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1 LETR for topical therapy of the trunk and limbs (section 8.5)

<p>General recommendations on topical therapy</p>	<p>25. Offer people with psoriasis topical therapy as first-line treatment and escalate to second-line treatment (that is, phototherapy or systemic non-biological therapy) or third-line treatment (systemic biological therapy) if psoriasis is extensive and/or severe.</p> <p>26. Offer practical support and advice about the use and application of topical treatments. Advice should be provided by healthcare professionals who are trained and competent in the use of topical therapies. Support people to adhere to treatment in line with ‘Medicines adherence’ (NICE clinical guideline 76)</p> <p>27. Be aware that continuous use of potent or very potent corticosteroids may cause:</p> <ul style="list-style-type: none">• irreversible skin atrophy and striae• psoriasis to become unstable• systemic side effects when applied continuously to extensive psoriasis. <p>Explain the risks of these side effects to people undergoing treatment and discuss how to avoid them.</p> <p>28. When offering a corticosteroid for topical treatment choose a low-cost preparation.</p> <p>29. Do not use potent or very potent corticosteroids on the face or flexures, including genital sites.</p> <p>30. Do not use very potent corticosteroids continuously at any site for longer than 4 weeks.</p> <p>31. Do not use potent corticosteroids continuously at any site for longer than 8 weeks.</p> <p>32. When offering topical agents take into account patient preference, cosmetic acceptability, practical aspects of application and the site(s) and extent of psoriasis to be treated. Discuss the variety of formulations available and use:</p> <ul style="list-style-type: none">• cream or lotion for widespread psoriasis• lotion, solution or gel for the scalp or hair-bearing areas• ointment to treat areas with thick adherent scale. <p>Be aware that topical treatment alone may not provide satisfactory disease control, especially in people with severe psoriasis.</p>
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	<p>33.If a person with psoriasis has a physical disability or visual impairment and needs topical therapy, offer advice and practical support that take into account the person’s individual needs.</p> <p>34.Arrange a review appointment at 4 weeks after starting a new topical treatment strategy to evaluate tolerability, toxicity and initial response to treatment.</p> <p>35.Discuss with people whose psoriasis is responding to topical treatment:</p> <ul style="list-style-type: none">• the importance of continuing treatment until a satisfactory outcome is achieved (for example clear or nearly clear) or up to the recommended maximum treatment period for corticosteroids (see sections 8.5 and 8.12)• that relapse occurs in most people after treatment is stopped• that topical treatments can be used as and when required to maintain satisfactory disease control. <p>36.Offer people with psoriasis a supply of their topical treatment to keep at home for the self-management of their condition.</p> <p>37.In people whose psoriasis has not responded satisfactorily to a topical treatment strategy, before changing to an alternative treatment:</p> <ul style="list-style-type: none">• discuss with the person whether they have any difficulties with application, cosmetic acceptability or tolerability and where relevant offer an alternative formulation• consider other possible reasons for non-adherence in line with ‘Medicines adherence’ (NICE clinical guideline 76).
<p>Recommendations on topical therapy for psoriasis of the trunk and limb</p>	<p>38.Offer a potent corticosteroid applied once daily plus vitamin D or a vitamin D analogue applied once daily (applied separately, for example one agent applied in the morning and the other in the evening) for a maximum period of 8 weeks as initial treatment for psoriasis of the trunk or limbs in adults.</p> <p>39.If once-daily application of a potent corticosteroid plus vitamin D or a vitamin D analogue does not result in clearance, near clearance or satisfactory control of psoriasis of the trunk or limbs in adults after 8 weeks, offer vitamin D or a vitamin D analogue alone applied twice daily.</p> <p>40.If twice-daily application of vitamin D or a vitamin D analogue does not result in clearance, near clearance or satisfactory control of trunk or limb psoriasis in adults by 8–12 weeks offer either:</p> <ul style="list-style-type: none">• a potent corticosteroid applied twice daily for up to 8 weeks or• a coal tar preparation applied once or twice daily.

