Caesarean Section (appendices A – K)

National Collaborating Centre for Women‟s and Children‟s Health

Commissioned by the National Institute for Health and Clinical Excellence

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This guideline has been fully funded by NICE. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient.

Implementation of this guidance is the responsibility of local commissioners and/or providers

Contents

Appendix A Scope

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1 Guideline title

Caesarean section (partial update of NICE clinical guideline 13)

1.1 Short title

Caesarean section (update)

2 The remit

This is a partial update of NICE clinical guideline 13 (2004): Caesarean section". In the original remit, the Department of Health asked NICE to produce evidence based guidelines on, „When a caesarean section is appropriate and the circumstances under which routine procedures in normal labour may be unnecessary". Following changes to current practice and changes to the evidence base the following areas of the guideline have been prioritised for updating: morbidly adherent placenta, women who are HIV positive, time from decision to delivery, planned vaginal birth versus planned caesarean section following previous caesarean birth, and antibiotic prophylaxis. Other areas of the original scope will be considered for review at a later date.

3 Clinical need for the guideline

3.1 Epidemiology

a) Caesarean rates have been rising in developing countries over the past four decades. In England the rate in 1992 was 13%, whereas in 2008/9 it was 23%.

b) The likelihood of a woman having a caesarean section is influenced by several factors. Maternal factors include age, ethnicity, number of previous pregnancies, body mass index, socioeconomic status, and medical disorders. Fetal factors include fetal presentation, size, health and gestational age. However, differences in rates of caesarean section are not accounted for by hospital populations and case-mix alone.

c) The overall risk of a placenta praevia is about 1:400 if there has been no previous caesarean section. If a woman has had a previous caesarean section there is an increased risk of placenta praevia. Thus, for example, the literature reports risks of placenta praevia as 1:160 after one previous CS, 1:60 after 2, 1:30 after 3 and 1:10 after 4. Of women who have a placenta praevia following one previous caesarean section, at least 2% will have a morbidly adherent placenta (though higher rates have been quoted). The risk of this complication increases with the number of previous caesarean sections: at least 17% with two and 25% with three previous caesarean births. However, figures of 50% have been reported after 2 or more caesarean sections. The morbidity associated with morbidly adherent placenta includes excessive blood loss, the potential need for hysterectomy, and complications associated with surgery. There is also an increased mortality risk, although the reported maternal mortality rate due to this condition in the UK is not high, being less than 1 in 100,000 maternities. More women are giving birth by caesarean section and thus the incidence of morbid placental adherence and its consequences are also increasing.

d) Whilst the great majority of babies born by caesarean section have a healthy outcome, there is some evidence of increased perinatal risk (mortality and morbidity) to the baby in a pregnancy following a caesarean section.

3.2 Current practice

A striking feature of pregnancy care in developed countries over recent decades has been the progressive rise in caesarean section rates. There are many reasons for this. These include the safety of the lower uterine segment technique, improved anaesthetic techniques, the availability of blood products and antibiotics, a greater range of indications, the increasing use of electronic fetal monitoring and the concept of the fetus as a patient. More recently caesarean birth has become an issue of choice for women as a preferred mode of delivery. As a consequence of the rising rates there has been a secondary rise in repeat caesarean delivery with its increased rates of severe complications, especially morbidly adherent placenta.

Caesarean sections can be classified according to whether they are carried out as planned procedures (approximately 40% of cases) or as an emergency/unplanned procedure (approximately 60% of cases). The four main clinical indications for caesarean section are dystocia (prolonged labour), suspected fetal compromise, fetal malpresentation and previous caesarean birth. These account for more than 70% of caesarean births. Programmes designed to alter caesarean delivery rates have tended to focus on modifying these four primary operative indications.

3.3 Topic areas to be updated

a) Imaging techniques (colour-flow ultrasound and magnetic resonance imaging [MRI]) are sometimes used as diagnostic aids for placental problems such as morbidly adherent placenta, but their use in practice is variable and there is uncertainty about whether they are accurate as diagnostic tools. There is also uncertainty about whether a diagnosis using these techniques improves outcomes for women and their babies.

b) The 2004 caesarean section guideline recommended that HIV-positive women who are pregnant should be offered a planned caesarean section „because it reduces the risk of mother-to-child transmission (MCT) of HIV". New evidence that challenges this recommendation needs evaluating. In particular, vaginal birth may be possible in the presence of low viral counts and modern antiretroviral treatment with no significant increase in the risk of mother-to-child transmission.

c) The original caesarean section guideline addressed issues relating to maternal request including the prevalence of request, fear of childbirth and how obstetricians should respond to such requests. In the light of new evidence and a strong concern amongst stakeholders that this area needs to be re-examined this topic will be addressed in the update.

d) A great deal of support has been expressed by stakeholders for the usefulness of Table 3.1 in the original guideline summarising risks and benefits of caesarean section vs. vaginal birth. Given that this table is often used as the basis of information given to women and underpins informed consent there is a need to ensure this information is as accurate and up to date as possible and therefore it will be included in the update.

e) The 2004 guideline made no recommendations on planned caesarean section versus planned vaginal birth in women who have had a previous caesarean birth. This is an important issue for women who have had a caesarean section and new evidence published in this area will be reviewed.

f) The 2004 guideline made a recommendation for research into how the timing of administering antibiotic prophylaxis in relation to cord clamping affected neonatal outcomes. It is anticipated that there will be new evidence in this area to review.

g) Since the publication of the original guideline there has been much debate in the literature about the recommendation relating to the use of a decision-to-delivery interval of less than 30 minutes as an audit standard for maternal or fetal compromise. This 30-minute audit standard has in some instances been adopted as a clinically significant threshold, but the evidence for this is poor and there is ongoing discussion about whether it is an appropriate clinical standard.

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 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) Women who plan for or may require a caesarean section.

b) Women with clinical conditions arising during pregnancy, such as pre-eclampsia or gestational diabetes that require specialist care will be included in the population for questions relating to morbidly adherent placenta, HIV transmission, maternal request, vaginal birth after caesarean section and timing of prophylactic antibiotics. These groups are not included in any other topic area (i.e. areas that are not being updated, plus the risk/benefit summary). Additional care needed relating specifically to the co-morbidity will not be addressed.

c) Particular consideration will be given to the following subgroups:

- women who have had a previous caesarean section
- women who are pregnant and HIV positive, with high or low viral load
- women in labour who require emergency or urgent caesarean section
- women who are morbidly obese

4.1.2 Groups that will not be covered

a) Pregnant women or babies with rare conditions or with complex or unusual co-morbidities, such as maternal congenital heart disease, that require specialist care.

b) Women with clinical conditions arising during pregnancy, such as pre-eclampsia or gestational diabetes that require specialist care will not be included in the risks and benefits summary table or in any of the areas not being updated (see 4.1.1b)

4.2 Healthcare setting

Primary, community, secondary and tertiary healthcare.

4.3 Clinical management

4.3.1 Key clinical issues that will be covered

a) Imaging techniques (colour-flow ultrasound and MRI) for diagnosis of a morbidly adherent placenta in pregnant women who have had a previous caesarean section and are currently diagnosed with placenta praevia.

b) Does a diagnosis of morbidly adherent placenta using imaging techniques lead to improved outcomes in pregnant women with a previous caesarean section currently diagnosed with placenta praevia?

c) Effectiveness of elective caesarean section compared with vaginal birth at decreasing the mother-to-child transmission of the virus in pregnant women with HIV, for both low and high viral load.

d) The appropriate care of women who request a caesarean section

e) Risks and benefits of caesarean section compared with vaginal birth for both women and babies

f) Effectiveness of planned vaginal birth compared with planned caesarean section at term at improving maternal and neonatal outcomes in women who have had a previous caesarean section.

g) Does the administration of antibiotics at the start of a caesarean section rather than after cord clamping improve maternal and neonatal outcomes?

h) Decision-to-delivery interval in caesarean section in cases of maternal or fetal compromise

4.3.2 Clinical issues that will not be covered

a) The risks and benefits of caesarean section as a therapeutic intervention for specific clinical conditions arising during pregnancy such as pre-eclampsia or gestational diabetes.

b) Additional specialist care required by women with clinical conditions that arise during pregnancy (see section 4.1.1a)

c) The care of pregnant women or babies with rare conditions, or with complex or unusual comorbidities such as maternal congenital heart disease.

d) Areas addressed in the 2004 guideline that will not be updated are:

- Woman centred care: provision of information, consent for caesarean section, and classification of urgency.

- Planned caesarean section: breech presentation, multiple pregnancy, preterm birth, small for gestational age, predicting caesarean section for cephalopelvic disproportion in labour, mother-to-child transmission of Hepatitis B, Hepatitis C, and Herpes simplex.
- Factors affecting likelihood of caesarean section during intrapartum care: place of birth, factors reducing the likelihood, factors with no influence on the likelihood, caesarean section and prolonged labour, and eating during labour.
- Procedural aspects of caesarean section: timing of planned caesarean section, preoperative testing and preparation, anaesthesia and surgical techniques
- Care of the baby born by caesarean section: presence of appropriately trained practitioner at caesarean section, neonatal encephalopathy/cerebral palsy, birth injuries, thermal care for babies, maternal contact (skin to skin) and breastfeeding (however, these issues will be considered for inclusion as key outcomes in the evidence reviews undertaken for this update).
- Care of the woman after caesarean section: routine monitoring, pain management, early eating and drinking, urinary catheter removal, respiratory physiotherapy, debriefing, and length of hospital stay and readmission to hospital.
- Post-operative recovery following caesarean section.

4.4 Main outcomes

a) Diagnostic accuracy of colour-flow ultrasound and MRI.

b) Maternal outcomes: mortality, blood loss, admission to intensive care units, thromboembolic disease, infection, breastfeeding, women"s experiences and satisfaction, psychological sequelae such as postnatal depression. Uterine rupture will be an additional outcome for women having a planned vaginal birth after a previous caesarean section. Hysterectomy will be a specific outcome for women diagnosed with a morbidly adherent placenta.

c) Baby outcomes: 5 minute Apgar score, preterm birth rate, respiratory complications, neurological complications, length of stay. Mother-to-child transmission will be included for babies born to HIV positive women.

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 July 2010.

5 Related NICE guidance

5.1 Related NICE guidance

- Induction of labour. NICE clinical guideline 70 (2008). Available from www.nice.org.uk/guidance/CG70
- Diabetes in pregnancy. NICE clinical guideline 63 (2008). Available from www.nice.org.uk/guidance/CG63
- Antenatal care. NICE clinical guideline 62 (2008). Available from www.nice.org.uk/guidance/CG62
- Maternal and child nutrition. NICE public health guidance 11 (2008). Available from www.nice.org.uk/guidance/PH11
- Intrapartum care NICE clinical guideline 55 (2007). Available from www.nice.org.uk/guidance/CG55

- Antenatal and postnatal mental health. NICE clinical guideline 45 (2007). Available from www.nice.org.uk/guidance/CG45
- Urinary incontinence NICE clinical guideline 40 (2006). Available from www.nice.org.uk/guidance/CG40

5.2 Guidance under development

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

- Hypertensive disorders during pregnancy. NICE clinical guideline. Please see NICE website for anticipated publication date.
- Pregnancy and complex social factors. NICE clinical guideline. Publication expected September 2010.
- Multiple pregnancy. NICE clinical guideline. Publication expected September 2011.
- Weight management in pregnancy and after childbirth. Publication expected July 2010.

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 Stakeholders

B.1 Stakeholders from original (2004) guideline

Action on Pre-Eclampsia (APEC)

Alliance Pharmaceuticals Ltd

Association for Improvements in Maternity Services (AIMS)

Association of Baby Charities

Association of British Health-Care Industries

Association of Radical Midwives

AstraZeneca UK Ltd

British Association of Perinatal Medicine

British Maternal and Fetal Medicine Society

British Medical Association

British National Formulary (BNF)

British Psychological Society

Buckinghamshire Hospital"s Trust

Carmarthenshire NHS Trust

Chelsea and Westminster Hospital Maternity Dept

Cochrane Pregnancy & Childbirth Group

County Durham and Darlington Acute Hospitals NHS Trust

Contact a Family

Department of Health

Dudley Group of Hospitals NHS Trust

English National Forum of LSA Midwifery Officers

Evidence based Midwifery Network

Faculty of Public Health

Faculty of Public Health Medicine

Ferring Pharmaceuticals Limited

Fibroid Network Charity

General Medical Council

Group B Strep Support

Infection control Nurses Association of the British Isles

National Association of Theatre Nurse

National Childbirth Trust

National Council for Disabled People, Black, Minority and Ethnic Community

National Public Health Service

Neoventa Medical

NHS Information Authority, (PHSMI Programme)

NHS Quality Improvement Scotland

North Tees and Hartlepool NHS Trust

Nottingham City Hospital

Obstetric Anaesthetists Association

Oxford Radcliffe Hospitals NHS Trust

RCM Consultant Midwives Forum

Royal College of Anaesthetists

Royal College of General Practitioners

Royal College of General Practitioners Wales

Royal College of Midwives

Royal College of Nursing

Royal College of Obstetricians and Gynaecologists

Royal College of Paediatrics and Child Health

Royal College of Psychiatrists

Royal Pharmaceutical Society of Great Britain

Scottish Intercollegiate Guidelines Networks (SIGN)

Sheffield Teaching Hospitals NHS Trust

The Royal Society of Medicine

Tissue Viability Nurses Association

Twins and Multiple births Association (TAMBA)

UK Coalition of People Living with HIV and AIDS

UK Pain Society

VBAC Information and Support

Welsh Assembly Government (formerly National Assembly for Wales)

B.2 Stakeholders from updated (2011) guideline

A Little Wish

Action on Pre-Eclampsia

Association for Improvements in the Maternity Services

Association of Anaesthetists of Great Britain & Ireland

Association of British Health-Care Industries

Association of British Insurers (ABI)

Association of Chartered Physiotherapists in Women's Health

Barnsley Hospital NHS Foundation Trust

Birmingham Womens NHS Foundation Trust

Birth Trauma Association

Birth Trauma Association

Birthchoice UK

BMJ

Breastfeeding Network, The

Breastfeeding Network, The

Brighton and Sussex University Hospitals Trust

British Dietetic Association

British HIV Association (BHIVA)

British Maternal and Fetal Medicine Society (BMFMS)

British Medical Association (BMA)

British National Formulary (BNF)

British Pain Society

British Psychological Society, The

Cambridge University Hospitals NHS Foundation Trust (Addenbrookes)

Care Quality Commission (CQC)

Chartered Physiotherapists Promoting Continence (CPPC)

Chartered Society of Physiotherapy (CSP)

