969-974, 2010. FLEMING2010	Insufficient sample size
T. Fredriksson, L. Gip, and A. Hamfelt. Investigations of a new synthetic steroid, betame thasone-17, 21-dipropionate, in alcoholic solution. Current Therapeutic Research, Clinical & Experimental 18 (2):324-331, 1975. FREDRIKSSON1975	Insufficient sample size
C. P. Glade, P. E. van Erp, and P. C. van de Kerkhof. Epidermal cell DNA content and intermediate filaments keratin 10 and vimentin after treatment of psoriasis with calcipotriol cream once daily, twice daily and in combination with clobetasone 17-butyrate cream or betamethasone 17-valerate cream: a comparative flow cytometric study. Br.J.Dermatol. 135 (3):379-384, 1996. GLADE1996	Insufficient sample size
C. E. H. Grattan, F. Hallam, and M. Whitefield. A new aqueous dithranol gel for psoriasis: Comparison with placebo and calcipotriol ointment. J.Dermatol.Treat. 8 (1):11-15, 1997. GRATTAN1997	Insufficient sample size
G. W. Han, B. T. Yu, H. Li, X. J. Zhu, B. X. Wang, and G. M. Li. A randomized controlled multicenter clinical trial on tazarotene gel versus calcipotriol ointment in the treatment of plaque psoriasis vulgaris. Chinese Journal of Clinical Pharmacology 17 (6):419-422, 2001. HAN2001	Incorrect language: not in English
R. R. Harman, C. N. Mathews, N. E. Jensen, and L. E. MacConnell. Clinical trial of fluclorolone acetonide, a new topical steroid. British Journal of Clinical Practice 26 (5):223-225, 1972. HARMAN1972	Incorrect comparison
Y. R. Helfrich, S. Kang, T. A. Hamilton, and J. J. Voorhees. Topical becocalcidiol for the treatment of psoriasis vulgaris: a randomized, placebo-controlled, double-blind, multicentre study. Br.J.Dermatol. 157 (2):369-374, 2007. HELFRICH2007	Incorrect comparison
L. Huang, L. Ma, Q. Huang, Q. Yang, Z. Zheng, X. Zhu, B. Whang, and J. Gu. Calcipotriol betamethasone ointment in the treatment of psoriasis vulgaris: a randomized, double-blind, active-controlled, parallel group study. Chinese Journal of Dermatology 42 (10):691-694, 2011. HUANG2001	Incorrect language: not in English
C. P. Hudson, S. Kempers, A. Menter, K. Papp, S. Smith, H. Sofen, L. E. Colon, L. A. Johnson, and R. Gottschalk. An open-label, multicenter study of the efficacy and safety of a weekday/weekend treatment regimen with calcitriol ointment 3 microg/g and clobetasol propionate spray 0.05% in the management of plaque psoriasis. Cutis 88 (4):201-207, 2011. HUDSON2011	Incorrect study type: Not RCT
F. Iraji, G. Faghihi, A. H. Siadat, S. Enshaieh, Z. Shahmoradi, A. Joia, and F. Soleimani. Efficacy of 15% azelaic acid in psoriasis vulgaris: a randomized, controlled clinical trial. J.Drug.Dermatol. 9 (8):964-968, 2010. IRAJI2010	Incorrect comparison: azelic acid vs placebo
J. Jekler and G. Swanbeck. One-minute dithranol therapy in psoriasis: a	Insufficient data reporting

Study excluded	Reason
placebo-controlled paired comparative study. Acta Derm.Venereol. 72 (6):449-450, 1992. JEKLER1992	
S. Kang, S. Yi, C. E. Griffiths, L. Fancher, T. A. Hamilton, and J. H. Choi. Calcipotriene-induced improvement in psoriasis is associated with reduced interleukin-8 and increased interleukin-10 levels within lesions. Br.J.Dermatol. 138 (1):77-83, 1998. KANG1998	Insufficient sample size
M. H. Kanzler, C. Chui, and D. C. Gorsulowsky. Once-daily vs twice-daily triamcinolone acetonide cream for psoriasis. Arch.Dermatol. 137 (11):1529-1532, 2001. KANZLER2001	Insufficient sample size
N. Katoh and S. Kishimoto. Combination of calcipotriol and clobetasol propionate as a premixed ointment for the treatment of psoriasis. Eur.J.Dermatol. 13 (4):382-384, 2003. KATOH2003	Incorrect comparison
H. I. Katz, N. T. Hien, S. E. Prawer, J. C. Scott, and E. M. Grivna. Betamethasone dipropionate in optimized vehicle. Intermittent pulse dosing for extended maintenance treatment of psoriasis. Arch.Dermatol. 123 (10):1308-1311, 1987. KATZ1987	Insufficient sample size
I. Kaur, S. Dogra, R. Jain, and B. Kumar. Comparative study of calcipotriol (0.005%) ointment and tazarotene (0.05% and 0.1%) gel in the treatment of stable plaque psoriasis. Indian J.Dermatol.Venereol.Leprol. 74 (5):471-474, 2008. KAUR2008	Incorrect study type: not randomised
J. Koo. A randomized, double-blind study comparing the efficacy, safety and optimal dose of two formulations of cyclosporin, Neoral and Sandimmun, in patients with severe psoriasis. OLP302 Study Group. Br.J.Dermatol. 139 (1):88-95, 1998. KOO1998	Incorrect intervention
K. Kragballe, H. I. Beck, and H. Sogaard. Improvement of psoriasis by a topical vitamin D3 analogue (MC 903) in a double-blind study. Br.J.Dermatol. 119 (2):223-230, 1988. KRAGBALLE1988	Incorrect outcomes
K. Kragballe. Treatment of psoriasis by the topical application of the novel cholecalciferol analogue calcipotriol (MC 903). Arch.Dermatol. 125 (12):1647-1652, 1989. KRAGBALLE1989A	Insufficient sample size
G. G. Krueger, L. A. Drake, P. M. Elias, N. J. Lowe, C. Guzzo, G. D. Weinstein, D. A. Lew-Kaya, J. C. Lue, J. Sefton, and R. A. Chandraratna. The safety and efficacy of tazarotene gel, a topical acetylenic retinoid, in the treatment of psoriasis. Arch.Dermatol. 134 (1):57-60, 1998. KREUGER1998	Number randomised to each group not stated
M. Lahfa, U. Mrowietz, M. Koenig, and J. C. Simon. Calcitriol ointment and clobetasol propionate cream: a new regimen for the treatment of plaque psoriasis. Eur.J.Dermatol. 13 (3):261-265, 2003. LAHFA2003	Incorrect comparison
A. T. Lane, G. N. Wachs, and W. L. Weston. Once-daily treatment of psoriasis with topical glucocorticosteroid ointments. J.Am.Acad.Dermatol. 8 (4):523-525, 1983.	Incorrect outcomes

Study excluded	Reason
LANE1983	
A. Langner, W. Stapor, and M. Ambroziak. Efficacy and tolerance of topical calcitriol 3 microg g(-1) in psoriasis treatment: a review of our experience in Poland. Br.J.Dermatol. 144:Suppl-6, 2001. LANGNER2001	Insufficient sample size
P. M. Laws and H. S. Young. Topical treatment of psoriasis. Expert Opin.Pharmacother. 11 (12):1999-2009, 2010. LAWS2010	Incorrect study type: Literature review
M. Lebwohl, A. Yoles, K. Lombardi, and W. Lou. Calcipotriene ointment and halobetasol ointment in the long-term treatment of psoriasis: effects on the duration of improvement. J.Am.Acad.Dermatol. 39 (3):447-450, 1998. LEBWOHL1998	Insufficient sample size
M. Lebwohl, K. Lombardi, and M. H. Tan. Duration of improvement in psoriasis after treatment with tazarotene 0.1% gel plus clobetasol propionate 0.05% ointment: comparison of maintenance treatments. Int.J.Dermatol. 40 (1):64-66, 2001. LEBWOHL2001	Incorrect comparison
M. Lebwohl, A. Menter, J. Weiss, S. D. Clark, J. Flores, J. Powers, A. K. Balin, S. Kempers, R. J. Glinert, T. Fleming, Y. Liu, M. Graeber, and D. M. Pariser. Calcitriol 3 microg/g ointment in the management of mild to moderate plaque type psoriasis: results from 2 placebo-controlled, multicenter, randomized double-blind, clinical studies. J.Drug.Dermatol. 6 (4):428-435, 2007. LEBWOHL2007A	Number randomised to each group not stated
J. Lee, N. Kim, K. Kim, J. Choi, and Y. Choe. A randomized investigator-blinded comparative study of calcitriol twice a day vs. diflucortolone valerate morning plus calcitriol evening application in the treatment of mild to moderate psoriasis. J.Eur.Acad.Dermatol.Venereol. 21:19, 2007. LEE2007	Incorrect study type: abstract only
C. S. Lee and J. Koo. The efficacy of three class I topical synthetic corticosteroids, fluocinonide 0.1% cream, clobetasol 0.05% cream and halobetasol 0.05% cream: a Scholtz-Dumas bioassay comparison. J.Drug.Dermatol. 8 (8):751-755, 2009. LEE2009	Incorrect study type: not randomised
D. Levine, Z. Even-Chen, I. Lipets, O. A. Pritulo, T. V. Svyatenko, Y. Andrashko, M. Lebwohl, and A. Gottlieb. Pilot, multicenter, double-blind, randomized placebo-controlled bilateral comparative study of a combination of calcipotriene and nicotinamide for the treatment of psoriasis. J.Am.Acad.Dermatol. 63 (5):775-781, 2010. LEVINE2010	Insufficient sample size
Y. K. Lin, C. J. Chang, Y. C. Chang, W. R. Wong, S. C. Chang, and J. H. Pang. Clinical assessment of patients with recalcitrant psoriasis in a randomized, observer-blind, vehicle-controlled trial using indigo naturalis. Arch.Dermatol. 144 (11):1457-1464, 2008. LIN2008	Incorrect comparison
P. L. McCormack. Spotlight on calcipotrienebetamethasone dipropionate in psoriasis vulgaris of the trunk, limbs, and scalp. Am.J.Clin.Dermatol. 12 (6):421-424, 2011. MCCORMACK2011	Incorrect study type: Narrative review
A. Menter, W. Abramovits, L. E. Colon, L. A. Johnson, and R. W. Gottschalk. Comparing clobetasol propionate 0.05% spray to calcipotriene 0.005% betamethasone dipropionate 0.064% ointment for the treatment of moderate	Incorrect comparison very potent corticosteroid vs corticosteroid + vitamin

Study excluded	Reason
to severe plaque psoriasis. J.Drug.Dermatol. 8 (1):52-57, 2009. MENTER2009A	D analogue
L. Mortensen, K. Kragballe, E. Wegmann, S. Schifter, J. Risteli, and P. Charles. Treatment of psoriasis vulgaris with topical calcipotriol has no short-term effect on calcium or bone metabolism. A randomized, double-blind, placebo-controlled study. Acta Derm.Venereol. 73 (4):300-304, 1993. MORTENSEN1993	Insufficient sample size
J. T. Nicholls. A multicentre trial of "metosyn"--a new topical steroid in a complex two phase base. Current Therapeutic Research, Clinical & Experimental 14 (5):259-263, 1972. NICHOLLS1992	Incorrect study type: not randomised
J. P. Ortonne, P. C. van de Kerkhof, J. C. Prinz, T. Bieber, M. Lahfa, A. Rubins, G. Wozel, G. Lorette, and European Tacrolimus Psoriasis Study Group. 0.3% Tacrolimus gel and 0.5% Tacrolimus cream show efficacy in mild to moderate plaque psoriasis: Results of a randomized, open-label, observer-blinded study. Acta Derm.Venereol. 86 (1):29-33, 2006. ORTONNE2006A	Incorrect comparison
D. M. Pariser, R. J. Pariser, D. Breneman, M. Lebwohl, R. Kalb, J. Moore, H. Moss, C. Parker, and V. Fiedler. Calcipotriene ointment applied once a day for psoriasis: a double-blind, multicenter, placebo-controlled study. Arch.Dermatol. 132 (12):1527, 1996. PARISER1996	Number randomised to each group not stated
A. Perez, T. C. Chen, A. Turner, and M. F. Holick. Pilot study of topical calcitriol (1,25-dihydroxyvitamin D3) for treating psoriasis in children. Arch.Dermatol. 131 (8):961-962, 1995. PEREZ1995	Insufficient sample size
P. Rosina, A. Giovannini, P. Gisondi, and G. Girolomoni. Microcirculatory modifications of psoriatic lesions during topical therapy. Skin Res.Tech. 15 (2):135-138, 2009. ROSINA2009	Incorrect study type: not randomised
C. M. Ross. Diprosone ointment in psoriasis. A double-blind trial. S.Afr.Med.J. Suid-Afrikaanse Tydskrif Vir Geneeskunde. 48 (48):2030-2032, 1974. ROSS1974	Incorrect comparison: corticosteroid vs corticosteroid
G. Saggese, G. Federico, and R. Battini. Topical application of 1,25-dihydroxyvitamin D3 (calcitriol) is an effective and reliable therapy to cure skin lesions in psoriatic children. European Journal of Pediatrics 152 (5):389-392, 1993. SAGGESE1993	Incorrect study type: not randomised
A. Saraswat, R. Agarwal, O. P. Katare, I. Kaur, and B. Kumar. A randomized, double-blind, vehicle-controlled study of a novel liposomal dithranol formulation in psoriasis. J.Dermatol.Treat. 18 (1):40-45, 2007. SARASWAT2007	Insufficient sample size
C. Scarpa. Calcipotriol: clinical trial versus betamethasone dipropionate + salicylic acid. Acta Derm.Venereol. Supplementum. 186:47, 1994. SCARPA1994	Incorrect study type
C. Scarpa. Tacalcitol ointment is an efficacious and well tolerated treatment for psoriasis. J.Eur.Acad.Dermatol.Venereol. 6 (2):142-146, 1996. SCARPA1996	Incorrect outcomes
J. Sefton, J. S. Loder, and A. A. Kyriakopoulos. Clinical evaluation of hydrocortisone valerate 0.2% ointment. Clin.Ther. 6 (3):282-293, 1984. SEFTON1984	Incorrect outcomes

Study excluded	Reason
S. Seidenari, R. Magni, and A. Giannetti. Assessment of the activity of tacalcitol on psoriatic plaques by means of colorimetry and high-frequency ultrasound: A double-blind intrasubject half-side right-left comparison with betamethasone valerate and placebo. Skin Pharmacol. 10 (1):40-47, 1997. SEIDENARI1997	Insufficient sample size
V. Sharma, I. Kaur, and B. Kumar. Calcipotriol versus coal tar: a prospective randomized study in stable plaque psoriasis. Int.J.Dermatol. 42 (10):834-838, 2003. SHARMA2003	Incorrect comparison (combined with UV exposure)
S. Singh, J. Gopal, R. N. Mishra, and S. S. Pandey. Topical 0.05% betamethasone dipropionate: efficacy in psoriasis with once a day vs. twice a day application. Br.J.Dermatol. 133 (3):497-498, 1995. SINGH1995	Incorrect study type: Letter
S. Singh, S. K. Singh, and S. S. Pandey. Effect of duration of application and dosing frequency on the efficacy of topical 0.1% mometasone furoate ointment in psoriasis. J.Dermatol.Treat. 9 (1):25-30, 1998. SINGH1998	Incorrect outcomes
J. B. Slutsky, R. A. Clark, A. A. Remedios, and P. A. Klein. An evidence-based review of the efficacy of coal tar preparations in the treatment of psoriasis and atopic dermatitis. J.Drug.Dermatol. 9 (10):1258-1264, 2010. SLUTSKY2010	Incorrect study type: Literature review
B. Staberg, J. Roed-Petersen, and T. Menne. Efficacy of topical treatment in psoriasis with MC903, a new vitamin D analogue. Acta Derm.Venereol. 69 (2):147-150, 1989. STABERG1998	Insufficient sample size
Markus Stucker, Ulrike Memmel, Matthias Hoffmann, Joachim Hartung, and Peter Altmeyer. Vitamin B12 Cream Containing Avocado Oil in the Therapy of Plaque Psoriasis. Dermatology 203 (2):141-147, 2001. STUCKER2001	Incorrect comparison
J. Traulsen and B. J. Hughes-Formella. The atrophogenic potential and dermal tolerance of calcipotriol/betamethasone dipropionate ointment compared with betamethasone dipropionate ointment. Dermatology 207 (2):166-172, 2003. TRALSEN2003	Insufficient sample size
S. Tzaneva, H. Honigsmann, and A. Tanew. Observer-blind, randomized, intrapatient comparison of a novel 1% coal tar preparation (Exorex) and calcipotriol cream in the treatment of plaque type psoriasis. Br.J.Dermatol. 149 (2):350-353, 2003. TZANEVA2003	Incorrect comparison (combined with UV exposure)
T. Y. Tzung, J. C. Wu, N. J. Hsu, Y. H. Chen, and L. P. Ger. Comparison of tazarotene 0.1% gel plus petrolatum once daily versus calcipotriol 0.005% ointment twice daily in the treatment of plaque psoriasis. Acta Derm.Venereol. 85 (3):236-239, 2005. TZUNG2005	Insufficient sample size
T. Y. Tzung, C. Y. Chen, C. Y. Yang, P. Y. Lo, and Y. H. Chen. Calcipotriol used as monotherapy or combination therapy with betamethasone dipropionate in the treatment of nail psoriasis. Acta Derm.Venereol. 88 (3):279-280, 2008. TZUNG2008	Incorrect study type (letter)
P. C. van de Kerkhof, Bokhoven M. van, M. Zultak, and B. M. Czarnetzki. A double-blind study of topical 1 alpha,25-dihydroxyvitamin D3 in psoriasis. Br.J.Dermatol. 120 (5):661-664, 1989.	Insufficient sample size

Study excluded	Reason
VANDERKERKHOF1989	
P. C. van de Kerkhof. The impact of a two-compound product containing calcipotriol and betamethasone dipropionate (Daivobet/ Dovobet) on the quality of life in patients with psoriasis vulgaris: a randomized controlled trial. Br.J.Dermatol. 151 (3):663-668, 2004. VANDERKERKHOF2004	Incorrect outcomes
D. E. Vanderploeg. Betamethasone dipropionate ointment in the treatment of psoriasis and atopic dermatitis: a double-blind study. Anonymous. Anonymous. South.Med.J. 69(7):862-863, 1976. VANDERPLOEG1976	Insufficient sample size
H. M. van der Velden, M. C. Pasch, P. E. van Erp, R. G. Van Lingen, M. E. Otero, R. T. de Boer-van Huizen, and P. C. van de Kerkhof. Treatment of plaque psoriasis with the two-compound product calcipotriol/betamethasone dipropionate versus both monotherapies: an immunohistochemical study. J.Dermatol.Treat. 21 (1):13-22, 2010. VANDERVELDEN2010	Insufficient sample size
C. J. M. Van Der vleuten, E. M. G. J. De Jong, E. H. F. C. Rulo, M.-J. Gerritsen, and P. C. M. Van de Kerkhof. In-patient treatment with calcipotriol versus dithranol in refractory psoriasis. Eur.J.Dermatol. 5 (8):676-679, 1995. VANDERVLEUTEN1995	Insufficient sample size
N. K. Veien, J. R. Bjerke, I. Rossmann-Ringdahl, and H. B. Jakobsen. Once daily treatment of psoriasis with tacalcitol compared with twice daily treatment with calcipotriol. A double-blind trial. Br.J.Dermatol. 137 (4):581-586, 1997. VEIEN1997	Incorrect outcomes
G. Volden, A. Bjornberg, E. Tegner, N. B. Pedersen, U. B. Arles, S. Agren, and L. Brolund. Short-contact treatment at home with Micanol. Acta Dermato-Venereologica.Supplementum 172:20-22, 1992. VOLDEN1992	Insufficient sample size
R. B. Warren, B. C. Brown, and C. E. Griffiths. Topical treatments for scalp psoriasis. Drugs 68 (16):2293-2302, 2008. WARREN2008A	Incorrect study type: Literature review
S. White, R. Vender, D. Thaci, C. Haverkamp, J. M. Naeyaert, R. Foster, J. A. Martinez Escribano, F. Cambazard, and A. Bibby. Use of calcipotriene cream (Dovonex cream) following acute treatment of psoriasis vulgaris with the calcipotriene/betamethasone dipropionate two-compound product (Taclonex): a randomized, parallel-group clinical trial. Am.J.Clin.Dermatol. 7 (3):177-184, 2006. WHITE2006	Incorrect comparison
X. Zhu, B. Wang, G. Zhao, J. Gu, Z. Chen, P. Briantais, and P. Andres. An investigator-masked comparison of the efficacy and safety of twice daily applications of calcitriol 3 microg/g ointment vs. calcipotriol 50 microg/g ointment in subjects with mild to moderate chronic plaque-type psoriasis. J.Eur.Acad.Dermatol.Venereol. 21 (4):466-472, 2007. ZHU2007	Incorrect comparison: calcitriol vs calcipotriol
I. M. Zonneveld, A. Rubins, S. Jablonska, A. Dobozy, T. Ruzicka, P. Kind, L. Dubertret, and J. D. Bos. Topical tacrolimus is not effective in chronic plaque psoriasis. A pilot study. Arch.Dermatol. 134 (9):1101-1102, 1998. ZONNEVELD1998	Incorrect comparison

F.2.2 Topical therapies for high impact or difficult to treat sites

In people with psoriasis at high impact or difficult-to-treat sites (scalp, flexures, face), what are the clinical effectiveness, safety, tolerability and cost effectiveness of vitamin D or vitamin D analogues, mild to very potent corticosteroids, combined or concurrent vitamin D or vitamin D analogue and potent corticosteroid, pimecrolimus, tacrolimus, tar, dithranol and retinoids compared with placebo, corticosteroids or vitamin D or vitamin D analogues?

Excluded n = 21

Study excluded	Reason
J. J. Almeyda, M. Feiwel, N. Thorne, and C. F. Vickers. "Timodine" cream in the treatment of flexural dermatoses and napkin rash. Practitioner 213 (1278):864-867, 1974. ALMEYDA1974	Incorrect population: 7.5% psoriasis
L. Andreassi, A. Giannetti, M. Milani, and Scale Investigators Group. Efficacy of betamethasone valerate mousse in comparison with standard therapies on scalp psoriasis: an open, multicentre, randomized, controlled, cross-over study on 241 patients. Br.J.Dermatol. 148 (1):134-138, 2003. ANDREASSI2003	Incorrect comparison
C. Barrett, D. Lowson, and K. J. Blades. Limited benefit of combined use of tar-based shampoo with 50 microg/ml calcipotriol solution in scalp psoriasis. J.Dermatol.Treat. 16 (3):175, 2005. BARRETT2005	Incorrect study type: Letter
S. Cannavo, F. Guarneri, M. Vaccaro, F. Borgia, and B. Guarneri. Treatment of Psoriatic Nails with Topical Cyclosporin: A Prospective, Randomized Placebo-Controlled Study. Dermatology 206 (2):153-156, 2003. CANNAVO2003	Incorrect outcomes
R. Elie, L. P. Durocher, and E. C. Kavalec. Effect of salicylic acid on the activity of betamethasone-17,21-dipropionate in the treatment of erythematous squamous dermatoses. Journal of International Medical Research 11 (2):108-112, 1983. ELIE1983	Incorrect population: 55% psoriasis Insufficient sample size (20 per arm)
S. R. Feldman, S. M. Ravis, A. B. Fleischer, Jr., A. McMichael, E. Jones, R. Kaplan, J. Shavin, J. Weiss, J. K. Bartruff, D. L. Levin, Rosso J. Del, and N. Kpea. Betamethasone valerate in foam vehicle is effective with both daily and twice a day dosing: a single-blind, open-label study in the treatment of scalp psoriasis. Journal of Cutaneous Medicine & Surgery 5 (5):386-389, 2001. FELDMAN2001	Incorrect outcomes
R. E. Kalb, J. Bagel, N. J. Korman, M. G. Lebwohl, M. Young, E. J. Horn, and A. S. Van Voorhees. Treatment of intertriginous psoriasis: from the Medical Board of the National Psoriasis Foundation. J.Am.Acad.Dermatol. 60 (1):120-124, 2009. KALB2009A	Incorrect study type: Review – relevant studies included
M. H. Kanzler and D. C. Gorsulowsky. Efficacy of topical 5% liquor carbonis detergens vs. its emollient base in the treatment of psoriasis. Br.J.Dermatol. 129 (3):310-314, 1993. KANZLER1993	Insufficient sample size (18 per arm) Incorrect outcomes
O. Kose. Calcipotriol ointment vs clobetasol solution in scalp psoriasis [1]. J.Dermatol.Treat. 8 (4):287, 1997. KOSE1997	Insufficient sample size (<25 per arm) Incorrect study type: letter
K. Kostarelos, A. Teknetzis, I. Lefaki, D. Ioannides, and A. Minas. Double-blind clinical study reveals synergistic action between alpha-hydroxy acid and	Insufficient sample size Incorrect population

Study excluded	Reason
betamethasone lotions towards topical treatment of scalp psoriasis. Journal of the European Academy of Dermatology & Venereology 14 (1):5-9, 2000. KOSTARELOS2000	
A. Kreuter, A. Sommer, J. Hyun, M. Brautigam, N. H. Brockmeyer, P. Altmeyer, and T. Gambichler. 1% pimecrolimus, 0.005% calcipotriol, and 0.1% betamethasone in the treatment of intertriginous psoriasis: a double-blind, randomized controlled study. Arch.Dermatol. 142 (9):1138-1143, 2006. KREUTER2006	Insufficient sample size (20 per arm) Incorrect outcomes
P. L. McCormack. Spotlight on calcipotrienebetamethasone dipropionate in psoriasis vulgaris of the trunk, limbs, and scalp. Am.J.Clin.Dermatol. 12 (6):421-424, 2011. MCCORMACK2011	Incorrect study type: Narrative review
U. Mrowietz, S. Wustlich, G. Hoexter, M. Graeber, M. Brautigam, and T. Luger. An experimental ointment formulation of pimecrolimus is effective in psoriasis without occlusion. Acta Derm.Venereol. 83 (5):351-353, 2003. MROWIETZ2003	Incorrect study type: inappropriate randomisation (treated multiple plaques – not R/L randomised)
J. P. Ortonne, C. Ganslandt, J. Tan, P. Nordin, K. Kragballe, and S. Segaert. Quality of life in patients with scalp psoriasis treated with calcipotriol/betamethasone dipropionate scalp formulation: a randomized controlled trial. J.Eur.Acad.Dermatol.Venereol. 23 (8):919-926, 2009. ORTONNE2009	Incorrect outcomes: SF36; Skindex; acceptability
J. P. Ortonne, K. L. Noerrelund, K. Papp, L. Van Herpe, M. Sebastian, E. Herrera, and B. Bodalia. Comparison of two different dose combinations of calcipotriol/hydrocortisone ointment used once daily for the treatment of psoriasis vulgaris on the face and body. Eur.J.Dermatol. 20 (5):585-589, 2010. ORTONNE2010	Incorrect comparison (not a licensed combination)
M. Pauporte, H. Maibach, N. Lowe, M. Pugliese, D. J. Friedman, H. Mendelsohn, I. Cargill, and R. Ramirez. Fluocinolone acetonide topical oil for scalp psoriasis. J.Dermatol.Treat. 15 (6):360-364, 2004. PAUPORTE2004	Incorrect comparison Incorrect outcomes
E. Rallis, A. Nasiopoulou, C. Kouskoukis, A. Roussaki-Schulze, E. Koumantaki, A. Karpouzis, and A. Arvanitis. Successful treatment of genital and facial psoriasis with tacrolimus ointment 0.1%. Drugs under Experimental and Clinical Research 31 (4):141-145, 2005. RALLIS2005	Incorrect study type: not randomised
P. Reygagne, U. Mrowietz, J. Decroix, W. Van der Spek, L. Olmos Acebes, and A. Figueiredo. Four-week efficacy and safety comparison of a new clobetasol shampoo and calcipotriol solution 0.005% in subjects with scalp psoriasis. Anonymous. Anonymous. 11th Congress of the European Academy of Dermatology and Venereology :27-36, 2002. Topical_p. 2405. PSOR_Topical_p_paper_250511. REYGAGNE2002A	Incorrect study type: Abstract only – published in full in REYGAGNE2005
R. K. Scher, M. Stiller, and Y. I. Zhu. Tazarotene 0.1% gel in the treatment of fingernail psoriasis: a double-blind, randomized, vehicle-controlled study. Cutis 68 (5):355-358, 2001. SCHER2001	Insufficient sample size (15 per arm)
A. Tosti, B. M. Piraccini, N. Cameli, F. Kokely, C. Plozzer, G. E. Cannata, and C. Benelli. Calcipotriol ointment in nail psoriasis: a controlled double-blind comparison with betamethasone dipropionate and salicylic acid. Br.J.Dermatol. 139 (4):655-659, 1998. TOSTI1998	Incorrect intervention Incorrect outcomes

Study excluded	Reason
P. C. M. Van de Kerkhof, C. Green, K. Hamberg, P. Hutchinson, J. Jensen, P. Kidson, K. Kragballe, F. Larsen, C. Munro, and D. Tillman. Safety and Efficacy of Combined High-Dose Treatment with Calcipotriol Ointment and Solution in Patients with Psoriasis. Dermatology 204 (3):214-221, 2002. VANDERKERKHOF2002	Incorrect comparison

F.3 Chapter 8: Phototherapy

F.3.1 Phototherapy

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of BBUVB, NBUVB and PUVA compared with each other or placebo/no treatment?