	<p>41.If a twice-daily potent corticosteroid or coal tar preparation cannot be used and a once-daily preparation would improve adherence, offer a combined product containing calcipotriol monohydrate and betamethasone dipropionate applied once daily for up to 8 weeks.</p> <p>42.Offer treatment with very potent corticosteroids in adults with trunk or limb psoriasis only:</p> <ul style="list-style-type: none"> • in specialist settings under careful supervision • when other topical treatment strategies have failed • for a maximum period of 4 weeks. <p>43.Consider short-contact dithranol for treatment-resistant psoriasis of the trunk or limbs and either:</p> <ul style="list-style-type: none"> • give educational support for self-use or • ensure treatment is given in a day-care setting. <p>44.Offer a review at least annually to people with trunk or limb psoriasis who are using a potent or very potent corticosteroid (either as monotherapy or in combined preparations) to assess for the presence of steroid atrophy and other adverse effects.</p> <p>45.For children and young people with trunk or limb psoriasis consider either:</p> <ul style="list-style-type: none"> • calcipotriol applied once daily or • a potent corticosteroid applied once daily. <p>Review treatment 2 weeks after starting treatment.</p>
<p>Future research recommendations</p>	<p>11.What are the risks of 'real life' long term corticosteroid use in people with psoriasis (for example steroid atrophy, unstable psoriasis), are there any individuals at particular risk, and what strategies can be used to modify or avoid these risks?</p> <p>12.How should topical therapies be used to maintain disease control safely and effectively?</p>
<p>Relative values of different outcomes</p>	<p>The GDG considered the following outcomes:</p> <ul style="list-style-type: none"> • clear/nearly clear (defined as at least 75% improvement, very mild or clear on a static scale) • duration of remission (relapse rate and time to remission) • withdrawal due to toxicity • withdrawal due to lack of efficacy • skin atrophy (reporting of skin atrophy was not by quantifiable methods). <p>The GDG prioritised the following outcomes for decision making:</p> <ul style="list-style-type: none"> • clear / nearly clear (investigator and patient assessed)

	<ul style="list-style-type: none"> • duration of remission • withdrawal due to toxicity. <p>Based on the results from the pair-wise and network meta-analyses and the health economic model the GDG decided to recommend potent corticosteroids applied once daily plus vitamin D or a vitamin D analogue applied once daily (applied separately, for example one agent applied in the morning and the other in the evening) as the first topical intervention, as this was the most cost-effective and clinically sensible option based on the investigator and patient assessment of achieving clear or nearly clear status when very potent steroids had been excluded owing to safety concerns. There was no clinically significant difference between most interventions in terms of withdrawal due to toxicity as the absolute numbers were low and clear evidence regarding duration of remission was lacking.</p>
<p>Trade off between clinical benefits and harms</p>	<ul style="list-style-type: none"> • The superior efficacy of potent corticosteroids compared with vitamin D analogues might be outweighed by the risk of local side effects (eg: irreversible skin atrophy), shorter duration of remission, destabilisation of psoriasis, and, although rare, the potential for systemic side effects of corticosteroid in those with extensive disease. It was also recognised that such risks might be compounded by repeat prescriptions being issued without assessment. • The GDG discussed the risks and benefits of corticosteroids and considered that given their marked efficacy and cosmetic acceptability, potent corticosteroids could be recommended for the treatment of chronic plaque psoriasis in primary care in the context of appropriate review and patient education. However, very potent corticosteroids could not be recommended due to concerns about the rebound effect, irreversible skin atrophy, the risk of repeat prescriptions being issued without monitoring and lack of long-term safety data. Based on the duration of the trials (mostly up to 8 weeks for potent and 4 weeks for very potent corticosteroids) and in line with the clinical experience of the GDG it was agreed that to ensure safe use potent corticosteroids should not be used continuously for more than 8 weeks and very potent corticosteroids for more than 4 weeks. The data showed that the levels of skin atrophy at this point did not demonstrate clinically relevant harm and the treatment response was beginning to plateau. • The GDG considered that appropriate assessment and review of efficacy and safety was critical: an early review to identify tolerability / side effects and identify complete non-responders is needed and since the most rapid improvement is seen over the first 4 weeks a review after 4 weeks was agreed. • Although the combined product is not cost-effective for the average patient it was considered an important third-line topical option because in people who fail to respond to topicals concordance is often a problem and a once daily well tolerated topical preparation would be of benefit and may also deliver clearance, so avoiding hospital referral and saving cost in this small group. Therefore, the GDG agreed to recommend once daily combined potent corticosteroid and vitamin D analogue in patients in whom twice