Chesterfield Royal Hospital NHS Trust

Choice in Childbirth

City Hospitals Sunderland NHS Foundation Trust

Cleft Lip and Palate Association

Cochrane Pregnancy & Childbirth Group

Confidential Enquiry into Maternal & Child Health (CEMACH)

Connecting for Health

Cook Medical

Department for Communities and Local Government

Department of Health

Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection (ARHAI)

Department of Health, Social Services & Public Safety, Northern Ireland (DHSSPSNI)

Diabetes UK

Dudley Group of Hospitals NHS Trust

Erbs Palsy Group

Evidence based Midwifery Network

Expert Advisory Group on AIDs

Ferring International Center

Ferring Pharmaceuticals Ltd

Ferring Pharmaceuticals Ltd

Flynn Pharma Limited

Gloucestershire Hospitals NHS Trust

Great Western Hospitals NHS Foundation Trust

Guy's and St Thomas NHS Foundation Trust

Gwent Healthcare NHS Trust

Health Protection Agency

Healthcare Improvement Scotland

Healthcare Quality Improvement Partnership

Herpes Viruses Association

Homerton University Hospital NHS Foundation Trust

Huntleigh

Independent Midwives UK

Infection Prevention Society

Innermost Secrets Ltd

King's College London

King's College London

La Leche League GB

Leeds PCT

Liverpool Community Health

Lothian University Hospitals Trust

Luton & Dunstable Hospital NHS Foundation Trust

Maternity Action

Medicines and Healthcare Products Regulatory Agency (MHRA)

MIDIRS (Midwives Information & Resource Service)

Midwifery Studies Research Unit

Ministry of Defence (MoD)

Multiple Births Foundation

National Childbirth Trust (NCT)

National Childbirth Trust (NCT)

National Patient Safety Agency (NPSA)

National Perinatal Epidemiology Unit

National Treatment Agency for Substance Misuse

NCC - Cancer

NCC - Mental Health

NCC - National Clinical Guideline Centre (NCGC)

NCC - Women & Children

NETSCC, Health Technology Assessment

Newcastle Upon Tyne Hospitals NHS Foundation Trust

Newcastle Upon Tyne Hospitals NHS Foundation Trust

NHS Clinical Knowledge Summaries Service (SCHIN)

NHS Direct

NHS Forth Valley
NHS Islington
NHS Plus
NHS Sheffield
NHS Sheffield
NHS Sheffield
NHS Western Cheshire
NICE - CHTE for info
NICE - CPHE
NICE - CPHE Methodology - Simon for info
NICE - Guidelines - GC, HE, Tech Lead
NICE - Guidelines HE for info
NICE - IMPLEMENTATION CONSULTANTS (ALL)
NICE - IMPLEMENTATION CO-ORDINATION for info
NICE - PPIP
NICE - R&D for info
NICE technical lead
North Somerset PCT
North Tees & Hartlepool NHS Foundation Trust
North Tees and Hartlepool Acute Trust
North Tees and Hartlepool Acute Trust
North West London Perinatal Network
Northumbria Healthcare NHS Foundation Trust
Nottingham University Hospitals NHS Trust
Obstetric Anaesthetists Association
Oxfordshire Maternity Services Liaison Committee
Patients Council
Pelvic Partnership, The
PERIGON Healthcare Ltd
Perinatal Institute
Poole and Bournemouth PCT
Public Health Wales
Queens University Belfast
Roche Diagnostics
Rotherham NHS Foundation Trust
Royal College of Anaesthetists
Royal College of General Practitioners
Royal College of General Practitioners Wales
Royal College of General Practitioners Wales

Royal College of Midwives
Royal College of Nursing
Royal College of Obstetricians and Gynaecologists
Royal College of Paediatrics and Child Health
Royal College of Pathologists
Royal College of Physicians London
Royal College of Psychiatrists
Royal College of Radiologists
Royal College of Surgeons of England
Royal Cornwall Hospitals Trust
Royal Cornwall Hospitals Trust
Royal Pharmaceutical Society of Great Britain
Sands the Stillbirth & neonatal death charity
Sandwell PCT
Scottish Intercollegiate Guidelines Network (SIGN)
Sheffield Teaching Hospitals NHS Foundation Trust
Social Care Institute for Excellence (SCIE)
Social Exclusion Task Force
South Tees Hospitals NHS Trust
Southampton University Hospitals NHS Trust
Southport & Ormskirk Hospital NHS Trust
St Marys Hospital, Manchester
Swansea University
Tenscare Ltd
Twins & Multiple Births Association (Tamba)
United Lincolnshire Hospitals NHS Trust
University Hospitals Coventry & Warwickshire NHS Trust
University Hospitals Coventry & Warwickshire NHS Trust
University of Liverpool
VBAC Information and Support
Welsh Assembly Government
Welsh Scientific Advisory Committee (WSAC)
Western Health and Social Care Trust
Wirral University Teaching Hospital NHS Foundation Trust
www.csections.org
www.electivecaesarean.com
York Teaching Hospital NHS Foundation Trust
Yorkshire and the Humber LSA

Appendix C Declarations of interest

All GDG members" interests were recorded on declaration forms provided by NICE. The form covered consultancies, fee-paid work, shareholdings, fellowships and support from the healthcare industry. GDG members" interests are listed in this section. No material conflicts of interest were identified

Table C.1 GDG members" declarations of interest

GDG member	Interest
Debbie Chippington Derrick	*Personal non-pecuniary interests:*
	Co-owner of www.caesarean.org.uk
	Co-author of NCT publication „Caesarean birth: Your questions answered"
Malcolm Griffiths	*Personal pecuniary interest*
	Medico-legal practice
	Personal non-pecuniary interest
	Writing a paper on decision to delivery interval in emergency CS. Expected date of publication 2012
Olujimi Jibodu	*Personal pecuniary interest*
	Principal investigator in York for Control of Hypertension in Pregnancy (CHIPS) study, sponsored by the Canadian Institute of Health Research
	Director of Optimum Prenatal Limited
	Personal non-pecuniary interest
	Lead on a departmental initiative to promote VBAC. This has involved using products manufactured by Cook® Medical
	Contributed to presentations and publications, including as a first name author on reducing CS rates and encouraging vaginal birth after CS. These have been in the context of high CS rates for which there was no sound obstetric basis.
	Co-authored departmental guidelines directed at reducing CS rates.
Christine Johnson	*Personal pecuniary interest*
	Shares owned in Aviva (health insurance)
	Family pecuniary interest
	Husband works for and holds shares in Aviva (health insurance)
Nina Khazaezadeh	*Personal non-pecuniary interest*
	Submitted an abstract to the International Confederation of Midwives providing trust audit data on VBAC rates.
	Joint project-lead for developing a multi-component intervention on obesity in pregnancy.

	Project lead for a health literature assessment tool.
Andrew Loughney	*Non-personal pecuniary interest*
	Trust received funding for suppying patients into two studies run by drug companies: one investigated the use of misoprostol for induction of labour; the second investigated the use of tinzaparin for deep-vein thrombosis prophylaxis
	Personal non-pecuniary interest:
	Paper submitted for publication on decision to delivery interval
	Paper submitted for publication „The relationship of anemia and microcytosis to haemorrhage during and after caesaraean section"
Nuala Lucas	*Personal pecuniary interest*
	Has a private practice - the fee for an epidural is the same regardless of the mode of birth
	Personal non-pecuniary interests:
	Member of the Obstetric Anaesthetists Association Committee
	Member of the UK obstetric screening system steering committee
	Lectured on "30 minute decision to delivery interval" at national meetings
	Author of a commentary on RCOG guideline on classification of CS
	Co-author of a text-book on high-dependency obstetric care
	Author of article „Decision to delivery interval in morbidly obese women – 30 minutes is unrealistic" (published October 2010)
	Co-author of article „Classification of urgency of CS – numbers and colours" (published September 2010)
Pippa Nightingale	*Personal pecuniary interest*
	Received payment for proofreading pregnancy book called *Best friend's guide to pregnancy*
	Personal non-pecuniary interest
	Paper submitted for publication on a VBAC scoring system including an audit of care

Table C.2 NCC staff members" declarations of interest

NCC-WCH staff	**Interest**
Zosia Beckles	*Family pecuniary interest*
	Mother works for London school of hygiene and tropical medicine and receives grants from the Wellcome Trust, the WHO and UNAIDS
Shona Burman-Roy	None
Rupert Franklin	None
Maryam Gholitabar	None
Paul Jacklin	None
David James	*Personal non-pecuniary interest*
	Senior editor of *High risk pregnancy options* (4th edition). Published January 2011

Roz Ullman	*Personal non-pecuniary interest*
	Author of Cochrane review on opioid pain relief in labour and two papers on assessment of perineal trauma following childbirth

Table C.3 External advisors" declarations of interest

External advisor	Interest
Kate Harding	*Personal pecuniary interest*
	Shares held in GlaxoSmithKlein
	Has given talks for midwives on HIV in pregnancy – received £150 per talk
	Family pecuniary interest
	Father and sister hold shares in GlaxoSmithKlein
Kirstie McKenzie McHarg	*Personal non-pecuniary interest*
	Currently writing papers for publication on treatment of women with a fear of childbirth
Jeannie Medd	*Personal non-pecuniary interest*
	Project lead working with maternity providers who have a higher CS rate than other providers to agree best practice measures
Mark Turner	*Personal non-pecuniary interest*
	Chair to the NICE guideline on neonatal antibiotics

Appendix D Review protocols

Risks and benefits of planned CS compared with planned vaginal birth

This section was updated and replaced in 2020. Please see the NICE website for the updated guideline.

What is the accuracy of imaging techniques (colour-flow ultrasound [US] and magnetic resonance imaging [MRI]) for diagnosis of a morbidly adherent placenta in pregnant women who have had a previous caesarean section and are currently diagnosed with placenta praevia?

	Details	Additional comments
Review question	What is the accuracy of imaging techniques (colour-flow ultrasound and MRI) for diagnosis of a morbidly adherent placenta in pregnant women who have had a previous CS and are currently diagnosed with placenta praevia?	
Objectives	To determine whether ultrasound alone is adequate for diagnosing MAP or whether diagnosis is significantly improved by use of MRI.	Potentially there are 3 routes to diagnosis: US alone US followed by MRI MRI alone This clinical review plus the review on effectiveness of prior diagnosis in improving outcomes where there is MAP will inform the health economic modelling for this topic.

Language	English	
Study design	Diagnostic accuracy (PPV, NPV, sensitivity, specificity, + and – likelihood ratios) studies including randomised controlled trials of classification strategies, cohort studies, observational studies (can disregard lower level studies if RCTs found)	
Status	Published papers	
Population	Pregnant women with a previous lower segment CS currently diagnosed with placenta praevia or low-lying placenta	Population includes: In-vitro fertilization conceptions Advanced maternal age, Multiparity Previous uterine curettage (may not be possible, not well recorded) 1 previous vs. 2 previous vs 3 or more CS Specific considerations Women with raised BMI
Intervention	Grey scale ultrasound Colour-flow ultrasound Doppler MRI (magnetic resonance imaging) May include different types of MRI eg. enhanced MRI, contrast enhancement	Mid-pregnancy scan Third-trimester scan Bear in mind date of study – older studies may not be relevant – check with topic group. Note use of contrast medium to enhance scan – report where this is used
Comparator	Operative findings + or – histology reports/lab findings Post CS examination	
Outcomes	Diagnostic test accuracy measures including: sensitivity (detection rate), specificity, positive and negative predictive values, positive and negative likelihood ratios, and false positive rate) Procedural morbidity – side-effects e.g. headache, fatigue, claustrophobia Procedural failure	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Exclude study designs lower in the	

	hierarchy of evidence if systematic reviews and/or RCTs provide evidence for specified outcomes Exclude non-English papers	
Review strategies	Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	

Does a diagnosis of morbidity adherent placenta using imaging techniques lead to improved outcomes in pregnant women with a previous caesarean section currently diagnosed with placenta praevia?

	Details	**Additional comments**
Review question	Does a diagnosis of morbidly adherent placenta using imaging techniques lead to improved outcomes in pregnant women with a previous CS currently diagnosed with placenta praevia?	Question to follow on from diagnostic accuracy question.
Objectives	To assess the impact on outcomes of having a diagnosis of morbidly adherent placenta prior to birth currently diagnosed with placenta praevia compared with outcomes where there has been no antenatal diagnosis.	
Language	English	
Study design	Comparative observational studies (cohort, case control studies for diagnosed vs. undiagnosed morbidly adherent placenta) Comparative observational studies for different interventions	
Status	Published papers	
Population	Pregnant women with a previous CS currently diagnosed with placenta praevia	Population includes: In-vitro fertilization conceptions Advanced maternal age Multiparity Previous uterine curettage

		Specific considerations: Women with raised BMI
Intervention	Diagnosis of morbidly adherent placenta using imaging techniques followed by any preparation/intervention for managing morbidly adherent placenta	Third-trimester scan Forward planning for care of women with diagnosed morbidly adherent placenta eg. Vascular surgeon present/senior anaesthetist present, availability of high dependency care for woman, blood products ready for transfusion etc. GDG to list key components. Does knowing answer to MRI or colour-flow ultrasound make difference to actual outcome?
Comparator	Emergency intervention in unexpected cases of morbidly adherent placenta	Where possible we may be able to compare different interventions for managing morbidly adherent placenta (depending on quality of the evidence).
Outcomes	**Maternal outcomes** Maternal mortality Maternal morbidity: Post partum haemorrhage (haemorrhage >1000 ml, low postnatal haemoglobin/anaemia, need for blood transfusion (see other question for agreed composite for PPH) Hysterectomy Uterine rupture or dehiscence Bladder injury High dependency/intensive care admission/length of stay Maternal views/experience of care (“satisfaction”) **Neonatal outcomes** Neonatal mortality NICU admission	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Case series Exclude non-English papers Exclude studies carried out in resource poor/developing countries	

Review strategies	Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	

What is the effectiveness of planned caesarean section compared with planned vaginal birth at decreasing the mother-to-child transmission of the virus in pregnant women with HIV, for both low and high viral load?