Excluded n = 50

Study excluded	Reason
M. Berg and A. M. Ros. Treatment of psoriasis with psoralens and ultraviolet A. A double-blind comparison of 8-methoxypsoralen and 5-methoxypsoralen. Photodermatol.Photoimmunol.Photomed. 10 (5):217-220, 1994. BERG1994	Incorrect comparison: 5-MOP vs 8-MOP PUVA
D. Buckley, E. Healy, and S. Rogers. Twice-weekly compared with thrice-weekly PUVA for chronic plaque psoriasis. Br.J.Dermatol. 131 (Suppl 44):18, 1994. BUCKLEY1994	Incorrect study type: Paper summary
P. G. Calzavara-Pinton. Safety and effectiveness of an aggressive and individualized bath-PUVA regimen in the treatment of psoriasis. Dermatology 189 (3):256-259, 1994. CALZAVARRAPINTON1994	Incorrect study type: nonrandomised
P. G. Calzavara-Pinton, C. Zane, A. Carlino, and G. De Panfilis. Bath-5-methoxypsoralen-UVA therapy for psoriasis. J.Am.Acad.Dermatol. 36 (6 Pt 1):945-949, 1997. CALZAVARRAPINTON1997	Incorrect comparison: 5-MOP vs 8-MOP PUVA
Xiaomei Chen, Yan Cheng, Ming Yang, Guan J. Liu, and Min Zhang. Narrow-band ultraviolet B phototherapy versus broad-band ultraviolet B or psoralen-ultraviolet A photochemotherapy for psoriasis. Cochrane Database of Systematic Reviews Issue 12:CD009481, 2011. CHEN2011D	Incorrect study type: protocol only
P. Collins and S. Rogers. Bath-water compared with oral delivery of 8-methoxypsoralen PUVA therapy for chronic plaque psoriasis. Br.J.Dermatol. 127 (4):392-395, 1992. COLLINS1992	Incorrect comparison: oral vs bath PUVA
E. J. Cooper, R. M. Herd, G. C. Priestley, and J. A. Hunter. A comparison of bathwater and oral delivery of 8-methoxypsoralen in PUVA therapy for plaque psoriasis. Clin.Exp.Dermatol. 25 (2):111-114, 2000. COOPER2000	Incorrect comparison: oral vs bath PUVA
T. R. Coven, L. H. Burack, R. Gilleaudeau, M. Keogh, M. Ozawa,	Incorrect study type: not randomised

Study excluded	Reason
and J. G. Krueger. Narrowband UV-B produces superior clinical and histopathological resolution of moderate-to-severe psoriasis in patients compared with broadband UV-B. Arch.Dermatol. 133 (12):1514-1522, 1997. COVEN1997	
R. S. Dawe. A comparison of TL-O1 UVB phototherapy and bath-PUVA for chronic plaque psoriasis Abstract. Br.J.Dermatol. 143 (Suppl 57):15, 2000. DAWE2000	Incorrect study type: paper summary
R. S. Dawe. A quantitative review of studies comparing the efficacy of narrow-band and broad-band ultraviolet B for psoriasis. Br.J.Dermatol. 149 (3):669-672, 2003. DAWE2003A	Incorrect study type: letter
B. Dogan, O. Taskapan, S. Cekmen, O. Karabudak, and Y. Harmanyeri. PUVA-alone, bath-PUVA, and re-PUVA in the treatment of psoriasis: A clinical comparison. Gulhane Med.J. 41 (4):439-442, 1999. DOGAN1999	Not in English
B. Engin and O. Oguz. Evaluation of time-dependent response to psoralen plus UVA (PUVA) treatment with topical 8-methoxypsoralen (8-MOP) gel in palmoplantar dermatoses. Int.J.Dermatol. 44 (4):337-339, 2005. ENGIN2005	Incorrect population: 37.5% eczema
G. U. Erkin. Effect of PUVA, narrow-band UVB and cyclosporin on inflammatory cells of the psoriatic plaque. J.Cutan.Pathol. 34 (3):213-219, 2007. ERKIN2007	Incorrect study type: not randomised
S. A. George and J. Ferguson. Liquid formulations of 8-methoxypsoralen (8-MOP) and 5-MOP: a prospective double-blind crossover assessment of acute non-phototoxic adverse effects. Photodermatol.Photoimmunol.Photomed. 9 (1):33-35, 1992. GEORGE1992	Outcomes incorrect
S. A. George, D. J. Bilsland, N. J. Wainwright, and J. Ferguson. Failure of coconut oil to accelerate psoriasis clearance in narrow-band UVB phototherapy or photochemotherapy. Br.J.Dermatol. 128 (3):301-305, 1993. GEORGE1993	Incorrect comparison: UV vs UV+oil
C. Green, J. Ferguson, T. Lakshmipathi, and B. E. Johnson. 311 nm UVB phototherapy--an effective treatment for psoriasis. Br.J.Dermatol. 119 (6):691-696, 1988. GREEN1988	Incorrect study type: nonrandomised
C. Green, T. Lakshmipathi, B. E. Johnson, and J. Ferguson. A comparison of the efficacy and relapse rates of narrowband UVB (TL-01) monotherapy vs. etretinate (re-TL-01) vs. etretinate-PUVA (re-PUVA) in the treatment of psoriasis patients. Br.J.Dermatol. 127 (1):5-9, 1992. GREEN1992	Incorrect comparison
M. Grundmann-Kollmann, R. Ludwig, T. M. Zollner, F. Ochsendorf, D. Thaci, W. H. Boehncke, J. Krutmann, R. Kaufmann, and M. Podda. Narrowband UVB and cream psoralen-UVA combination therapy for plaque-type psoriasis.	Incorrect comparisons: Cream PUVA vs NBUVB vs Cream PUVA + NBUVB

Study excluded	Reason
J.Am.Acad.Dermatol. 50 (5):734-739, 2004. GRUNDMAN2004	
A. Hofer, R. Fink-Puches, H. Kerl, F. Quehenberger, and P. Wolf. Paired comparison of bathwater versus oral delivery of 8-methoxypsoralen in psoralen plus ultraviolet: A therapy for chronic palmoplantar psoriasis. Photodermatol.Photoimmunol.Photomed. 22 (1):1-5, 2006. HOFER2006	Incorrect comparison: bath vs oral PUVA
C. Hofmann, A. Neiss, G. Plewig, and O. Braun-Falco. Oral-8-methoxypsoralen-UVA-(PUVA-) therapy for psoriasis: comparison of three treatment protocols. Hautarzt 31 (6):315-323, 1980. HOFMANN1980	Not in English
P. Jensen, L. Skov, and C. Zachariae. Systemic combination treatment for psoriasis: a review. Acta Derm.Venereol. 90 (4):341-349, 2010. JENSEN2010	Incorrect comparisons (UV+systemics)
M. Lane-Brown. 5-Methoxy psoralen, etretinate, and UVA for psoriasis. Int.J.Dermatol. 26 (10):655-659, 1987. LANEBROWN1987	Incorrect comparison: 5-MOP vs 8-MOP PUVA
A. M. Layton, R. Sheehan-Dare, and W. J. Cunliffe. A double-blind, placebo-controlled trial of topical PUVA in persistent palmoplantar pustulosis. Br.J.Dermatol. 124 (6):581-584, 1991. LAYTON1991	Incorrect comparison: PUVA vs UVA + placebo in PPP
V. Leenutaphong, P. Nimkulrat, and S. Sudtim. Comparison of phototherapy two times and four times a week with low doses of narrow-band ultraviolet B in Asian patients with psoriasis. Photodermatol.Photoimmunol.Photomed. 16 (5):202-206, 2000. LEENUTAPHONG2000	Incorrect study type: not randomised
F. J. Legat, A. Hofer, F. Quehenberger, P. Kahofer, H. Kerl, and P. Wolf. Reduction of treatment frequency and UVA dose does not substantially compromise the antipsoriatic effect of oral psoralen-UVA. J.Am.Acad.Dermatol. 51 (5):746-754, 2004. LEGAT2004	Only 5 participants for our comparison and no baseline data for this group alone
A. Leon, A. Nguyen, J. Letsinger, and J. Koo. An attempt to formulate an evidence-based strategy in the management of moderate-to-severe psoriasis: a review of the efficacy and safety of biologics and prebiologic options. Expert Opin.Pharmacother. 8 (5):617-632, 2007. LEON2007	Systematic review: insufficient detail given to include (relevant papers ordered)
N. J. Lowe, D. Weingarten, T. Bourget, and L. S. Moy. PUVA therapy for psoriasis: comparison of oral and bath-water delivery of 8-methoxypsoralen. J.Am.Acad.Dermatol. 14 (5 Pt 1):754-760, 1986. LOWE1986	Incorrect study type: nonrandomised
A. M. Marsland, R. J. Chalmers, S. Hollis, J. Leonardi-Bee, and C. E. Griffiths. Interventions for chronic palmoplantar pustulosis. Cochrane Database of Systematic Reviews (1), 2006. MARSLAND2006	Systematic review on PPP relevant papers ordered
J. W. Melski, L. Tanenbaum, J. A. Parrish, T. B. Fitzpatrick, and H.	Poor study methodology: randomisation

Study excluded	Reason
L. Bleich. Oral methoxsalen photochemotherapy for the treatment of psoriasis: a cooperative clinical trial. J.Invest.Dermatol. 68 (6):328-335, 1977. MELSKI1977	severely compromised (high % excluded from analysis for protocol violation or poor adherence and no comparative baseline data for the 2 groups)
T. G. Nguyen. Practice of phototherapy in the treatment of moderate-to-severe psoriasis. Curr.Probl.Dermatol. 38:59-78, 2009. NGUYEN2009	Incorrect study type: narrative review
B. V. Y. Nolan. A review of home phototherapy for psoriasis. Dermatol.Online J. 16 (2):1, 2010. NOLAN2010	Incorrect study type: narrative review – home phototherapy Relevant papers ordered
B. Ortel, S. Perl, T. Kinaciyan, P. G. Calzavara-Pinton, and H. Honigsmann. Comparison of narrow-band (311 nm) UVB and broad-band UVA after oral or bath-water 8-methoxypsoralen in the treatment of psoriasis. J.Am.Acad.Dermatol. 29 (5 Pt 1):736-740, 1993. ORTEL1993	Incorrect comparisons: PUVB vs UVB; PUVB vs PUVA
M. Ozdemir, B. Engin, I. Baysal, and I. Mevlitoglu. A randomized comparison of acitretin-narrow-band TL-01 phototherapy and acitretin-psoralen plus ultraviolet A for psoriasis. Acta Derm.Venereol. 88 (6):589-593, 2008. OZDEMIR2008	Incorrect comparisons: acitretin+UV
S. Pai and C. R. Srinivas. Bathing suit delivery of 8-methoxypsoralen for psoriasis: a double-blind, placebo-controlled study. Int.J.Dermatol. 33 (8):576-578, 1994. PAI1994	Incorrect intervention: bathing suit delivery of 8-MOP
A. V. Roussaki-Schulze, C. Kouskoukis, E. Klimi, E. Zafiriou, A. Galanos, and E. Rallis. Calcipotriol monotherapy versus calcipotriol plus UVA1 versus calcipotriol plus narrow-band UVB in the treatment of psoriasis. Drug.Exp.Clin.Res. 31 (5-6):169-174, 2005. ROUSSAKISCHULZE2005	Incorrect comparison
R. Schiener, T. Brockow, A. Franke, B. Salzer, R. U. Peter, and K. L. Resch. Bath PUVA and saltwater baths followed by UV-B phototherapy as treatments for psoriasis: a randomized controlled trial. Arch.Dermatol. 143 (5):586-596, 2007. SCHIENER2007	Incorrect intervention mixed UVB (NB, BB and selective UVB)
S. P. Sivanesan, S. Gattu, J. Hong, A. Chavez-Frazier, G. D. Bandow, F. Malick, G. Kricorian, and J. Koo. Randomized, double-blind, placebo-controlled evaluation of the efficacy of oral psoralen plus ultraviolet A for the treatment of plaque-type psoriasis using the Psoriasis Area Severity Index score (improvement of 75% or greater) at 12 weeks. J.Am.Acad.Dermatol. 61 (5):793-798, 2009. SIVANESAN2009	Incorrect comparison: PUVA vs UVA + placebo
P. I. Spuls, L. Witkamp, P. M. Bossuyt, and J. D. Bos. A systematic review of five systemic treatments for severe psoriasis. Br.J.Dermatol. 137 (6):943-949, 1997. SPULS1997	Systematic review: insufficient detail given to include (relevant papers ordered)
K. Sridhar, C. R. Srinivas, and S. D. Shenoi. Puva therapy for psoriasis comparison of oral and bath water delivery of 8-mop. Indian J.Dermatol.Venereol.Leprol. 58 (4):252-254, 1992.	Incorrect comparison: oral vs bath PUVA

Study excluded	Reason
SRIDHAR1992	
K. R. Stein, D. J. Pearce, and S. R. Feldman. Targeted UV therapy in the treatment of psoriasis. J.Dermatol.Treat. 19 (3):141-145, 2008. STEIN2008	Incorrect intervention: literature review on targeted UV therapy
R. S. Stern. Lymphoma risk in psoriasis: results of the PUVA follow-up study. Arch.Dermatol. 142 (9):1132-1135, 2006. STERN2006	Incorrect study type: cohort study
R. Tahir and G. Mujtaba. Comparative efficacy of psoralen - uva photochemotherapy versus narrow band uvb phototherapy in the treatment of psoriasis. J.Coll.Phys.Surg.Pakistan 14 (10):593-595, 2004. TAHIR2004	Incorrect study type: not randomised
A. Tanew, B. Ortel, K. Rappersberger, and H. Honigsmann. 5-Methoxypsoralen (Bergapten) for photochemotherapy: Bioavailability, phototoxicity, and clinical efficacy in psoriasis of a new drug preparation. J.Am.Acad.Dermatol. 18 (2 Pt 1):333-338, 1988. TANEW1988	Incorrect comparison: 5-MOP vs 8-MOP PUVA
A. Tanew, F. J. Radakovic, M. Schemper, and H. Honigsmann. Narrowband UV-B phototherapy vs photochemotherapy in the treatment of chronic plaque-type psoriasis: a paired comparison study. Arch.Dermatol. 135 (5):519-524, 1999. TANEW1999	Incorrect study type: nonrandomised
K. Turjanmaa, H. Salo, and T. Reunala. Comparison of trioxsalen bath and oral methoxsalen PUVA in psoriasis. Acta Derm.Venereol. 65 (1):86-88, 1985. TURJANMAA1985	Incorrect comparison: oral vs bath PUVA and unclear if randomised
A. I. Ul Bari. Comparison of PUVA and UVB therapy in moderate plaque psoriasis. J.Pakistan Assoc.Dermatol. 15 (1):26-31, 2005. ULBARI2005	Unclear if NB or BB UVB and not a representative population (serving or retired armed forces –majority male)
H. van Weelden, E. Young, and J. C. van der Leun. Therapy of psoriasis: comparison of photochemotherapy and several variants of phototherapy. Br.J.Dermatol. 103 (1):1-9, 1980. VANWEELDEN1980	No numerical data
H. van Weelden, H. B. De La Faille, E. Young, and J. C. van der Leun. A new development in UVB phototherapy of psoriasis. Br.J.Dermatol. 119 (1):11-19, 1988. VANWEELDEN1988	Incorrect outcomes
H. van Weelden, H. B. De La Faille, E. Young, and J. C. van der Leun. Comparison of narrow-band UV-B phototherapy and PUVA photochemotherapy in the treatment of psoriasis. Acta Derm.Venereol. 70 (3):212-215, 1990. VANWEELDEN1990	Incorrect outcomes
E. Young. Ultraviolet therapy of psoriasis: a critical study. Br.J.Dermatol. 87 (4):379-382, 1972. YOUNG1972	Unclear intervention and no numerical data given

F.3.2 Phototherapy combined with acitretin

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of acitretin plus UVB (NBUVB and BBUVB) and acitretin plus PUVA compared with their monotherapies and compared with each other?

Excluded n = 39

Excluded Study	Reason
S. N. Al-Suwaidan and S. R. Feldman. Clearance is not a realistic expectation of psoriasis treatment. J. Am. Acad. Dermatol. 42 (5): 796-802. 200 ALSUWAIDAN2000	Incorrect study type: narrative review
J. N. W. N. Barker and C. E. M. Griffiths. Combination therapy for psoriasis. Dermatologic Therapy. 11: 96-103. 1999 BARKER1999	Incorrect study type: narrative review
J. Czernielewski, L. Juhlin, S. Shuroot and P. Brun. Langerhans' Cells in Patients with Psoriasis: Effect of Treatment with PUVA, PUVA Bath, Etretinate and Anthralin. Acta Derm Venereol. 65: 97-101. 1985 CZERNIELEWSKI1985	Incorrect study type: not randomised
M. E. De Jager, E. M. De Jong, P. C. Van de Kerkhof, M. M. Seyger. Efficacy and safety of treatment s for childhood psoriasis: a systematic literature review. Journal of the American Academy of Dermatology. 62: 1013-1030. 2010 DEJAGER2010	Incorrect intervention
A. Y. Finlay and J-P. Ortonne. Patient Satisfaction with Psoriasis Therapies: An Update and Introduction to Biologic Therapy. Journal of Cutaneous Medicine and Surgery. 8 (5) 310-320. 2004. FINLAY2004	Incorrect study type: narrative review
A. J. Frankel, A. S. Van Voorhees, S. Hsu, N. J .Korman, M. G. Lebwohl, B. F. Bebo and A. B. Gottlieb. Treatment of psoriasis in patients with hepatitis C: From the Medical Board of the National Psoriasis Foundation FRANKEL2009	Incorrect intervention
J. M. Geiger, F. Ott and W. Bollag. Clinical Evaluation of an Aromatic Retinoid RO 10-1670 in Sever Psoriasis. Current Therapeutic Research. 35 (5). 735-740. 1984. GEIGER1984	Incorrect intervention : Retinoid used was etretinate
C. Green, T. Lakshmipathi, B. E. Johnson and J. Ferguson. A comparison of the efficacy and relapse rates of narrowband UVB (TL-01) monotherapy vs. Etretinate (re-TL-01) vs. Etretinate-PUVA (re-PUVA) in the treatment of psoriasis patients. British Journal of Dermatology. 127: 5-9. 1992 GREEN1992	Incorrect intervention : Retinoid used was etretinate
R. C. Grekin, C. N. Ellis, J. J. Voorhees. Retinoids in the Treatment of Psoriasis. Monotherapy and Combinations. Dermatology Clinics. 2 (3): 439-454. 1984 GREKIN1984	Incorrect study type: narrative review
C. E. M. Griffiths. A systematic review of treatments for severe psoriasis. Health Technology Assessment: 4 (40): i+iii- 115. 2000 GRIFFITHS2000	Health Technology assessment: No relevant studies
C. S. Hankin, N. D. Bhatia, G. Goldenberg, A. Bronstone, J. D. Dunn, D. Burgoyne, J. Knispel, J. M. Gleeson, M. Lopes. A comparison of the clinical effectiveness and cost-effectiveness of treatments for moderate to severe psoriasis. Drug Benefit Trends. 22: 17-27. 2010 HANKIN2010	Review: all relevant studies included
S. G. Hodulik and J. A. Zeichner. Combination therapy with acitretin for psoriasis. Journal of Dermatological Treatment. 17: 108-111. 2006	Incorrect study type: Case reports

Excluded Study	Reason
HODULIK2006	
P. Jensen, L. Skov and C. Zachariae. Systemic Combination Treatment for Psoriasis: A Review. Acta Derm Venereol. 90: 341-349. 2010. JENSEN2010	Systematic review: all relevant studies included
S. Kang and J. J. Voorhees. Retinoids in psoriasis. Dermatologic Therapy. 11: 67-74. 1999. KANG1999	Incorrect study type: narrative review
A. F. Kavanaugh, C. T. Ritchlin, Grappa Treatment Guideline Committee. Systematic review of treatments for psoriatic arthritis: an evidence based approach and basis for treatment guidelines. Journal of Rheumatology. 33: 1417-1421. 2006 KAVANAUGH2006	Incorrect population: psoriatic arthritis only
W. S. Koh and J. I. Youn. Comparison of PUVA and Retinoid-PUVA in the Treatment of Psoriasis in Korean Patients. Annals of Dermatology. 7 (2): 112-115. 1995 KOH1995	Incorrect intervention: Retinoid used was etretinate
K. Kostovic and A. Pasic. Phototherapy of Psoriasis: Review and Update. 12 (1): 42-50. 2004 KOSTOVIC2004	Incorrect study type: narrative review
M. Lane-Brown. 5-Methoxy psoralen, etretinate, and UVA for psoriasis. International Journal of Dermatology. 26: 655-659. 1987 LANEBROWN1987	Incorrect intervention: Retinoid used was etretinate
I. Lara-Corrales, N. Xi and E. Pope. Childhood Psoriasis Treatment. Evidence Published Over the last 5 Years. Reviews on Recent Clinical Trials. 6: 36-43. 2011. LARACORRALES2011	Review: no relevant studies
J. Lauharanta, T. Juvakoski and A. Lassus. A clinical evaluation of the effects of an aromatic retinoid (Tigason), combination of retinoid and PUVA, and PUVA alone in severe psoriasis. British Journal of Dermatology. 104: 325-332. 1981 LAUHARANTA1981	Incorrect intervention: Retinoid used was etretinate
J. Lauharanta and J. M. Geiger. A double-blind comparison of acitretin and etretinate in combination with bath PUVA in the treatment of extensive psoriasis. British Journal of Dermatology. 121: 107-112. 1989 LAUHARANTA1989	Incorrect intervention: Retinoid used was etretinate
C. M. Lawrence, J. Marks, S. Parker and S. Shuster. A comparison of PUVA-etretinate and PUVA-placebo for palmoplantar pustular psoriasis. British Journal of Dermatology. 110: 221-226. 1984 LAWRENCE1984	Incorrect intervention: Retinoid used was etretinate
C. S. Lee and K. Li. A review of acitretin for the treatment of psoriasis. Expert Opin. Drug Saf. 8 (6): 769-779. 2009 LEE2009A	Incorrect study type: narrative review
A. Leon, A. Hguyen, J. Letsinger and J. Koo. An attempt to formulate an evidence-based strategy in the management of moderate-to-severe psoriasis: a review of the efficacy and safety of biologics and prebiologic options. [Review]. Expert Opinion on Pharmacotherapy. 8: 617-632. 2007 LEON2007	Incorrect intervention: Retinoid used was etretinate
R. A. Logan. Efficacy of etretinate for the PUVA- dependent Psoriatic. Clinical and Experimental Dermatology. 12: 98-102. 1987 LOGAN1987	Incorrect intervention: Retinoid used was etretinate
N. J. Lowe, J. H. Prystowsky, T. Bourget, J. Edelstein, S. Nychay and R. Armstrong. Acitretin plus UVB therapy for psoriasis. Journal of the American Academy of Dermatology. 24 (4) 591-594. 1991	Incorrect outcomes

Excluded Study	Reason
LOWE1991	
E. Matsunami, A. Takashima, N. Mizuno, T. Jinno and H. Ito. Topical PUVA, Etretinate, and Combined PUVA and Etretinate for Palmoplantar Pustulosis: Comparison of Therapeutic Efficacy and the Influences of Tonsillar and Dental Focal Infections. Journal of Dermatology. 17: 92-96. 1990 MATSUNAMI1990	Incorrect intervention: Retinoid used was etretinate
M. Pang, J. E. Murase and J. Koo. An updated review of acitretin – a systemic retinoid for the treatment of psoriasis. Expert Opin. Drug Metab. Toxicol. 4 (7): 953-964. 2008 PANG2008	Review – all relevant studies included
S. Parker, P. Coburn, C. Lawrence, J. Marks and S. Shuster. A randomized double-blind comparison of PUVA-etretinate and PUVA-placebo in the treatment of chronic plaque psoriasis. British Journal of Dermatology. 110: 215-220. 1984 PARKER1984	Incorrect intervention: Retinoid used was etretinate
D. J. Pearce, A. A. Nelson, A. B. Fleischer, R. Balkrishnan and S. R. Feldman. The cost-effectiveness and cost of treatment failures associated with systemic psoriasis therapies. Journal of Dermatological Treatment. 17: 29-37. 2006 PEARCE2006	Incorrect comparison
K. Rosen, H. Mobacken, G. Swanbeck. PUVA, etretinate, and PUVA-etretinate therapy for pustolosis palmoplantaris. A placebo-controlled comparative trial. Archives of Dermatology. 123: 885-889. 1987 ROSEN1987	Incorrect intervention: Retinoid used was etretinate
K. Rosen. Pustulosis Palmoplantaris and Chronic Eczematous Hand Dermatitis. Treatment, epidermal Langerhans cells and association with thyroid disease. Acta Derm Venereol. Supplementum 137: 1-52. 1988 ROSEN1988	Incorrect intervention: Retinoid used was etretinate
M. A. Sher, B. Sher and V. Berro. Treatment of psoriasis. SAMJ. 69: 23-26. 1986 SHER1986	Not an RCT
P. I. W. Spuls. A systematic review of five systemic treatments for severe psoriasis. British Journal of Dermatology. 137: 943-949.1997 SPULS1997	Incorrect comparison
B. Strober. K. Siu and K. Menon. Conventional Systemic Agents for Psoriasis. A Systematic Review. The Journal of Rheumatology. 33 (7): 1442-1446. 2006 STROBER2006	Incorrect comparison
A. Takashima, A. Sunohara, E. Matsunami and N. Mizuno. Comparison of Therapeutic Efficacy of Topical PUVA, Oral Etretinate, and Combined PUVA and Etretinate for the Treatment of Psoriasis and Development of PUVA Lentigines and Antinuclear Antibodies. Journal of Dermatology. 15: 473-479. 1988 TAKASHIMA1988	Incorrect intervention: Retinoid used was etretinate
T. Thirumoorthy, S. N. Tham and Y. C. Tan. Combination Therapy of Oral Methoxypsoralen: Photochemotherapy (PUVA) and an Aromatic Retinoid (Etretinate, Tigason) in the Treatment of Psoriasis. Journal of Dermatology. 13: 132-136. 1986 THIRUMOORTHY1986	Incorrect intervention: Retinoid used was etretinate
R. M. Trueb. Therapies for Childhood Psoriasis. Curr Probl Dermatol. 38: 137-159. 2009 TRUEB2009	Incorrect study type: narrative review
N. Vaatainen, A. Hollmen and J. E. Fraki. Trimethylpsoralen bath plus ultraviolet A combined with oral retinoid (etretinate) in the treatment	Incorrect study type: not randomised

Excluded Study	Reason
of severe psoriasis. Journal of the American Academy of Dermatology. 12 (1): 52-55. 1985 VAATAINEN1985	

F.3.3 Dithranol, coal tar and vitamin D or vitamin D analogues combined with UVB

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of UVB (NBUVB or BBUVB) combined with dithranol, coal tar or vitamin D or vitamin D analogues compared with UVB alone or topical therapy alone?