	<p>daily potent corticosteroid or coal tar cannot be used and a once daily preparation would improve adherence.</p>
<p>Economic considerations</p>	<p>The GDG relied on a variety of sources in their consideration of the costs and benefits of alternative topical therapies in the treatment of patients with mild to moderate psoriasis. Limited evidence, both in terms of quantity and quality, was identified in the published literature. Although the evidence showed short-contact dithranol likely to be more cost-effective than vitamin D analogue ²¹¹, vitamin D analogue to be more cost-effective than potent and very potent corticosteroids ²¹³ and two compound formulation steroid and vitamin D analogue to be more cost-effective than concurrent (morning/evening) application of the two topicals and more cost-effective than both potent steroids and vitamin D analogues applied alone ²¹², they remained uncertain about the robustness of these conclusions.</p> <p>Original decision modelling was undertaken for the guideline and showed that there were relatively small differences in terms of benefit between different topical sequences, but large differences in terms of cost. Based on the mean costs and benefits of 122 compared sequences, the analysis suggests that treatment with potent corticosteroids or concurrent treatment with potent corticosteroid and vitamin D analogue (morning/evening application) was likely to be the most cost-effective option for the first and second-line treatment of patients with mild to moderate psoriasis.</p> <p>The analysis specifically found twice daily potent corticosteroid to be highly cost-effective, but the GDG expressed concern that the well known side effects of potent corticosteroids (e.g. skin atrophy, rapid relapse) were not adequately captured in the economic model owing to a lack of data. Twice daily potent corticosteroids came out more cost-effective than once daily, largely because the quantities of topical used for once and twice daily application were very similar, yet the network meta-analysis showed a non-significant trend toward twice daily being more effective in the investigator assessed outcomes used in the base case (OR=1.833, 95% CrI 0.46 to 7.985). However, this trend is reversed for the patient assessed outcome – twice daily performed less well than once daily (OR=0.714, 95% CrI 0.14 to 3.549). This finding is reflected in the results of this sensitivity analysis where patient reported response was used, which show once daily to be more cost-effective than twice daily. The consensus of the GDG was that they could not be certain that twice daily potent corticosteroids were more effective than once daily potent corticosteroids. They concluded that even if twice daily application was more effective at inducing clearance or near clearance than once daily application, the risks of higher dose steroids were very likely to outweigh the potential benefits and make the intervention less comparatively cost-effective. The GDG did not consider there to be any compelling reason why one product or formulation should be preferred over any other; therefore, they thought it was important to alert prescribers to use low cost preparations as cost differences between products varied widely.</p> <p>Concurrent treatment with potent corticosteroid and vitamin D analogue (morning/evening application) was also likely to be cost-</p>

effective in a range of scenarios. In some cases, it was found to be a cost-effective first line treatment; however, the GDG felt this was too aggressive a strategy to start with for the majority of patients with mild to moderate psoriasis being seen in primary care. Based on that, they concluded that the addition of once daily vitamin D analogue to once daily application of potent corticosteroid should be the next treatment offered if a potent corticosteroid alone has failed to induce the desired level of response. The GDG specifically considered whether they should offer concurrent treatment (morning/evening) with two separate topicals or offer combined treatment in a single product for use just once daily. They considered the results of the cost-effectiveness analysis which showed that combined treatment (once daily TCF product) is not cost-effective compared with concurrent treatment. This is because the network meta-analysis found them to have similar efficacy, but TCF product is much more costly (unit cost of 120 g Combined product containing calcipotriol monohydrate and betamethasone dipropionate is between 2 and 4 times more costly than combined unit cost of 100 g of vitamin D analogue and potent corticosteroid each). The GDG did not think that the combined formulation product produced enough additional benefit to justify its substantial additional cost.