	Details	**Additional comments**
Review question	What is effectiveness of planned caesarean section compared with planned vaginal birth at decreasing the mother-to-child transmission of the virus in pregnant women with HIV, for both low and high viral load?	
Objectives	To assess whether vaginal birth is a safe option for HIV positive women, and at what point a CS should be advised in terms of viral load and considering different treatments.	
Language	English	
Study design	Randomised controlled trials (RCTs) Comparative observational (cohort) studies	
Status	Published papers	
Population	HIV positive pregnant women	High viral load vs. Low viral load Describe HIV therapy Sub-group analyses where possible for differing viral loads and/or treatment regimens
Intervention	Planned CS	
Comparator	Planned vaginal birth	Also consider unplanned vaginal birth and unplanned CS Report whether data is for intention to treat analysis or actual mode of birth if possible
Outcomes	Mother-to-child transmission rate Confirmed HIV	

	Progression to AIDS	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Exclude study designs lower in the hierarchy of evidence if systematic reviews and/or RCTs are available for the same interventions Exclude non-English papers	
Review strategies	Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	

What is the appropriate care pathway for women who request a primary caesarean section where there is no obstetric or medical indication?

	Details	**Additional comments**
Review question	What is the appropriate care pathway for women who request a primary caesarean section where there is no obstetric or medical indication?	Want to look at specific components of care for these women including what care should be offered, who might provide it and where e.g. specialist clinics or at home.
Objectives	To determine the appropriate care of women who request a caesarean section.	Need a care pathway including what additional consultations might be needed, who should be involved in providing care, information and support needed. Maybe also – role of mental health assessment and input from perinatal mental health expert. Aim – that the woman is happy she has made an informed choice. This should not depend on actual mode of birth. Importance of flexibility
Language	English	
Study design	Comparative observational studies (cohort, case control studies)	
Status	Published papers	
Population	Healthy pregnant women who request a primary CS where there is no medical or obstetric reason to offer/advise one.	Population includes: Women from all social and cultural backgrounds

		Nulliparous and multiparous women Women who request a CS for "social" reasons Women with previous traumatic deliveries Psychological fear/anxiety, rather than mental health issues or mental illness Women who have experienced sexual abuse Women who have experienced domestic abuse Women with marital problems Population excludes: Women with an obstetric or medical indication for CS Women who have had a previous CS Women with sphincteric injuries (previous third degree tears) Women with mental illness/morbid fear Anorexia/bulimia
Intervention	Care for women who request a CS Intervention may include any of the following components: • debriefing about previous traumatic birth experience • psychological support (midwife or other health professional or lay person/advocate) • counselling (midwife or other professional counsellor) • mental health assessment (midwife/obstetrician or perinatal mental health expert) • specific individualised antenatal education/information • care provided by a multidisciplinary team • care from a dedicated specialist midwife/team	Timing of intervention is important Expertise of person providing the intervention Continuity of carer Specific considerations Women with raised BMI

	hospital or community-based)	
Comparator	Traditional/usual/standard care Information/support by usual midwife within standard antenatal care Not including any of the extra items listed above under “intervention”	
Outcomes	**Maternal outcomes** Maternal mortality inc. suicide Maternal Morbidity: Women"s views/experiences (maternal satisfaction) Length of hospital stay Emotional wellbeing including: Postnatal depression Post traumatic stress disorder Mother and infant bonding Antenatal depression Secondary outcomes: Sexual dysfunction Marital breakdown Domestic violence **Neonatal outcomes** Neonatal mortality Breast feeding Secondary outcome: NICU admission	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Exclude non-English papers Exclude case series	
Review strategies	Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	

What is the appropriate decision to delivery interval (DDI) for unplanned caesarean section?

	Details	Additional comments
Review question	What is the appropriate decision to delivery interval for unplanned CS?	Unplanned CS means anything other than planned/elective CS i.e. category 1, 2 and 3.
Objectives	To determine the appropriate time interval between decision to perform a CS and delivery for women needing an intrapartum caesarean section. Are there upper and lower limits beyond which outcomes are poorer for mother and/or baby?	If possible to determine a range that is associated with good outcomes and the limits beyond which outcomes deteriorate.
Language	English	
Study design	Comparative observational studies (Cohort studies, case control studies)	
Status	Published papers	
Population	Women requiring an unplanned caesarean section Search terms might include: emergency, urgent, crash, category 1,2 or 3; 1st stage CS, 2nd stage CS, non-elective, non-routine, intrapartum, in labour Old UK generally decision to knife-to-skin, US generally decision to delivery	Need to describe included population carefully in each case, including type of incision and how urgency was categorized. Population includes: Nulliparous and multiparous women Women who have had a previous CS Population excludes: Planned CS Preterm births
Intervention	Unplanned CS (however defined – emergency/ urgent/ intrapartum)	State in evidence table the terminology used
Comparator	Comparisons may include different time intervals for DDI	
Outcomes	Maternal outcomes Maternal mortality Women"s views/experiences (maternal satisfaction) Injury to bladder, ureter, genital tract Need for further surgery (laparotomy/dilatation and	

	curettage) (both at time of CS and later) ITU/ HDU admission Thromboembolic disease Measures of blood loss (haemorrhage, need for transfusion, Hb) Infection Postnatal depression, PTSD, birth trauma (psychological response – not physical i.e. trauma response) Anaesthetic morbidity – failed intubation, regional conversion to general, failed regional **Neonatal outcomes** Perinatal mortality HIE Intracranial haemorrhage Brachial plexus injuries Cerebral palsy Accidental injury to the baby during CS Neonatal respiratory morbidity Apgar score at 5 min Admission to NICU Length of stay in NICU	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Exclude non-English papers Exclude case series Exclude studies carried out in resource poor/developing countries	
Review strategies	Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	

What is the effectiveness of antibiotics given prior to clamping of the cord compared to antibiotics given after clamping of the cord during a planned or emergency caesarean section?

	Details	Additional comments
Review question	What is effectiveness of antibiotics given prior to clamping of the cord compared to antibiotics given after clamping of the cord during a planned or emergency caesarean section?	
Objectives	To compare the effectiveness of antibiotics given before vs. after cord clamping, particularly whether antibiotics given before skin incision are associated with lower incidence of infection in women and whether this is offset by adverse effects on the newborn baby.	
Language	English	
Study design	Systematic reviews of RCTs and RCTs	
Status	Published papers	
Population	Women undergoing planned (elective) or unplanned (emergency/intrapartum) CS	If possible sub-group analyses will be carried out for: women with a high body mass index (BMI) longer duration of labour or ruptured membranes higher number of vaginal examinations emergency CS vs. planned CS
Intervention	Prophylactic antibiotics given before the surgical incision (i.e. before cord clamping)	This is a review to inform the timing of antibiotic administration. Therefore we will not perform comparisons of different types of administered antibiotics.
Comparator	Prophylactic antibiotics given after cord clamping	
Outcomes	**Maternal outcomes** Incidence of infection (all types) Secondary PPH Adverse effects of antibiotic treatment **Neonatal outcomes** Incidence of infection	

	Length of hospital stay NICU admission NICU length of stay Adverse effects of antibiotic treatment	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Exclude study designs lower in the hierarchy of evidence if systematic reviews and/or RCTs provide evidence for specified outcomes Exclude non-English papers Include studies from any geographic location and date of publication	
Review strategies	Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	

What are the risks and benefits of planned caesarean section compared with planned vaginal birth for both women and babies in women who have had a previous caesarean section?

	Details	**Additional comments**
Review question	What is the effectiveness of planned CS compared with planned vaginal birth at term at improving maternal and neonatal outcomes in women who have had a previous CS?	
Objectives	To compare the effectiveness of planned CS compared with planned vaginal birth at term at optimising maternal and neonatal outcomes. This information can be used to enhance the woman- and family-centred decision-making process.	Possible sub-group analysis - number of previous CS: One vs. two vs. three or more CS if possible (otherwise one vs. two or more)
Language	English	
Study design	Randomised controlled trials (RCTs) Observational studies (cohort studies; case-control studies)	Including systematic reviews of these
Status	Published papers	

Population	Women with a plan for vaginal birth or CS who have previously given birth by CS.	Population includes women with: Any number of previous lower segment CS Women having an induction of labour (include sub-group analysis regarding reasons for induction where necessary/appropriate (Cross-check and refer to Induction of labour guideline) Women who are post-term (sub-group analysis if possible) Exclusions: Fetus with a malpresentation in the current pregnancy Any other previous uterine surgery Previous upper segment incision at CS Multiple pregnancy Other risk factors risk factors (maternal age, other obstetric history) – might need to report numbers in included population but retain analysis if can"t exclude high-risk sub-groups (if e.g. < 20% - check proportion with topic group prior to analysis) Specific considerations: Women with a raised BMI (≥ 30 kg/m^2)
Intervention	planned CS	This should be presented as an intention to treat analysis. If no studies report intention to treat then report by actual mode of birth
Comparator	planned vaginal birth	
Outcomes	**Maternal outcomes** Maternal mortality Uterine rupture or dehiscence, plus neonatal sequelae Post partum hemorrhage (combined outcome defined as any of the following: blood loss >1000 ml (same as IPC guideline); anaemia (woman"s haemoglobin level postnally), need for red blood cell transfusion Hysterectomy at CS	

	Laparotomy within 6 weeks of giving birth Infectious morbidity (includes endometritis, UTI, chest infection; postnatally up to 2 weeks after giving birth) Women"s views/experience of care ("satisfaction") Psychological outcomes (need to divide serious mental health problems from other emotional wellbeing type outcomes if reported) **Neonatal outcomes** Neonatal mortality NICU Admissionis Major neonatal morbidity (necrotising enterocolitis, ventilator support, haemorrhage) Hypoxic-ischemic encephalopathy (any grade) Transient tachypnea/respiratory problem/respiratory distress syndrome (combined outcome)	
Other criteria for inclusion/ exclusion of studies	Exclude non-human studies Exclude studies reporting by actual mode of birth if intention to treat analysis available in others. Exclude non-English papers Exclude studies carried out in resource-poor/developing countries	
Review strategies	If necessary sub-group analysis may be considered for: women with a high body mass index (BMI) longer duration of labour or ruptured membranes Studies will be assessed for study quality according to the process described in the NICE guidelines manual (January 2009) A list of excluded studies will be provided following weeding Evidence tables and an evidence profile will be used to summarise the evidence	Sub-group analysis to be carried out if data allows

Appendix E Search strategies

Risk/benefits of different birth methods and VBAC

Ovid MEDLINE(R) 1950 to July Week 1 2010

CS_Q3_Q5_table3_VBAC_medline_190710

#	Searches	Results
1	randomized controlled trial.pt.	294617
2	controlled clinical trial.pt.	81941
3	DOUBLE BLIND METHOD/	107497
4	SINGLE BLIND METHOD/	14183
5	RANDOM ALLOCATION/	69084
6	RANDOMIZED CONTROLLED TRIALS/	68160
7	or/1-6	496827
8	((single or double or triple or treble) adj5 (blind$ or mask$)).tw,sh.	105583
9	clinical trial.pt.	463259
10	exp CLINICAL TRIAL/	617428
11	exp CLINICAL TRIALS AS TOPIC/	230738
12	(clinic$ adj5 trial$).tw,sh.	154378
13	PLACEBOS/	29078
14	placebo$.tw,sh.	137656
15	random$.tw,sh.	638949
16	or/8-15	1106102
17	or/7,16	1110917
18	META ANALYSIS/	25375
19	META ANALYSIS AS TOPIC/	10410
20	meta analysis.pt.	25375
21	(metaanaly$ or meta-analy$ or (meta adj analy$)).tw,sh.	44156

22	(systematic$ adj5 (review$ or overview$)).tw,sh.	25635
23	(methodologic$ adj5 (review$ or overview$)).tw,sh.	2328
24	or/18-23	62699
25	review$.pt.	1539741
26	(medline or medlars or embase or cinahl or cochrane or psycinfo or psychinfo or psychlit or psyclit or "web of science" or "science citation" or scisearch).tw.	40144
27	((hand or manual$) adj2 search$).tw.	4293
28	(electronic database$ or bibliographic database$ or computeri?ed database$ or online database$).tw,sh.	6995
29	(pooling or pooled or mantel haenszel).tw,sh.	34607
30	(peto or dersimonian or der simonian or fixed effect).tw,sh.	1783
31	or/26-30	77105
32	and/25,31	34862
33	exp CASE-CONTROL STUDIES/	472298
34	(case$ adj2 control$).tw.	63456
35	exp COHORT STUDIES/	771842
36	cohort$.tw.	157532
37	or/33-36	1210395
38	or/17,24,32,37	2132459
39	letter.pt.	683788
40	comment.pt.	414835
41	editorial.pt.	258965
42	historical article.pt.	266057
43	or/39-42	1264100
44	38 not 43	2062645
45	exp CAESAREAN SECTION/	29785
46	(caesar#an$ or cesar#an$).ti,ab.	33038
47	(deliver$ adj3 abdom$).ti,ab.	676
48	(c section$ or c?section$).ti,ab.	456
49	or/45-48	43295
50	exp LABOR, OBSTETRIC/	36895
51	exp EXTRACTION, OBSTETRICAL/	2682

52	LABOR, INDUCED/	7134
53	VAGINAL BIRTH AFTER CESAREAN/	924
54	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	10128
55	VBAC.ti,ab.	297
56	or/50-55	50887
57	and/49,56	11536
58	limit 57 to english language	9087
59	limit 58 to animals	228
60	limit 58 to (animals and humans)	72
61	59 not 60	156
62	58 not 61	8931
63	and/44,62	3753
64	limit 63 to yr="2003 -Current"	1614

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations July 16, 2010

CS_Q3_Q5_table3_VBAC_medline_in-process_190710

#	Searches	Results
1	(caesar#an$ or cesar#an$).ti,ab.	1310
2	(deliver$ adj3 abdom$).ti,ab.	21
3	(c section$ or c?section$).ti,ab.	19
4	or/1-3	1332
5	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	335
6	VBAC.ti,ab.	7
7	or/5-6	336
8	and/4,7	186
9	limit 8 to yr="2003 -Current"	128

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_Q3_Q5_table3_VBAC_cctr_190710

#	Searches	Results
1	exp CAESAREAN SECTION/	1760
2	(caesar#an$ or cesar#an$).ti,ab.	3795
3	(deliver$ adj3 abdom$).ti,ab.	46
4	(c section$ or c?section$).ti,ab.	29
5	or/1-4	3973
6	exp LABOR, OBSTETRIC/	1535
7	exp EXTRACTION, OBSTETRICAL/	94
8	LABOR, INDUCED/	829
9	VAGINAL BIRTH AFTER CESAREAN/	21
10	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	864
11	VBAC.ti,ab.	8
12	or/6-11	2626
13	and/5,12	791
14	limit 13 to yr="2003 -Current"	259

EBM Reviews - Cochrane Database of Systematic Reviews 2005 to June 2010, EBM Reviews - Database of Abstracts of Reviews of Effects 2nd Quarter 2010