Excluded n = 48

Study excluded	Reason
M. A. Abdallah, E. A. El-Khateeb, and S. H. Abdel-Rahman. The influence of psoriatic plaques pretreatment with crude coal tar vs. petrolatum on the efficacy of narrow-band ultraviolet B: A half-vs.-half intra-individual double-blinded comparative study. Photodermatology, Photoimmunology and Photomedicine 27 (5):226-230, 2011. ABDALLAH2011	Incorrect comparison
Anderson, T.F. 1982. Psoriasis. *Medical Clinics of North America*, 66, (4) 769-794 ANDERSON1982	Incorrect study type: Narrative review
Ashcroft, D.M., Li Wan Po, A., Williams, H.C., & Griffiths, C.E. 2000. Cost-effectiveness analysis of topical calcipotriol versus short-contact dithranol: In the treatment of mild to moderate plaque psoriasis. *Pharmacoeconomics*, 18, (5) 469-476 ASHCROFT2000	Systemitic review: no relevant data
Barker, J.N. & Griffiths, C.E. 1999. Combination therapy for psoriasis. *Dermatologic Therapy*, 11, 96-103 BARKER1999	Incorrect study type: Narrative review
Betti, R., Rosti, A., Lodi, A., Bencini, P.L., Paparelli, S., Gazzola, G.B., Cori, P., Moroni, G.A., & Crosti, C. 1991. Effect of UVB plus tar therapy on serum levels of interleukin-2 receptors in patients with psoriasis. *Clinical and Experimental Dermatology*, 16, (5) 364-366 BETTI1991	Incorrect outcome and comparisons
Boer, J. & Smeenk, G. 1986. Effect of short-contact anthralin therapy on ultraviolet B irradiation of psoriasis. *Journal of the American Academy of Dermatology*, 15, (2 Pt 1) 198-204 BOER1986	Incorrect study type: Not randomised
Bowers, R.E., Dalton, D., Fursdon, D., & Knowelden, J. 1966. The treatment of psoriasis with U.V.R., dithranol paste and tar baths. *British Journal of Dermatology*, 78, (5) 273-281 BOWERS1966	Incorrect intervention
Brun, P., Juhlin, L., & Schalla, W. 1984. Short contact anthralin therapy of psoriasis with and without UV-irradiation and maintenance schedule to prevent relapses. *Acta Dermato-Venereologica*, 64, (2) 174-177	Incorrect study type: Not randomised

Study excluded	Reason
BRUN1984	
Comaish, J.S. 1987. The effect of tar and ultraviolet on the skin. *Journal of Investigative Dermatology*, 88, (3 Suppl) 61s-64s COMAISH1987	Incorrect study type: Narrative review
de Jager, M.E., de Jong, E.M., van de Kerkhof, P.C., & Seyger, M.M. 2010. Efficacy and safety of treatments for childhood psoriasis: a systematic literature review. *Journal of the American Academy of Dermatology*, 62, (6) 1013-1030 DEJAGER2010	Incorrect comparison
de Rie, M.A., de Hoop, D., Jonsson, L., Bakkers, E.J., & Sorensen, M. 2001. Pharmacoeconomic evaluation of calcipotriol (Daivonex/Dovonex) and UVB phototherapy in the treatment of psoriasis: a Markov model for the Netherlands. *Dermatology*, 202, (1) 38-43 DERIE2001	Incorrect study type: economic evaluation
de Rie, M.A., Out, T.A., & Bos, J.D. 1998. Low-dose narrow-band UVB phototherapy combined with topical therapy is effective in psoriasis and does not inhibit systemic T-cell activation. *Dermatology*, 196, (4) 412-417 DERIE1998	Incorrect study type: Not randomised
Derbes, V.J. 1981. Psoriasis. *Rational Drug Therapy*, 15, (1) 1-6 DERBES1981	Incorrect study type: Narrative review
Eells, L.D., Wolff, J.M., Garloff, J., & Eaglstein, W.H. 1984. Comparison of suberythemogenic and maximally aggressive ultraviolet B therapy for psoriasis. *Journal of the American Academy of Dermatology*, 11, (1) 105-110 EELS1984	Incorrect study type: Not randomised
Farber, E.M. 1984. Topical treatment of psoriasis with dithranol. *Acta Dermato-Venereologica Supplementum*, 112, 11-16 FARBER1984	Incorrect study type: Narrative review
Farr, P.M., Diffey, B.L., & Marks, J.M. 1987. Phototherapy and dithranol treatment of psoriasis: new lamps for old. *British Medical Journal Clinical Research Ed.*, 294, (6566) 205-207 FARR1987	Incorrect study type: Not randomised
Fischer, T. 1977. Comparative treatment of psoriasis with UV-light, trioxsalen plus UV-light, and coal tar plus UV-light. *Acta Dermato-Venereologica*, 57, (4) 345-350 FISCHER1977	Incorrect study type: Not randomised
Frankel, A.J., Van Voorhees, A.S., Hsu, S., Korman, N.J., Lebwohl, M.G., Bebo, B.F., Jr., Gottlieb, A.B., & National Psoriasis Foundation 2009. Treatment of psoriasis in patients with hepatitis C: from the Medical Board of the National Psoriasis Foundation. *Journal of the American Academy of Dermatology*, 61, (6) 1044-1055 FRANKEL2009	Incorrect comparison
Giannetti, A. & Zambruno, G. 1985. Treatment of psoriasis: A clinical trial with a combination of three new coal tar preparations and different UV wavelengths (A, B and A + B). *Annali Italiani di Dermatologia Clinica e Sperimentale*, 39, (3) 327-336 GIANNETTI1985	Incorrect language: Not in English

Study excluded	Reason
Hecker, D. & Lebwohl, M. 1997. Topical calcipotriene in combination with UVB phototherapy for psoriasis. *International Journal of Dermatology*, 36, (4) 302-303 HECKER1997	Incorrect study type: Not randomised Incorrect outcomes
Hofmann, U.B., Eggert, A.A., Brocker, E.B., & Goebeler, M. 2003. Calcitriol vs. dithranol in combination with narrow-band ultraviolet B (311 nm) in psoriasis. *British Journal of Dermatology*, 148, (4) 779-783 HOFMANN2003	Incorrect comparison
Jillson, O.F. 1982. Psoriasis. *Cutis*, 29, (3) 230-238 JILLSON1982	Incorrect study type: Narrative review
Khaliq, Y. 2002. Psoriasis. *Canadian Pharmaceutical Journal*, 135, (3) 17 KHALIQ2002	Incorrect study type: Patient information leaflet
Kokelj, F., Lavaroni, G., & Guadagnini, A. 1995. UVB versus UVB plus calcipotriol (MC 903) therapy for psoriasis vulgaris. *Acta Dermato-Venereologica*, 75, (5) 386-387 KOKELJ1995	Incorrect study type: Not randomised
Koo, J. 2004. Psoriasis. *Journal of the American Academy of Dermatology*, 50, (4) 613-622 KOO2004	Incorrect study type: Narrative review
Lebwohl, M., Abel, E., Zanolli, M., Koo, J., & Drake, L. 1995. Topical therapy for psoriasis. *International Journal of Dermatology*, 34, (10) 673-684 LEBWOHL1995	Incorrect study type: Narrative review
Lebwohl, M., Berman, B., & France, D.S. 1985. Addition of short-contact anthralin therapy to an ultraviolet B phototherapy regimen: assessment of efficacy. *Journal of the American Academy of Dermatology*, 13, (5 Pt 1) 780-784 LEBWOHL1985	Incorrect study type: Not randomised
Lebwohl, M., Hecker, D., Martinez, J., Sapadin, A., & Patel, B. 1997. Interactions between calcipotriene and ultraviolet light. *Journal of the American Academy of Dermatology*, 37, (1) 93-95 LEBWOHL1997	Incorrect outcomes
Leon, A., Nguyen, A., Letsinger, J., & Koo, J. 2007. An attempt to formulate an evidence-based strategy in the management of moderate-to-severe psoriasis: a review of the efficacy and safety of biologics and prebiologic options. *Expert Opinion on Pharmacotherapy*, 8, (5) 617-632 LEON2007	Incorrect study type: Narrative review
Leone, G. & Pacifico, A. 2005. Profile of clinical efficacy and safety of topical tacalcitol. [Review] [31 refs]. *Acta Bio-Medica de l Ateneo Parmense*, 76, (1) 13-19 LEONE2005	Incorrect study type: Narrative review
Marks, J., Rogers, S., Chadkirk, B., & Shuster, S. 1981. Clearance of chronic plaque psoriasis by anthralin-subjective and objective assessment and comparison with photochemotherapy. *British Journal of Dermatology*, 105, (Suppl 20) 96-99 MARKS1981	Incorrect comparison
Marsico, A.R., Eaglstein, W.H., & Weinstein, G.D. 1976. Ultraviolet light and tar in the Goeckerman treatment of	Incorrect comparison

Study excluded	Reason
psoriasis. *Archives of Dermatology*, 112, (9) 1249-1250 MARSICO1976	
Parrish, J.A. 1981. Ultraviolet phototherapy of psoriasis. *Pharmacology & Therapeutics*, 15, (2) 313-320 PARRISH1981	Incorrect study type: Narrative review
Perry, H.O., Soderstrom, C.W., & Schulze, R.W. 1968. The Goeckerman treatment of psoriasis. *Archives of Dermatology*, 98, (2) 178-182 PERRY1968	Incorrect study type: Not randomised
Petrozzi, J.W. & de los Reyes, O. 1982. Ultraviolet phototherapy in psoriasis with hydrophilic ointment alone or with crude coal tar. *Archives of Dermatological Research*, 272, (3-4) 257-262 PETROZZI1982	Incorrect intervention
Prystowsky, J.H., Muzio, P.J., Sevran, S., & Clemens, T.L. 1996. Effect of UVB phototherapy and oral calcitriol (1,25-dihydroxyvitamin D3) on vitamin D photosynthesis in patients with psoriasis. *Journal of the American Academy of Dermatology*, 35, (5 Pt 1) 690-695 PRYSTOWSKY1996	Incorrect intervention
Rodewald, E.J., Housman, T.S., Mellen, B.G., & Feldman, S.R. 2001. The efficacy of 308nm laser treatment of psoriasis compared to historical controls. *Dermatology Online Journal*, 7, (2) 4 RODEWALD2001	Incorrect study type
Rotstein, H. & Baker, C. 1990. The treatment of psoriasis. [Review] [194 refs]. *Medical Journal of Australia*, 152, (3) 153-164 ROTSTEIN1990	Incorrect study type: Narrative review
Schiener, R., Behrens-Williams, S.C., Pillekamp, H., Kaskel, P., Peter, R.U., & Kerscher, M. 2000. Calcipotriol vs. tazarotene as combination therapy with narrowband ultraviolet B (311 nm): efficacy in patients with severe psoriasis. *British Journal of Dermatology*, 143, (6) 1275-1278 SCHIENER2000	Incorrect comparison
Schmid-Ott, G. 2003. Psoriasis. *Dermatology and Psychosomatics*, 4, (3) 169-171 SCHMIDOTT2003	Incorrect study type: Narrative review
Sher, M.A., Sher, B., & Berro, V. 1986. Treatment of psoriasis. Results achieved by the Johannesburg Hospital Psoriasis Clinic. *South African Medical Journal*, 69, (1) 23-26 SHER1986	Incorrect study type: not randomised Incorrect comparison
Sminkels, O.Q., Prins, M., Veeniiuis, R.T., de Boo, T., Gerritsen, M.J., Van der Wilt, G.J., van de Kerkhof, P.C., & Van Der Valk, P.G. 2004. Effectiveness and side effects of UVB-phototherapy, dithranol inpatient therapy and a care instruction programme of short contact dithranol in moderate to severe psoriasis. *European Journal of Dermatology*, 14, (3) 159-165 SWINKELS2004	Incorrect comparison
Stern, R.S., Gange, R.W., Parrish, J.A., Tang, S.V., & Arndt, K.A. 1986. Contribution of topical tar oil to ultraviolet B phototherapy for psoriasis. *Journal of the American Academy of Dermatology*, 14, (5 Pt 1) 742-747	Incorrect study type: not randomised

Study excluded	Reason
STERN1986	
Talpur, R., Cox, K., & Duvic, M. 2009. Efficacy and safety of topical tazarotene: A review. *Expert Opinion on Drug Metabolism and Toxicology*, 5, (2) 195-210 TALPUR2009	Incorrect comparison
van der Vleuten, C.J., Gerritsen, M.J., de Jong, E.M., Elbers, M., De Jongh, G.J., & van de Kerkhof, P.C. 1996. A novel dithranol formulation (Micanol): the effects of monotherapy and UVB combination therapy on epidermal differentiation, proliferation and cutaneous inflammation in psoriasis vulgaris. *Acta Dermato-Venereologica*, 76, (5) 387-391 VANDERVLEUTEN1996	Incorrect outcomes
Wargon, O. & Paver, W.K. 1982. Dithranol in a cream base in the treatment of psoriasis. *Australasian Journal of Dermatology*, 23, (3) 123-125 WARGON1982	Incorrect comparison
Young, E. 1970. The external treatment of psoriasis. A controlled investigation of the effects of dithranol. *British Journal of Dermatology*, 82, (5) 516-520 YOUNG1970	Incorrect outcomes
Young, E. 1972. Ultraviolet therapy of psoriasis: a critical study. *British Journal of Dermatology*, 87, (4) 379-382 YOUNG1972	Incorrect outcomes

F.4 Chapter 9: Systemic therapy (second-line, non-biologic)

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of systemic methotrexate, ciclosporin and acitretin compared with each other or with placebo?

Excluded n = 124

Study excluded	Reason
Anonymous. Short- and long-term considerations concerning the management of plaque psoriasis with low-dose cyclosporin. Studio Italiano Multicentrico nella Psoriasi (SIMPSO). Dermatology 187:Suppl-29, 1993. ANON1993	Incorrect study type: case series (no comparator group)
Anonymous. Management of erythrodermic psoriasis with low-dose cyclosporin. Studio Italiano Multicentrico nella Psoriasi (SIMPSO). Dermatology 187:Suppl-7, 1993. ANON1993A	Incorrect study type: case series (no comparator group)
Anonymous. Methotrexate in rheumatoid arthritis and psoriasis. Prescrire International 6 (30):96-100, 1997. ANON1997	Incorrect study type: Narrative review
C. Antoniou, A. J. Stratigos, C. Stefanaki, P. Stavropoulos, I. Potouridou, A. D. Katsambas, and G. Avgerinou. The effects of oral cyclosporine in plaque-type psoriasis: The experience of Andreas Sygros Hospital. Therapy 1 (2):217-221, 2004. ANTONIOU2004	Incorrect study type: case series (no comparator group)

Study excluded	Reason
F. Arellano. Risk of cancer with cyclosporine in psoriasis. Int.J.Dermatol. 36 Suppl 1:15-17, 1997. ARELLANO1997	Incorrect outcome: cancer risk
P. L. Bailin, J. P. Tindall, H. H. Roenigk, Jr., and M. D. Hogan. Is methotrexate therapy for psoriasis carcinogenic? A modified retrospective-prospective analysis. JAMA 232 (4):359-362, 1975. BAILIN1975	Incorrect study type: case series (no comparator group)
N. S. Bansback. Efficacy of systemic treatments for moderate to severe plaque psoriasis: Systematic review and meta-analysis. Dermatology 219 (3):209-218, 2009. BANSBACK2009	MA and SR including MTX and CSA: 2 relevant studies included individually
J. Berth-Jones, C. A. Henderson, C. S. Munro, S. Rogers, R. J. Chalmers, M. J. Boffa, P. G. Norris, P. S. Friedmann, R. A. Graham-Brown, P. M. Dowd, R. Marks, and M. J. Sumner. Treatment of psoriasis with intermittent short course cyclosporin (Neoral). A multicentre study. Br.J.Dermatol. 136 (4):527-530, 1997. BERTHJONES1997	Incorrect study type: case series (no comparator group)
T. Bhutani and J. Koo. A review of the chemopreventative effects of oral retinoids for internal neoplasms. J.Drug.Dermatol. 10 (11):1292-1298, 2011. BHUTANI2011A	Incorrect study type: Narrative review
M. Bigby. A randomized controlled trial of methotrexate and cyclosporine in the treatment of psoriasis. Arch.Dermatol. 140 (3):347-348, 2004. BIGBY2004	Incorrect study type: commentary
J. R. Bjerke and J. M. Geiger. Acitretin versus etretinate in severe psoriasis. A double-blind randomized Nordic multicenter study in 168 patients. Acta Derm.Venereol. Supplementum. 146:206-207, 1989. BJERKW1989	Incorrect intervention: etretinate
Y. B. Brauchli, S. S. Jick, M. Miret, and C. R. Meier. Psoriasis and risk of incident cancer: An inception cohort study with a nested case-control analysis. J.Invest.Dermatol. 129 (11):2604-2612, 2009. BRAUCHLI2009	Incorrect outcome: cancer risk
S. Cassell. Therapies for psoriatic nail disease. A systematic review. J.Rheumatol. 33 (7):1452-1456, 2006. CASSELL2006	Systematic review – no relevant studies
J. Chladek, J. Grim, J. Martinkova, M. Simkova, J. Vaniekova, V. Koudelkova, and M. Noiekova. Pharmacokinetics and pharmacodynamics of low-dose methotrexate in the treatment of psoriasis. British Journal of Clinical Pharmacology 54 (2):147-156, 2002. CHLADEK2002	Incorrect outcomes: pharmacokinetics and pharamcodynamics
G. W. Chodorowska. C-reactive protein and alpha₂-macroglobulin plasma activity in medium-severe and severe psoriasis. J.Eur.Acad.Dermatol.Venereol. 18 (2):180-183, 2004. CHODOROWSKA2004	Incorrect outcomes: C-reactive protein and α2-macroglobulin activity
E. Christophers, U. Mrowietz, H. H. Henneicke, L. Farber, and D. Welzel. Cyclosporine in psoriasis: a multicenter dose-finding study in severe plaque psoriasis. The German Multicenter Study. J.Am.Acad.Dermatol. 26 (1):86-90, 1992. CHRISTOPHERS1996	Incorrect study type: Narrative review
D. Colombo, L. Flori, G. Altomare, N. Aste, and S. Sgarbi. Clinical outcome evaluation following cyclosporine a treatment in moderate to severe psoriasis: a retrospective study. International Journal of Immunopathology &	Incorrect study type: case series (no comparator group)

Study excluded	Reason
Pharmacology 23 (1):363-367, 2010. COLOMBO2010A	
S. Corbetta, R. Angioni, A. Cattaneo, P. Beck-Peccoz, and A. Spada. Effects of retinoid therapy on insulin sensitivity, lipid profile and circulating adipocytokines. European Journal of Endocrinology 154 (1):83-86, 2006. CORBETTA2006	Incorrect study type: case series (no comparator group)
A. B. Cranney, R. J. McKendry, G. A. Wells, D. S. Ooi, N. D. Kanigsberg, G. R. Kraag, and C. D. Smith. The effect of low dose methotrexate on bone density. J.Rheumatol. 28 (11):2395-2399, 2001. CRANNEY2001	Incorrect outcomes
M. E. de Jager, E. M. de Jong, P. C. van de Kerkhof, and M. M. Seyger. Efficacy and safety of treatments for childhood psoriasis: a systematic literature review. J.Am.Acad.Dermatol. 62 (6):1013-1030, 2010. DEJAGER2010	Systematic review: all included studies of relevant comparisons were case reports or case series
L. Dubertret, C. Chastang, C. Beylot, J. Bazex, C. Rognin, and R. Touraine. Maintenance treatment of psoriasis by Tigason: a double-blind randomized clinical trial. Br.J.Dermatol. 113 (3):323-330, 1985. DUBERTRET1985	Incorrect intervention: etretinate
L. Dubertret, M. Perussel, O. Robiola, and G. Feutren. Cyclosporin in psoriasis. A long-term randomized study on 37 patients. Acta Derm.Venereol. Supplementum. 146:136, 1989. DUBERTRET1989	Incorrect study type: not published as full report
C. A. Elder, M. Moore, C. T. Chang, J. Jin, S. Charnick, J. Nedelman, A. Cohen, C. Guzzo, N. Lowe, and K. Simpson. Efficacy and pharmacokinetics of two formulations of cyclosporine A in patients with psoriasis. Journal of Clinical Pharmacology 35 (9):865-875, 1995. ELDER1995	Incorrect comparison: Sandimmun vs Neoral
C. N. Ellis, N. A. Swanson, R. C. Grekin, N. G. Goldstein, D. R. Bassett, T. F. Anderson, and J. J. Voorhees. Etretinate therapy causes increases in lipid levels in patients with psoriasis. Arch.Dermatol. 118 (8):559-562, 1982. ELLIS1982	Incorrect intervention: etretinate
R. Engst. Results of cyclosporin treatment of severe, chronic psoriasis vulgaris. (German). Hautarzt 40 (8):486-489, 1989. ENGST1989	Incorrect language: German
R. H. Engst, R. Bubl, J. Huber, C. Schober, and B. Jessberger. Long-term cyclosporin A for psoriasis. Acta Dermatovenerologica Alpina, Panonica Et Adriatica. 3 (4):188-192, 1994. ENGST1994	Very high risk of bias: unclear outcome reporting; high dropouts; switching of treatments
L. Faerber, M. Braeutigam, G. Weidinger, U. Mrowietz, E. Christophers, H. J. Schulze, G. Mahrle, H. Meffert, and S. Drechsler. Cyclosporine in severe psoriasis. Results of a meta-analysis in 579 patients. Am.J.Clin.Dermatol. 2 (1):41-47, 2001. FAERBER2001	<eta-analysis: Relevant studies included
G. Feutren, K. Abeywickrama, D. Friend, and Graffenried B. von. Renal function and blood pressure in psoriatic patients treated with cyclosporin A. Br.J.Dermatol. 122 Suppl 36:57-69, 1990. FEUTREN1990	Incorrect comparison: SR (with CSA vs control – placebo or etretinate)
A. F. M. Finzi. Cyclosporin versus etretinate: Italian multicenter comparative trial in severe plaque-form psoriasis. Italian Multicenter Study Group on Cyclosporin in Psoriasis. Dermatology 187 Suppl 1:8-18, 1993.	Incorrect intervention: etretinate