The base case cost-effectiveness analysis and sensitivity analyses showed that the choice of third line treatment in a given sequence was highly uncertain. Depending upon the data used and assumptions made, third line treatment with twice daily coal tar, twice daily vitamin D analogue or once daily TCF product was likely to be most cost effective. To reflect the uncertainties in the conclusions about cost-effectiveness and provide prescribers and patients with a degree of choice, the GDG chose to recommend all of these interventions if the patient has failed to achieve clearance or near clearance with potent corticosteroids alone or concurrent treatment with potent steroids and vitamin D analogue. They considered that some people may not choose to use coal tar as it has a pungent odour and that some people may prefer vitamin D analogues as they are generally safe for long term use. They considered that the combined potent corticosteroid and vitamin D analogue product was much more costly than other alternatives, but it may represent value for NHS resource in a select group of patients with resistant mild to moderate psoriasis. It also may be more cost-effective to offer if the alternative is referral and escalation of treatment to much costlier interventions (e.g. phototherapy, specialist applied topicals, systemic therapy, biologic therapy).

The NCGC cost-effectiveness analysis did not find short contact dithranol to be more cost-effective than other first, second and third line alternatives in the base case or any sensitivity analyses. The GDG did not want to rule dithranol out as a treatment option for some patients, but considered it only potentially cost-effective for patients who have failed to respond to other more efficacious and easy-to-use topical therapies. They emphasised the need for health care professional to clearly explain proper application of dithranol for home use in order to maximise its effectiveness and reduce the

	<p>inconvenience. They also considered that dithranol may be best delivered as part of treatment in a day care setting with specialist nurse supervision.</p> <p>The cost-effectiveness of very potent corticosteroids was not evaluated as part of the NCGC decision modelling as the GDG did not consider it to represent a safe treatment option for the management of mild to moderate psoriasis being managed in primary care. They considered that based on its efficacy and relatively low cost (100 g cream or ointment = £7.90), it was likely to represent good value for NHS resource so long as it is used with caution and under careful supervision of a specialist in secondary care.</p> <p>In thinking about the potential risks of prescribing potent, and in select cases very potent corticosteroids, they GDG considered it essential to build in monitoring to assess efficacy and adverse events. The time horizon of the economic model was too short (1 year) to explicitly consider annual monitoring in the long term; however, it is very likely that the extra cost of an annual GP or specialist visit would be offset by the avoidance of irreversible adverse events that are associated with inappropriate and unsafe use of corticosteroids.</p> <p>The cost-effectiveness of topical treatments for children was not explicitly considered in the decision modelling undertaken for the guideline; however, the GDG considered the results broadly applicable to this population. They considered that once daily applications in children were likely to be more appropriate and that evidence of effectiveness for combination strategies are lacking. Therefore, they concluded that for children with mild to moderate psoriasis, once daily application of potent corticosteroids or vitamin D analogue were likely to represent the best value for NHS resource. They also considered how infrequent psoriasis occurs in children and that referral to secondary care may be justified.</p>
Quality of evidence	<ul style="list-style-type: none">• The GDG noted variations in methodology and reporting between the studies:<ul style="list-style-type: none">o frequency of administration of treatmento duration of follow upo within (left and right hand side comparison) and between patient randomisationo formulationo baseline disease severity (of the studies that reported disease severity at baseline, 16 studies included moderate to severe disease, which is unexpected as monotherapy with topicals is usually used to treat mild / moderate disease, which is therefore the population of interest in relation to this GDG question).• Within and between patient studies have been pooled together in the analysis and none of the studies reported sufficient information to take account of the within patient correlation in the analysis. It was often not possible to say if consistent differences were present as there was only one within patient study in the comparison. When it was possible to assess this, no consistent difference was seen for efficacy outcomes, although for vitamin D analogues vs. placebo