CS_Q3_Q5_table3_VBAC_cdsrdare_190710

#	Searches	Results
1	CAESAREAN SECTION.kw.	38
2	(caesar#an$ or cesar#an$).tw,tx.	531
3	(deliver$ adj3 abdom$).tw,tx.	20
4	(c section$ or c?section$).tw,tx.	4
5	or/1-4	537
6	LABOR, OBSTETRIC.kw.	46
7	EXTRACTION, OBSTETRICAL.kw.	12
8	LABOR, INDUCED.kw.	66
9	VAGINAL BIRTH AFTER CESAREAN.kw.	9
10	(vagina$ adj3 (birth$ or deliver$)).tw,tx.	288
11	VBAC.tw,tx.	6
12	or/6-11	333
13	and/5,12	251

EMBASE 1980 to 2010 Week 28

CS_Q3_Q5_table3_VBAC_embase_190710

#	Searches	Results
1	CLINICAL TRIALS/	606353
2	(clinic$ adj5 trial$).tw,sh.	147197
3	SINGLE BLIND PROCEDURE/	9640
4	DOUBLE BLIND PROCEDURE/	78647
5	RANDOM ALLOCATION/	28515
6	CROSSOVER PROCEDURE/	23267
7	PLACEBO/	144613
8	placebo$.tw,sh.	199000
9	random$.tw,sh.	493781
10	RANDOMIZED CONTROLLED TRIALS/	191699
11	((single or double or triple or treble) adj (blind$ or mask$)).tw,sh.	100610
12	randomi?ed control$ trial$.tw.	42411
13	or/1-12	989546
14	META ANALYSIS/	38939
15	((meta adj analy$) or metaanalys$ or meta-analy$).tw,sh.	52774
16	(systematic$ adj5 (review$ or overview$)).tw,sh.	36332
17	(methodologic$ adj5 (review$ or overview$)).tw,sh.	1982
18	or/14-17	75897
19	review.pt.	1041373
20	(medline or medlars or embase).ab.	30598
21	(scisearch or science citation index).ab.	991
22	(psychlit or psyclit or psychinfo or psycinfo or cinahl or cochrane).ab.	13420
23	((hand or manual$) adj2 search$).tw.	3486
24	(electronic database$ or bibliographic database$ or computeri?ed database$ or online database$).tw.	5902
25	(pooling or pooled or mantel haenszel).tw.	29149
26	(peto or dersimonian or "der simonian" or fixed effect).tw.	1253
27	or/20-26	65455
28	and/19,27	25104
29	exp CASE CONTROL STUDY/	27997
30	RETROSPECTIVE STUDY/	121537
31	(case$ adj2 control$).tw.	58509
32	COHORT ANALYSIS/	64818
33	LONGITUDINAL STUDY/	23296
34	FOLLOW UP/	324019
35	PROSPECTIVE STUDY/	97264

36	cohort$.tw.	147133
37	or/29-36	669300
38	or/13,18,28,37	1558086
39	(book or conference paper or editorial or letter or note or proceeding or short survey).pt.	1909716
40	38 not 39	1365346
41	CESAREAN SECTION/	28658
42	(caesar#an$ or cesar#an$).ti,ab.	26876
43	(deliver$ adj3 abdom$).ti,ab.	564
44	(c section$ or c?section$).ti,ab.	308
45	or/41-44	35526
46	VAGINAL DELIVERY/	9326
47	exp LABOR/	12786
48	FORCEPS DELIVERY/ or VACUUM EXTRACTION/	1998
49	exp LABOR INDUCTION/	5298
50	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	9002
51	VBAC.ti,ab.	217
52	or/46-51	27452
53	and/45,52	10406
54	limit 53 to english language	9151
55	and/40,54	2724
56	limit 55 to yr="2003 -Current"	1632

Monday, July 19, 2010 11:12:07 AM

CINAHL with Full Text

CS_Q3_Q5_table3_VBAC_cinahl_190710

#	Query	Limiters/Expanders	Last Run Via	Results
S15	S5 and S13	Limiters - Published Date from: 20030101-20101231; Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	364
S14	S5 and S13	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced	2348

			Search Database - CINAHL with Full Text	
S13	S6 or S7 or S8 or S9 or S10 or S11 or S12	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	8712
S12	TI (VBAC) or AB (VBAC)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	190
S11	TI (vagina* N3 deliver*) or AB (vagina* N3 deliver*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1221
S10	TI (vagina* N3 birth*) or AB (vagina* N3 birth*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	659
S9	MH VACUUM EXTRACTION, OBSTETRICAL	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	229
S8	MH DELIVERY+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	4298

			Advanced Search Database - CINAHL with Full Text	
S7	MH LABOR+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4845
S6	MH VAGINAL BIRTH+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1949
S5	S1 or S2 or S3 or S4	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6494
S4	TI (c-section* or c#section*) or AB (c-section* or c#section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	182
S3	TI (deliver* N3 abdom*) or AB (deliver* N3 abdom*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	44
S2	TI (c#esar?an*) or AB (c#esar?an*)	Search modes - Boolean/Phrase	Interface - EBSCOhost	4199

			Search Screen - Advanced Search Database - CINAHL with Full Text	
S1	MH CESAREAN SECTION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	5040

PsycINFO 1967 to July Week 2 2010

CS_Q3_Q5_table3_VBAC_psychinfo_190710

#	Searches	Results
1	(caesar#an$ or cesar#an$).ti,ab,id.	809
2	(deliver$ adj3 abdom$).ti,ab,id.	1
3	(c section$ or c?section$).ti,ab,id.	40
4	or/1-3	827
5	exp BIRTH/	7151
6	"LABOR (CHILDBIRTH)"/	671
7	(vagina$ adj3 (birth$ or deliver$)).ti,ab,id.	349
8	VBAC.ti,ab,id.	12
9	or/5-8	7663
10	and/4,9	516
11	limit 10 to yr="2003 -Current"	299

AMED (Allied and Complementary Medicine) 1985 to July 2010

CS_Q3_Q5_table3_VBAC_amed_190710

#	Searches	Results
1	CESAREAN SECTION/	7
2	(caesar#an$ or cesar#an$).ti,ab,et.	63
3	(deliver$ adj3 abdom$).ti,ab,et.	2
4	(c section$ or c?section$).ti,ab,et.	0

5	or/1-4	66
6	LABOR OBSTETRIC/	1
7	LABOR/	172
8	DELIVERY/	31
9	(vagina$ adj3 (birth$ or deliver$)).ti,ab,et.	30
10	VBAC.ti,ab,et.	0
11	or/6-10	218
12	and/5,11	11

Risk/benefits of different birth methods and VBAC - health economics

Ovid MEDLINE(R) 1950 to July Week 4 2010

CS_Q3_Q5_table3_VBAC_economic_medline_110810

#	Searches	Results
1	costs.tw.	89224
2	cost effective$.tw.	51626
3	economic.tw.	81703
4	or/1-3	193020
5	(metabolic adj cost).tw.	562
6	((energy or oxygen) adj cost).tw.	2211
7	4 not (5 or 6)	192748
8	exp CAESAREAN SECTION/	29844
9	(caesar#an$ or cesar#an$).ti,ab.	33137
10	(deliver$ adj3 abdom$).ti,ab.	678
11	(c section$ or c?section$).ti,ab.	459
12	or/8-11	43409
13	exp LABOR, OBSTETRIC/	36927
14	exp EXTRACTION, OBSTETRICAL/	2686
15	LABOR, INDUCED/	7136
16	VAGINAL BIRTH AFTER CESAREAN/	925
17	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	10167
18	VBAC.ti,ab.	298
19	or/13-18	50957
20	and/12,19	11560
21	limit 20 to english language	9108
22	limit 21 to animals	228
23	limit 21 to (animals and humans)	72
24	22 not 23	156

25	21 not 24	8952
26	limit 25 to yr="2003 -Current"	2998
27	and/7,26	87

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_Q3_Q5_table3_VBAC_economic_cctr_110810

#	Searches	Results
1	costs.tw.	6200
2	cost effective$.tw.	4915
3	economic.tw.	2752
4	or/1-3	10398
5	(metabolic adj cost).tw.	42
6	((energy or oxygen) adj cost).tw.	197
7	4 not (5 or 6)	10384
8	exp CAESAREAN SECTION/	1760
9	(caesar#an$ or cesar#an$).ti,ab.	3795
10	(deliver$ adj3 abdom$).ti,ab.	46
11	(c section$ or c?section$).ti,ab.	29
12	or/8-11	3973
13	exp LABOR, OBSTETRIC/	1535
14	exp EXTRACTION, OBSTETRICAL/	94
15	LABOR, INDUCED/	829
16	VAGINAL BIRTH AFTER CESAREAN/	21
17	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	864
18	VBAC.ti,ab.	8
19	or/13-18	2626
20	and/12,19	791
21	limit 20 to yr="2003 -Current"	259
22	and/7,21	10

EBM Reviews - Health Technology Assessment 3rd Quarter 2010

CS_Q3_Q5_table3_VBAC_economic_hta_110810

#	Searches	Results
1	exp CAESAREAN SECTION/	6
2	(caesar#an$ or cesar#an$).tw.	15
3	(deliver$ adj3 abdom$).tw.	0
4	(c section$ or c?section$).tw.	0
5	or/1-4	15
6	exp LABOR, OBSTETRIC/	12
7	exp EXTRACTION, OBSTETRICAL/	0
8	LABOR, INDUCED/	10
9	VAGINAL BIRTH AFTER CESAREAN/	1
10	(vagina$ adj3 (birth$ or deliver$)).tw.	9
11	VBAC.tw.	2
12	or/6-11	30
13	and/5,12	10
14	limit 13 to yr="2003 -Current"	10

EBM Reviews - NHS Economic Evaluation Database 3rd Quarter 2010

CS_Q3_Q5_table3_VBAC_economic_nhseed_110810

#	Searches	Results
1	exp CAESAREAN SECTION/	85
2	(caesar#an$ or cesar#an$).tw.	148
3	(deliver$ adj3 abdom$).tw.	2
4	(c section$ or c?section$).tw.	2
5	or/1-4	149
6	exp LABOR, OBSTETRIC/	34
7	exp EXTRACTION, OBSTETRICAL/	2
8	LABOR, INDUCED/	27
9	VAGINAL BIRTH AFTER CESAREAN/	6
10	(vagina$ adj3 (birth$ or deliver$)).tw.	70
11	VBAC.tw.	3
12	or/6-11	103
13	and/5,12	70
14	limit 13 to yr="2003 -Current"	25

EMBASE 1980 to 2010 Week 31

CS_Q3_Q5_table3_VBAC_economic_embase_110810

#	Searches	Results
1	costs.tw.	110645
2	cost effective$.tw.	64459
3	economic.tw.	97226
4	or/1-3	234990
5	(metabolic adj cost).tw.	611
6	((energy or oxygen) adj cost).tw.	2435
7	4 not (5 or 6)	234691
8	CESAREAN SECTION/	42519
9	(caesar#an$ or cesar#an$).ti,ab.	38678
10	(deliver$ adj3 abdom$).ti,ab.	752
11	(c section$ or c?section$).ti,ab.	567
12	or/8-11	52798
13	VAGINAL DELIVERY/	9814
14	exp LABOR/	28630
15	FORCEPS DELIVERY/ or VACUUM EXTRACTION/	3511
16	exp LABOR INDUCTION/	9074
17	(vagina$ adj3 (birth$ or deliver$)).ti,ab.	11772
18	VBAC.ti,ab.	346
19	or/13-18	50043
20	and/12,19	13748
21	limit 20 to english language	11217
22	limit 21 to yr="2003 -Current"	5395
23	and/7,22	130

HIV

Ovid MEDLINE(R) 1950 to June Week 5 2010

CS_Q1_HIV_medline_090710

#	Searches	Results
1	randomized controlled trial.pt.	294421
2	controlled clinical trial.pt.	81916
3	DOUBLE BLIND METHOD/	107450
4	SINGLE BLIND METHOD/	14159
5	RANDOM ALLOCATION/	69036
6	RANDOMIZED CONTROLLED TRIALS/	68092
7	or/1-6	496479
8	((single or double or triple or treble) adj5 (blind$ or mask$)).tw,sh.	105531
9	clinical trial.pt.	463156
10	exp CLINICAL TRIAL/	617012
11	exp CLINICAL TRIALS AS TOPIC/	230583
12	(clinic$ adj5 trial$).tw,sh.	154210
13	PLACEBOS/	29069
14	placebo$.tw,sh.	137571
15	random$.tw,sh.	638406
16	or/8-15	1105177
17	or/7,16	1109983
18	META ANALYSIS/	25340
19	META ANALYSIS AS TOPIC/	10393
20	meta analysis.pt.	25340
21	(metaanaly$ or meta-analy$ or (meta adj analy$)).tw,sh.	44091
22	(systematic$ adj5 (review$ or overview$)).tw,sh.	25584
23	(methodologic$ adj5 (review$ or overview$)).tw,sh.	2325
24	or/18-23	62597
25	review$.pt.	1538839
26	(medline or medlars or embase or cinahl or cochrane or psycinfo or psychinfo or psychlit or psyclit or "web of science" or "science citation" or scisearch).tw.	40094
27	((hand or manual$) adj2 search$).tw.	4292
28	(electronic database$ or bibliographic database$ or computeri?ed database$ or online database$).tw,sh.	6981
29	(pooling or pooled or mantel haenszel).tw,sh.	34570
30	(peto or dersimonian or der simonian or fixed effect).tw,sh.	1783
31	or/26-30	77011
32	and/25,31	34820

33	or/24,32	81359
34	letter.pt.	683354
35	case report.tw.	150916
36	comment.pt.	414465
37	editorial.pt.	258690
38	historical article.pt.	265892
39	or/34-38	1410501
40	17 not 39	1068402
41	33 not 39	76867
42	or/40-41	1107854
43	PREGNANT WOMEN/	4384
44	exp PREGNANCY/	637471
45	(pregnan$ or maternal or mother$).ti,ab.	435800
46	or/43-45	777528
47	exp PREGNANCY COMPLICATIONS, INFECTIOUS/	32502
48	exp HIV/	67759
49	exp HIV INFECTIONS/	192046
50	exp HIV SERONEGATIVITY/	2797
51	exp HIV SEROPOSITIVITY/	18481
52	exp HIV SEROPREVALENCE/	2907
53	exp HIV ANTIBODIES/	8508
54	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	186944
55	VIRAL LOAD/	14089
56	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	21813
57	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE/	12088
58	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	9678
59	or/47-58	290783
60	and/46,59	41883
61	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	6579
62	or/60-61	41883
63	exp CESAREAN SECTION/	29767
64	(cesar#an$ or caesar#an$).ti,ab.	33012
65	(deliver$ adj3 abdom$).ti,ab.	676
66	(c section$ or c?section$).ti,ab.	454
67	or/63-66	43263
68	exp LABOR, OBSTETRIC/	36887