Study excluded	Reason
FINZI1993	
E. Foged, P. Holm, P. O. Larsen, G. Laurberg, F. Reymann, K. Roesdahle, and S. Ullman. A randomized trial of etretinate (Tigason) in palmoplantar pustulosis. Dermatologica 166 (4):220-223, 1983. FOGED1983	Incorrect intervention: etretinate
M. Garcia-Bustinduy, M. Escoda, F. J. Guimera, M. Saez, S. Dorta, E. Fagundo, R. Sanchez-Gonzalez, A. Noda-Cabrera, and R. Garcia-Montelongo. Safety of long-term treatment with cyclosporin A in resistant chronic plaque psoriasis: a retrospective case series. Journal of the European Academy of Dermatology & Venereology 18 (2):169-172, 2004. GARCIABUSTINDUY2004	Incorrect study type: case series (no comparator group)
J. M. Gelfand, D. B. Shin, A. L. Neimann, X. Wang, D. J. Margolis, and A. B. Troxel. The risk of lymphoma in patients with psoriasis. J.Invest.Dermatol. 126 (10):2194-2201, 2006. GELFAND2006	Incorrect outcome: cancer risk
H. Gollnick, R. Bauer, C. Brindley, C. E. Orfanos, G. Plewig, H. Wokalek, and E. Hoting. Acitretin versus etretinate in psoriasis. Clinical and pharmacokinetic results of a German multicenter study. J.Am.Acad.Dermatol. 19 (3):458-468, 1988. GOLLNICK1988	Incorrect intervention: etretinate
H. P. M. Gollnick, H. Zaun, T. Ruzicka, C. Sommerburg, S. Loew, G. Mahrle, H. W. Niedecken, E. Paul, A. Pfister-Wartha, and D. Reinel. Relapse rate of severe generalized psoriasis after treatment with acitretin or etretinate. Results of the first randomized double-blind multicenter half-year follow-up study. Eur.J.Dermatol. 3 (6):442-446, 1993. GOLLNICK1993	Incorrect intervention: etretinate
C. E. Griffiths, C. M. Clark, R. J. Chalmers, A. Li Wan Po, and H. C. Williams. A systematic review of treatments for severe psoriasis. Health Technol.Assess. 4 (40):1-115, 2000. GRIFFITHS2000	Systematic review: insufficient reporting of included study quality assessment
W. P. Gulliver, G. F. Murphy, V. A. Hannaford, and D. R. N. Primmett. Increased bioavailability and improved efficacy, in severe psoriasis, of a new microemulsion formulation of cyclosporin. British Journal of Dermatology, Supplement 135 (48):35-39, 1996. GULLIVER1996	Incorrect comparison: Sandimmun vs Neoral
A. K. Gupta, M. T. Goldfarb, C. N. Ellis, and J. J. Voorhees. Side-effect profile of acitretin therapy in psoriasis. J.Am.Acad.Dermatol. 20 (6):1088-1093, 1989. GUPTA1989	Data published in full later (GOLDFARB1988)
A. K. Gupta, L. L. Rocher, S. P. Schmaltz, M. T. Goldfarb, M. D. Brown, C. N. Ellis, and J. J. Voorhees. Short-term changes in renal function, blood pressure, and electrolyte levels in patients receiving cyclosporine for dermatologic disorders. Arch.Intern.Med. 151 (2):356-362, 1991. GUPTA1991	Incorrect population: comparing psoriatics with other diverse cutaneous diseases
V. M. Heydendael, P. I. Spuls, I. J. ten Berge, B. C. Opmeer, J. D. Bos, and M. A. de Rie. Cyclosporin trough levels: is monitoring necessary during short-term treatment in psoriasis? A systematic review and clinical data on trough levels. [32 refs]. Br.J.Dermatol. 147 (1):122-129, 2002. HEYDENDAEL2002	Incorrect outcomes: CSA trough levels
E. Higgins, C. Munro, J. Marks, P. S. Friedmann, and S. Shuster. Relapse rates in moderately severe chronic psoriasis treated with cyclosporin A. Br.J.Dermatol. 121 (1):71-74, 1989.	Incorrect comparison

Study excluded	Reason
HIGGINS1989	
K. Jakubowicz, S. Gruca, and H. Nowakowski. A double blind clinical trial of Tigason (Ro 10-9359) versus placebo in psoriasis. Acta Universitatis Carolinae - Medica 32 (3-4):229-232, 1986. JAKUBOWICZI1986	Incorrect intervention: etretinate
R. E. S. Kalb. Methotrexate and psoriasis: 2009 National Psoriasis Foundation Consensus Conference. J.Am.Acad.Dermatol. 60 (5):824-837, 2009. KALB2009	Incorrect study type: Narrative review
I. Kaur, S. Dogra, D. De, and A. J. Kanwar. Systemic methotrexate treatment in childhood psoriasis: further experience in 24 children from India. Pediatric Dermatology 25 (2):184-188, 2008. KAUR2008A	Incorrect study type: case series (no comparator group)
A. B. Kimball, A. Guerin, D. Latremouille-Viau, A. P. Yu, S. Gupta, Y. Bao, and P. Mulani. Coronary heart disease and stroke risk in patients with psoriasis: retrospective analysis. Am.J.Med. 123 (4):350-357, 2010. KIMBALL2010	Incorrect outcomes: comorbidities
J. Koo. A randomized, double-blind study comparing the efficacy, safety and optimal dose of two formulations of cyclosporin, Neoral and Sandimmun, in patients with severe psoriasis. OLP302 Study Group. Br.J.Dermatol. 139 (1):88-95, 1998. KOO1998	Incorrect comparison: Sandimmun vs Neoral
K. Kragballe, C. T. Jansen, J. M. Geiger, J. R. Bjerke, E. S. Falk, L. Gip, N. Hjorth, J. Lauharanta, N. J. Mork, and T. Reunala. A double-blind comparison of acitretin and etretinate in the treatment of severe psoriasis. Results of a Nordic multicentre study. Acta Derm.Venereol. 69 (1):35-40, 1989. KRAGBALLE1989	Incorrect intervention: etretinate
M. S. Krathen, A. B. Gottlieb, and P. J. Mease. Pharmacologic immunomodulation and cutaneous malignancy in rheumatoid arthritis, psoriasis, and psoriatic arthritis. [Review]. J.Rheumatol. 37 (11):2205-2215, 2010. KRATHEN2010	Incorrect outcome: skin cancer risk
B. Kumar, S. Dhar, S. Handa, and I. Kaur. Methotrexate in childhood psoriasis. Pediatric Dermatology 11 (3):271-273, 1994. KUMAR1994	Incorrect study type: case series (no comparator group)
B. Kumar, A. Saraswat, and I. Kaur. Short-term methotrexate therapy in psoriasis: a study of 197 patients. Int.J.Dermatol. 41 (7):444-448, 2002. KUMAR2002	Incorrect study type: case series (no comparator group)
D. Laharie, J. Seneschal, T. Schaeverbeke, M. S. Doutre, M. Longy-Boursier, J. L. Pellegrin, E. Chabrun, S. Villars, F. Zerbib, and Ledinghen De, V. Assessment of liver fibrosis with transient elastography and FibroTest in patients treated with methotrexate for chronic inflammatory diseases: A case-control study. J.Hepatol. 53 (6):1035-1040, 2010. LAHARIE2010	Mixed population: 21.4% psoriasis and not stratified
A. Lassus. Systemic treatment of psoriasis with an oral retinoic acid derivative (Ro 10-9359). Br.J.Dermatol. 102 (2):195-202, 1980. LASSUS1980	Incorrect intervention: Etretinate
A. Lassus, J. Lauharanta, T. Juvakoski, and L. Kanerva. Efficacy of etretinate (Tigason) in clearing and prevention of relapse of palmoplantar pustulosis. Dermatologica 166 (4):215-219, 1983. LASSUS1983	Incorrect intervention: etretinate
A. Lassus and J. M. Geiger. Acitretin and etretinate in the treatment of	Incorrect intervention:

Study excluded	Reason
palmoplantar pustulosis: a double-blind comparative trial. Br.J.Dermatol. 119 (6):755-759, 1988. LASSUS1988	etretinate
A. Ledo, M. Martin, J. M. Geiger, and J. M. Marron. Acitretin (Ro 10-1670) in the treatment of severe psoriasis. A randomized double-blind parallel study comparing acitretin and etretinate. Int.J.Dermatol. 27 (9):656-660, 1988. LEDO1988	Incorrect intervention: etretinate
E. Lee and J. Koo. Single-center retrospective study of long-term use of low-dose acitretin (Soriatane) for psoriasis. J.Dermatol.Treat. 15 (1):8-13, 2004. LEE2004	Incorrect study type: case series (no comparator group)
C. S. K. Lee. A review of acitretin, a systemic retinoid for the treatment of psoriasis. Expert Opin.Pharmacother. 6 (10):1725-1734, 2005. LEE2005	Incorrect study type: Narrative review
A. Leon, A. Nguyen, J. Letsinger, and J. Koo. An attempt to formulate an evidence-based strategy in the management of moderate-to-severe psoriasis: a review of the efficacy and safety of biologics and prebiologic options. Expert Opin.Pharmacother. 8 (5):617-632, 2007. LEON2007	Systematic review – relevant studies included individually
N. J. Lowe, J. M. Wieder, A. Rosenbach, K. Johnson, R. Kunkel, C. Bainbridge, T. Bourget, I. Dimov, K. Simpson, E. Glass, and M. T. Grabie. Long-term low-dose cyclosporine therapy for severe psoriasis: effects on renal function and structure. LOWE1996	Incorrect study type: case series (no comparator group)
J.Am.Acad.Dermatol. 35 (5:Pt 1):t-9, 1996. R. Madhok, S. A. Muller, and C. H. Dicken. Treatment of psoriasis with etretin: a preliminary report. Mayo Clin.Proc. 62 (12):1084-1089, 1987. MADHOK1987	Insufficient sample size Incorrect outcomes
N. L. Magis, J. J. Blummel, P. C. Kerkhof, and R. M. Gerritsen. The treatment of psoriasis with etretinate and acitretin: a follow up of actual use. Eur.J.Dermatol. 10 (7):517-521, 2000. MAGIS2000	Incorrect study type: case series (no comparator group)
G. Mahrle, H. J. Schulze, L. Farber, G. Weidinger, and G. K. Steigleder. Low-dose short-term cyclosporine versus etretinate in psoriasis: improvement of skin, nail, and joint involvement. J.Am.Acad.Dermatol. 32 (1):78-88, 1995. MAHRLE1995	Incorrect intervention: etretinate
I. Marcil. Squamous-cell cancer of the skin in patients given PUVA and ciclosporin: Nested cohort crossover study. Lancet 358 (9287):1042-1045, 2001. MARCIL2001	Incorrect outcomes: cancer risk
D. J. Margolis, W. Bilker, S. Hennessy, C. Vittorio, J. Santanna, and B. L. Strom. The risk of malignancy associated with psoriasis. Arch.Dermatol. 137 (6):778-783, 2001. MARGOLIS2001	Incorrect outcome: cancer risk
T. Markham, A. Watson, and S. Rogers. Adverse effects with long-term cyclosporin for severe psoriasis. Clin.Exp.Dermatol. 27 (2):111-114, 2002. MARKHAM2002	Incorrect study type: case series (no comparator group)
A. Maza, H. Montaudie, E. Sbidian, A. Gallini, S. Aractingi, F. Aubin, H. Bachelez, B. Cribier, P. Joly, D. Jullien, M. Le Maitre, L. Misery, M. A. Richard, J. P. Ortonne, and C. Paul. Oral cyclosporin in psoriasis: a systematic review on treatment modalities, risk of kidney toxicity and evidence for use in non-plaque psoriasis. J.Eur.Acad.Dermatol.Venereol. 25 Suppl 2:19-27, 2011.	Incorrect study type: Narrative review

Study excluded	Reason
MAZA2011	
J. M. J. Messana. Renal structure and function effects after low dose cyclosporine in psoriasis patients: A preliminary report. Clinical Nephrology 43 (3):150-153, 1995. MESSANAI1995	Incorrect outcome: mean liver biopsy score
N. J. Mork, A. Kolbenstvedt, and J. Austad. Efficacy and skeletal side effects of two years' acitretin treatment. Acta Derm.Venereol. 72 (6):445-448, 1992. MORK1993	Incorrect study type: case series (no comparator group)
S. L. Moschella. Chemotherapy of psoriasis: ten years of experience. Int.J.Dermatol. 15 (5):373-378, 1976. MOSCHELLA1976	Incorrect comparisons: MTX vs hydroxyurea vs azaribine) Incorrect study type: case series
U. Mrowietz, L. Farber, H. H. Henneicke-von Zepelin, H. Bachmann, D. Welzel, and E. Christophers. Long-term maintenance therapy with cyclosporine and posttreatment survey in severe psoriasis: results of a multicenter study. German Multicenter Study. J.Am.Acad.Dermatol. 33 (3):470-475, 1995. MROWIETZ1995	Incorrect outcome reporting: not stratified by treatment group
J. Nakayama. Clinical study of ciclosporin therapy on psoriasis: comparative study between long-term monotherapy and long-term intermittent administration. Journal of the European Academy of Dermatology & Venereology 5 (Suppl 1):S148, 1995. NAKAYAMA1995	Incorrect publication type – poster (insufficient detail)
J. Nakayama, Y. Hori, H. Nakagawa, Y. Ishibashi, T. Horikoshi, A. Ozawa, J. Sugai, and M. Okido. Comparison of two therapeutic regimens, continuous monotherapy and intermittent therapy, for long-term maintenance of remission of psoriasis with cyclosporin A. European Journal of Dermatology. 6 (5):341-343, 1996. NAKAYAMA1996	Incorrect comparison: CSA low dose vs intermittent CSA + corticosteroid for maintenance of remission
S. Neri. Role of ademetionine (S-adenosylmethionine) in cyclosporin-induced cholestasis. Clin.Druf Investig. 22 (3):191-195, 2002. NERI2002	Incorrect comparison: CSA vs CSA + ademetionine
R. J. Nevin and E. J. Schulz. Treatment of psoriasis with cyclosporin. Experience at Johannesburg Hospital. S.Afr.Med.J. Suid-Afrikaanse Tydskrif Vir Geneeskunde. 85 (11):1165-1168, 1995. NEVIN1995	Insufficient sample size
E. A. Olsen, W. W. Weed, C. J. Meyer, and L. M. Cobo. A double-blind, placebo-controlled trial of acitretin for the treatment of psoriasis. J.Am.Acad.Dermatol. 21 (4 Pt 1):681-686, 1989. OLSEN1989	Outcomes: not stratified by treatment group
B. C. Opmeer, V. M. R. Heydendael, C. A. J. M. de Borgie, P. I. Spuls, P. M. Bossuyt, J. D. Bos, and M. A. de Rie. Costs of treatment in patients with moderate to severe plaque psoriasis: economic analysis in a randomized controlled comparison of methotrexate and cyclosporine. Arch.Dermatol. 140 (6):685-690, 2004. OPMEER2004	Incorrect study type: cost analysis
R. V. Patel, L. N. Clark, M. Lebwohl, and J. M. Weinberg. Treatments for psoriasis and the risk of malignancy. J.Am.Acad.Dermatol. 60 (6):1001-1017, 2009. PATEL2009	Incorrect outcome: cancer risk
C. F. Paul, V. C. Ho, C. McGeown, E. Christophers, B. Schmidtmann, J. C.	Incorrect outcome:

Study excluded	Reason
Guillaume, V. Lamarque, and L. Dubertret. Risk of malignancies in psoriasis patients treated with cyclosporine: a 5 y cohort study. J.Invest.Dermatol. 120 (2):211-216, 2003. PAUL2003	cancer risk
D. J. Pearce, S. Klinger, K. K. Ziel, E. J. Murad, R. Rowell, and S. R. Feldman. Low-dose acitretin is associated with fewer adverse events than high-dose acitretin in the treatment of psoriasis. Arch.Dermatol. 142 (8):1000-1004, 2006. PEARCE2006A	Incorrect study type
D. J. Pearce, K. B. Higgins, K. H. Stealey, R. Balkrishnan, M. M. Crane, F. Camacho, A. B. Fleischer, Jr., and S. R. Feldman. Adverse events from systemic therapies for psoriasis are common in clinical practice. J.Dermatol.Treat. 17 (5):288-293, 2006. PEARCE2006B	Incorrect study type: chart review Incorrect outcomes unnamed AEs
Y. Pei, J. W. Scholey, A. Katz, R. Schachter, G. F. Murphy, and D. Cattran. Chronic nephrotoxicity in psoriatic patients treated with low-dose cyclosporine. American Journal of Kidney Diseases 23 (4):528-536, 1994. PEI1994	Incorrect study type: case series (no comparator group)
T. M. Pereira. Cyclosporin A treatment in severe childhood psoriasis. J.Eur.Acad.Dermatol.Venereol. 20 (6):651-656, 2006. PEREIRA2006	Incorrect study type: case reports (no comparator group)
G. Piskin, V. M. Heydendael, M. A. de Rie, J. D. Bos, and M. B. Teunissen. Cyclosporin A and methotrexate are equally effective in reducing T cell numbers in psoriatic skin lesions but have no consistent effect on IFN-gamma and IL-4 expression in psoriatic skin in situ. Archives of Dermatological Research 294 (12):559-562, 2003. PISKIN2003	Incorrect outcomes: T-cell numbers
A. V. Powles, C. M. Hardman, W. M. Porter, T. Cook, B. Hulme, and L. Fry. Renal function after 10 years' treatment with cyclosporin for psoriasis. Br.J.Dermatol. 138 (3):443-449, 1998. POWLES1998	Incorrect comparison: treated 10 yrs vs 6 years
S. Prey and C. Paul. Effect of folic or folinic acid supplementation on methotrexate-associated safety and efficacy in inflammatory disease: a systematic review. [23 refs]. Br.J.Dermatol. 160 (3):622-628, 2009. PREY2009	Incorrect comparison: MTX vs MTX + folic acid
G. V. Raman, S. K. Campbell, A. Farrer, J. D. Albano, and J. Cook. Modifying effects of amlodipine on cyclosporin A-induced changes in renal function in patients with psoriasis. Journal of Hypertension - Supplement 16 (4):S39-S41, 1998. RAMAN1998	Incorrect comparison: CSA then CSA + ademetionine vs CSA + ademetionine
K. Reich, J. Signorovitch, K. Ramakrishnan, A. P. Yu, E. Q. Wu, S. R. Gupta, Y. Bao, and P. M. Mulani. Benefit-risk analysis of adalimumab versus methotrexate and placebo in the treatment of moderate to severe psoriasis: comparison of adverse event-free response days in the CHAMPION trial. J.Am.Acad.Dermatol. 63 (6):1011-1018, 2010. REICH2010	Data from CHAMPION trial: included original trial
R. J. Rentenaar, V. M. Heydendael, F. N. van Diepen, M. A. de Rie, and I. J. ten Berge. Systemic treatment with either cyclosporin A or methotrexate does not influence the T helper 1/T helper 2 balance in psoriatic patients. Journal of Clinical Immunology 24 (4):361-369, 2004. RENTENAAR2004	Incorrect study type
J. H. Rim, J. Y. Park, Y. B. Choe, and J. I. Youn. The efficacy of calcipotriol +	Incorrect comparison:

Study excluded	Reason
acitretin combination therapy for psoriasis: comparison with acitretin monotherapy. Am.J.Clin.Dermatol. 4 (7):507-510, 2003. RIM2003	calcipotriol + acitretin vs acitretin
N. Robert, G. W. Wong, and J. M. Wright. Effect of cyclosporine on blood pressure. [76 refs]. Cochrane Database of Systematic Reviews (1):CD007893, 2010. ROBERT2010	Incorrect outcomes
H. H. Roenigk, Jr., J. P. Callen, C. A. Guzzo, H. I. Katz, N. Lowe, K. Madison, T. Nigra, V. C. Fiedler, and R. B. Armstrong. Effects of acitretin on the liver. J.Am.Acad.Dermatol. 41 (4):584-588, 1999. ROENIGK1999	Incorrect study type: case series (no comparator group)
D. M. Rosmarin, M. Lebwohl, B. E. Elewski, A. Gottlieb, and National Psoriasis Foundation. Cyclosporine and psoriasis: 2008 National Psoriasis Foundation Consensus Conference. J.Am.Acad.Dermatol. 62 (5):838-853, 2010. ROSMARIN2010	Incorrect study type: consensus report
M. S. Salek, A. Y. Finlay, J. J. Lewis, and M. I. Sumner. Quality of life improvement in treatment of psoriasis with intermittent short course cyclosporin (Neoral). Quality of Life Research 13 (1):91-95, 2004. SALEK2004	Incorrect study type: case series (no comparator group)
A. Salim, E. Tan, A. Ilchyshyn, and J. Berth-Jones. Folic acid supplementation during treatment of psoriasis with methotrexate: a randomized, double-blind, placebo-controlled trial. Br.J.Dermatol. 154 (6):1169-1174, 2006. SALIM2006	Incorrect comparison: MTX vs MTX + folic acid
E. Sbidian, A. Maza, H. Montaudie, A. Gallini, S. Aractingi, F. Aubin, B. Cribier, P. Joly, D. Jullien, M. Le Maitre, L. Misery, M. A. Richard, C. Paul, J. P. Ortonne, and H. Bachelez. Efficacy and safety of oral retinoids in different psoriasis subtypes: a systematic literature review. J.Eur.Acad.Dermatol.Venereol. 25 Suppl 2:28-33, 2011. SBIDIAN2011	Incorrect study type: Narrative review
J. Schmitt, Z. Zhang, G. Wozel, M. Meurer, and W. Kirch. Efficacy and tolerability of biologic and nonbiologic systemic treatments for moderate-to-severe psoriasis: meta-analysis of randomized controlled trials. Br.J.Dermatol. 159 (3):513-526, 2008. SCHMITT2008A	Systematic review: all relevant studies included
R. E. Schopf, T. Hultsch, J. Lotz, and M. Brautigam. Eosinophils, pruritus and psoriasis: effects of treatment with etretinate or cyclosporin-A. J.Eur.Acad.Dermatol.Venereol. 11 (3):234-239, 1998. SCHOPF1998	Incorrect intervention: etretinate
K. Schroder, H. Zaun, H. Holzmann, P. Altmeyer, and S. el-Gammal. Pustulosis palmo-plantaris. Clinical and histological changes during etretin (acitretin) therapy. Acta Derm.Venereol. Supplementum. 146:111-116, 1989. SCHRODER1989	Incorrect outcomes: not reported separately for randomised groups
N. H. Shear. Fulfilling an unmet need in psoriasis: Do biologicals hold the key to improved tolerability? Drug Safety 29 (1):49-66, 2006. SHEAR2006	Incorrect study type: Narrative review
M. A. Sher, B. Sher, and V. Berro. Treatment of psoriasis. Results achieved by the Johannesburg Hospital Psoriasis Clinic. S.Afr.Med.J. 69 (1):23-26, 1986. SHER1986	Incorrect comparison: MTX vs etretinate
A. Spadaro, V. Riccieri, A. Sili-Scavalli, F. Sensi, E. Taccari, and A. Zoppini. Comparison of cyclosporin A and methotrexate in the treatment of psoriatic arthritis: a one-year prospective study. Clin.Exp.Rheumatol. 13 (5):589-593,	Incorrect population: 100% PsA and rheumatology setting

Study excluded	Reason
1995. SPADARO1985	
P. I. Spuls, L. Witkamp, P. M. Bossuyt, and J. D. Bos. A systematic review of five systemic treatments for severe psoriasis. Br.J.Dermatol. 137 (6):943-949, 1997. SPULS1997	Literature review pooling data in indirect comparisons
R. S. Stern, S. Zierler, and J. A. Parrish. Methotrexate used for psoriasis and the risk of noncutaneous or cutaneous malignancy. Cancer 50 (5):869-872, 1982. STERN1982	Incorrect outcome: cancer risk
R. S. Stern and N. Laird. The carcinogenic risk of treatments for severe psoriasis. Photochemotherapy Follow-up Study. Cancer 73 (11):2759-2764, 1994. STERN1994	Incorrect outcome: cancer risk
T. J. Stoof, M. J. Korstanje, H. J. Bilo, T. M. Starink, R. F. Hulsmans, and A. J. Donker. Does fish oil protect renal function in cyclosporin-treated psoriasis patients? Journal of Internal Medicine 226 (6):437-441, 1989. STOOF1989	Incorrect comparison: CSA vs CSA + fish oil
B. E. Strober. Conventional systemic agents for psoriasis. A systematic review. J.Rheumatol. 33 (7):1442-1446, 2006. STROBER2006	Systematic review: relevant studies included individually
E. Svarstad, S. Helland, T. Morken, L. Bostad, A. Myking, B. M. Iversen, and J. Ofstad. Renal effects of maintenance low-dose cyclosporin A treatment in psoriasis. Nephrology Dialysis Transplantation 9 (10):1462-1467, 1994. SVARSTAD1994	Incorrect study type: case series (no comparator group)
N. S. Tekin, I. Nitric oxide levels in patients with psoriasis treated with methotrexate. Mediators of inflammation 2006 (3):16043, 2006. TEKIN2006	Incorrect outcomes: serum nitrate and nitrite
P. Thune. Treatment of palmoplantar pustulosis with Tigason. Dermatologica 164 (1):67-72, 1982. THUNE1982	Incorrect intervention: etretinate
C. R. Touw, Roijen L. Hakkaart-van, P. Verboom, C. Paul, F. F. Rutten, and A. Y. Finlay. Quality of life and clinical outcome in psoriasis patients using intermittent cyclosporin. Br.J.Dermatol. 144 (5):967-972, 2001. TOUW2001	Incorrect study type: noncomparative
L. Vakeva, S. Reitamo, E. Pukkala, S. Sarna, and A. Ranki. Long-term follow-up of cancer risk in patients treated with short-term cyclosporine. Acta Derm.Venereol. 88 (2):117-120, 2008. VAKEVA2008	Incorrect outcome: cancer risk
G. A. C. Vena. Evaluation of the efficacy and tolerability of a new intermittent treatment regimen with cyclosporin A in severe psoriasis. G.Ital.Dermatol.Venereol. 140 (5):575-582, 2005. VENA2005	Incorrect comparison: continuous vs intermittent CSA for induction
P. Vestergaard, L. Rejnmark, and L. Mosekilde. Methotrexate, azathioprine, cyclosporine, and risk of fracture. Calcified Tissue International 79 (2):69-75, 2006. VESTERGAARD2006	Incorrect population
R. B. Warren and C. E. Griffiths. Systemic therapies for psoriasis: methotrexate, retinoids, and cyclosporine. [121 refs]. Clinics in Dermatology 26 (5):438-447, 2008. WARREN2008B	Incorrect study type: Narrative review

Study excluded	Reason
S. I. White, J. M. Marks, and S. Shuster. Etretinate in pustular psoriasis of palms and soles. Br.J.Dermatol. 113 (5):581-585, 1985. WHITE1985	Incorrect intervention: etretinate
S. I. White, L. Puttick, and J. M. Marks. Low-dose etretinate in the maintenance of remission of palmoplantar pustular psoriasis. Br.J.Dermatol. 115 (5):577-582, 1986. WHITE1986	Incorrect intervention: etretinate
H. Wolska, S. Jablonska, and Y. Bounameaux. Etretinate in severe psoriasis. Results of double-blind study and maintenance therapy in pustular psoriasis. J.Am.Acad.Dermatol. 9 (6):883-889, 1983. WOLSKA1983	Incorrect intervention: etretinate
G. Wozel. Psoriasis treatment in difficult locations: scalp, nails, and intertriginous areas. Clinics in Dermatology 26 (5):448-459, 2008. WOZEL2008	Incorrect study type: Narrative review
H. S. Yoon and J. I. Youn. A comparison of two cyclosporine dosage regimens for the treatment of severe psoriasis. J.Dermatol.Treat. 18 (5):286-290, 2007. YOON2007	Incorrect comparison: standard regimen or step-down regimen for induction
E. W. Young, C. N. Ellis, J. M. Messana, K. J. Johnson, A. B. Leichtman, M. J. Mihatsch, T. A. Hamilton, D. S. Groisser, M. S. Fradin, and J. J. Voorhees. A prospective study of renal structure and function in psoriasis patients treated with cyclosporin. Kidney International 46 (4):1216-1222, 1994. YOUNG1994	Incorrect outcomes: mean histology scores vs non-treated control
H. Zachariae and P. Bjerring. Methotrexate in psoriasis with and without leucovorin: effect of different dosage schedules on acute liver toxicity. Acta Derm.Venereol. 62 (5):446-448, 1982. ZACHARIAE1982	Incorrect comparison: MTX+/- leucovorin
H. Zachariae and Olsen Steen. Efficacy of cyclosporin A (CyA) in psoriasis: An overview of dose/response, indications, contraindications and side-effects. Clinical Nephrology 43 (3):154-158, 1995. ZACHARIAE1995	Incorrect study type: Narrative review
H. Zachariae, K. Kragballe, H. E. Hansen, N. Marcussen, and S. Olsen. Renal biopsy findings in long-term cyclosporin treatment of psoriasis. Br.J.Dermatol. 136 (4):531-535, 1997. ZACHARIAE1997	Incorrect study type: case series (no comparator group)
H. Zachariae, B. Abrams, S. S. Bleehen, M. Br„utigam, D. Burrows, M. J. Ettelt, L. Fry, R. Happle, U. F. Haustein, J. Ganslandt, E. G. Jung, J. Knop, K. H. Khune, B. Mellein, N. J. M›Rk, S. Rogers, A. G. Schmidt, R. E. Schopf, M. Sumner, K. M. Taube, G. Weidinger, C. Wurdel, and E. Zahn. Conversion of psoriasis patients from the conventional formulation of cyclosporin A to a new microemulsion formulation: a randomized, open, multicentre assessment of safety and tolerability. Dermatology 196 (2):231-236, 1998. ZACHARIAE1998	Incorrect comparison: Sandimmun vs Neoral
H. Zachariae. Renal toxicity of long-term ciclosporin. Scand.J.Rheumatol. 28 (2):65-68, 1999. ZACHARIAE1999	Incorrect study type: Narrative review

F.5 Chapter 10: Methotrexate and risk of hepatotoxicity

In people with psoriasis (all types) who are being treated with methotrexate, are there specific groups who are at high risk of hepatotoxicity?