there may be a difference for between- and within-patient studies for withdrawals due to adverse events or lack of efficacy. For withdrawals due to adverse events, 5/6 between patient studies favoured vitamin D analogues (RR = 0.54) compared with 5/5 within patient studies^{175,193,194,200,203} which favoured placebo (RR = 3.00). Conversely, for withdrawals due to lack of efficacy 3/3 between patient studies favoured vitamin D analogues (RR = 0.15) whereas 3/3 within patient studies showed no difference (RR=1.00). However, the absolute number of withdrawals was low so this difference is unlikely to be clinically meaningful.

- For the comparison of vitamin D analogues with placebo, the GDG noted that the Perez study gave an outlying result for the outcome of investigator's assessment of global improvement (IAGI) and that there was a zero success rate in the placebo arm, which is unusual as emollients usually have some level of efficacy. Also for this comparison it was noted that the Langner 1993 study used an unlicensed dose of calcitriol (15µg twice daily).
- There was heterogeneity between the studies for the comparison of vitamin D analogue vs. corticosteroid for the outcome of investigator's assessment of improvement. This could not be explained by excluding studies at higher risk of bias or by any of the pre-defined subgroups for investigation, as a statistically significant level of inconsistency still remained. However, it appeared that betamethasone valerate was less effective than betamethasone dipropionate when compared with vitamin D analogues.
- The GDG noted that the rates of remission were low for all interventions in the Fleming 2010A study but no clinical or methodological explanation could be found for this.
- There was significant heterogeneity between the studies investigating vitamin D analogues vs. coal tar. The heterogeneity may be explained by variation in treatment duration and coal tar taking longer to act than vitamin D analogue, so becoming relatively more effective at later timepoints. One of the studies (Pinheiro 1997) used a tar combination that includes a mild potency corticosteroid (alcoholic coal tar extract 5%, hydrocortisone 0.5%, allantoin 2%).
- Just two studies^{166,191,192} directly assessed maintenance treatment:
 - The Katz study had a maximum treatment period of 6 months with potent corticosteroid or placebo (using an intermittent regimen of 3 applications 12 hours apart once a week) among those who had achieved remission after 3-4 weeks treatment with a potent corticosteroid. The GRADE ratings for this study were low to moderate, and the definition of response was broader than that specified in the review protocol, which may over estimate efficacy (clear / slight improvement on a four point scale) but was included given the paucity of maintenance studies.
 - The Kragballe study had a 52 week treatment period for as-needed application of either combined potent corticosteroid and vitamin D analogue, the combination for 4 weeks then calcipotriol for 48 weeks, or alternating 4 week periods of the combination product and calcipotriol. The one year timeframe of this study

reflects clinical practice; however, the study was primarily designed to investigate safety rather than efficacy.