69	NATURAL CHILDBIRTH/	1777
70	(vagina$ adj3 (deliver$ or birth)).ti,ab.	9992
71	or/68-70	45410
72	or/67,71	78627
73	INFECTIOUS DISEASE TRANSMISSION, VERTICAL/	9431
74	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	15068
75	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	12490
76	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	51276
77	or/73-76	69839
78	and/62,72,77	1159
79	limit 78 to english language	950
80	limit 79 to animals	40
81	limit 79 to (animals and humans)	19
82	80 not 81	21
83	79 not 82	929
84	limit 83 to yr="2003 -Current"	373
85	and/42,84	87

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations July 08, 2010

CS_Q1_HIV_medline_in-process_090710

#	Searches	Results
1	(pregnan$ or maternal or mother$).ti,ab.	11558
2	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	5361
3	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	849
4	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	507
5	or/2-4	5856
6	and/1,5	415
7	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	240
8	or/6-7	415
9	(cesar#an$ or caesar#an$).ti,ab.	1293
10	(deliver$ adj3 abdom$).ti,ab.	21
11	(c section$ or c?section$).ti,ab.	17

12	or/9-11	1316
13	(vagina$ adj3 (deliver$ or birth)).ti,ab.	318
14	or/12-13	1459
15	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	534
16	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	342
17	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	1360
18	or/15-17	1851
19	and/8,14,18	12
20	limit 19 to yr="2003 -Current"	9

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_Q1_HIV_cctr_090710

#	Searches	Results
1	PREGNANT WOMEN/	44
2	exp PREGNANCY/	12603
3	(pregnan$ or maternal or mother$).ti,ab.	15743
4	or/1-3	20129
5	exp PREGNANCY COMPLICATIONS, INFECTIOUS/	692
6	exp HIV/	1758
7	exp HIV INFECTIONS/	5105
8	exp HIV SERONEGATIVITY/	100
9	exp HIV SEROPOSITIVITY/	425
10	exp HIV SEROPREVALENCE/	17
11	exp HIV ANTIBODIES/	162
12	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	6209
13	VIRAL LOAD/	1037
14	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	1353
15	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE/	572
16	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	482
17	or/5-16	8147
18	and/4,17	953
19	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	313

20	or/18-19	953
21	exp CESAREAN SECTION/	1760
22	(cesar#an$ or caesar#an$).ti,ab.	3795
23	(deliver$ adj3 abdom$).ti,ab.	46
24	(c section$ or c?section$).ti,ab.	29
25	or/21-24	3973
26	exp LABOR, OBSTETRIC/	1535
27	NATURAL CHILDBIRTH/	28
28	(vagina$ adj3 (deliver$ or birth)).ti,ab.	858
29	or/26-28	2174
30	or/25,29	5516
31	INFECTIOUS DISEASE TRANSMISSION, VERTICAL/	250
32	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	477
33	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	454
34	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	2824
35	or/31-34	3234
36	and/20,30,35	55
37	limit 36 to yr="2003 -Current"	21

EBM Reviews - Cochrane Database of Systematic Reviews 2005 to May 2010, EBM Reviews - Database of Abstracts of Reviews of Effects 2nd Quarter 2010

CS_Q1_HIV_cdsrdare_090710

#	Searches	Results
1	PREGNANT WOMEN.kw.	4
2	PREGNANCY.kw.	1065
3	(pregnan$ or maternal or mother$).tw,tx.	2453
4	or/1-3	2453
5	PREGNANCY COMPLICATIONS, INFECTIOUS.kw.	41
6	HIV.kw.	228
7	HIV INFECTIONS.kw.	198
8	HIV SERONEGATIVITY.kw.	3
9	HIV SEROPOSITIVITY.kw.	14
10	HIV SEROPREVALENCE.kw.	3
11	HIV ANTIBODIES.kw.	0

12	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).tw,tx.	798
13	VIRAL LOAD.kw.	27
14	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).tw,tx.	137
15	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE.kw.	32
16	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).tw,tx.	71
17	or/5-16	860
18	and/4,17	271
19	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).tw,tx.	80
20	or/18-19	271
21	CESAREAN SECTION.kw.	115
22	(cesar#an$ or caesar#an$).tw,tx.	527
23	(deliver$ adj3 abdom$).tw,tx.	20
24	(c section$ or c?section$).tw,tx.	4
25	or/21-24	533
26	LABOR, OBSTETRIC.kw.	45
27	NATURAL CHILDBIRTH.kw.	3
28	(vagina$ adj3 (deliver$ or birth)).tw,tx.	284
29	or/26-28	305
30	or/25,29	606
31	INFECTIOUS DISEASE TRANSMISSION, VERTICAL.kw.	30
32	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	58
33	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	40
34	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	184
35	or/31-34	227
36	and/20,30,35	16

EMBASE 1980 to 2010 Week 26

CS_Q1_HIV_emabse_090710

#	Searches	Results
1	CLINICAL TRIALS/	604496
2	(clinic$ adj5 trial$).ti,ab,sh.	146665
3	SINGLE BLIND PROCEDURE/	9603

4	DOUBLE BLIND PROCEDURE/	78495
5	RANDOM ALLOCATION/	28478
6	CROSSOVER PROCEDURE/	23212
7	PLACEBO/	144086
8	placebo$.ti,ab,sh.	198391
9	random$.ti,ab,sh.	492223
10	RANDOMIZED CONTROLLED TRIALS/	191097
11	((single or double or triple or treble) adj (blind$ or mask$)).ti,ab,sh.	100429
12	randomi?ed control$ trial$.tw.	42199
13	or/1-12	986544
14	META ANALYSIS/	38841
15	((meta adj analy$) or metaanalys$ or meta-analy$).ti,ab,sh.	52556
16	(systematic$ adj5 (review$ or overview$)).ti,sh,ab.	36114
17	(methodologic$ adj5 (review$ or overview$)).ti,ab,sh.	1970
18	or/14-17	75526
19	review.pt.	1038101
20	(medline or medlars or embase).ab.	30417
21	(scisearch or science citation index).ab.	987
22	(psychlit or psyclit or psychinfo or psycinfo or cinahl or cochrane).ab.	13322
23	((hand or manual$) adj2 search$).tw.	3466
24	(electronic database$ or bibliographic database$ or computeri?ed database$ or online database$).tw.	5874
25	(pooling or pooled or mantel haenszel).tw.	29036
26	(peto or dersimonian or "der simonian" or fixed effect).tw.	1246
27	or/20-26	65143
28	and/19,27	24972
29	or/18,28	88315
30	(book or conference paper or editorial or letter or note or proceeding or short survey).pt.	1905247
31	13 not 30	847288
32	29 not 31	41055
33	or/31-32	888343
34	PREGNANT WOMAN/	7211
35	exp PREGNANCY/	196406
36	(pregnan$ or maternal or mother$).ti,ab.	312280
37	or/34-36	370493
38	exp PREGNANCY COMPLICATION/	32548
39	exp HUMAN IMMUNODEFICIENCY VIRUS/	80095
40	exp HUMAN IMMUNODEFICIENCY VIRUS INFECTION/	166866

41	exp SERODIAGNOSIS/	41010
42	HUMAN IMMUNODEFICIENCY VIRUS PREVALENCE/	3551
43	HUMAN IMMUNODEFICIENCY VIRUS ANTIBODY/	3941
44	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	160081
45	VIRUS LOAD/	20637
46	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	18919
47	HIGHLY ACTIVE ANTIRETROVIRAL THERAPY/	16240
48	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	9512
49	or/38-48	303027
50	and/37,49	37428
51	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	5391
52	or/50-51	37428
53	CESAREAN SECTION/	28550
54	(cesar#an$ or caesar#an$).ti,ab.	26792
55	(deliver$ adj3 abdom$).ti,ab.	563
56	(c section$ or c?section$).ti,ab.	308
57	or/53-56	35407
58	VAGINAL DELIVERY/	9296
59	NATURAL CHILDBIRTH/	287
60	(vagina$ adj3 (deliver$ or birth)).ti,ab.	8878
61	or/58-60	12937
62	or/57,61	41301
63	VERTICAL TRANSMISSION/	6863
64	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	12331
65	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	9902
66	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	41034
67	or/63-66	55201
68	and/52,62,67	736
69	limit 68 to english language	618
70	limit 69 to yr="2003 -Current"	317
71	and/33,70	63

Friday, July 09, 2010 9:15:41 AM

CINAHL with Full Text

CS_Q1_HIV_cinahl_090710

#	Query	Limiters/Expanders	Last Run Via	Results
S97	S35 and S46 and S95	Limiters - Published Date from: 20030101-20101231; Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	10
S96	S35 and S46 and S95	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	134
S95	S47 or S48 or S49 or S50 or S51 or S52 or S53 or S54 or S55 or S56 or S57 or S58 or S59 or S60 or S61 or S62 or S63 or S64 or S65 or S66 or S67 or S68 or S69 or S70 or S71 or S72 or S73 or S74 or S75 or S76 or S77 or S78 or S79 or S80 or S81 or S82 or S83 or S84 or S85 or S86 or S87 or S88 or S89 or S90 or S91 or S92 or S93 or S94	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	7957
S94	TI (newborn* N5 infect*) or AB (newborn* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	205

S93	TI (newborn* N5 transmit*) or AB (newborn* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	11
S92	TI (newborn* N5 transmission) or AB (newborn* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25
S91	TI (neo-nat* N5 infect*) or AB (neo-nat* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S90	TI (neo-nat* N5 transmit*) or AB (neo-nat* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S89	TI (neo-nat* N5 transmission) or AB (neo-nat* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL	0

			with Full Text	
S88	TI (neonat* N5 infect*) or AB (neonat* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	746
S87	TI (neonat* N5 transmit*) or AB (neonat* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	17
S86	TI (neonat* N5 transmission) or AB (neonat* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	52
S85	TI (child* N5 infect*) or AB (child* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	3038
S84	TI (child* N5 transmit*) or AB (child* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search	110

			Database - CINAHL with Full Text	
S83	TI (child* N5 transmission) or AB (child* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	593
S82	TI (infant* N5 infect*) or AB (infant* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1001
S81	TI (infant* N5 transmit*) or AB (infant* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	33
S80	TI (infant* N5 transmission) or AB (infant* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	158
S79	TI (babies N5 infect*) or AB (babies N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	81

			Advanced Search Database - CINAHL with Full Text	
S78	TI (babies N5 transmit*) or AB (babies N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6
S77	TI (babies N5 transmission) or AB (babies N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	11
S76	TI (baby N5 infect*) or AB (baby N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	36
S75	TI (baby N5 transmit*) or AB (baby N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	3
S74	TI (baby N5 transmission) or AB (baby N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost	15

			Search Screen - Advanced Search Database - CINAHL with Full Text	
S73	TI (perinatal* N5 infect*) or AB (perinatal* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	302
S72	TI (perinatal* N5 transmit*) or AB (perinatal* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	14
S71	TI (perinatal* N5 transmission) or AB (perinatal* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	243
S70	TI (pregnan* N5 infect*) or AB (pregnan* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1047

S69	TI (pregnan* N5 transmit*) or AB (pregnan* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	382
S68	TI (pregnan*N5 transmission) or AB (pregnan* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	79
S67	TI (foetomaternal* N5 infect*) or AB (foetomaternal* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S66	TI (foetomaternal* N5 transmit*) or AB (foetomaternal* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S65	TI (foetomaternal* N5 transmission) or AB (foetomaternal* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL	0

			with Full Text	
S64	TI (foeto-maternal* N5 infect*) or AB (foeto-maternal* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S63	TI (foeto-maternal* N5 transmit*) or AB (foeto-maternal* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S62	TI (foeto-maternal* N5 transmission) or AB (foeto-maternal* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S61	TI (fetomaternal* N5 infect*) or AB (fetomaternal* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1
S60	TI (fetomaternal* N5 transmit*) or AB (fetomaternal* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search	0

			Database - CINAHL with Full Text	
S59	TI (fetomaternal* N5 transmission) or AB (fetomaternal* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2
S58	TI (feto-maternal* N5 infect*) or AB (feto-maternal* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1
S57	TI (feto-maternal* N5 transmit*) or AB (feto-maternal* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S56	TI (mother* N5 infect*) or AB (mother* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	407
S55	TI (mother* N5 transmit*) or AB (mother* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	55

			Advanced Search Database - CINAHL with Full Text	
S54	TI (mother* N5 transmission) or AB (mother* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	517
S53	TI (maternal* N5 infect*) or AB (maternal* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	396
S52	TI (maternal* N5 transmit*) or AB (maternal* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	19
S51	TI (maternal* N5 transmission) or AB (maternal* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	118
S50	TI (vertical* N5 infect*) or AB (vertical* N5 infect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost	91

			Search Screen - Advanced Search Database - CINAHL with Full Text	
S49	TI (vertical* N5 transmit*) or AB (vertical* N5 transmit*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	29
S48	TI (vertical* N5 transmission) or AB (vertical* N5 transmission)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	263
S47	MH DISEASE TRANSMISSION, VERTICAL	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2201
S46	S40 or S45	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	8336

S45	S41 or S42 or S43 or S44	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	3455
S44	TI (vagina* N3 birth) or AB (vagina* N3 birth)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	561
S43	TI (vagina* N3 deliver*) or AB (vagina* N3 deliver*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1221
S42	MH PREPARED CHILDBIRTH	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	608
S41	MH VAGINAL BIRTH+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL	1945

			with Full Text	
S40	S36 or S37 or S38 or S39	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6482
S39	TI (c-section* or csection*) or AB (c-section* or csection*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	182
S38	TI (deliver* N3 abdom*) or AB (deliver* N3 abdom*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	44
S37	TI (c#esar?an*) or AB (c#esar?an*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4191
S36	MH CESAREAN SECTION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search	5027

			Database - CINAHL with Full Text	
S35	S24 or S34	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4987
S34	S25 or S26 or S27 or S28 or S29 or S30 or S31 or S32 or S33	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1600
S33	TI (mother* N5 human immunodeficiency virus*) or AB (mother* N5 human immunodeficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	87
S32	TI (maternal N5 human immunodeficiency virus*) or AB (maternal N5 human immunodeficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25
S31	TI (pregnan* N5 human immunodeficiency virus*) or AB (pregnan* N5 human immunodeficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	100