Excluded n = 83

Study excluded	Reason
B. Alby-Lepresle, J.-P. Cervoni, E. Monnet, F. Aubin, D. Wendling, E. Toussirot, I. Mermet, M. Nachury, E. Bertolini, F. Carbonnel, V. Bague, P. Cals, and Martino Di, V. Pragmatic assessment of liver fibrosis during methotrexate therapy: Comparison of patients with psoriasis, rheumatoid arthritis or Crohn's disease. J.Hepatol. 50 (Suppl):S386-S397, 2010. ALBYLLEPRSLE2010	Incorrect study type: Poster abstract Mixed population
M. J. Ahern, M. D. Smith, and P. J. Roberts-Thomson. Methotrexate hepatotoxicity: what is the evidence?. Inflamm.Res. 47 (4):148-151, 1998. AHERN1998	No prognostic data
G. P. Aithal, B. Haugk, S. Das, T. Card, A. D. Burt, and Record CO. Monitoring methotrexate-induced hepatic fibrosis in patients with psoriasis: are serial liver biopsies justified? Aliment.Pharmacol.Ther. 19 (4):391-399, 2004. AITHAL2004	No prognostic data
J. Almeyda, D. Barnardo, and H. Baker. Drug reactions XV. Methotrexate, psoriasis and the liver. Br.J.Dermatol. 85 (3):302-305, 1971. ALMEYDA1971	Systematic review: all relevant studies included individually
J. Almeyda, H. Baker, G. Levene, D. Barnardo, and J. Landells. Methotrexate, alcohol, and liver damage. Br.Med.J. 2 (5754):167, 1971. ALMEYDA1971A	Incorrect study type: Letter
A. Barbero-Villares, J. Mendoza, M. Trapero-Marugan, I. Gonzalez-Alvaro, E. Dauden, J. P. Gisbert, and R. Moreno-Otero. Evaluation of liver fibrosis by transient elastography in methotrexate treated patients. Medicina Clinica 137 (14):637-639, 2011. BARBERO2011	Incorrect study type
J. Barker, E. J. Horn, M. Lebwohl, R. B. Warren, A. Nast, W. Rosenberg, C. Smith, and Psoriasis Council International. Assessment and management of methotrexate hepatotoxicity in psoriasis patients: report from a consensus conference to evaluate current practice and identify key questions toward optimizing methotrexate use in the clinic. J.Eur.Acad.Dermatol.Venereol. 25 (7):758-764, 2011. BARKER2011	Narrative review – relevant papers included
G. G. Birnie, C. P. Fitzsimons, D. Czarnecki, A. Cooke, G. Scobie, and M. J. Brodie. Hepatic metabolic function in patients receiving long-term methotrexate therapy: comparison with topically treated psoriatics, patient controls and cirrhotics. Hepatogastroenterology. 32 (4):163-167, 1985. BIRNIE1985	Insufficient sample size

Study excluded	Reason
M. J. Boffa, A. Smith, R. Chalmers, D. Mitchell, B. Rowan, T. W. Warnes, M. Shomaf, and N. Y. Haboubi. Serum type III procollagen aminopeptide for assessing liver damage in methotrexate-treated psoriatic patients. Br.J.Dermatol. 135 (4):538-544, 1996. BOFFA1996	No prognostic data
E. Campalani, M. Arenas, A. M. Marinaki, C. M. Lewis, J. N. Barker, and C. H. Smith. Polymorphisms in folate, pyrimidine, and purine metabolism are associated with efficacy and toxicity of methotrexate in psoriasis.[Erratum appears in J Invest Dermatol. 2008 Oct;128(10):2545-6]. J.Invest.Dermatol. 127 (8):1860-1867, 2007. CAMPALANI2007	Incorrect prognostic factors
S. C. Carneiro, F. F. Cassia, F. Lamy, V. L. Chagas, and M. Ramos-e-Silva. Methotrexate and liver function: a study of 13 psoriasis cases treated with different cumulative dosages. J.Eur.Acad.Dermatol.Venereol. 22 (1):25-29, 2008. CARNEIRO2008	No prognostic data Insufficient sample size
V. Chandran, F. Siannis, P. Rahman, F. J. Pellett, V. T. Farewell, and D. Gladman. Folate pathway enzyme gene polymorphisms and the efficacy and toxicity of methotrexate in psoriatic arthritis. J.Rheumatol. 37 (7):1508-1512, 2010. CHANDRAN2010	Incorrect prognostic factor
J. C. Chaput, T. Poynard, S. Naveau, D. Penso, O. Durrmeyer, and D. Suplisson. Psoriasis, alcohol, and liver disease. British Medical Journal Clinical Research Ed. 291 (6487):25, 1985. CHAPUTI1985	Incorrect population (no methotrexate)
J. Chladek, J. Vaneckova, J. Simkova, J. Vavrova, M. Hroch, and P. Hulek. A prospective study evaluating biomarkers of hepatotoxicity in the course of pharmacokinetically-guided dosing of oral methotrexate to psoriasis patients. Basic Clin.Pharmacol.Toxicol. 109 (S1):37, 2011. CHLADEK2011	Incorrect study type: Abstract only – interim results
R. O. Coe and F. E. Bull. Cirrhosis associated with methotrexate treatment of psoriasis. JAMA 206 (7):1515-1520, 1968. COE1968	Insufficient sample size
G. P. Coughlin, D. W. Henderson, J. G. Reid, and A. K. Grant. Cirrhosis following methotrexate administration for psoriasis. Med.J.Aust. 2 (10):499-501, 1973. COUGHLIN1973	Incorrect study type Insufficient sample size
I. H. Coulson, J. Mckenzie, V. S. Neild, A. E. Joseph, and R. A. Marsden. A comparison of liver ultrasound with liver biopsy histology in psoriatics receiving long-term methotrexate therapy. Br.J.Dermatol. 116 (4):491-495, 1987. COULSON1987	No prognostic data
S. N. Creswell and D. Burrows. Liver biopsies in psoriatics. Complications	Insufficient sample size

Study excluded	Reason
and evaluation. Int.J.Dermatol. 19 (4):217-219, 1980. CRESWELL1980	
A. Cunningham, R. Kwok, A. Lee, and B. Shenstone. Transient elastographyas a potential screening method for methotrexate induced hepatic fibrosis. Internal Medicine Journal Conference (var.pagings):10, 2010. CUNNINGHAM2010	Incorrect study type: Abstract only – insufficient information
J. R. Curtis, T. Beukelman, A. Onofrei, S. Cassell, J. D. Greenberg, A. Kavanaugh, G. Reed, V. Strand, and J. M. Kremer. Elevated liver enzyme tests among patients with rheumatoid arthritis or psoriatic arthritis treated with methotrexate and/or leflunomide. Ann.Rheum.Dis. 69 (1):43-47, 2010. CURTIS2010	No prognostic data
M. G. Dahl, M. M. Gregory, and P. J. Scheuer. Liver damage due to methotrexate in patients with psoriasis. Br.Med.J. 1 (5750):625-630, 1971. DAHL1971	No prognostic data
H. V. Dubin and E. R. Harrell. Liver disease associated with methotrexate treatment of psoriatic patients. Arch.Dermatol. 102 (5):498-503, 1970. DUBIN1970	Insufficient sample size No prognostic data
E. H. Epstein, Jr. and J. D. Croft, Jr. Cirrhosis following methotrexate administration for psoriasis. Arch.Dermatol. 100 (5):531-534, 1969. EPSTEIN1969	Insufficient sample size Incorrect study type
L. R. Espinoza, L. Zakraoui, C. G. Espinoza, F. Gutierrez, L. J. Jara, L. H. Silveira, M. L. Cuellar, and P. Martinez-Osuna. Psoriatic arthritis: clinical response and side effects to methotrexate therapy. J.Rheumatol. 19 (6):872-877, 1992. ESPINOZA1992	No prognostic data Incorrect population
C. Franchi, A. Altomare, G. Cainelli, E. Frigerio, and G. F. Altomare. Methotrexate and psoriasis: Serum levels of aminoterminal propeptide of type III procollagen in long-term therapy. G.Ital.Dermatol.Venereol. 139 (5):479-484, 2004. FRANCHI2004	Insufficient sample size Incorrect study type
F. A. Griesman, C. J. Hammer, and L. F. Fenster. Methotrexate-associated liver disease in psoriatic patients. Northwest Med. 71 (8):609-612, 1972. GRIESMAN1972	Insufficient sample size
L. E. Grismer, S. A. Gill, and M. D. Harris. Liver biopsy in psoriatic arthritis to detect methotrexate hepatotoxicity. Journal of Clinical Rheumatology 7 (4):224-227, 2001. GRISMER2001	No prognostic data
U. F. Haustein and M. Rytter. Methotrexate in psoriasis: 26 years'	No prognostic data

Study excluded	Reason
experience with low-dose long-term treatment. J.Eur.Acad.Dermatol.Venereol. 14 (5):382-388, 2000. HAUSTEIN2000	
P. Helliwell and W. J. Taylor. Treatment of psoriatic arthritis and rheumatoid arthritis with disease modifying drugs -- comparison of drugs and adverse reactions. J.Rheumatol. 35 (3):472-476, 2008. HELLIWELL2008	No prognostic data
V. M. R. Heydendael, P. I. Spuls, P. M. M. Bossuyt, J. D. Bos, and M. A. de Rie. Analysis of risk factors in psoriatic patients with methotrexate-induced increases in transaminase levels. Arch.Dermatol. 140 (10):1289-1290, 2004. HEYDENDAEL2004	Incorrect study type Insufficient reporting
K. Jaskiewicz, M. D. Voigt, and S. C. Robson. Distribution of hepatic nerve fibers in liver diseases. Digestion 55 (4):247-252, 1994. JASKIEWICZ1994	No prognostic data Insufficient sample size
D. Laharie, J. Seneschal, T. Schaeverbeke, M. S. Doutre, M. Longy-Boursier, J. L. Pellegrin, E. Chabrun, S. Villars, F. Zerbib, and V. De Ledinghen. Assessment of liver fibrosis with transient elastography and FibroTest in patients treated with methotrexate for chronic inflammatory diseases: A case-control study. J.Hepatol. 53 (6):1035-1040, 2010. LAHARIE2010	Incorrect population
G. Langman, P. M. Hall, and G. Todd. Role of non-alcoholic steatohepatitis in methotrexate-induced liver injury. J.Gastroenterol.Hepatol. 16 (12):1395-1401, 2001. LANGMAN2001	Insufficient sample size
S. B. Lanse, G. L. Arnold, J. D. Gowans, and M. M. Kaplan. Low incidence of hepatotoxicity associated with long-term, low-dose oral methotrexate in treatment of refractory psoriasis, psoriatic arthritis, and rheumatoid arthritis. An acceptable risk/benefit ratio. Dig.Dis.Sci. 30 (2):104-109, 1985. LANSE1985	Insufficient sample size Indirect population
C. M. Lawrence, R. Strange, R. Summerly, A. J. Scriven, M. Elmahallawy, A. Wood, P. J. Fletcher, and G. J. Beckett. Assessment of liver function using fasting bile salt concentrations in psoriasis prior to and during methotrexate therapy. Clin.Chim.Acta 129 (3):341-351, 1983. LAWRENCE1983	Insufficient sample size
P. Lenler-Petersen, H. Sogaard, K. Thestrup-Pedersen, and H. Zachariae. Galactose tolerance test and methotrexate-induced liver fibrosis and cirrhosis in patients with psoriasis. Acta Derm.Venereol. 62 (5):448-449, 1982. LENLER-PETERSON1982	No prognostic data Incorrect study type
J. T. Lim and S. N. Tham. Methotrexate in the treatment of psoriasis at the National Skin Centre, Singapore. Ann.Acad.Med.Singapore 23 (6):848-851, 1994.	No prognostic data

Study excluded	Reason
LIM1994	
K. G. Linden and G. D. Weinstein. Use of methotrexate in psoriasis. Dermatologic Therapy 11 (pp 52-59):-59, 1999. LINDEN1999	Literature review – no relevant data
B. L. Masuria, A. Mittal, L. K. Gupta, M. Sharma, and N. Bansal. Methotrexate : Side effects and the role of folic acid supplementation in psoriasis - A study. Indian Journal of Dermatology, Venereology and Leprology 63 (4):219-222, 1997. MASURIA1997	No quantitative prognostic data
P. D. Maurice, A. J. Maddox, C. A. Green, F. Tatnall, J. K. Schofield, and D. J. Stott. Monitoring patients on methotrexate: hepatic fibrosis not seen in patients with normal serum assays of aminoterminal peptide of type III procollagen. Br.J.Dermatol. 152 (3):451-458, 2005. MAURICE2005	Incorrect study type
C. J. McDonald and J. R. Bertino. Parenteral methotrexate in psoriasis. A report on the efficacy and toxicity of long-term intermittent treatment. Arch.Dermatol. 100 (6):655-668, 1969. MCDONALD1969	No quantitative prognostic data
P. M. McHenry, E. A. Bingham, M. E. Callender, P. B. Delvin, M. D. O'Hara, W. R. Ferguson, J. D. Laird, and D. Burrows. Dynamic hepatic scintigraphy in the screening of psoriatic patients for methotrexate-induced hepatotoxicity. Br.J.Dermatol. 127 (2):122-125, 1992. MCHENRY1992	Incorrect study type
L. Miele, S. Vallone, C. Cefalo, Torre G. La, Stasi C. Di, F. M. Vecchio, M. D'Agostino, M. L. Gabrieli, V. Vero, M. Biolato, M. Pompili, G. Gasbarrini, G. Rapaccini, P. Amerio, Simone C. De, and A. Grieco. Prevalence, characteristics and severity of non-alcoholic fatty liver disease in patients with chronic plaque psoriasis. J.Hepatol. 51 (4):778-786, 2009. MIELE2009	Insufficient sample size
J. A. Miller, H. J. Dodds, and W. R. Lees. A comparison of ultrasonography and liver biopsy in the assessment of methotrexate-induced hepatotoxicity in patients with psoriasis. Br.J.Dermatol. 109 (Suppl. 24):24, 1983. MILLER1983	Incorrect study type: Abstract only
J. A. Miller, H. Dodd, M. H. Rustin, W. R. Lees, G. Levene, J. D. Kirby, and D. D. Munro. Ultrasound as a screening procedure for methotrexate-induced hepatic damage in severe psoriasis. Br.J.Dermatol. 113 (6):699-705, 1985. MILLER1985	Incorrect study type
G. H. Millward-Sadler and T. J. Ryan. Methotrexate induced liver disease in psoriasis. Br.J.Dermatol. 90 (6):661-667, 1974.	Insufficient sample size

Study excluded	Reason
MILLWARDSADLER1974	
D. Mitchell, R. J. Johnson, H. J. Testa, N. Y. Haboubi, and R. Chalmers. Ultrasound and radionuclide scans - Poor indicators of liver damage in patients treated with methotrexate. Clin.Exp.Dermatol. 12 (4):243-245, 1987. MITCHELL1987	Incorrect study type and outcomes
D. Mitchell, A. Smith, B. Rowan, T. W. Warnes, N. Y. Haboubi, S. B. Lucas, and R. Chalmers. Serum type III procollagen peptide, dynamic liver function tests and hepatic fibrosis in psoriatic patients receiving methotrexate. Br.J.Dermatol. 122 (1):1-7, 1990. MITCHELL1990	Incorrect study type and outcomes
H. Montaudie, E. Sbidian, C. Paul, A. Maza, A. Gallini, S. Aractingi, F. Aubin, H. Bachelez, B. Cribier, P. Joly, D. Jullien, Maitre M. Le, L. Misery, M. A. Richard, and J. P. Ortonne. Methotrexate in psoriasis: a systematic review of treatment modalities, incidence, risk factors and monitoring of liver toxicity. J.Eur.Acad.Dermatol.Venereol. 25 Suppl 2:12-18, 2011. MONTAUDIE2011	Systematic review – relevant papers included
S. A. Muller, G. M. Farrow, and D. L. Martalock. Cirrhosis caused by methotrexate in the treatment of psoriasis. Arch.Dermatol. 100 (5):523-530, 1969. MULLER1969	Insufficient sample size No prognostic data
C. Nohlgard, C. A. Rubio, Y. Kock, and H. Hammar. Liver fibrosis quantified by image analysis in methotrexate-treated patients with psoriasis. J.Am.Acad.Dermatol. 28 (1):40-45, 1993. NOHLGARD1993	Insufficient sample size
A. Nyfors and H. Poulsen. Liver biopsies from psoriatics related to methotrexate therapy. 1. Findings in 123 consecutive non-methotrexate treated patients. Acta Pathol.Microbiol.Scand.[A]. 84 (3):253-261, 1976. NYFORS1967A	Incorrect population: Participants not MTX-treated
A. Nyfors and H. Brodthagen. Methotrexate for psoriasis in weekly oral doses without any adjunctive therapy. Dermatologica 140 (6):345-355, 1970. NYFORS1970	No prognostic data
A. Nyfors and H. Poulsen. Morphogenesis of fibrosis and cirrhosis in methotrexate-treated patients with psoriasis. Am.J.Surg.Pathol. 1 (3):235-243, 1977. NYFORS1977A	Insufficient sample size
A. Nyfors. Benefits and adverse drug experiences during long-term methotrexate treatment of 248 psoriatics. Dan.Med.Bull. 25 (5):208-211, 1978. NYFORS1978	Insufficient reporting
A. Nyfors. Methotrexate therapy of psoriasis. Effect and side effects with particular reference to hepatic changes. A survey. Dan.Med.Bull. 27	Systematic review: all relevant included studies ordered

Study excluded	Reason
(2):74-96, 1980. NYFORS1980	separately
P. K. R. Oogarah. Abnormalities of serum type III procollagen aminoterminal peptide in methotrexate-treated psoriatic patients with normal liver histology do not correlate with hepatic ultrastructural changes. Br.J.Dermatol. 133 (4):512-518, 1995. OOGARAH1995	Insufficient sample size
H. M. Palmer. Hepatotoxicity of methotrexate in the treatment of psoriasis. Practitioner 211 (263):324-328, 1973. PALMER1973	No prognostic data
J. Paramsothy, R. Strange, H. Sharif, M. Collins, P. Shaw, and C. M. Lawrence. The use of antipyrine clearance to measure liver damage in psoriatic patients receiving methotrexate. Br.J.Dermatol. 119 (6):761-765, 1988. PARAMSOTHY1988	Insufficient sample size
B. J. Podurgiel, D. B. McGill, J. Ludwig, W. F. Taylor, and S. A. Muller. Liver injury associated with methotrexate therapy for psoriasis. Mayo Clin.Proc. 48 (11):787-792, 1973. PODURGIEL1973	Incorrect prognostic factor
K. Poikolainen, J. Karvonen, and E. Pukkala. Excess mortality related to alcohol and smoking among hospital-treated patients with psoriasis. Arch.Dermatol. 135 (12):1490-1493, 1999. POIKOLAINAN1999	Incorrect population: Patients not taking MTX
F. S. Reynolds and W. M. Lee. Hepatotoxicity after long-term methotrexate therapy. South.Med.J. 79 (5):536-539, 1986. REYNOLDS1986	Insufficient sample size
J. Risteli, H. Sogaard, A. Oikarinen, L. Risteli, J. Karvonen, and H. Zachariae. Aminoterminal propeptide of type III procollagen in methotrexate-induced liver fibrosis and cirrhosis. Br.J.Dermatol. 119 (3):321-325, 1988. RISTELI1988	Insufficient sample size Incorrect study type
J. K. Robinson, R. D. Baughman, R. Auerbach, and R. J. Cimis. Methotrexate hepatotoxicity in psoriasis. Consideration of liver biopsies at regular intervals. Arch.Dermatol. 116 (4):413-415, 1980. ROBINSON1980	Insufficient prognostic data
H. H. Roenigk, Jr., W. Fowler-Bergfeld, and G. H. Curtis. Methotrexate for psoriasis in weekly oral doses. Arch.Dermatol. 99 (1):86-93, 1969. ROENIGK1969	No prognostic data
J. H. Saurat, G. Stingl, L. Dubertret, K. Papp, R. G. Langley, J. P. Ortonne, K. Unnebrink, M. Kaul, A. Camez, and Champion Study Investigators. Efficacy and safety results from the randomized controlled comparative study of	No prognostic data Incorrect outcomes

Study excluded	Reason
adalimumab vs. methotrexate vs. placebo in patients with psoriasis (CHAMPION). Br.J.Dermatol. 158 (3):558-566, 2008. SAURAT2008	
J. Schmitt, Z. Zhang, G. Wozel, M. Meurer, and W. Kirch. Efficacy and tolerability of biologic and nonbiologic systemic treatments for moderate-to-severe psoriasis: meta-analysis of randomized controlled trials. Br.J.Dermatol. 159 (3):513-526, 2008. SCHMITT2008A	No prognostic data
H. A. Shapiro, J. O. Trowbridge, J. C. Lee, and H. I. Maibach. Liver disease in psoriatics--An effect of methotrexate therapy? Arch.Dermatol. 110 (4):547-551, 1974. SHAPIRO1974	Insufficient prognostic data
L. Sutton, J. M. Swinehart, A. Cato, and A. S. Kaplan. A clinical study to determine the efficacy and safety of 1% methotrexate/Azone (MAZ) gel applied topically once daily in patients with psoriasis vulgaris. Int.J.Dermatol. 40 (7):464-467, 2001. SUTTON2001	No prognostic data
W. J. Taylor, E. Korendowych, P. Nash, P. Helliwell, E. Choy, G. G. Krueger, E. R. Soriano, N. McHugh, and C. F. Rosen. Drug use and toxicity in psoriatic disease: focus on methotrexate. J.Rheumatol. 35 (7):1454-1457, 2008. TAYLOR2008	No prognostic data
R. Themido, M. Loureiro, M. Pecegueiro, M. Brandao, and M. C. Campos. Methotrexate hepatotoxicity in psoriatic patients submitted to long-term therapy. Acta Derm.Venereol. 72 (5):361-364, 1992. THEMIDO1992	Incorrect population: Combination therapy
L. Tilling, S. Townsend, and J. David. Methotrexate and hepatic toxicity in rheumatoid arthritis and psoriatic arthritis. Clinical Drug Investigation 26 (2):55-62, 2006. TILLING2006	Insufficient prognostic data Incorrect population
R. J. van Dooren-Greebe, A. L. Kuijpers, W. C. Buijs, P. H. Kniest, F. H. Corstens, F. M. Nagengast, T. de Boo, J. L. Willems, P. Duller, and P. van de Kerkhof. The value of dynamic hepatic scintigraphy and serum aminoterminal propeptide of type III procollagen for early detection of methotrexate-induced hepatic damage in psoriasis patients. Br.J.Dermatol. 134 (3):481-487, 1996. VANDOORENGREEBE1996	Insufficient sample size No prognostic data
P. van de Kerkhof, W. H. Hoefnagels, U. J. van Haelst, and J. W. Mali. Methotrexate maintenance therapy and liver damage in psoriasis. Clin.Exp.Dermatol. 10 (3):194-200, 1985. VENDERKERKHOF1985	Insufficient reporting
A. Warin, J. Landells, G. Levene, and H. Baker. A prospective study of the	N=25 (sample size too small);

Study excluded	Reason
effects of weekly oral methotrexate on liver biopsy. Br.J.Dermatol. 93 (3):321-327, 1975. WARIN1975	no data on risk factors for hepatotoxicity
R. B. Warren, R. L. Smith, E. Campalani, S. Eyre, C. H. Smith, J. N. Barker, J. Worthington, and C. Griffiths. Genetic variation in efflux transporters influences outcome to methotrexate therapy in patients with psoriasis. J.Invest.Dermatol. 128 (8):1925-1929, 2008. WARREN2008	Incorrect prognostic factors
R. B. Warren, R. L. Smith, E. Campalani, S. Eyre, C. H. Smith, J. N. Barker, J. Worthington, and C. Griffiths. Outcomes of methotrexate therapy for psoriasis and relationship to genetic polymorphisms. Br.J.Dermatol. 160 (2):438-441, 2009. WARREN2009	Incorrect prognostic factors
G. D. Weinstein, J. W. Cox, D. W. Suringa, M. M. Millard, M. Kalser, and P. Frost. Evaluation of possible chronic hepatotoxicity from methotrexate for psoriasis. Arch.Dermatol. 102 (6):613-618, 1970. WEINSTEIN1970	Insufficient sample size
Q. E. Whiting-O'Keefe, K. H. Fye, and K. D. Sack. Methotrexate and histologic hepatic abnormalities: a meta-analysis. Am.J.Med. 90 (6):711-716, 1991. WHITINGOKEEFE1991	Insufficient reporting. Relevant studies included
H. Zachariae, H. Sogaard, and L. Heickendorff. Serum aminoterminal propeptide of type III procollagen. A non-invasive test for liver fibrogenesis in methotrexate-treated psoriatics. Acta Derm.Venereol. 69 (3):241-244, 1989. ZACHARIAE1989	Incorrect study type
H. Zachariae, L. Heickendorff, and H. Sogaard. The value of amino-terminal propeptide of type III procollagen in routine screening for methotrexate-induced liver fibrosis: a 10-year follow-up. Br.J.Dermatol. 144 (1):100-103, 2001. ZACHARIAE2001	Incorrect study type
R. S. Stern and A. Huibregtse. Very severe psoriasis is associated with increased noncardiovascular mortality but not with increased cardiovascular risk. J.Invest.Dermatol. 131 (5):1159-1166, 2011. STERN2011	Incorrect population: Not MTX treated

F.6 Chapter 11: Methotrexate and monitoring for hepatotoxicity

In people with psoriasis (all types) who are being treated with methotrexate or who are about to begin treatment with methotrexate, what is the optimum non-invasive method of monitoring hepatotoxicity (fibrosis or cirrhosis) compared with liver biopsy?