- There were also 3 studies (Kragballe 2004, Ortonne 2004 and Saraceno) that assessed different treatment schedules (e.g., combination of potent corticosteroid and vitamin D analogue then vitamin D analogue alone) but these were only 16-24 weeks in duration and therefore of limited relevance.
- The GDG noted that there was inconsistency between the studies for time to relapse and relapse rates during a post-treatment withdrawal phase among those who had achieved remission, and that only 4 studies reported these data (Langley 2011A, Camarasa 2003, Alora-Palli 2010, and Christensen 1999) and one during a maintenance treatment phase following remission (Katz 1991). Additionally, in the placebo group the numbers who achieved remission and were followed-up were very few and they may have gone into spontaneous remission; therefore, the time to relapse in this group may be a spurious result. Therefore the GDG gave little weight to these data. However, the GDG did note that, in accord with clinical experience, relapse rates following use of vitamin D analogues appeared to be lower than that with potent corticosteroids (although the time to relapse was similar in both groups).
- The GDG noted the following variables between the studies investigating time to remission /maximum effect:
 - o drug dosing
 - o formulation
 - o treatment duration
 - o outcome measure.
- The GDG also noted that the majority of the trials were not long enough to see the maximum effect. The only longer term study (Perez) was a 12 month follow up after randomised phase of trial. However it included small numbers of participants (22 at the start with 6 remaining at the end) and so was excluded from the review.
- The GDG noted important gaps in the evidence required to inform clinical practice. Psoriasis is a long term condition, but the vast majority of studies are 12 weeks or shorter in duration. Only limited data were available on longer term use, especially regarding the safety of very potent and potent steroids, treatment strategies for maintenance of disease control, relative benefits of the different interventions with respect to relapse and remission rates, and the value of early intervention (for example use of a topical treatment at first signs of disease occurrence).
- From the evidence, relapse occurs in 20-80% of people following treatment withdrawal regardless of the specific topical treatment used, so the GDG agreed there should be an over-arching recommendation about offering strategies that recognise that repeat treatment is likely to be required and that patients need education on what to expect from treatment. Limited data on maintenance strategies precluded making separate recommendations on induction and maintenance of remission. In

	<p>the absence of evidence, topical therapies should be continued to be prescribed and used ‘as needed’.</p> <ul style="list-style-type: none"> • The maximum response for vitamin D or vitamin D analogues was seen at 8-12 weeks (most rapid improvement was seen over the first 4 weeks) • The maximum response for potent steroids was not seen during the 8 week study period although continued improvement was likely to be minimal (most rapid improvement was seen over the first 2-4 weeks) • The maximum response for very potent steroids was not seen by end of 4-week study period although continued improvement was likely to be minimal (most rapid effect is seen over the first 2 weeks) • The maximum response for the combined product was at 12 weeks although the majority of this occurred within the first 4 weeks • It was not possible to be sure about when the maximum response to coal tar preparations is seen owing to the different results between preparations and the paucity of evidence so no time frame for use is stated • All treatment modalities demonstrated some efficacy by four weeks. The GDG agreed that based on the times to response, assessment at four weeks would be helpful to assess treatment efficacy, potential problems with use such as formulation, tolerability, cosmetic acceptability and to plan ongoing treatment strategy including treatment switch in the event of an inadequate response. • In considering differences between once and twice daily applications of potent corticosteroids, whilst there is generally a trend towards better efficacy with twice daily application, greater numbers of withdrawals due to adverse events were seen with twice daily potent corticosteroid compared with once daily. Therefore the GDG agreed that in view of convenience to the patient, potential cost benefit, and reduced risk of side effects especially in relation to corticosteroid use, once daily applications should be recommended in the first instance. Treatment could be escalated to twice daily if once daily is not effective.
Other considerations	<ul style="list-style-type: none"> • There are no groups of people who should not be offered topical therapy. • For patients with severe chronic plaque psoriasis (ie: BSA>10% and/or PASI >10) self administered, topical treatment alone is unlikely to provide adequate disease control, is difficult from a practical point of view, and application of potent corticosteroid over large areas of inflamed skin may increase the risk of both local and systemic side effects. It was therefore agreed that additional treatment strategies should be routinely offered to this group. • The GDG considered other factors that may impact on treatment adherence and outcomes including cosmetic acceptability and local side effects. • For pragmatic reasons, the GDG had agreed that data on the impact of formulation on treatment outcomes would not be considered. However, it was agreed that formulation should always be

considered when prescribing topical therapy to optimise treatment adherence and minimise local adverse effects. For example, a light cream or lotion may be appropriate for widespread, multiple small plaques to cover requisite large areas, lotions /solutions for hair bearing areas and ointments for scaly areas. It was noted that knowledge in primary care may be limited in this regard and simple guidance would be helpful. The GDG agreed that a specific recommendation about the need to consider formulation and cosmetic acceptability when prescribing topical therapy was justified.