			Advanced Search Database - CINAHL with Full Text	
S30	TI (mother* N5 human immuno-deficiency virus*) or AB (mother* N5 human immuno-deficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S29	TI (maternal N5 human immuno-deficiency virus*) or AB (maternal N5 human immuno-deficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S28	TI (pregnan* N5 human immuno-deficiency virus*) or AB (pregnan* N5 human immuno-deficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S27	TI (mother* N5 HIV*) or AB (mother* N5 HIV*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	692
S26	TI (maternal N5 HIV*) or AB (maternal N5 HIV*)	Search modes - Boolean/Phrase	Interface - EBSCOhost	181

			Search Screen - Advanced Search Database - CINAHL with Full Text	
S25	TI (pregnan* N5 HIV*) or AB (pregnan* N5 HIV*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	852
S24	S4 and S23	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4987
S23	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	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	48037
S22	TI (HAART or highly active antiretroviral therapy or highly active anti-retroviral therapy) or AB (HAART or highly active antiretroviral therapy or highly active anti-retroviral therapy)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1333

S21	MH ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1477
S20	TI (virus* N3 titre*) or AB (virus* N3 titre*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	10
S19	TI (virus* N3 titer*) or AB (virus* N3 titer*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	53
S18	TI (virus* N3 burden*) or AB (virus* N3 burden*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	23
S17	TI (virus* N3 load*) or AB (virus* N3 load*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL	81

			with Full Text	
S16	TI (viral N3 titre*) or AB (viral N3 titre*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	9
S15	TI (viral N3 titer*) or AB (viral N3 titer*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	34
S14	TI (viral N3 burden*) or AB (viral N3 burden*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	43
S13	TI (viral N3 load*) or AB (viral N3 load*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	995
S12	MH VIRAL LOAD	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search	1660

			Database - CINAHL with Full Text	
S11	TI (HIV* or human immunodeficiency virus* or human immuno-deficiency virus*) or AB (HIV* or human immunodeficiency virus* or human immuno-deficiency virus*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	31083
S10	MH HIV-INFECTED PATIENTS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4806
S9	MH HIV SEROPOSITIVITY	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2271
S8	MH HIV SERONEGATIVITY	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	281
S7	MH HIV INFECTIONS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	36750

			Advanced Search Database - CINAHL with Full Text	
S6	MH HUMAN IMMUNODEFICIENCY VIRUS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2926
S5	MH PREGNANCY COMPLICATIONS, INFECTIOUS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1759
S4	S1 or S2 or S3	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	92630
S3	TI (pregnan* or maternal or mother*) or AB (pregnan* or maternal or mother*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	54343
S2	MH PREGNANCY+	Search modes - Boolean/Phrase	Interface - EBSCOhost	69982

			Search Screen - Advanced Search Database - CINAHL with Full Text	
S1	MH EXPECTANT MOTHERS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1215

HIV – health economics

Ovid MEDLINE(R) 1950 to July Week 1 2010

CS_Q1_HIV_economic_medline_160710

#	Searches	Results
1	costs.tw.	88761
2	cost effective$.tw.	51370
3	economic.tw.	81290
4	or/1-3	192069
5	(metabolic adj cost).tw.	559
6	((energy or oxygen) adj cost).tw.	2197
7	4 not (5 or 6)	191802
8	PREGNANT WOMEN/	4384
9	exp PREGNANCY/	637781
10	(pregnan$ or maternal or mother$).ti,ab.	436064
11	or/8-10	777928
12	exp PREGNANCY COMPLICATIONS, INFECTIOUS/	32513
13	exp HIV/	67792
14	exp HIV INFECTIONS/	192114
15	exp HIV SERONEGATIVITY/	2798
16	exp HIV SEROPOSITIVITY/	18483
17	exp HIV SEROPREVALENCE/	2908

18	exp HIV ANTIBODIES/	8509
19	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	187038
20	VIRAL LOAD/	14109
21	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	21833
22	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE/	12094
23	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	9684
24	or/12-23	290923
25	and/11,24	41897
26	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	6586
27	or/25-26	41897
28	exp CESAREAN SECTION/	29785
29	(cesar#an$ or caesar#an$).ti,ab.	33038
30	(deliver$ adj3 abdom$).ti,ab.	676
31	(c section$ or c?section$).ti,ab.	456
32	or/28-31	43295
33	exp LABOR, OBSTETRIC/	36895
34	NATURAL CHILDBIRTH/	1778
35	(vagina$ adj3 (deliver$ or birth)).ti,ab.	9996
36	or/33-35	45421
37	or/32,36	78665
38	INFECTIOUS DISEASE TRANSMISSION, VERTICAL/	9441
39	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	15078
40	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	12493
41	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	51310
42	or/38-41	69882
43	and/27,37,42	1159
44	limit 43 to english language	950
45	limit 44 to animals	40
46	limit 44 to (animals and humans)	19
47	45 not 46	21
48	44 not 47	929
49	and/7,48	52
50	limit 49 to yr="2003 -Current"	22

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_Q1_HIV_economic_cctr_160710

#	Searches	Results
1	costs.tw.	6200
2	cost effective$.tw.	4915
3	economic.tw.	2752
4	or/1-3	10398
5	(metabolic adj cost).tw.	42
6	((energy or oxygen) adj cost).tw.	197
7	4 not (5 or 6)	10384
8	PREGNANT WOMEN/	44
9	exp PREGNANCY/	12603
10	(pregnan$ or maternal or mother$).ti,ab.	15743
11	or/8-10	20129
12	exp PREGNANCY COMPLICATIONS, INFECTIOUS/	692
13	exp HIV/	1758
14	exp HIV INFECTIONS/	5105
15	exp HIV SERONEGATIVITY/	100
16	exp HIV SEROPOSITIVITY/	425
17	exp HIV SEROPREVALENCE/	17
18	exp HIV ANTIBODIES/	162
19	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	6209
20	VIRAL LOAD/	1037
21	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	1353
22	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE/	572
23	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	482
24	or/12-23	8147
25	and/11,24	953
26	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	313
27	or/25-26	953
28	exp CESAREAN SECTION/	1760
29	(cesar#an$ or caesar#an$).ti,ab.	3795
30	(deliver$ adj3 abdom$).ti,ab.	46
31	(c section$ or c?section$).ti,ab.	29

32	or/28-31	3973
33	exp LABOR, OBSTETRIC/	1535
34	NATURAL CHILDBIRTH/	28
35	(vagina$ adj3 (deliver$ or birth)).ti,ab.	858
36	or/33-35	2174
37	or/32,36	5516
38	INFECTIOUS DISEASE TRANSMISSION, VERTICAL/	250
39	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	477
40	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	454
41	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	2824
42	or/38-41	3234
43	and/27,37,42	55
44	and/7,43	1
45	limit 44 to yr="2003 -Current"	1

EBM Reviews - Health Technology Assessment 3rd Quarter 2010

CS_Q1_HIV_economic_hta_160710

#	Searches	Results
1	PREGNANT WOMEN/	3
2	exp PREGNANCY/	127
3	(pregnan$ or maternal or mother$).tw.	287
4	or/1-3	295
5	exp PREGNANCY COMPLICATIONS, INFECTIOUS/	4
6	exp HIV/	24
7	exp HIV INFECTIONS/	43
8	exp HIV SERONEGATIVITY/	0
9	exp HIV SEROPOSITIVITY/	3
10	exp HIV SEROPREVALENCE/	1
11	exp HIV ANTIBODIES/	1
12	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).tw.	80
13	VIRAL LOAD/	2
14	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).tw.	15
15	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE/	1

16	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).tw.	3
17	or/5-16	97
18	and/4,17	11
19	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).tw.	4
20	or/18-19	11
21	exp CESAREAN SECTION/	6
22	(cesar#an$ or caesar#an$).tw.	15
23	(deliver$ adj3 abdom$).tw.	0
24	(c section$ or c?section$).tw.	0
25	or/21-24	15
26	exp LABOR, OBSTETRIC/	12
27	NATURAL CHILDBIRTH/	2
28	(vagina$ adj3 (deliver$ or birth)).tw.	9
29	or/26-28	22
30	or/25,29	29
31	INFECTIOUS DISEASE TRANSMISSION, VERTICAL/	2
32	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).tw.	9
33	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).tw.	11
34	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).tw.	28
35	or/31-34	39
36	and/20,30,35	1
37	limit 36 to yr="2003 -Current"	1

EBM Reviews - NHS Economic Evaluation Database 3rd Quarter 2010

CS_Q1_HIV_economic_nhseed_160710

#	Searches	Results
1	PREGNANT WOMEN/	4
2	exp PREGNANCY/	899
3	(pregnan$ or maternal or mother$).tw.	1372
4	or/1-3	1384
5	exp PREGNANCY COMPLICATIONS, INFECTIOUS/	117
6	exp HIV/	90
7	exp HIV INFECTIONS/	719

8	exp HIV SERONEGATIVITY/	8
9	exp HIV SEROPOSITIVITY/	42
10	exp HIV SEROPREVALENCE/	25
11	exp HIV ANTIBODIES/	15
12	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).tw.	820
13	VIRAL LOAD/	37
14	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).tw.	69
15	ANTIRETROVIRAL THERAPY, HIGHLY ACTIVE/	113
16	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).tw.	63
17	or/5-16	959
18	and/4,17	191
19	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).tw.	57
20	or/18-19	191
21	exp CESAREAN SECTION/	85
22	(cesar#an$ or caesar#an$).tw.	148
23	(deliver$ adj3 abdom$).tw.	2
24	(c section$ or c?section$).tw.	2
25	or/21-24	149
26	exp LABOR, OBSTETRIC/	34
27	NATURAL CHILDBIRTH/	2
28	(vagina$ adj3 (deliver$ or birth)).tw.	69
29	or/26-28	91
30	or/25,29	175
31	INFECTIOUS DISEASE TRANSMISSION, VERTICAL/	35
32	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).tw.	84
33	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).tw.	148
34	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).tw.	214
35	or/31-34	302
36	and/20,30,35	29
37	limit 36 to yr="2003 -Current"	12

EMBASE 1980 to 2010 Week 27

CS_Q1_HIV_economic_embase_160710

#	Searches	Results
1	costs.tw.	74794
2	cost effective$.tw.	47865
3	economic.tw.	63108
4	or/1-3	157349
5	(metabolic adj cost).tw.	432
6	((energy or oxygen) adj cost).tw.	1821
7	4 not (5 or 6)	157148
8	PREGNANT WOMAN/	7244
9	exp PREGNANCY/	196595
10	(pregnan$ or maternal or mother$).ti,ab.	312647
11	or/8-10	370909
12	exp PREGNANCY COMPLICATION/	32583
13	exp HUMAN IMMUNODEFICIENCY VIRUS/	80180
14	exp HUMAN IMMUNODEFICIENCY VIRUS INFECTION/	167105
15	exp SERODIAGNOSIS/	41078
16	HUMAN IMMUNODEFICIENCY VIRUS PREVALENCE/	3562
17	HUMAN IMMUNODEFICIENCY VIRUS ANTIBODY/	3943
18	(HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$).ti,ab.	160338
19	VIRUS LOAD/	20693
20	((viral or virus$) adj3 (load$ or burden$ or titer$ or titre$)).ti,ab.	18958
21	HIGHLY ACTIVE ANTIRETROVIRAL THERAPY/	16275
22	(HAART or highly active anti?retroviral therapy or highly active anti retroviral therapy).ti,ab.	9528
23	or/12-22	303465
24	and/11,23	37476
25	((pregnan$ or maternal or mother$) adj5 (HIV$ or human immuno deficiency virus$ or human immuno?deficiency virus$)).ti,ab.	5401
26	or/24-25	37476
27	CESAREAN SECTION/	28610
28	(cesar#an$ or caesar#an$).ti,ab.	26843
29	(deliver$ adj3 abdom$).ti,ab.	564
30	(c section$ or c?section$).ti,ab.	308
31	or/27-30	35475
32	VAGINAL DELIVERY/	9314

33	NATURAL CHILDBIRTH/	287
34	(vagina$ adj3 (deliver$ or birth)).ti,ab.	8891
35	or/32-34	12958
36	or/31,35	41380
37	VERTICAL TRANSMISSION/	6878
38	((vertical$ or maternal$ or mother$ or feto maternal$ or feto?maternal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	12350
39	((foeto maternal$ or foeto?maternal$ or pregnan$ or perinatal$) adj5 (transmission or transmit$ or infect$)).ti,ab.	9912
40	((baby or babies or infant$ or child$ or neo?nat$ or neo nat$ or newborn$) adj5 (transmission or transmit$ or infect$)).ti,ab.	41078
41	or/37-40	55268
42	and/26,36,41	738
43	limit 42 to english language	620
44	and/7,43	21
45	limit 44 to yr="2003 -Current"	11

Morbidly adherent placenta

Database(s): Ovid MEDLINE(R) 1950 to September Week 3 2010

CS_Q6-7_MAP_medline_041010

Search Strategy:

#	Searches	Results
1	exp CAESAREAN SECTION/	30059
2	(cesar#an$ or caesar#an$).ti,ab.	33438
3	(deliver$ adj3 abdom$).ti,ab.	679
4	(c section$ or c?section$).ti,ab.	465
5	or/1-4	43762
6	exp PLACENTA PREVIA/	1985
7	exp PLACENTA ACCRETA/	959
8	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	3655
9	(morbid$ adhe$ adj3 placenta$).ti,ab.	26
10	or/6-9	4667
11	and/5,10	1329
12	exp ULTRASONOGRAPHY, DOPPLER, COLOR/	13016
13	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	27771
14	exp MAGNETIC RESONANCE IMAGING/	234631
15	(MRI or MTC or MT).ti,ab.	114424
16	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	110509
17	or/12-16	327918
18	and/11,17	110
19	limit 18 to english language	94
20	limit 19 to animals	0
21	limit 19 to (animals and humans)	0
22	20 not 21	0
23	19 not 22	94

Database(s): Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations October 01, 2010

CS_Q6-7_MAP_mip_041010

Search Strategy:

#	Searches	Results
1	(cesar#an$ or caesar#an$).ti,ab.	1352

2	(deliver$ adj3 abdom$).ti,ab.	21
3	(c section$ or c?section$).ti,ab.	19
4	or/1-3	1378
5	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	134
6	(morbid$ adhe$ adj3 placenta$).ti,ab.	4
7	or/5-6	135
8	and/4,7	42
9	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	648
10	(MRI or MTC or MT).ti,ab.	5303
11	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	4828
12	or/9-11	8867
13	and/8,12	0

Database(s): EBM Reviews - Cochrane Central Register of Controlled Trials 3rd Quarter 2010

CS_Q6-7_MAP_cctr_041010

Search Strategy:

#	Searches	Results
1	exp CAESAREAN SECTION/	1765
2	(cesar#an$ or caesar#an$).ti,ab.	3808
3	(deliver$ adj3 abdom$).ti,ab.	47
4	(c section$ or c?section$).ti,ab.	29
5	or/1-4	3987
6	exp PLACENTA PREVIA/	12
7	exp PLACENTA ACCRETA/	4
8	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	69
9	(morbid$ adhe$ adj3 placenta$).ti,ab.	0
10	or/6-9	75
11	and/5,10	23
12	exp ULTRASONOGRAPHY, DOPPLER, COLOR/	402
13	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	1784
14	exp MAGNETIC RESONANCE IMAGING/	3315
15	(MRI or MTC or MT).ti,ab.	2705
16	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	2501

17	or/12-16	7189
18	and/11,17	1

Database(s): EBM Reviews - Cochrane Database of Systematic Reviews 2005 to September 2010, EBM Reviews - Database of Abstracts of Reviews of Effects 3rd Quarter 2010

CS_Q6-7_MAP_cdsrdare_041010

Search Strategy:

#	Searches	Results
1	CAESAREAN SECTION.kw.	38
2	(cesar#an$ or caesar#an$).tw,tx.	547
3	(deliver$ adj3 abdom$).tw,tx.	20
4	(c section$ or c?section$).tw,tx.	4
5	or/1-4	553
6	PLACENTA PREVIA.kw.	1
7	PLACENTA ACCRETA.kw.	1
8	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).tw,tx.	57
9	(morbid$ adhe$ adj3 placenta$).tw,tx.	1
10	or/6-9	57
11	and/5,10	39
12	ULTRASONOGRAPHY, DOPPLER, COLOR.kw.	6
13	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).tw,tx.	159
14	MAGNETIC RESONANCE IMAGING.kw.	110
15	(MRI or MTC or MT).tw,tx.	3956
16	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).tw,tx.	473
17	or/12-16	4241
18	and/11,17	10

Database(s): EMBASE 1980 to 2010 Week 39

CS_Q6-7_MAP_embase_041010

Search Strategy:

#	Searches	Results
1	CESAREAN SECTION/	43528
2	(cesar#an$ or caesar#an$).ti,ab.	39629

3	(deliver$ adj3 abdom$).ti,ab.	763
4	(c section$ or c?section$).ti,ab.	608
5	or/1-4	53958
6	PLACENTA PREVIA/	2842
7	PLACENTA ACCRETA/ or PLACENTA INCRETA/	1410
8	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	4104
9	(morbid$ adhe$ adj3 placenta$).ti,ab.	50
10	or/6-9	5559
11	and/5,10	1854
12	COLOR ULTRASOUND FLOWMETRY/	17254
13	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	33207
14	exp nuclear magnetic resonance imaging/	341147
15	(MRI or MTC or MT).ti,ab.	143679
16	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	127644
17	or/12-16	432972
18	and/11,17	182
19	limit 18 to english language	162

Tuesday, October 05, 2010 6:17:21 AM

CINAHL with Full Text

CS_Q6-7_MAP_cinahl_051010

#	Query	Limiters/Expanders	Last Run Via	Results
S21	S12 and S20	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	16
S20	S13 or S14 or S15 or S16 or S17 or S18 or S19	Search modes - Boolean/Phrase	Interface - EBSCOhost Search	27930

			Screen - Advanced Search Database - CINAHL with Full Text	
S19	AB (magnetic resonance N3 imag*) or AB (NMR* N3 imag*) or AB (magnetic resonance N3 tomograph*) or AB (NMR* N3 tomograph*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6604
S18	TI (magnetic resonance N3 imag*) or TI (NMR* N3 imag*) or TI (magnetic resonance N3 tomograph*) or TI (NMR* N3 tomograph*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2750
S17	TI (MRI or MTC or MT) or AB (MRI or MTC or MT)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	7573
S16	MH MAGNETIC RESONANCE IMAGING+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	21992
S15	AB (sonogra* N3 colo#r*) or AB	Search modes -	Interface -	1090

	(sonogra* N3 doppler*) or AB (ultraso* N3 colo#r*) or AB (ultraso* N3 doppler*) or AB (flowmetr* N3 colo#r*) or AB (flowmetr* N3 doppler*)	Boolean/Phrase	EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	
S14	TI (sonogra* N3 colo#r*) or TI (sonogra* N3 doppler*) or TI (ultraso* N3 colo#r*) or TI (ultraso* N3 doppler*) or TI (flowmetr* N3 colo#r*) or TI (flowmetr* N3 doppler*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	372
S13	MH ULTRASONOGRAPHY, DOPPLER, COLOR+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	749
S12	S5 and S11	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	166
S11	S6 or S7 or S8 or S9 or S10	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full	398

			Text	
S10	TI (morbid* adhe* N3 placenta*) or AB (morbid* adhe* N3 placenta*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2
S9	AB (placenta* N3 pr#evia) or AB (placenta* N3 low*) or AB (placenta* N3 "cervical os") or AB (placenta* N3 accreta) or AB (placenta* N3 increta) or AB (placenta* N3 percreta) or AB (placenta* N3 invas*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	197
S8	TI (placenta* N3 pr#evia) or TI (placenta* N3 low*) or TI (placenta* N3 "cervical os") or TI (placenta* N3 accreta) or TI (placenta* N3 increta) or TI (placenta* N3 percreta) or TI (placenta* N3 invas*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	141
S7	MH PLACENTA ACCRETA	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	107
S6	MH PLACENTA PRAEVIA	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database -	168

			CINAHL with Full Text	
S5	S1 or S2 or S3 or S4	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6637
S4	TI (c-section* or c section*) or AB (c-section* or c section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	186
S3	TI (deliver* N3 abdom*) or AB (deliver* N3 abdom*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	45
S2	TI (cesar?an* or caesar?an*) or AB (cesar?an* or caesar?an*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4297
S1	MH CESAREAN SECTION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced	5159

			Search Database - CINAHL with Full Text	

Morbidly adherent placenta – health economics

Database(s): Ovid MEDLINE(R) 1950 to September Week 3 2010

CS_Q6-7_MAP_economic_medline_051010

Search Strategy:

#	Searches	Results
1	costs.tw.	90314
2	cost effective$.tw.	52358
3	economic.tw.	82699
4	or/1-3	195386
5	(metabolic adj cost).tw.	570
6	((energy or oxygen) adj cost).tw.	2226
7	4 not (5 or 6)	195111
8	exp CAESAREAN SECTION/	30059
9	(cesar#an$ or caesar#an$).ti,ab.	33438
10	(deliver$ adj3 abdom$).ti,ab.	679
11	(c section$ or c?section$).ti,ab.	465
12	or/8-11	43762
13	exp PLACENTA PREVIA/	1985
14	exp PLACENTA ACCRETA/	959
15	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	3655
16	(morbid$ adhe$ adj3 placenta$).ti,ab.	26
17	or/13-16	4667
18	and/12,17	1329
19	exp ULTRASONOGRAPHY, DOPPLER, COLOR/	13016
20	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	27771
21	exp MAGNETIC RESONANCE IMAGING/	234631
22	(MRI or MTC or MT).ti,ab.	114424
23	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	110509
24	or/19-23	327918
25	and/18,24	110
26	limit 25 to english language	94

27	limit 26 to animals	0
28	limit 26 to (animals and humans)	0
29	27 not 28	0
30	26 not 29	94
31	and/7,30	1

Database(s): EBM Reviews - Cochrane Central Register of Controlled Trials 3rd Quarter 2010

CS_Q6-7_MAP_economic_cctr_051010

Search Strategy:

#	Searches	Results
1	costs.tw.	6276
2	cost effective$.tw.	4978
3	economic.tw.	2792
4	or/1-3	10537
5	(metabolic adj cost).tw.	42
6	((energy or oxygen) adj cost).tw.	197
7	4 not (5 or 6)	10523
8	exp CAESAREAN SECTION/	1765
9	(cesar#an$ or caesar#an$).ti,ab.	3808
10	(deliver$ adj3 abdom$).ti,ab.	47
11	(c section$ or c?section$).ti,ab.	29
12	or/8-11	3987
13	exp PLACENTA PREVIA/	12
14	exp PLACENTA ACCRETA/	4
15	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	69
16	(morbid$ adhe$ adj3 placenta$).ti,ab.	0
17	or/13-16	75
18	and/12,17	23
19	exp ULTRASONOGRAPHY, DOPPLER, COLOR/	402
20	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	1784
21	exp MAGNETIC RESONANCE IMAGING/	3315
22	(MRI or MTC or MT).ti,ab.	2705
23	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	2501
24	or/19-23	7189
25	and/18,24	1

26	and/7,25	0

Database(s): EBM Reviews - Health Technology Assessment 4th Quarter 2010

CS_Q6-7_MAP_economic_hta_051010

Search Strategy:

#	Searches	Results
1	exp CAESAREAN SECTION/	6
2	(cesar#an$ or caesar#an$).tw.	15
3	(deliver$ adj3 abdom$).tw.	0
4	(c section$ or c?section$).tw.	0
5	or/1-4	15
6	exp PLACENTA PREVIA/	0
7	exp PLACENTA ACCRETA/	0
8	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).tw.	1
9	(morbid$ adhe$ adj3 placenta$).tw.	0
10	or/6-9	1
11	and/5,10	0
12	exp ULTRASONOGRAPHY, DOPPLER, COLOR/	3
13	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).tw.	28
14	exp MAGNETIC RESONANCE IMAGING/	145
15	(MRI or MTC or MT).tw.	122
16	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).tw.	153
17	or/12-16	208
18	and/11,17	0

Database(s): EBM Reviews - NHS Economic Evaluation Database 4th Quarter 2010

CS_Q6-7_MAP_economic_nhseed_051010

Search Strategy:

#	Searches	Results
1	exp CAESAREAN SECTION/	90
2	(cesar#an$ or caesar#an$).tw.	150
3	(deliver$ adj3 abdom$).tw.	2
4	(c section$ or c?section$).tw.	2
5	or/1-4	151

6	exp PLACENTA PREVIA/	2
7	exp PLACENTA ACCRETA/	0
8	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).tw.	5
9	(morbid$ adhe$ adj3 placenta$).tw.	0
10	or/6-9	5
11	and/5,10	4
12	exp ULTRASONOGRAPHY, DOPPLER, COLOR/	20
13	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).tw.	101
14	exp MAGNETIC RESONANCE IMAGING/	232
15	(MRI or MTC or MT).tw.	123
16	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).tw.	253
17	or/12-16	400
18	and/11,17	0

Database(s): EMBASE 1980 to 2010 Week 39

CS_Q6-7_MAP_economic_embase_051010

Search Strategy:

#	Searches	Results
1	costs.tw.	112826
2	cost effective$.tw.	65987
3	economic.tw.	99143
4	or/1-3	239692
5	(metabolic adj cost).tw.	620
6	((energy or oxygen) adj cost).tw.	2451
7	4 not (5 or 6)	239387
8	CESAREAN SECTION/	43528
9	(cesar#an$ or caesar#an$).ti,ab.	39629
10	(deliver$ adj3 abdom$).ti,ab.	763
11	(c section$ or c?section$).ti,ab.	608
12	or/8-11	53958
13	PLACENTA PREVIA/	2842
14	PLACENTA ACCRETA/ or PLACENTA INCRETA/	1410
15	(placenta$ adj3 (pr?evia or low$ or cervical os or accreta or increta or percreta or invas$)).ti,ab.	4104
16	(morbid$ adhe$ adj3 placenta$).ti,ab.	50
17	or/13-16	5559

18	and/12,17	1854
19	COLOR ULTRASOUND FLOWMETRY/	17254
20	((sonogra$ or ultraso$ or flowmetr$) adj3 (colo?r$ or doppler$)).ti,ab.	33207
21	exp nuclear magnetic resonance imaging/	341147
22	(MRI or MTC or MT).ti,ab.	143679
23	((magnetic resonance or NMR$ or magneti#ation transfer or spin or chemical shift) adj2 (imag$ or tomograph$)).ti,ab.	127644
24	or/19-23	432972
25	and/18,24	182
26	limit 25 to english language	162
27	and/7,26	2

Maternal request

Ovid MEDLINE(R) 1950 to July Week 2 2010

CS_Q4_maternal_request_medline_260710

#	Searches	Results
1	exp CAESAREAN SECTION/	29798
2	(caesar#an$ or cesar#an$).ti,ab.	33059
3	(deliver$ adj3 abdom$).ti,ab.	676
4	(c section$ or c?section$).ti,ab.	457
5	or/1-4	43318
6	SURGICAL PROCEDURES, ELECTIVE/	5792
7	PATIENT PREFERENCE/	295
8	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	42535
9	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	1634201
10	exp FEAR/	20584
11	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	402
12	to#ophobi$.ti,ab.	10
13	exp DYSTOCIA/	2940
14	LABOR PAIN/	371
15	STRESS DISORDERS, POST-TRAUMATIC/	15229
16	dystoci$.ti,ab.	2355
17	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	8392
18	SPOUSE ABUSE/	4623
19	exp CRIME VICTIMS/	3512
20	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	14558
21	or/6-20	1731678
22	PATIENT EDUCATION AS TOPIC/	59153
23	PRENATAL CARE/	17070
24	exp COUNSELING/	27515
25	exp DECISION MAKING/	91455
26	exp CHOICE BEHAVIOR/	29060
27	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE/	50195
28	exp PATIENT CARE TEAM/	45609
29	(de brief$ or de?brief$).ti,ab.	1088
30	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$	1487

	or companion$))).ti,ab.	
31	psychoprophyla$.ti,ab.	465
32	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	17122
33	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	12984
34	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	4210
35	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	135026
36	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	1282
37	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	120421
~~38~~	or/22-37	520241
~~39~~	and/5,21,38	1111
~~40~~	limit 39 to english language	967
~~41~~	limit 40 to animals	10
~~42~~	limit 40 to (animals and humans)	3
~~43~~	41 not 42	7
~~44~~	40 not 43	960
45	limit 44 to yr="2003 -Current"	518

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations July 23, 2010

CS_Q4_maternal_request_medline_in-process_260710

#	Searches	Results
1	(caesar#an$ or cesar#an$).ti,ab.	1322
2	(deliver$ adj3 abdom$).ti,ab.	22
3	(c section$ or c?section$).ti,ab.	18
4	or/1-3	1345
5	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	1707
6	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	149819
7	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	21
8	to#ophobi$.ti,ab.	1
9	dystoci$.ti,ab.	103

10	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	309
11	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	442
12	or/5-11	152013
13	(de brief$ or de?brief$).ti,ab.	49
14	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab.	90
15	psychoprophyla$.ti,ab.	4
16	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	667
17	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	639
18	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	169
19	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	5003
20	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	29
21	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	4238
22	or/13-21	10354
23	and/4,12,22	36
24	limit 23 to yr="2003 -Current"	25