Excluded n = 48

Study excluded	Reason
G. P. Aithal, B. Haugk, S. Das, T. Card, A. D. Burt, and C. O. Record. Monitoring methotrexate-induced hepatic fibrosis in patients with psoriasis: are serial liver biopsies justified? Aliment.Pharmacol.Ther. 19 (4):391-399, 2004. AITHAL2004	Incorrect study design: No index test performed
B. Alby-Lepresle, J.-P. Cervoni, E. Monnet, F. Aubin, D. Wendling, E. Toussirot, I. Mermet, M. Nachury, E. Bertolini, F. Carbonnel, V. Bague, P. Cals, and Martino Di, V. Pragmatic assessment of liver fibrosis during methotrexate therapy: Comparison of patients with psoriasis, rheumatoid arthritis or Crohn's disease. J.Hepatol. 50 (Suppl):S386-S397, 2010. ALBYLLEPRESLE2010	Insufficient data (abstract only)
J. Almeyda, D. Barnardo, H. Baker, G. Levene, and J. Landells. Structural and functional abnormalities of the liver in psoriasis before and during methotrexate therapy. Br.J.Dermatol. 87 (6):623-631, 1972. ALMEYDA1972	Incorrect outcomes: grouped liver function tests
R. Aspinall, A. Joshi, A. Godkin, K. Roberts, and G. Williams. Abnormal liver histology in patients taking methotrexate correlates poorly with dosage or duration of therapy and reflects established risk factors for steatohepatitis. Gut Conference (var.pagings):A7-A8, 2010. ASPINALL2010	Insufficient data (abstract only)
A. Barbero-Villares, J. Mendoza, C. Esteban, E. Gomez-Dominguez, J. A. Moreno-Monteagudo, L. Garcia-Buey, R. Gomez-Gil, T. Sanz, E. Dauden, J. Mate, J. P. Gisbert, and R. Moreno-Otero. Evaluation of hepatic fibrosis by transient elastography (fibroscan) in methotrexate-treated patients. J.Hepatol. 50 (Suppl 1):S220, 2009. BARBAROVILLARES2009	Insufficient data (abstract only)
A. Barbero-Villares, J. Mendoza, M. Trapero-Marugan, I. Gonzalez-Alvaro, E. Dauden, J. P. Gisbert, and R. Moreno-Otero. Evaluation of liver fibrosis by transient elastography in methotrexate treated patients. Medicina Clinica 137 (14):637-639, 2011. BARBERO2011	Incorrect population Insufficient reporting
J. Barker, E. J. Horn, M. Lebwohl, R. B. Warren, A. Nast, W. Rosenberg, C. Smith, and Psoriasis Council International. Assessment and management of methotrexate hepatotoxicity in psoriasis patients: report from a consensus conference to evaluate current practice and identify key questions toward optimizing methotrexate use in the clinic. Journal of the European Academy of Dermatology & Venereology 25 (7):758-764, 2011. BARKER2011	Incorrect study type: Narrative review
A. Bray, I. Barnova, R. Przemioslo, and C. T. C. Kennedy. Could transient elastography reduce the need for Liver biopsy? Br.J.Dermatol. 161 (Suppl 1):10-11, 2009. BRAY2009	Insufficient data (abstract only)
R. Chalmers, B. Kirby, A. Smith, P. Burrows, R. Little, M. Horan, J. M. Hextall, C. H. Smith, M. Klaber, and S. Rogers. Replacement of routine	Serious methodological limitation: only those positive

Study excluded	Reason
liver biopsy by procollagen III aminopeptide for monitoring patients with psoriasis receiving long-term methotrexate: a multicentre audit and health economic analysis. Br.J.Dermatol. 152 (3):444-450, 2005. CHALMERS2005	on index test received reference test
S. N. Creswell and D. Burrows. Liver biopsies in psoriatics. Complications and evaluation. Int.J.Dermatol. 19 (4):217-219, 1980. CRESWELL1980	Incorrect outcomes: grouped liver function tests
A. Cunningham, R. Kwok, A. Lee, and B. Shenstone. Transient elastographyas a potential screening method for methotrexate induced hepatic fibrosis. Internal Medicine Journal Conference (var.pagings):10, 2010. CUNNINGHAM2010	Insufficient data (abstract only)
M. G. Dahl, M. M. Gregory, and P. J. Scheuer. Liver damage due to methotrexate in patients with psoriasis. Br.Med.J. 1 (5750):625-630, 1971. DAHL1971	Insufficient reporting to get 2x2 table (graph only)
L. Dara, R. Mercado, K. A. Mitchell, and J. K. Lim. Validation of the AST to Platelet Ratio Index (APRI) in predicting liver fibrosis in methotrexate-associated liver disease. Hepatology 50 (Suppl 4):1167A, 2009. DARA2009	Insufficient data (abstract only)
C. Franchi, A. Altomare, G. Cainelli, E. Frigerio, and G. Altomare. Methotrexate and psoriasis: Serum levels of aminoterminal propeptide of type III procollagen in long-term therapy. G.Ital.Dermatol.Venereol. 139 (5):479-484, 2004. FRANCHI2004	Incorrect study design: No reference standard performed
M. Friedrich-Rust, M. F. Ong, S. Martens, C. Sarrazin, J. Bojunga, S. Zeuzem, and E. Herrmann. Performance of transient elastography for the staging of liver fibrosis: a meta-analysis. Gastroenterology 134 (4):960-974, 2008. FRIEDRICHRUST2008	Incorrect population
Giacomo Germani, Andrew K. Burroughs, and Amar P. Dhillon. The relationship between liver disease stage and liver fibrosis: a tangled web. Histopathology 57 (6):773-784, 2010. GERMANI2010	Incorrect study type: Review
L. E. Grismer, S. A. Gill, and M. D. Harris. Liver biopsy in psoriatic arthritis to detect methotrexate hepatotoxicity. J.Clin.Rheumatol. 7 (4):224-227, 2001. GRISMER2001	Incorrect population: PsA-specific and rheumatology setting Unclear reporting and discrepancy between text and graph
J. Hendel. Clinical pharmacokinetics of methotrexate in psoriasis therapy. Dan.Med.Bull. 32 (6):329-337, 1985. HENDEL1985A	Incorrect study type: Narrative review
K. Jaskiewicz, M. D. Voigt, and S. C. Robson. Distribution of hepatic nerve fibers in liver diseases. Digestion 55 (4):247-252, 1994. JASKIEWICZ1994	Incorrect study design: No index test performed
R. Jurawa, D. Gibson, and F. Weilert. Transient elastography (TE) and correlation with P3NP in patients on methotrexate therapy: A retrospective study at Waikato hospital. J.Gastroenterol.Hepatol. Conference (var.pagings):A40, 2010. JURAWA2010	Abstract only – insufficient data

Study excluded	Reason
P. J. Kersey and M. G. C. Dahl. Comparison of liver scan and liver biopsy in patients with psoriasis. Br.J.Dermatol. 103 (SUPPL. 18):15-16, 1980. KERSEY1980	Abstract only – insufficient data
S. Khan, D. Subedi, and M. M. Chowdhury. Use of amino terminal type III procollagen peptide (P3NP) assay in methotrexate therapy for psoriasis.[Erratum appears in Postgrad Med J. 2006 Aug;82(970):482]. Postgrad.Med.J. 82 (967):353-354, 2006. KHAN2006A	Insufficient reporting: Not possible to derive 2x2 table
D. Laharie, J. Seneschal, T. Schaeverbeke, M. S. Doutre, M. Longy-Boursier, J. L. Pellegrin, E. Chabrun, S. Villars, F. Zerbib, and V. De Ledinghen. Assessment of liver fibrosis with transient elastography and FibroTest in patients treated with methotrexate for chronic inflammatory diseases: A case-control study. J.Hepatol. 53 (6):1035-1040, 2010. LAHARIE2010	Incorrect population: 21% psoriasis
C. M. Lawrence, R. Strange, R. Summerly, A. J. Scriven, M. Elmahallawy, A. Wood, P. J. Fletcher, and G. J. Beckett. Assessment of liver function using fasting bile salt concentrations in psoriasis prior to and during methotrexate therapy. Clin.Chim.Acta 129 (3):341-351, 1983. LAWRENCE1983	Incorrect outcomes: abnormal biopsy includes composite score of fat, inflammation and fibrosis
K. Lindsay, A. D. Fraser, A. Layton, M. Goodfield, H. Gruss, and A. Gough. Liver fibrosis in patients with psoriasis and psoriatic arthritis on long-term, high cumulative dose methotrexate therapy. Rheumatology 48 (5):569-572, 2009. LINDSAY2009	Insufficient data to calculate 2x2
N. J. McHugh, C. Balachrishnan, and S. M. Jones. Progression of peripheral joint disease in psoriatic arthritis: a 5-yr prospective study. Rheumatology 42 (6):778-783, 2003. MCHUGH2003	Incorrect comparison
J. A. Miller, H. J. Dodds, and W. R. Lees. A comparison of ultrasonography and liver biopsy in the assessment of methotrexate-induced hepatotoxicity in patients with psoriasis. Br.J.Dermatol. 109 (Suppl. 24):24, 1983. MILLER1983	Incorrect study type: abstract only
J. A. Miller, H. Dodd, M. H. Rustin, W. R. Lees, G. Levene, J. D. Kirby, and D. D. Munro. Ultrasound as a screening procedure for methotrexate-induced hepatic damage in severe psoriasis. Br.J.Dermatol. 113 (6):699-705, 1985. MILLER1985	Incorrect outcomes: at least marked fibrosis
D. Mitchell, A. Smith, B. Rowan, T. W. Warnes, N. Y. Haboubi, S. B. Lucas, and R. Chalmers. Serum type III procollagen peptide, dynamic liver function tests and hepatic fibrosis in psoriatic patients receiving methotrexate. Br.J.Dermatol. 122 (1):1-7, 1990. MITCHELL1990	Insufficient reporting to get 2x2 table (graph only)
H. Montaudie, E. Sbidian, C. Paul, A. Maza, A. Gallini, S. Aractingi, F. Aubin, H. Bachelez, B. Cribier, P. Joly, D. Jullien, Maitre M. Le, L. Misery, M. A. Richard, and J. P. Ortonne. Methotrexate in psoriasis: a systematic review of treatment modalities, incidence, risk factors and monitoring of liver toxicity. Journal of the European Academy of Dermatology & Venereology 25 Suppl 2:12-18, 2011. MONTAUDIE2011	Systematic review (all relevant studies included)
V. S. Neild, A. E. A. Joseph, and R. A. Marsden. Liver ultrasound: A safe screening test for methotrexate patients. Br.J.Dermatol. 109 (Suppl.	Abstract only – insufficient data

Study excluded	Reason
24):24-25, 1983. NEILD1983	
A. Nyfors and H. Poulsen. Liver biopsies from psoriatics related to methotrexate therapy. 2. Findings before and after methotexate therapy in 88 patients. A blind study. Acta Pathol.Microbiol.Scand.[A]. 84 (3):262-270, 1976. NYFORS1976	Insufficient data to calculate 2x2
A. Nyfors and H. Poulsen. Liver biopsies from psoriatics related to methotrexate therapy. 1. Findings in 123 consecutive non-methotrexate treated patients. Acta Pathol.Microbiol.Scand.[A]. 84 (3):253-261, 1976. NYFORS1976A	Incorrect population
P. K. Oogarah, P. L. Rowland, D. M. Mitchell, A. Smith, R. J. Chalmers, B. Rowan, and N. Y. Haboubi. Abnormalities of serum type III procollagen aminoterminal peptide in methotrexate-treated psoriatic patients with normal liver histology do not correlate with hepatic ultrastructural changes. Br.J.Dermatol. 133 (4):512-518, 1995. OOGARAH1995	Incorrect population: selected for normal biopsy according to light microscopy and assessed by electron microscopy
M. Rademaker, J. A. Webb, D. G. Lowe, R. H. Meyrick-Thomas, J. D. Kirby, and D. D. Munro. Magnetic resonance imaging as a screening procedure for methotrexate induced liver damage. Br.J.Dermatol. 117 (3):311-316, 1987. RADEMAKET1987	Insufficient data
F. S. Reynolds and W. M. Lee. Hepatotoxicity after long-term methotrexate therapy. South.Med.J. 79 (5):536-539, 1986. REYNOLDS1986	Incorrect population :64% psoriasis)
J. Scholmerich, M. Bennett, A. C. Johnson, K. Miyai, M. Deluca, and A. F. Hofmann. Utility of plasma 7alpha-hydroxy bile acid levels as measured by bioluminescence for detection of methotrexate induced liver injury in patients with psoriasis. Clinical Chemistry and Enzymology Communications 3 (2-3):143-150, 1990. SCHOLMERICH1990	Incorrect outcomes: abnormal biopsy includes composite score of fat, inflammation and fibrosis
W. J. Taylor, E. Korendowych, P. Nash, P. S. Helliwell, E. Choy, G. G. Krueger, E. R. Soriano, N. McHugh, and C. F. Rosen. Drug use and toxicity in psoriatic disease: focus on methotrexate. J.Rheumatol. 35 (7):1454-1457, 2008. TAYLOR2008	Incorrect study type: Narrative review
J. A. Thomas and G. P. Aithal. Monitoring liver function during methotrexate therapy for psoriasis: are routine biopsies really necessary?. [Review] [49 refs]. Am.J.Clin.Dermatol. 6 (6):357-363, 2005. THOMAS2005	Incorrect study type: Narrative review
R. J. van Dooren-Greebe, A. L. Kuijpers, W. C. Buijs, P. H. Kniest, F. H. Corstens, F. M. Nagengast, T. de Boo, J. L. Willems, P. Duller, and P. C. van de Kerkhof. The value of dynamic hepatic scintigraphy and serum aminoterminal propeptide of type III procollagen for early detection of methotrexate-induced hepatic damage in psoriasis patients. Br.J.Dermatol. 134 (3):481-487, 1996. VANDOORENGREEBE1996	Insufficient information to derive 2x2 table (graph only)
A. C. Verschuur, J. J. van Everdingen, E. B. Cohen, and R. A. Chamuleau. Liver biopsy versus ultrasound in methotrexate-treated psoriasis: a decision analysis. Int.J.Dermatol. 31 (6):404-409, 1992. VERSCHUUR1992	Review: relevant studies included

Study excluded	Reason
R. Vyas, R. Juruwan, M. Rademaker, F. Weilert, and A. Yung. Use of transient elastography for non-invasive monitoring of methotrexate induced liver fibrosis. Australas.J.Dermatol. Conference (var.pagings):A46-A47, 2010. VYAS2010	Abstract only – insufficient information
C. N. Williams, D. McCauley, D. A. Malatjalian, G. K. Turnbull, and J. B. Ross. The aminopyrine breath test, an inadequate early indicator of methotrexate-induced liver disease in patients with psoriasis. Clinical & Investigative Medicine - Medecine Clinique et Experimentale 10 (2):54-58, 1987. WILLIAMS1987	Insufficient data to calculate sensitivity and specificity
C. M. Yeo, W. L. Yang, C. Vu, and A. Earnest. Prevalence and risk factors of liver fibrosis associated with methotrexate in an asian psoriatic population. J.Hepatol. 50 (Suppl 1):S373-S374, 2009. YEO2009	No comparison – biopsy only
H. Zachariae and H. Sogaard. Liver biopsy in psoriasis. A controlled study. Dermatologica 146 (3):149-155, 1973. ZACHARIAE1973	No comparison – biopsy only
H. Zachariae, E. Grunnet, and H. Sogaard. Liver biopsy in methotrexate-treated psoriatics-a re-evalution. Acta Derm.Venereol. 55 (4):291-296, 1975. ZACHARIAE1975	Insufficient data to calculate 2x2 atble
H. Zachariae, K. Kragballe, and H. Sogaard. Methotrexate induced liver cirrhosis. Studies including serial liver biopsies during continued treatment. Br.J.Dermatol. 102 (4):407-412, 1980. ZACHARIAE1980	No comparison – biopsy only
H. Zachariae, H. M. Aslam, P. Bjerring, H. Sogaard, E. Zachariae, and L. Heickendorff. Serum aminoterminal propeptide of type III procollagen in psoriasis and psoriatic arthritis: relation to liver fibrosis and arthritis. J.Am.Acad.Dermatol. 25 (1 Pt 1):50-53, 1991. ZACHARIAE1991	Insufficient reporting to calculate 2x2 – graph only

F.7 Chapter 12: Sequencing of biological therapy

In people with chronic plaque psoriasis eligible to receive biologics, if the first biologic fails, which is the next effective, safe and cost effective strategy?

Excluded n = 107

Study excluded	Reason
C. Antoniou, I. Stefanaki, A. Stratigos, E. Moustou, T. Vergou, P. Stavropoulos, G. Avgerinou, D. Rigopoulos, and A. D. Katsambas. Infliximab for the treatment of psoriasis in Greece: 4 years of clinical experience at a single centre. Br.J.Dermatol. 162 (5):1117-1123, 2010. ANTONIOU2010	Incorrect comparison: No stratified data for those previously treated with biologics
A. Arcese, N. Aste, A. Bettacchi, G. Camplone, F. Cantoresi, M. Caproni, D. D'Amico, P. Fabbri, G. Filosa, A. Galluccio, K. Hansel, P. Lisi, G. Micali, M. L. Musumeci, M. Nicolini, A. Parodi, M. Patania, M. Pezza, C. Potenza, A. Richetta, M. Simonacci, P. Trevisan, G. Valenti, and S. Calvieri. Treating psoriasis with	Incorrect comparison: No stratified data for those previously treated with biologics

Study excluded	Reason
etanercept in italian clinical practice: prescribing practices and duration of remission following discontinuation. Clin.Druf Investig. 30 (8):507-516, 2010. ARCESE2010	
A. Asahina, H. Nakagawa, T. Etoh, M. Ohtsuki, and M. Adalimumab. Adalimumab in Japanese patients with moderate to severe chronic plaque psoriasis: efficacy and safety results from a Phase II/III randomized controlled study. J.Dermatol. 37 (4):299-310, 2010. M. Atteno, R. Peluso, L. Costa, S. Padula, S. Iervolino, F. Caso, A. Sanduzzi, E. ASAHINA2010	Incorrect population: No previous biologics
Lubrano, Puente A. Del, and R. Scarpa. Comparison of effectiveness and safety of infliximab, etanercept, and adalimumab in psoriatic arthritis patients who experienced an inadequate response to previous disease-modifying antirheumatic drugs. Clin.Rheumatol. 29 (4):399-403, 2010. ATTENO2010	Incorrect population: Rheumatology setting
M. V. Barrera, S. Habicheyn, M. V. Mendiola, and E. H. Ceballos. Etanercept in the treatment and retreatment of psoriasis in daily clinical practice. Eur.J.Dermatol. 18 (6):683-687, 2008. BARRERA2008	Incorrect comparison: No stratified data for those previously treated with biologics
R. Bissonnette, Y. Poulin, C. Bolduc, C. Maari, N. Provost, J. Syrotuik, C. M. Poulin-Costello, and S. Nigen. Etanercept in the treatment of palmoplantar pustulosis. Journal of drugs in dermatology : JDD 7 (10):940-946, 2008. BISSONNETTE2008	Incorrect comparison: No data on switching
R. Bissonnette, G. Searles, I. Landells, N. H. Shear, K. Papp, H. Lui, W. P. F. Gulliver, and C. Lynde. The AWARE study: Methodology and baseline characteristics. J.Cutan.Med.Surg. 13 (SUPPL. 3):S113-S121, 2009. BISSONNETTE2009	Incorrect intervention: alefacept (not licensed in the UK)
R. Bissonnette, C. Bolduc, Y. Poulin, L. Guenther, C. W. Lynde, and C. Maari. Efficacy and safety of adalimumab in patients with plaque psoriasis who have shown an unsatisfactory response to etanercept. J.Am.Acad.Dermatol. 63 (2):228-234, 2010. BISSONNETTE2010	Incorrect study type: Case series
A. K. Brimhall, L. N. King, J. C. Licciardone, H. Jacobe, and A. Menter. Safety and efficacy of alefacept, efalizumab, etanercept and infliximab in treating moderate to severe plaque psoriasis: a meta-analysis of randomized controlled trials. Br.J.Dermatol. 159 (2):274-285, 2008. BRIMHALL2008	Incorrect comparison: no data on switching
A. M. Brunasso, M. Puntoni, C. Salvini, C. Delfino, P. Curcic, A. Gulia, and C. Massone. Tolerability and safety of biological therapies for psoriasis in daily clinical practice: a study of 103 Italian patients. Acta Derm.Venereol. 91 (1):44-49, 2011. BRUNASSO2011	Incorrect comparison: No stratified data for those previously treated with biologics
N. Cassano, F. Loconsole, A. Amoruso, C. Coviello, M. Filieri, R. Filotico, Vecchio S. Del, and G. A. Vena. Infliximab monotherapy for refractory psoriasis: preliminary results. International Journal of Immunopathology & Pharmacology 17 (3):373-380, 2004. CASSANO2004	Incorrect comparison: No data on previous biologics
J. J. Chan and K. Gebauer. Treatment of severe recalcitrant plaque psoriasis with single-dose intravenous tumour necrosis factor-alpha antibody (infliximab). Australas.J.Dermatol. 44 (2):116-120, 2003. CHAN2003	Incorrect population: No previous biologics
U. Chaudhari, P. Romano, L. D. Mulcahy, L. T. Dooley, D. G. Baker, and A. B.	Incorrect comparison:

Study excluded	Reason
Gottlieb. Efficacy and safety of infliximab monotherapy for plaque-type psoriasis: A randomised trial. Lancet 357 (9271):1842-1847, 2001. CHAUDHARI2001	No data on switching
A. Clemmensen, M. Spon, L. Skov, C. Zachariae, and R. Gniadecki. Responses to ustekinumab in the anti-TNF agent-naive vs. anti-TNF agent-exposed patients with psoriasis vulgaris. J.Eur.Acad.Dermatol.Venereol. 25 (9):1037-1040, 2011. CLEMMENSEN2011	Incorrect outcomes and insufficient reporting
E. Dauden, C. E. M. Griffiths, J. P. Ortonne, K. Kragballe, C. T. Molta, D. Robertson, R. Pedersen, J. Estojak, and R. Boggs. Improvements in patient-reported outcomes in moderate-to-severe psoriasis patients receiving continuous or paused etanercept treatment over 54 weeks: The CRYSTEL study. J.Eur.Acad.Dermatol.Venereol. 23 (12):1374-1382, 2009. Br.J.Dermatol. 155 (4):808-814, 2006.DAUDEN2009	Incorrect comparison: No data on switching
Groot M. de, M. Appelman, P. I. Spuls, M. A. de Rie, and J. D. Bos. Initial experience with routine administration of etanercept in psoriasis. DE2006	Incorrect comparison: No stratified data for those previously treated with biologics
J. P. De Oliveira, A. Levy, P. Morel, and F. Guibal. Efficacy of infliximab for severe recalcitrant psoriasis after 6 weeks of treatment. J.Dermatol. 35 (9):575-580, 2008. DEOLIVEIRA2008	Incorrect comparison: No stratified data for those previously treated with biologics
R. J. B. Driessen, J. B. Boezeman, P. C. M. Van de Kerkhof, and E. M. G. J. De Jong. Three-year registry data on biological treatment for psoriasis: The influence of patient characteristics on treatment outcome. Br.J.Dermatol. 160 (3):670-675, 2009. DRIESSEN2009	Incorrect comparison: No stratified data for those previously treated with biologics
M. Esposito, A. Mazzotta, Felice C. de, M. Papoutsaki, and S. Chimenti. Treatment of erythrodermic psoriasis with etanercept. Br.J.Dermatol. 155 (1):156-159, 2006. ESPOSITO2006	Incorrect population: No previous biologics
M. Esposito, A. Mazzotta, C. Casciello, and S. Chimenti. Etanercept at different dosages in the treatment of generalized pustular psoriasis: A case series. Dermatology 216 (4):355-360, 2008. ESPOSITO2008	Incorrect population: generalised pustular psoriasis
M. Esposito, A. Giunta, A. Mazzotta, G. Babino, M. Talamonti, M. S. Chimenti, and S. Chimenti. Continuous treatment of plaque-type psoriasis with etanercept: An observational long-term experience. Int.J.Immunopathol.Pharmacol. 23 (2):503-509, 2010. ESPOSITO2010	Incorrect comparison: No stratified data for those previously treated with biologics
S. R. Feldman, A. B. Kimball, G. G. Krueger, J. M. Woolley, D. Lalla, and A. Jahreis. Etanercept improves the health-related quality of life of patients with psoriasis: Results of a phase III randomized clinical trial. J.Am.Acad.Dermatol. 53 (5):887-889, 2005. FELDMAN2005B	Incorrect comparison: No data on switching
S. R. Feldman, K. B. Gordon, M. Bala, R. Evans, S. Li, L. T. Dooley, C. Guzzo, K. Patel, A. Menter, and A. B. Gottlieb. Infliximab treatment results in significant improvement in the quality of life of patients with severe psoriasis: A double-blind placebo-controlled trial. Br.J.Dermatol. 152 (5):954-960, 2005. FELDMAN2005C	Incorrect comparison: No data on switching
S. R. Feldman, A. B. Gottlieb, M. Bala, Y. Wu, D. Eisenberg, C. Guzzo, S. Li, L. T. Dooley, and A. Menter. Infliximab improves health-related quality of life in the presence of comorbidities among patients with moderate-to-severe psoriasis.	Incorrect comparison: No data on switching