- There is enduring concern amongst clinicians and patients about potential risks of corticosteroids for the treatment of psoriasis including local skin atrophy, rapid relapse/rebound on treatment cessation, destabilisation of disease (for example induction of pustular psoriasis) and potentially systemic side effects in people with very widespread psoriasis, especially given that for chronic plaque psoriasis at most body sites (excluding face, flexures) potent or very potent corticosteroids are required to achieve clearance.
- From GDG knowledge, vitamin D analogues, tar and dithranol do not cause skin atrophy and corticosteroids do.
- The majority of the data on withdrawals and skin atrophy across all comparisons showed low event rates that gave very imprecise relative estimates, but in absolute terms demonstrated precise evidence of no clinically relevant difference between the interventions because the numbers involved were so low
- Overall, the evidence did not indicate any statistically significant increased risk of steroid atrophy with corticosteroid use (potent and very potent) and the numbers of cases of skin atrophy reported were very low. The majority of cases of skin atrophy that were reported were in patients who received corticosteroids. However, this outcome was not reported in all studies and no study reported having used a reliable quantitative measure to assess the level of atrophy. It was noted that the lack of a significantly increased risk may be due to lack of appropriately designed studies of sufficient duration and power rather than lack of risk.
- The evidence suggested that time to relapse was shorter with potent and very potent corticosteroids compared to vitamin D analogues, tar and dithranol.
- Some patients may prefer to use topical therapies that do not contain corticosteroids (tar, dithranol, vitamin D analogues) due to concerns about corticosteroid side effects.
- The GDG noted that in studies that compared various treatment sequences (e.g., combined product containing calcipotriol monohydrate and betamethasone dipropionate followed by either vitamin D alone or alternating vitamin D alone and combined product containing calcipotriol monohydrate and betamethasone dipropionate) with vitamin D alone for the full trial period if a combined product containing calcipotriol monohydrate and betamethasone dipropionate was present anywhere in the sequence, even just for the first 4 weeks, the efficacy was improved compared with vitamin D alone. The data suggested that this

increased efficacy could be maintained by subsequent use of vitamin D analogue alone.

- Tazarotene may be unpleasant to use. It causes burning and irritation of the skin (which was indicated by the evidence for a statistically significantly higher number of withdrawals due to adverse events among those treated with tazarotene compared with placebo in 2 studies), and shows only limited efficacy (approximately 6% achieved clearance or near clearance).
- Dithranol is difficult to use at home due to staining, risk of burning unaffected skin and difficulties with self application, but is useful for large, thick, treatment resistant plaques. Educational support is required when prescribed.
- In primary care topical vitamin D analogues are considered the standard treatment. Combined potent corticosteroid /vitamin D analogue preparation is not in most GP formularies due to the cost. Most patients benefit from an emollient to relieve pruritus and scaliness.
- PASI and DLQI are not used in primary care so could not be recommended for assessment of response to treatment. In addition sensitivity to change with PASI is poor in mild to moderate disease.
- Non-concordance should be considered if there is no response to treatment in line with the NICE guideline on Medicines Adherence (CG76)²²¹
- Psoriasis is not common in children and therefore quicker escalation to secondary care may be appropriate. Giving GPs the option of using emollients and then referring without trying any active treatments was felt to be limiting. Plaques are usually thinner and less scaly in children. Topical calcipotriol is licensed for children above 6 years old. One study investigating calcipotriol in children found a smaller response compared to the adult studies, although this was one study with small numbers. From GDG experience, mild to moderate potency corticosteroids are also useful in children with or without tar but there was no evidence for this. Taking into consideration all of the above points, it was agreed that children should be reviewed between two and four weeks, as the plaques tend to be thinner.
- The GDG discussed the needs of older people, people with limited mobility and people with psoriatic arthritis. It was noted that specialist help with application can improve outcomes.