Study excluded	Reason
Br.J.Dermatol. 159 (3):704-710, 2008. FELDMAN2008A	
R. Gniadecki, K. Kragballe, T. N. Dam, and L. Skov. Comparison of drug survival rates for adalimumab, etanercept and infliximab in patients with psoriasis vulgaris. Br.J.Dermatol. 164 (5):1091-1096, 2011. GNIADECKI2011	Incorrect outcomes
J. R. Gonzalez-Chavez, A. C. Berlingeri-Ramos, and M. A. Sanchez Casiano. Puerto Rico psoriasis study group: efficacy and safety of etanercept. J.Drug.Dermatol. 4 (6):735-739, 2005. GONZALEZCHAVEZ2005	Incorrect population: No previous biologics
K. B. Gordon, R. G. Langley, C. Leonardi, D. Toth, M. A. Menter, S. Kang, M. Heffernan, B. Miller, R. Hamlin, L. Lim, J. Zhong, R. Hoffman, and M. M. Okun. Clinical response to adalimumab treatment in patients with moderate to severe psoriasis: Double-blind, randomized controlled trial and open-label extension study. J.Am.Acad.Dermatol. 55 (4):598-606, 2006. GORDON2006	Incorrect comparison: No data on switching
E. Gospodarevskaya, J. Picot, K. Cooper, E. Loveman, and A. Takeda. Ustekinumab for the treatment of moderate to severe psoriasis. Health Technol.Assess. 13 Suppl 3:61-66, 2009. GOSPODAREVSKAYA2009	Incorrect comparison: No data on switching
K. Gordon, K. Papp, Y. Poulin, Y. Gu, S. Rozzo, and E. H. Sasso. Long-term efficacy and safety of adalimumab in patients with moderate to severe psoriasis treated continuously over 3 years: Results from an open-label extension study for patients from REVEAL. J.Am.Acad.Dermatol. 66 (2):241-251, 2012. GORDON2012	Incorrect comparison: Not data on those with and without prior exposure
Alice B. Gottlieb, Kenneth Gordon, Edward H. Giannini, Philip Mease, Juan Li, Yun Chon, Judy Maddox, Haoling H. Weng, Joseph Wajdula, Shao Lee Lin, and Scott W. Baumgartner. Clinical trial safety and mortality analyses in patients receiving etanercept across approved indications. J.Drug.Dermatol. 10 (3):289-300, 2011. GOTTLIEB2011	Incorrect comparison: Not stratified for prior exposure
A. B. Gottlieb, R. T. Matheson, N. Lowe, G. G. Krueger, S. Kang, B. S. Goffe, A. A. Gaspari, M. Ling, G. D. Weinstein, A. Nayak, K. B. Gordon, R. Zitnik, and L. Naldi. A Randomized Trial of Etanercept as Monotherapy for Psoriasis. Arch.Dermatol. 139 (12):1627-1632, 2003. GOTTLIEB2003A	Incorrect comparison: No data on switching
A. B. Gottlieb, U. Chaudhari, L. D. Mulcahy, S. Li, L. T. Dooley, and D. G. Baker. Infliximab monotherapy provides rapid and sustained benefit for plaque-type psoriasis. J.Am.Acad.Dermatol. 48 (6):829-835, 2003. GOTTLIEB2003B	Incorrect comparison: No previous biologics
A. B. Gottlieb, R. Evans, S. Li, L. T. Dooley, C. A. Guzzo, D. Baker, M. Bala, C. W. Marano, and A. Menter. Infliximab induction therapy for patients with severe plaque-type psoriasis: A randomized, double-blind, placebo-controlled trial. J.Am.Acad.Dermatol. 51 (4):534-542, 2004. GOTTLIEB2004	Incorrect comparison: No data on switching
F. Guimera-Martin-Neda, C. Rodriguez-Garcia, N. Perez-Robayna, R. Sanchez-Gonzalez, and S. Gonzalez. Adalimumab for severe palmoplantar psoriasis: An open-label pilot trial in nine patients. J.Am.Acad.Dermatol. Conference (var.pagings):2, 2011. GUIMERAMARTINNEDA2011	Incorrect study type: abstract only

Study excluded	Reason
K. A. Haitz and R. E. Kalb. Infliximab in the treatment of psoriasis in patients previously treated with etanercept. J.Am.Acad.Dermatol. 57 (1):120-125, 2007. HAITZ2007	Incorrect study type: Case series
S. E. Jacob, A. Sergay, and F. A. Kerdel. Etanercept and psoriasis, from clinical studies to real life. Int.J.Dermatol. 44 (8):688-691, 2005. JACOB2005	Incorrect comparison: No stratified data on previous treatment with biologics
R. Jimenez-Puya, F. Gomez-Garcia, V. Amorrich-Campos, and J. C. Moreno-Gimenez. Etanercept: efficacy and safety. Journal of the European Academy of Dermatology & Venereology 23 (4):402-405, 2009. JIMENEZPUYA2009	Incorrect comparison: No data on previous treatment with biologics
R. E. Kalb and J. Gurske. Infliximab for the treatment of psoriasis: clinical experience at the State University of New York at Buffalo. J.Am.Acad.Dermatol. 53 (4):616-622, 2005. KALB2005	Incorrect comparison: No data on previous biologics
Qurat Ul Ain Kamili, Andrew Miner, Asli Hapa, and Alan Menter. Infliximab treatment for psoriasis in 120 patients on therapy for a minimum of one year: a review. J.Drug.Dermatol. 10 (5):539-544, 2011. KAMILI2011	Incorrect comparison: Incorrect comparison: Not stratified for prior exposure
A. B. Kimball, A. G. Bensimon, A. Guerin, A. P. Yu, E. Q. Wu, M. M. Okun, Y. Bao, S. R. Gupta, and P. M. Mulani. Efficacy and safety of adalimumab among patients with moderate to severe psoriasis with co-morbidities: Subanalysis of results from a randomized, double-blind, placebo-controlled, phase III trial. Am.J.Clin.Dermatol. 12 (1):51-62, 2011. KIMBALL2011	Incorrect comparison: No data on switching
F. Kokelj, S. M. Tothova, M. Patamia, and G. Trevisan. Our experience with etanercept in the treatment of psoriasis. Acta Dermatovenerologica Croatica 14 (4):241-245, 2006. KOKELJ2006	Incorrect comparison: No data on switching
G. G. Krueger, R. G. Langley, A. Y. Finlay, C. E. Griffiths, J. M. Woolley, D. Lalla, and A. Jahreis. Patient-reported outcomes of psoriasis improvement with etanercept therapy: results of a randomized phase III trial. Br.J.Dermatol. 153 (6):1192-1199, 2005. KRUEGER2005	Incorrect comparison: No data on switching
R. G. Langley, S. R. Feldman, C. Han, B. Schenkel, P. Szapary, M. C. Hsu, J. P. Ortonne, K. B. Gordon, and A. B. Kimball. Ustekinumab significantly improves symptoms of anxiety, depression, and skin-related quality of life in patients with moderate-to-severe psoriasis: Results from a randomized, double-blind, placebo-controlled phase III trial. J.Am.Acad.Dermatol. 63 (3):457-465, 2010. LANGLEY2010	Incorrect comparison: No data on switching
R. G. Langley, A. S. Paller, A. A. Hebert, K. Creamer, H. H. Weng, A. Jahreis, D. Globe, V. Patel, and S. J. Orlow. Patient-reported outcomes in pediatric patients with psoriasis undergoing etanercept treatment: 12-week results from a phase III randomized controlled trial. J.Am.Acad.Dermatol. 64 (1):64-70, 2011. LANGLEY2011	Incorrect comparison: No data on switching
M. Lebwohl, K. Papp, C. Han, B. Schenkel, N. Yeilding, Y. Wang, and G. G. Krueger. Ustekinumab improves health-related quality of life in patients with moderate-to-severe psoriasis: results from the PHOENIX 1 trial. Br.J.Dermatol. 162 (1):137-146, 2010. LEBWOHL2010	Incorrect comparison: No data on switching

Study excluded	Reason
C. L. Leonardi, J. L. Powers, R. T. Matheson, B. S. Goffe, R. Zitnik, A. Wang, and A. B. Gottlieb. Etanercept as Monotherapy in Patients with Psoriasis. New Engl.J.Med. 349 (21):2014-2022, 2003. LEONARDI2003	Incorrect population: No previous biologics
C. L. Leonardi, A. B. Kimball, K. A. Papp, N. Yeilding, C. Guzzo, Y. Wang, S. Li, L. T. Dooley, K. B. Gordon, and Investigators Study. Efficacy and safety of ustekinumab, a human interleukin-12/23 monoclonal antibody, in patients with psoriasis: 76-week results from a randomised, double-blind, placebo-controlled trial (PHOENIX 1).[Erratum appears in Lancet. 2008 May 31;371(9627):1838]. Lancet 371 (9625):1665-1674, 2008. LEONARDI2008	Incorrect comparison: No data on switching
C. Leonardi, B. Strober, A. B. Gottlieb, B. E. Elewski, J. P. Ortonne, P. van de Kerkhof, C. F. Chiou, M. Dunn, and A. Jahreis. Long-term safety and efficacy of etanercept in patients with psoriasis: an open-label study. J.Drug.Dermatol. 9 (8):928-937, 2010. LEONARDI2010	Incorrect comparison: No data on previous treatment with biologics
Craig Leonardi, Richard G. Langley, Kim Papp, Stephen K. Tyring, Norman Wasel, Ronald Vender, Kristina Unnebrink, Shiraz R. Gupta, Wendell C. Valdecantos, and Jerry Bagel. Adalimumab for treatment of moderate to severe chronic plaque psoriasis of the hands and feet: efficacy and safety results from REACH, a randomized, placebo-controlled, double-blind trial. Arch.Dermatol. 147 (4):429-436, 2011. LEONARDI2011	Incorrect comparison: Not stratified for prior exposure
E. Loveman, D. Turner, D. Hartwell, K. Cooper, and A. Clegg. Infliximab for the treatment of adults with psoriasis. Health Technol.Assess. 13 (Suppl 1):55-60, 2009. LOVEMAN2009	Incorrect comparison: No data on switching
T. A. Luger, J. Barker, J. Lambert, S. Yang, D. Robertson, J. Foehl, C. T. Molta, and R. Boggs. Sustained improvement in joint pain and nail symptoms with etanercept therapy in patients with moderate-to-severe psoriasis. Journal of the European Academy of Dermatology & Venereology 23 (8):896-904, 2009. LUGER2009	Incorrect comparison: No data on switching
C. L. Martyn-Simmons, L. Green, G. Ash, R. W. Groves, C. H. Smith, and J. N. Barker. Adalimumab for psoriasis patients who are non-responders to etanercept: open-label prospective evaluation. Journal of the European Academy of Dermatology & Venereology 23 (12):1394-1397, 2009. MARTYN-SIMMONS2009	Incorrect study type: Case series
A. Menter, S. K. Tyring, K. Gordon, A. B. Kimball, C. L. Leonardi, R. G. Langley, B. E. Strober, M. Kaul, Y. Gu, M. Okun, and K. Papp. Adalimumab therapy for moderate to severe psoriasis: A randomized, controlled phase III trial. J.Am.Acad.Dermatol. 58 (1):106-115, 2008. MENTER2008A	Incorrect comparison: No data on switching
A. Moore, K. B. Gordon, S. Kang, A. Gottlieb, B. Freundlich, H. A. Xia, and S. R. Stevens. A randomized, open-label trial of continuous versus interrupted etanercept therapy in the treatment of psoriasis. J.Am.Acad.Dermatol. 56 (4):598-603, 2007. MOORE2007	Incorrect comparison: No data on switching
A. Y. Moore and B. S. Richardson. Long-term use of adalimumab in the treatment of moderate to severe plaque psoriasis: A review of the literature. Clinical, Cosmetic and Investigational Dermatology 3 (pp 49-58):-58, 2010. MOORE2010	Review: all relevant papers ordered
J. I. Na, J. H. Kim, K. C. Park, and S. W. Youn. Low-dose etanercept therapy in	Incorrect comparison:

Study excluded	Reason
moderate to severe psoriasis in Korean. J.Dermatol. 35 (8):484-490, 2008. NA2008	No data on previous treatment with biologics
K. Noiles and R. Vender. Biologic survival. J.Drug.Dermatol. 8 (4):329-333, 2009. NOILES2009	Incorrect study type: Narrative review (no data on switching)
J. P. Ortonne, C. E. M. Griffiths, E. Dauden, R. Strohal, D. Robertson, R. Pedersen, C. Molta, and B. Freundlich. Efficacy and safety of continuous versus paused etanercept teatment in patients with moderate-to-severe psoriasis over 54 weeks: The CRYSTEL study. Expert Rev.Dermatol. 3 (6):657-665, 2008. ORTONNE2008	Incorrect population: No previous biologics
J. P. Ortonne, A. Taieb, A. D. Ormerod, D. Robertson, J. Foehl, R. Pedersen, C. Molta, and B. Freundlich. Patients with moderate-to-severe psoriasis recapture clinical response during re-treatment with etanercept. Br.J.Dermatol. 161 (5):1190-1195, 2009. ORTONNE2009A	Incorrect comparison: No data on switching
A. S. Paller, E. C. Siegfried, R. G. Langley, A. B. Gottlieb, D. Pariser, I. Landells, A. A. Hebert, L. F. Eichenfield, V. Patel, K. Creamer, and A. Jahreis. Etanercept Treatment for Children and Adolescents with Plaque Psoriasis. New Engl.J.Med. 358 (3):241-251, 2008. PALLER2008	Incorrect population: No previous biologics
M. Papoutsaki, M.-S. Chimenti, A. Costanzo, M. Talamonti, A. Zangrilli, A. Giunta, L. Bianchi, and S. Chimenti. Adalimumab for severe psoriasis and psoriatic arthritis: An open-label study in 30 patients previously treated with other biologics. J.Am.Acad.Dermatol. 57 (2):269-275, 2007. PAPOUTSAKI2007	Incorrect study type: Case series
K. A. Papp, S. Tyring, M. Lahfa, J. Prinz, C. E. M. Griffiths, A. M. Nakanishi, R. Zitnik, and P. C. M. Van de Kerkhof. A global phase III randomized controlled trial of etanercept in psoriasis: Safety, efficacy, and effect of dose reduction. Br.J.Dermatol. 152 (6):1304-1312, 2005. PAPP2005	Incorrect population: No previous biologics
K. A. Papp. The long-term efficacy and safety of new biological therapies for psoriasis. Archives of Dermatological Research 298 (1):7-15, 2006. PAPP2006	Incorrect comparison: no data on switching
K. A. Papp, J. Signorovitch, K. Ramakrishnan, A. P. Yu, S. R. Gupta, Y. Bao, and P. M. Mulani. Effects of adalimumab versus placebo on risk of symptom worsening in psoriasis and subsequent impacts on health-related quality-of-life: analysis of pooled data from two randomized, double-blind, placebo-controlled, multicentre clinical trials. Clin.Drug Investig. 31 (1):51-60, 2011. PAPP2011	Incorrect comparison: no data on switching
G. Pitarch, J. L. Sanchez-Carazo, L. Mahiques, M. A. Perez-Ferriols, and J. M. Fortea. Treatment of psoriasis with adalimumab. Clin.Exp.Dermatol. 32 (1):18-22, 2007. PITARCH2007	Case series
G. Pitarch, J. L. Sanchez-Carazo, L. Mahiques, and V. Oliver. Efficacy of etanercept in psoriatic patients previously treated with infliximab. Dermatology 216 (4):312-316, 2008. PITARCH2008	Case series
M. Reddy, G. Torres, T. McCormick, C. Marano, K. Cooper, N. Yeilding, Y. Wang, C. Pendley, U. Prabhakar, J. Wong, C. Davis, S. Xu, and C. Brodmerkel. Positive treatment effects of ustekinumab in psoriasis: analysis of lesional and systemic parameters. J.Dermatol. 37 (5):413-425, 2010.	Incorrect population: No data on switching

Study excluded	Reason
REDDY2010	
K. Reich, F. O. Nestle, K. Papp, J. P. Ortonne, R. Evans, C. Guzzo, S. Li, L. T. Dooley, and C. E. M. Griffiths. Infliximab induction and maintenance therapy for moderate-to-severe psoriasis: A phase III, multicentre, double-blind trial. Lancet 366 (9494):1367-1374, 2005. REICH2005	Incorrect population: No previous biologics
K. Reich, F. O. Nestle, K. Papp, J. P. Ortonne, Y. Wu, M. Bala, R. Evans, C. Guzzo, S. Li, L. T. Dooley, and C. E. M. Griffiths. Improvement in quality of life with infliximab induction and maintenance therapy in patients with moderate-to-severe psoriasis: A randomized controlled trial. Br.J.Dermatol. 154 (6):1161-1168, 2006. REICH2006	Incorrect population: No previous biologics
K. Reich, F. O. Nestle, Y. Wu, M. Bala, D. Eisenberg, C. Guzzo, S. Li, L. T. Dooley, and C. E. M. Griffiths. Infliximab treatment improves productivity among patients with moderate-to-severe psoriasis. Eur.J.Dermatol. 17 (5):381-386, 2007. REICH2007A	Incorrect population: No previous biologics
K. Reich, R. Sinclair, G. Roberts, C. E. Griffiths, M. Tabberer, and J. Barker. Comparative effects of biological therapies on the severity of skin symptoms and health-related quality of life in patients with plaque-type psoriasis: a meta-analysis. Current Medical Research & Opinion 24 (5):1237-1254, 2008. REICH2008	Incorrect comparison: no data on switching
K. Reich, J. Signorovitch, K. Ramakrishnan, A. P. Yu, E. Q. Wu, S. R. Gupta, Y. Bao, and P. M. Mulani. Benefit-risk analysis of adalimumab versus methotrexate and placebo in the treatment of moderate to severe psoriasis: comparison of adverse event-free response days in the CHAMPION trial. J.Am.Acad.Dermatol. 63 (6):1011-1018, 2010. REICH2010	Incorrect comparison: No data on switching
D. A. Revicki, M. K. Willian, A. Menter, K. B. Gordon, A. B. Kimball, C. L. Leonardi, R. G. Langley, M. Kimel, and M. Okun. Impact of adalimumab treatment on patient-reported outcomes: Results from a Phase III clinical trial in patients with moderate to severe plaque psoriasis. J.Dermatol.Treat. 18 (6):341-350, 2007. REVICKI2007	Incorrect comparison: No data on switching
D. A. Revicki, A. Menter, S. Feldman, M. Kimel, N. Harnam, and M. K. Willian. Adalimumab improves health-related quality of life in patients with moderate to severe plaque psoriasis compared with the United States general population norms: results from a randomized, controlled Phase III study. Health & Quality of Life Outcomes 6:75, 2008. REVICKI2008A	Incorrect comparison: No data on switching
D. A. Revicki, M. K. Willian, J. H. Saurat, K. A. Papp, J. P. Ortonne, C. Sexton, and A. Camez. Impact of adalimumab treatment on health-related quality of life and other patient-reported outcomes: results from a 16-week randomized controlled trial in patients with moderate to severe plaque psoriasis. Br.J.Dermatol. 158 (3):549-557, 2008. REVICKI2008	Incorrect outcomes and no data on switching
P. Rich, C. E. Griffiths, K. Reich, F. O. Nestle, R. K. Scher, S. Li, S. Xu, M. C. Hsu, and C. Guzzo. Baseline nail disease in patients with moderate to severe psoriasis and response to treatment with infliximab during 1 year. J.Am.Acad.Dermatol. 58 (2):224-231, 2008. RICH2008	Incorrect population: No previous biologics
C. Ryan, B. Kirby, P. Collins, and S. Rogers. Adalimumab treatment for severe	Incorrect comparison:

Study excluded	Reason
recalcitrant chronic plaque psoriasis. Clinical & Experimental Dermatology 34 (7):784-788, 2009. RYAN2009	36% had combined treatment with another systemic agent
M. Sanchez-Regana, J. Sola-Ortigosa, M. Alsina-Gibert, M. Vidal-Fernandez, and P. Umbert-Millet. Nail psoriasis: A retrospective study on the effectiveness of systemic treatments (classical and biological therapy). J.Eur.Acad.Dermatol.Venereol. 25 (5):579-588, 2011. SANCHEZREGANA2011	Incorrect comparison: No data on previous treatment with biologics
J. H. Saurat, G. Stingl, L. Dubertret, K. Papp, R. G. Langley, J. P. Ortonne, K. Unnebrink, M. Kaul, A. Camez, and Champion Study Investigators. Efficacy and safety results from the randomized controlled comparative study of adalimumab vs. methotrexate vs. placebo in patients with psoriasis (CHAMPION). Br.J.Dermatol. 158 (3):558-566, 2008. SAURAT2008	Incorrect comparison: No data on switching
J. A. Schafer, N. K. Kjesbo, and P. P. Gleason. Formulary review of 2 new biologic agents: tocilizumab for rheumatoid arthritis and ustekinumab for plaque psoriasis. [Review] [55 refs]. Journal of Managed Care Pharmacy 16 (6):402-416, 2010. SCHAFER2010	Narrative review (relevant papers ordered)
J. Schmitt, Z. Zhang, G. Wozel, M. Meurer, and W. Kirch. Efficacy and tolerability of biologic and nonbiologic systemic treatments for moderate-to-severe psoriasis: meta-analysis of randomized controlled trials. Br.J.Dermatol. 159 (3):513-526, 2008. SCHMITT2008A	Incorrect comparison: no data on switching
R. E. Schopf, H. Aust, and J. Knop. Treatment of psoriasis with the chimeric monoclonal antibody against tumor necrosis factor alpha, infliximab. J.Am.Acad.Dermatol. 46 (6):886-891, 2002. SCHOPF2002	Incorrect comparison: No data on previous treatment with biologics
R. Shikiar, M. Heffernan, R. G. Langley, M. K. Willian, M. M. Okun, and D. A. Revicki. Adalimumab treatment is associated with improvement in health-related quality of life in psoriasis: Patient-reported outcomes from a Phase II randomized controlled trial. J.Dermatol.Treat. 18 (1):25-31, 2007. SHIKIAR2007	Incorrect comparison: No data on switching
E. C. Siegfried, L. F. Eichenfield, A. S. Paller, D. Pariser, K. Creamer, and G. Kricorian. Intermittent etanercept therapy in pediatric patients with psoriasis. J.Am.Acad.Dermatol. 63 (5):769-774, 2010. SIEGFRIED2010	Incorrect comparison: No data on switching
J. E. Signorovitch, E. Q. Wu, A. P. Yu, C. M. Gerrits, E. Kantor, Y. Bao, S. R. Gupta, and P. M. Mulani. Comparative effectiveness without head-to-head trials: a method for matching-adjusted indirect comparisons applied to psoriasis treatment with adalimumab or etanercept. Pharmacoeconomics 28 (10):935-945, 2010. SIGNOROVITCH2010	Incrrect study type: Methodology paper
C. H. Smith, K. Jackson, S. J. Bashir, A. Perez, A. L. Chew, A. M. Powell, M. Wain, and J. N. Barker. Infliximab for severe, treatment-resistant psoriasis: a prospective, open-label study. Br.J.Dermatol. 155 (1):160-169, 2006. SMITH2006	Incorrect population: No previous biologics
B. E. Strober, J. J. Crowley, P. S. Yamauchi, M. Olds, and D. A. Williams. Efficacy and safety results from a phase III, randomized controlled trial comparing the safety and efficacy of briakinumab with etanercept and placebo in patients with moderate to severe chronic plaque psoriasis. Br.J.Dermatol. 165 (3):661-668, 2011.	Incorrect comparison: Not stratified by prior exposure

Study excluded	Reason
STROBER2011A	
S. V. Sukhatme and A. B. Gottlieb. Pediatric psoriasis: Updates in biologic therapies. Dermatol.Ther. 22 (1):34-39, 2009. SUKHATME2009	Review: all relevant studies ordered
D. Thaci, J. P. Ortonne, S. Chimenti, P. D. Ghislain, P. Arenberger, K. Kragballe, J. H. Saurat, A. Khemis, P. Sprogel, H. U. Esslinger, K. Unnebrink, and H. Kupper. A phase IIIb, multicentre, randomized, double-blind, vehicle-controlled study of the efficacy and safety of adalimumab with and without calcipotriol/betamethasone topical treatment in patients with moderate to severe psoriasis: the BELIEVE study. Br.J.Dermatol. 163 (2):402-411, 2010. THACI2010	Incorrect comparison: not stratified by prior biologic treatment
A. Thomson and P. Chrisp. Etanercept in psoriasis: The evidence of its therapeutic impact. Core Evidence 2 (1):51-62, 2007. THOMPSON2007	Incorrect comparison: no data on switching
H. Torii, H. Nakagawa, and Study investigators Japanese Infliximab. Infliximab monotherapy in Japanese patients with moderate-to-severe plaque psoriasis and psoriatic arthritis. A randomized, double-blind, placebo-controlled multicenter trial. J.Dermatol.Sci. 59 (1):40-49, 2010. TORII2010	Incorrect comparison: No data on switching
H. Torii and H. Nakagawa. Long-term study of infliximab in Japanese patients with plaque psoriasis, psoriatic arthritis, pustular psoriasis and psoriatic erythroderma. J.Dermatol. 38 (4):310-323, 2011. TORII2011	Incorrect population: No previous biologics
D. Turner, J. Picot, K. Cooper, and E. Loveman. Adalimumab for the treatment of psoriasis. Health Technol.Assess. 13 Suppl 2:49-54, 2009. TURNER2009	Incorrect comparison: No data on switching
S. Tyring, A. Gottlieb, K. Papp, K. Gordon, C. Leonardi, A. Wang, D. Lalla, M. Woolley, A. Jahreis, R. Zitnik, D. Cella, and R. Krishnan. Etanercept and clinical outcomes, fatigue, and depression in psoriasis: Double-blind placebo-controlled randomised phase III trial. Lancet 367 (9504):29-35, 2006. TYRING2006	Incorrect outcomes and no data on switching
S. Tyring, K. B. Gordon, Y. Poulin, R. G. Langley, A. B. Gottlieb, M. Dunn, and A. Jahreis. Long-term safety and efficacy of 50 mg of etanercept twice weekly in patients with psoriasis. Arch.Dermatol. 143 (6):719-726, 2007. TYRING2007	Incorrect comparison: No data on switching
E. E. Uhlenhake and S. R. Feldman. Efficacy and safety of ustekinumab and etanercept for the treatment of psoriasis. Expert Opinion on Biological Therapy 10 (7):1105-1112, 2010. UHLENHAKE2010	Narrative review (relevant papers ordered)
P. C. van de Kerkhof, S. Segaert, M. Lahfa, T. A. Luger, Z. Karolyi, A. Kaszuba, G. Leigheb, F. M. Camacho, D. Forsea, C. Zang, M. P. Boussuge, L. Paolozzi, and J. Wajdula. Once weekly administration of etanercept 50 mg is efficacious and well tolerated in patients with moderate-to-severe plaque psoriasis: a randomized controlled trial with open-label extension. Br.J.Dermatol. 159 (5):1177-1185, 2008. VANDERKERHOF2008	Incorrect comparison: No data on switching
P. P. Van Lumig, L. L. Lecluse, R. J. Driessen, P. I. Spuls, J. B. Boezeman, P. C. van de Kerkhof, and E. M. de Jong. Switching from etanercept to adalimumab is effective and safe: results in 30 patients with psoriasis with primary failure, secondary failure or intolerance to etanercept. Br.J.Dermatol. 163 (4):838-846, 2010.	Incorrect study type: Case series

Study excluded	Reason
VANLUMIG2010	
Ronald Vender. An open-label, prospective cohort pilot study to evaluate the efficacy and safety of etanercept in the treatment of moderate to severe plaque psoriasis in patients who have not had an adequate response to adalimumab. J.Drug.Dermatol. 10 (4):396-402, 2011. VENDER2011	No comparison group
R. B. Warren, B. C. Brown, D. Lavery, and C. E. Griffiths. Adalimumab for psoriasis: practical experience in a U.K. tertiary referral centre. Br.J.Dermatol. 163 (4):859-862, 2010. WARREN2010	Unclear data reporting; Incorrect comparison: crossover period with traditional systemic therapy and rescue systemic therapy permitted
R. B. Warren, B. C. Brown, D. Lavery, D. M. Ashcroft, and C. E. Griffiths. Biologic therapies for psoriasis: practical experience in a U.K. tertiary referral centre. Br.J.Dermatol. 160 (1):162-169, 2009. WARREN2009A	Incorrect comparison: No stratified data on switching
J. Weber and S. J. Keam. Ustekinumab. Biodrugs 23 (1):53-61, 2009. WEBER2009	Narrative review (relevant papers ordered)
J. M. Weinberg, R. Buchholz, and N. Scheinfeld. Evidence-based review of biologic therapy for psoriasis: Infliximab, etanercept, adalimumab, efalizumab, and alefacept. Advanced Studies in Medicine 5 (4):195-206, 2005. WEINBERG2005	Narrative review (no data on switching)
N. Woolacott, N. Hawkins, A. Mason, A. Kainth, Z. Khadjesari, Y. B. Vergel, K. Misso, K. Light, R. Chalmers, M. Sculpher, and R. Riemsma. Etanercept and efalizumab for the treatment of psoriasis: a systematic review. Health Technol.Assess. 10 (46):1-iv, 2006. WOOLACOTT2006	Incorrect comparison: no data on switching
R. Woolf, K. Robertson, C. H. Smith, and J. N. W. N. Barker. A 'real world' observational study of adalimumab in patients with moderate to severe psoriasis who have failed on etanercept therapy: A retrospective case cohort study. Br.J.Dermatol. Conference (var.pagings):46-47, 2010. WOOLF2010	Incorrect study type: poster abstract
R. T. Woolf, C. H. Smith, K. Robertson, and J. N. Barker. Switching to adalimumab in patients with moderate to severe psoriasis who have failed on etanercept: a retrospective case cohort study. Br.J.Dermatol. 163 (4):889-892, 2010. WOOLF2010A	Incorrect study type: Case series
M. S. Young, E. J. Horn, and J. C. Cather. The ACCEPT study: ustekinumab versus etanercept in moderate-to-severe psoriasis patients. Expert Review of Clinical Immunology 7 (1):9-13, 2011. YOUNG2011	Narrative review (relevant papers ordered)

F.8 Chapter 13: Cognitive behavioural therapy

In people with psoriasis (all types), how effective are cognitive behavioural therapy (group and individual) interventions alone or as an adjunct to standard care compared with standard care alone for managing psychological aspects of the disease in reducing distress and improving quality of life?

Excluded n = 5

Study excluded	Reason
Arts, W., Stout., W. Cognitive behaviour therapy for psoriasis and eczema. Gedragstherapie. 2007. 40(3): 157-176 ARTS2007	Not English language (Dutch)
Balastik., D. Some characteristics of psoratics sample and the significance of group psychotherapy in their treatment. Ceskslovenska Psychologie. 2008. 52(4): 397-410 BALASTIK2008	Not English language (Dutch)
C. Bundy, B. Kaur-Pinder, S. Bucci, N. Tarrier, and C. E. M. Griffiths. Managing psychological morbidity in patients with psoriasis using a novel online treatment programme: the e-TIPs study. Br.J.Dermatol. 165:54, 2011. BUNDY2011	Abstract only – insufficient information No comparator group (before and after study)
Fortune, D., Richards, H., Christopher, E.M., Griffiths, Main, C. Targeting cognitive-behaviour therapy to patients' implicit model of psoriasis: results from a patient preference controlled trial., The British Journal of Clinical Psychology, 2004; 43: 65 FORTUNE2004	Incorrext outcomes
L. Tomas-Aragones and S. E. Marron. Evaluation of a psychological group intervention for patients with moderate and severe psoriasis. J.Invest.Dermatol. 131:S116, 2011. TOMASARAGONES2011	Abstract only – insufficient information

F.9 Chapter 14: Self-management

What strategies can best support people with psoriasis (all types) to self-manage the condition effectively?

Excluded n = 35

Study excluded	Reason
E. A. Abel, U. S. Moore, and J. P. Glathe. Psoriasis patient support group and self-care efficacy as an adjunct to day care center treatment. Int.J.Dermatol. 29 (9):640-643, 1990. ABEL1990	Narrative review – relevant studies ordered
I. R. Bowns, K. Collins, S. J. Walters, and A. J. G. McDonagh. Telemedicine in dermatology: A randomised controlled trial. Health Technol.Assess. 10 (43):iii-39, 2006. BOWNS2006	Incorrect intervention and outcomes
L. E. Bryld, M. Heidenheim, T. N. Dam, N. Dufour, E. Vang, T. Agner, and G. B. E. Jemec. Teledermatology with an integrated nurse - Led clinic on the Faroe Islands - 7 years' experience. J.Eur.Acad.Dermatol.Venereol. 25 (8):987-990, 2011.	Incorrect intervention

Study excluded	Reason
BRYLD2011	
C. Bundy, B. Kaur-Pinder, S. Bucci, N. Tarrier, and C. E. M. Griffiths. Managing psychological morbidity in patients with psoriasis using a novel online treatment programme: the e-TIPs study. Br.J.Dermatol. 165:54, 2011. BUNDY2011	Abstract only – insufficient reporting
H. Cameron, S. Yule, H. Moseley, R. S. Dawe, and J. Ferguson. Taking treatment to the patient: development of a home TL-01 ultraviolet B phototherapy service. Br.J.Dermatol. 147 (5):957-965, 2002. CAMERON2002A	Incorrect study type: Not comparative
N. Chen and B. B. Cunningham. Psoriasis: finding the right approach for your patients. Contemp.Pediatr. 18 (8):86, 2001. CHEN2001	Incorrect study type: narrative review
M. J. Cork. Patient education about topical treatments. Br.J.Dermatol. 165 (6):1159-1160, 2011. CORK2011	Incorrect study type: comment article
M. Courtenay and N. Carey. Nurse-led care in dermatology: a review of the literature. [Review] [25 refs]. Br.J.Dermatol. 154 (1):1-6, 2006. COURTENAY2006	Systematic review – relevant studies ordered
J. de Korte, J. Van Onselen, S. Kownacki, M. A. Sprangers, and J. D. Bos. Quality of care in patients with psoriasis: an initial clinical study of an international disease management programme. Journal of the European Academy of Dermatology & Venereology 19 (1):35-41, 2005. DEKORTE2005	Incorrect study type: no independent control group
S. J. Ersser, F. C. Cowdell, S. M. Latter, and E. Healy. Self-management experiences in adults with mild-moderate psoriasis: an exploratory study and implications for improved support. Br.J.Dermatol. 163 (5):1044-1049, 2010. ERSSER2010	Incorrect study type
S. Feldman, S. M. Behnam, S. E. Behnam, and J. Y. Koo. Involving the patient: impact of inflammatory skin disease and patient-focused care. [Review] [66 refs]. J.Am.Acad.Dermatol. 53 (1 Suppl 1):S78-S85, 2005. FELDMAN2005D	Systematic review – relevant studies ordered
S. R. Feldman, E. J. Horn, R. Balkrishnan, M. K. Basra, A. Y. Finlay, D. McCoy, A. Menter, P. C. van de Kerkhof, and International Psoriasis Council. Psoriasis: improving adherence to topical therapy. [Review] [64 refs]. J.Am.Acad.Dermatol. 59 (6):1009-1016, 2008. FELDMAN2008	Narrative review – relevant studies ordered
D. G. Fortune, H. L. Richards, C. E. M. Griffiths, and C. J. Main. Targeting cognitive-behaviour therapy to patient's implicit model of psoriasis: Results from a patient preference controlled trial. Br.J.Clin.Psychol. 43 (1):65-82, 2004. FORTUNE2004A	Incorrect comparison
J. Frühauf, G. Schwantzer, C. M. Ambros-Rudolph, W. Weger, V. Ahlgrimm-Siess, W. Salmhofer, and R. Hofmann-Wellenhof. Pilot study using teledermatology to manage high-need patients with psoriasis. Arch.Dermatol. 146 (2):200-201, 2010. FRUHAUF2010	Incorrect intervention
S. Z. Idriss, J. C. Kvedar, and A. J. Watson. The role of online support communities: Benefits of expanded social networks to patients with psoriasis. Arch.Dermatol. 145 (1):46-51, 2009. IDRISS2009	Incorrect study type
B. Jankowiak, E. Krajewska-Kulak, K. Van Damme-Ostapowicz, I. Wronska, C. Lukaszuk, W. Niczyporuk, and A. Baranowska. The need for health education	Incorrect study type

Study excluded	Reason
among patients with psoriasis. Dermatol.Nurs. 16 (5):439-444, 2004. JANKOWIAK2004	
G. Kanthraj. Newer insights in teledermatology practice. Indian J.Dermatol.Venereol.Leprol. 77 (3):276-286, 2011. KANTHRAJ2011	Narrative review – relevant studies ordered
J. Klotz, L. Muir, C. Cameron, and L. Delaney. Monitoring a remote phototherapy unit via telemedicine. J.Cutan.Med.Surg. 9 (2):47-53, 2005. KLOTZ2005	Incorrect intervention
J. Lambert, J. Bostoen, B. Geusens, J. Bourgois, J. Boone, Smedt D. De, and L. Annemans. A novel multidisciplinary educational programme for patients with chronic skin diseases: Ghent pilot project and first results. Archives of Dermatological Research 303 (1):57-63, 2011. LAMBERT2011	Incorrect study type: no independent control group
S. W. Lanigan and A. Layton. Level of knowledge and information sources used by patients with psoriasis. Br.J.Dermatol. 125 (4):340-342, 1991. LANIGAN1991	Incorrect study type
V. Lora, P. Gisondi, A. Calza, M. Zanoni, and G. Girolomoni. Efficacy of a single educative intervention in patients with chronic plaque psoriasis. Dermatology 219 (4):316-321, 2009. LORA2009	Incorrect comparison
T. Nijsten, T. Rolstad, S. R. Feldman, and R. S. Stern. Members of the national psoriasis foundation: more extensive disease and better informed about treatment options. Arch.Dermatol. 141 (1):19-26, 2005. NIJSTEN2005A	Incorrect intervention and incorrect outcomes
C. Pagliarello, A. Calza, E. Armani, Pietro C. Di, and S. Tabolli. Effectiveness of an empowerment-based intervention for psoriasis among patients attending a medical spa. Eur.J.Dermatol. 21 (1):62-66, 2011. PAGLIARELLO2011	Incorrect comparison and incorrect outcomes
A. A. Qureshi, H. A. Brandling-Bennett, E. Wittenberg, S. Chen, A. J. Sober, and J. C. Kvedar. Willingness-to-pay stated preferences for telemedicine versus in-person visits in patients with a history of psoriasis or melanoma. Telemed.J.e Health 12 (6):639-643, 2006. QURESHI2006	Incorrect intervention and outcomes
C. Riddoch. The benefits of switching to nurse-led management of patients with psoriasis. Prof.Nurse 20 (5):38-40, 2005. RIDDOCH2005	Narrative review – relevant studies ordered
A. I. Rothman, N. Byrne, R. K. Schachter, L. Rosenberg, and D. Mitchell. An educational program for psoriatics: an evaluation. Evaluation & the Health Professions 3 (2):191-203, 1980. ROTHMAN1980	Incorrect outcomes
S. Ryan. Continuing education. Patient education in psoriasis. World of Irish Nursing & Midwifery 17 (9):45-46, 2009. RYAN2009A	Narrative review – relevant studies ordered
J. Savary, J. P. Ortonne, and S. Aractingi. The right dose in the right place: an overview of current prescription, instruction and application modalities for topical psoriasis treatments. [Review] [14 refs]. Journal of the European Academy of Dermatology & Venereology 19 Suppl 3:14-17, 2005. SAVARY2005	Narrative review – relevant studies ordered
S. Scheewe, S. Schmidt, F. Petermann, R. Stachow, and P. Warschburger. Long-term efficacy of an inpatient rehabilitation with integrated patient education	Incorrect study type and insufficient reporting

Study excluded	Reason
program for children and adolescents with psoriasis. Dermatol.Psychosom. 2 (1):16-21, 2001. SCHEEWE2001	
G. Schreier, D. Hayn, P. Kastner, S. Koller, W. Salmhofer, and R. Hofmann-Wellenhof. A mobile-phone based teledermatology system to support self-management of patients suffering from psoriasis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society:5338-5341, 2008. SCHREIER2008	No comparison and incorrect outcomes
M. B. Schulte, R. H. Cormane, Dijk E. van, and J. Wuite. Group therapy of psoriasis. Duo formula group treatment (DFGT) as an example. J.Am.Acad.Dermatol. 12 (1 Pt 1):61-66, 1985. SCHULTE1985	Incorrect outcomes and unclear reporting
M. A. Schulte. Self-care activating support: therapeutic touch and chronic skin disease. Dermatol.Nurs. 3 (5):335-339, 1991. SCHULTE1991	Narrative review – relevant studies ordered
M. Skarpathiotakis, C. Fairlie, and S. Ryan. Specialized education for patients with psoriasis: a patient survey on its value and effectiveness. Dermatol.Nurs. 18 (4):358-361, 2006. SKARPATHIOTAKIS2006	Incorrect study type:no independent control group
L. Tomas-Aragones and S. E. Marron. Evaluation of a psychological group intervention for patients with moderate and severe psoriasis. J.Invest.Dermatol. 131:S116, 2011. THOMASARAGONES2011	Abstract only – insufficient reporting
T. Wheeler. Psoriasis: impact and management of moderate to severe disease. Br.J.Nurs. 19 (1):10-17, 2010. WHEELER2010	Narrative review – relevant studies ordered

Appendix G: Excluded health economic studies

G.1 Chapter 6: Assessment

G.1.1 Tools for assessing disease severity and impact

Review question: In people with psoriasis (all types), which are the most effective tools to assess the (a) severity and (b) impact of disease across all levels of healthcare provision and at any stage of the disease journey?

Excluded n = 0

G.1.2 Diagnostic tools for Psoriatic Arthritis

In people with psoriasis (all types), which is the most accurate diagnostic tool compared with clinical diagnosis by a rheumatologist to help a non-specialist identify psoriatic arthritis?

Excluded n = 0

G.1.3 Specialist referral for Psoriatic Arthritis

In people with psoriasis (all types) and suspected psoriatic arthritis, how quickly should referral to a specialist be made in order to minimise the impact of disease on symptoms, joint damage and quality of life?

Excluded n = 0

G.1.4 Identification of comorbidities

Are people with psoriasis (all types) at higher risk than people without psoriasis for significant comorbidities and are there subgroups within the psoriasis population at a further increased risk?

Excluded n = 1

Study excluded	Reason
Crown WH, Bresnahan BW, Orsini LS et al. The burden of illness associated with psoriasis: cost of treatment with systemic therapy and phototherapy in the US. Curr Med Res Opin. 2004; 20(12):1929-1936. Ref ID: CROWN2004	Not applicable

G.1.5 Phototherapy, systemic therapy, tar and skin cancer risk

In people with psoriasis (all types) who have been exposed to coal tar, phototherapy (BBUVB, NBUVB and PUVA), systemic therapy or biologic therapy, what is the risk of skin cancer compared with people not exposed to these interventions and which individuals are at particular risk?

Excluded n = 0

G.2 Chapter 7: Topical therapies for chronic plaque psoriasis

G.2.1 Topical therapies for trunk and limb chronic plaque psoriasis

In people with chronic plaque psoriasis of the trunk and/or limbs, what are the clinical effectiveness, safety, tolerability, and cost effectiveness of topical vitamin D or vitamin D analogues, potent or very potent corticosteroids, tar, dithranol and retinoids compared with placebo or vitamin D or vitamin D analogues, and of combined or concurrent vitamin D or vitamin D analogues and potent corticosteroids compared with potent corticosteroid or vitamin D or vitamin D analogue alone?

Excluded n = 6

Study excluded	Reason
Augustin M, Peeters P, Radtke M et al. Cost-effectiveness model of topical treatment of mild to moderate psoriasis vulgaris in Germany. Dermatology. 2007; 215(3):219-228. Ref ID: AUGUSTIN2007	Partially applicable, very serious limitations
Freeman K, Marum M, Bottomley JM et al. A psoriasis-specific model to support decision making in practice - UK experience. Curr Med Res Opin. 2011; 27(1):205-223. Ref ID: FREEMAN2011	Partially applicable, very serious limitations
Harrington CI. Cost-effectiveness analysis of calcipotriol ointment and 'short-contact' dithranol in treating mild-to-moderate psoriasis. Br J Med Econ. 1995; 8:27-32. Ref ID: HARRINGTON1995	Partially applicable, very serious limitations
Marchetti A, LaPensee K, An P. A pharmacoeconomic analysis of topical therapies for patients with mild-to-moderate stable plaque psoriasis: a US study. Clin Ther. 1998; 20(4):851-869. Ref ID: MARCHETTI1998	Partially applicable, very serious limitations
Peeters P, Ortonne JP, Sitbon R et al. Cost-effectiveness of once-daily treatment with calcipotriol/betamethasone dipropionate followed by calcipotriol alone compared with tacalcitol in the treatment of psoriasis vulgaris. Dermatology. 2005; 211(2):139-145. Ref ID: PEETERS2005	Partially applicable, very serious limitations
Schwicker D, Dinkel R, Antunes H. A cost-comparison study: ulobetasol versus clobetasol in severe localized psoriasis. J Dermatol Treat. 1992; 2(4):127-131. Ref ID: SCHWICKER1992	Partially applicable, very serious limitations

G.2.2 Topical therapies for high impact or difficult to treat sites

In people with psoriasis at high impact or difficult-to-treat sites (scalp, flexures, face), what are the clinical effectiveness, safety, tolerability and cost effectiveness of vitamin D or vitamin D analogues, mild to very potent corticosteroids, combined or concurrent vitamin D or vitamin D analogue and potent corticosteroid, pimecrolimus, tacrolimus, tar, dithranol and retinoids compared with placebo, corticosteroids or vitamin D or vitamin D analogues?

Excluded n = 0

G.3 Chapter 8: Phototherapy

G.3.1 Phototherapy

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of BBUVB, NBUVB and PUVA compared with each other or placebo/no treatment?

Excluded n = 1

Study excluded	Reason
Hankin CS, Bhatia ND, Goldenberg G et al. A comparison of the clinical effectiveness and cost-effectiveness of treatments for moderate to severe psoriasis. Drug Benefit Trends. 2010; 22(1):17-27. Ref ID: HANKIN2010	Partially applicable, very serious limitations

G.3.2 Phototherapy combined with acitretin

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of acitretin plus UVB (NBUVB and BBUVB) and acitretin plus PUVA compared with their monotherapies and compared with each other?

Excluded n = 1

Excluded Study	Reason
Hankin CS, Bhatia ND, Goldenberg G et al. A comparison of the clinical effectiveness and cost-effectiveness of treatments for moderate to severe psoriasis. Drug Benefit Trends. 2010; 22(1):17-27. Ref ID: HANKIN2010	Partially applicable, very serious limitations

G.3.3 Dithranol, coal tar and vitamin D or vitamin D analogues combined with UVB

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of UVB (NBUVB or BBUVB) combined with dithranol, coal tar or vitamin D or vitamin D analogues compared with UVB alone or topical therapy alone?

Excluded n = 2

Study excluded	Reason
de Rie MA, de Hoop D, Jonsson L et al. Pharmacoeconomic evaluation of calcipotriol (Daivonex/Dovonex) and UVB phototherapy in the treatment of psoriasis: a Markov model for the Netherlands. Dermatology. 2001; 202(1):38-43. Ref ID: DERIE2001	Partially applicable, very serious limitations
Hartman M, Prins M, Swinkels OQ et al. Cost-effectiveness analysis of psoriasis care instruction programme with dithranol compared with uvb phototherapy and inpatient dithranol treatment. Br J Dermatol. 2002; 147(3):538-544. Ref ID: HARTMAN2002	Not applicable

G.4 Chapter 9: Systemic therapy (second-line, non-biologic)

In people with psoriasis (all types), what are the clinical effectiveness, safety, tolerability and cost effectiveness of systemic methotrexate, ciclosporin and acitretin compared with each other or with placebo?

Excluded n = 5

Study excluded	Reason
Ellis CN, Reiter KL, Bandekar RR et al. Cost-effectiveness comparison of therapy for psoriasis with a methotrexate-based regimen versus a rotation regimen of modified cyclosporine and methotrexate. J Am Acad Dermatol. 2002; 46(2):242-250. Ref ID: ELLIS2002	Partially applicable; very serious limitations
Feldman SR, Garton R, Averett W et al. Strategy to manage the treatment of severe psoriasis: considerations of efficacy, safety and cost. Expert Opin Pharmacother. 2003; 4(9):1525-1533. Ref ID: FELDMAN2003	Not applicable
Hakkaart-van Roijen L, Verboom P, Redekop WK et al. The cost-effectiveness of tapered versus abrupt discontinuation of oral cyclosporin microemulsion for the treatment of psoriasis. Pharmacoeconomics. 2001; 19(5):599-608. Ref ID: HAKKAARTVAN2001	Not applicable
Hankin CS, Bhatia ND, Goldenberg G et al. A comparison of the clinical effectiveness and cost-effectiveness of treatments for moderate to severe psoriasis. Drug Benefit Trends. 2010; 22(1):17-27. Ref ID: HANKIN2010	Partially applicable; very serious limitations
Pearce DJ, Nelson AA, Fleischer AB et al. The cost-effectiveness and cost of treatment failures associated with systemic psoriasis therapies. J Dermatol Treat. 2006; 17(1):29-37. Ref ID: PEARCE2006	Partially applicable; very serious limitations

G.5 Chapter 10: Methotrexate and risk of hepatotoxicity

In people with psoriasis (all types) who are being treated with methotrexate, are there specific groups who are at high risk of hepatotoxicity?

Excluded n = 0

G.6 Chapter 11: Methotrexate and monitoring for hepatotoxicity

In people with psoriasis (all types) who are being treated with methotrexate or who are about to begin treatment with methotrexate, what is the optimum non-invasive method of monitoring hepatotoxicity (fibrosis or cirrhosis) compared with liver biopsy?

Excluded n = 0

G.7 Chapter 12: Sequencing of biological therapy

In people with chronic plaque psoriasis eligible to receive biologics, if the first biologic fails, which is the next effective, safe and cost effective strategy?

Excluded n = 0

G.8 Chapter 13: Cognitive behavioural therapy

In people with psoriasis (all types), how effective are cognitive behavioural therapy (group and individual) interventions alone or as an adjunct to standard care compared with standard care alone for managing psychological aspects of the disease in reducing distress and improving quality of life?

Excluded n = 0

G.9 Chapter 14: Self-management

What strategies can best support people with psoriasis (all types) to self-manage the condition effectively?

Excluded n = 0