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_Q4_maternal_request_cctr_260710

#	Searches	Results
1	exp CAESAREAN SECTION/	1760
2	(caesar#an$ or cesar#an$).ti,ab.	3795
3	(deliver$ adj3 abdom$).ti,ab.	46
4	(c section$ or c?section$).ti,ab.	29
5	or/1-4	3973
6	SURGICAL PROCEDURES, ELECTIVE/	979
7	PATIENT PREFERENCE/	24
8	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	5768
9	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	54555

10	exp FEAR/	922
11	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	7
12	to#ophobi$.ti,ab.	0
13	exp DYSTOCIA/	61
14	LABOR PAIN/	54
15	STRESS DISORDERS, POST-TRAUMATIC/	510
16	dystoci$.ti,ab.	92
17	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	877
18	SPOUSE ABUSE/	84
19	exp CRIME VICTIMS/	74
20	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	449
21	or/6-20	62148
22	PATIENT EDUCATION AS TOPIC/	4263
23	PRENATAL CARE/	649
24	exp COUNSELING/	1871
25	exp DECISION MAKING/	1518
26	exp CHOICE BEHAVIOR/	574
27	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE/	2183
28	exp PATIENT CARE TEAM/	823
29	(de brief$ or de?brief$).ti,ab.	80
30	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab.	168
31	psychoprophyla$.ti,ab.	8
32	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	2195
33	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	750
34	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	281
35	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	20940
36	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	112
37	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	24533
38	or/22-37	52681
39	and/5,21,38	118
40	limit 39 to yr="2003 -Current"	47

EBM Reviews - Cochrane Database of Systematic Reviews 2005 to June 2010, EBM Reviews - Database of Abstracts of Reviews of Effects 2nd Quarter 2010

CS_Q4_maternal_request_cdsrdare_260710

#	Searches	Results
1	CAESAREAN SECTION.kw.	38
2	(caesar#an$ or cesar#an$).tw,tx.	531
3	(deliver$ adj3 abdom$).tw,tx.	20
4	(c section$ or c?section$).tw,tx.	4
5	or/1-4	537
6	SURGICAL PROCEDURES, ELECTIVE.kw.	52
7	PATIENT PREFERENCE.kw.	0
8	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).tw,tx.	1588
9	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).tw,tx.	8810
10	FEAR.kw.	12
11	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).tw,tx.	11
12	to#ophobi$.tw,tx.	0
13	DYSTOCIA.kw.	11
14	LABOR PAIN.kw.	6
15	STRESS DISORDERS, POST-TRAUMATIC.kw.	46
16	dystoci$.tw,tx.	60
17	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).tw,tx.	316
18	SPOUSE ABUSE.kw.	12
19	CRIME VICTIMS.kw.	1
20	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).tw,tx.	113
21	or/6-20	9191
22	PATIENT EDUCATION AS TOPIC.kw.	301
23	PRENATAL CARE.kw.	57
24	COUNSELING.kw.	141
25	DECISION MAKING.kw.	64
26	CHOICE BEHAVIOR.kw.	9
27	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE.kw.	113
28	PATIENT CARE TEAM.kw.	52

29	(de brief$ or de?brief$).tw,tx.	36
30	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).tw,tx.	126
31	psychoprophyla$.tw,tx.	2
32	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).tw,tx.	967
33	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).tw,tx.	297
34	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).tw,tx.	125
35	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).tw,tx.	4277
36	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).tw,tx.	42
37	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).tw,tx.	2573
38	or/22-37	6370
39	and/5,21,38	265

EMBASE 1980 to 2010 Week 28

CS_Q4_maternal_request_embase_260710

#	Searches	Results
1	CESAREAN SECTION/	28658
2	(caesar#an$ or cesar#an$).ti,ab.	26876
3	(deliver$ adj3 abdom$).ti,ab.	564
4	(c section$ or c?section$).ti,ab.	308
5	or/1-4	35526
6	ELECTIVE SURGERY/	12333
7	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	36325
8	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	1275034
9	exp FEAR/	66100
10	TOKOPHOBIA/	2
11	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	257
12	to#ophobi$.ti,ab.	11
13	exp DYSTOCIA/	2197
14	LABOR PAIN/	918

15	POSTTRAUMATIC STRESS DISORDER/	17086
16	dystoci$.ti,ab.	1429
17	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	6441
18	exp DOMESTIC VIOLENCE/	19042
19	SEXUAL ABUSE/	8167
20	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	12154
21	or/6-20	1412927
22	PATIENT EDUCATION/	31434
23	exp PRENATAL CARE/	59946
24	exp COUNSELING/	53006
25	PATIENT DECISION MAKING/	2068
26	exp PATIENT CARE/	266960
27	PSYCHOLOGICAL DEBRIEFING/	20
28	DOULA/	10
29	(de brief$ or de?brief$).ti,ab.	793
30	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab.	792
31	psychoprophyla$.ti,ab.	42
32	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	16336
33	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	10922
34	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	3400
35	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	115784
36	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	1144
37	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	112905
38	or/22-37	593356
39	and/5,21,38	2133
40	limit 39 to english language	1898
41	limit 40 to yr="2003 -Current"	1038

Tuesday, July 27, 2010 6:51:27 AM

CINAHL with Full Text

CS_Q4_maternal_request_cinahl_270710

#	Query	Limiters/Expanders	Last Run Via	Results
S49	S5 and S27 and S47	Limiters - Published Date from: 20030101-20101231; Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	133
S48	S5 and S27 and S47	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	467
S47	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	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	380957
S46	AB (maternal N3 educat*) or AB (maternal N3 inform*) or AB (maternal N3 choice) or AB (mother* N3 educat*) or AB (mother* N3 inform*) or AB (mother* N3 choice) or AB (patient* N3 educat*) or AB (patient* N3 inform*) or AB (patient* N3 choice)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	16889

S45	TI (maternal N3 educat*) or TI (maternal N3 inform*) or TI (maternal N3 choice) or TI (mother* N3 educat*) or TI (mother* N3 inform*) or TI (mother* N3 choice) or TI (patient* N3 educat*) or TI (patient* N3 inform*) or TI (patient* N3 choice)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6134
S44	AB (antenatal N3 educat*) or AB (antenatal N3 inform*) or AB (prenatal N3 educat*) or AB (prenatal N3 inform*) or AB (perinatal N3 educat*) or AB (perinatal N3 inform*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	592
S43	TI (antenatal N3 educat*) or TI (antenatal N3 inform*) or TI (prenatal N3 educat*) or TI (prenatal N3 inform*) or TI (perinatal N3 educat*) or TI (perinatal N3 inform*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	289
S42	AB (inter-disciplin* or inter#disciplin* or multi-disciplin* or multi#disciplin)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4947
S41	TI (inter-disciplin* or inter#disciplin* or multi-disciplin* or multi#disciplin)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL	2107

			with Full Text	
S40	AB (psycholog* or psychosoci* or psychotherap* or support* or counsel* or asess* or therap*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	224557
S39	TI (psycholog* or psychosoci* or psychotherap* or support* or counsel* or asess* or therap*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	102837
S38	TI (psychoprophyla*) or AB (psychoprophyla*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	10
S37	AB (doula*) or AB (labo#r N3 support*) or AB (labo#r N3 companion*) or AB (birth* N3 support*) or AB (birth* N3 companion*) or AB (childbirth* N3 support*) or AB (childbirth* N3 companion*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	456
S36	TI (doula*) or TI (labo#r N3 support*) or TI (labo#r N3 companion*) or TI (birth* N3 support*) or TI (birth* N3 companion*) or TI (childbirth* N3 support*) or TI (childbirth* N3 companion*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search	331

			Database - CINAHL with Full Text	
S35	TI (de-brief* or de#brief*) or AB (de-brief* or de#brief*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	648
S34	MH DOULAS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	273
S33	MH MULTIDISCIPLINARY CARE TEAM+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	15527
S32	MH HEALTH KNOWLEDGE	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	9875
S31	MH DECISION MAKING+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	35984

			Advanced Search Database - CINAHL with Full Text	
S30	MH COUNSELING+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	11708
S29	MH PRENATAL CARE	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6007
S28	MH PATIENT EDUCATION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	38163
S27	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	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	278839
S26	AB (violen* N3 sex*) or AB (violen* N3 domestic) or AB (violen* N3	Search modes - Boolean/Phrase	Interface - EBSCOhost	2899

	spous*) or AB (violen* N3 victim*) or AB (violen* N3 suffer*)		Search Screen - Advanced Search Database - CINAHL with Full Text	
S25	TI (violen* N3 sex*) or TI (violen* N3 domestic) or TI (violen* N3 spous*) or TI (violen* N3 victim*) or TI (violen* N3 suffer*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2112
S24	AB (abuse* N3 sex*) or AB (abuse* N3 domestic) or AB (abuse* N3 spous*) or AB (abuse* N3 victim*) or AB (abuse* N3 suffer*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	3275
S23	TI (abuse* N3 sex*) or TI (abuse* N3 domestic) or TI (abuse* N3 spous*) or TI (abuse* N3 victim*) or TI (abuse* N3 suffer*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2044
S22	MH SEXUAL ABUSE+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6268

S21	MH DOMESTIC VIOLENCE+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	16359
S20	AB (pain* or trauma* or difficult* or stress* or PTSD or distress* or anxi*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	147432
S19	TI (pain* or trauma* or difficult* or stress* or PTSD or distress* or anxi*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	80575
S18	MH STRESS DISORDERS, POST-TRAUMATIC+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	5433
S17	MH DYSTOCIA+ or MH LABOR PAIN	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL	1486

			with Full Text	
S16	TI (to?ophobia*) or AB (to?ophobia*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2
S15	AB (phobia* N3 childbirth*) or AB (phobia* N3 birth*) or AB (phobia* N3 labo#r)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S14	TI (phobia* N3 childbirth*) or TI (phobia* N3 birth*) or TI (phobia* N3 labo#r)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	0
S13	AB (fear* N3 childbirth*) or AB (fear* N3 birth*) or AB (fear* N3 labo#r)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	85
S12	TI (fear* N3 childbirth*) or TI (fear* N3 birth*) or TI (fear* N3 labo#r)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search	54

			Database - CINAHL with Full Text	
S11	MH FEAR+ or MH PHOBIC DISORDERS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4965
S10	AB (plan* or elect* or schedule* or pre-arrange* or prearrange* or non-emergency or demand*)	Limiters - Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	27919
S9	TI (plan* or elect* or schedule* or pre-arrange* or prearrange* or non-emergency or demand*)	Limiters - Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	20621
S8	AB (choice* or choose* or request* or prefer* or decide* or decision* or seek*)	Limiters - Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25557
S7	TI (choice* or choose* or request* or prefer* or decide* or decision* or seek*)	Limiters - Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen -	13588

			Advanced Search Database - CINAHL with Full Text	
S6	MH SURGERY, ELECTIVE	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1153
S5	S1 or S2 or S3 or S4	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6507
S4	TI (c-section* or c#section*) or AB (c-section* or c#section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	182
S3	TI (deliver* N3 abdom*) or AB (deliver* N3 abdom*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	44
S2	TI (c#esar?an*) or AB (c#esar?an*)	Search modes - Boolean/Phrase	Interface - EBSCOhost	4207

			Search Screen - Advanced Search Database - CINAHL with Full Text	
S1	MH CESAREAN SECTION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	5058

PsycINFO 1967 to July Week 3 2010

CS_Q4_maternal_request_psychinfo_260710

#	Searches	Results
1	(caesar#an$ or cesar#an$).ti,ab,id.	810
2	(deliver$ adj3 abdom$).ti,ab,id.	1
3	(c section$ or c?section$).ti,ab,id.	40
4	or/1-3	828
5	exp PREFERENCES/	17627
6	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab,id.	11912
7	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab,id.	212987
8	exp PHOBIAS/	9201
9	exp FEAR/	12212
10	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab,id.	217
11	to#ophobi$.ti,ab,id.	3
12	POSTTRAUMATIC STRESS DISORDER/	15347
13	dystoci$.ti,ab,id.	16
14	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab,id.	2263
15	DOMESTIC VIOLENCE/	7309

16	BATTERED FEMALES/	2603
17	exp SEXUAL ABUSE/	19136
18	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab,id.	28229
19	or/5-18	307450
20	CLIENT EDUCATION/	2492
21	exp PRENATAL CARE/	1119
22	exp COUNSELING/	55570
23	exp DECISION MAKING/	44838
24	HEALTH KNOWLEDGE/	3808
25	INTERDISCIPLINARY TREATMENT APPROACH/	5156
26	"DEBRIEFING (PSYCHOLOGICAL)"/	203
27	(de brief$ or de?brief$).ti,ab,id.	1510
28	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab,id.	470
29	psychoprophyla$.ti,ab,id.	73
30	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab,id.	37761
31	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab,id.	15298
32	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab,id.	975
33	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab,id.	35972
34	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab,id.	153
35	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab,id.	23981
36	or/20-35	206164
37	and/4,19,36	87
38	limit 37 to english language	86
39	limit 38 to yr="2003 -Current"	63

AMED (Allied and Complementary Medicine) 1985 to July 2010

CS_Q4_maternal_request_amed_260710

#	Searches	Results
1	CESAREAN SECTION/	7
2	(caesar#an$ or cesar#an$).ti,ab,et.	63

3	(deliver$ adj3 abdom$).ti,ab,et.	2
4	(c section$ or c?section$).ti,ab,et.	0
5	or/1-4	66
6	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab,et.	1801
7	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab,et.	26394
8	exp FEAR/	222
9	PHOBIC DISORDERS/	130
10	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab,et.	9
11	to#ophobi$.ti,ab,et.	0
12	LABOR COMPLICATIONS/	51
13	STRESS DISORDERS POST TRAUMATIC/	350
14	dystoci$.ti,ab,et.	3
15	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab,et.	247
16	exp VIOLENCE/	645
17	SEXUAL ABUSE/	69
18	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab,et.	365
19	or/6-18	29580
20	exp PATIENT EDUCATION/	1435
21	PRENATAL CARE/	55
22	exp COUNSELING/	1501
23	exp DECISION MAKING/	2548
24	exp CHOICE BEHAVIOR/	490
25	PATIENT CARE TEAM/	1453
26	(de brief$ or de?brief$).ti,ab,et.	55
27	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab,et.	27
28	psychoprophyla$.ti,ab,et.	1
29	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab,et.	1594
30	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab,et.	1211
31	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab,et.	27
32	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab,et.	6633
33	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or	12

	decision$ or therap$ or psychotherap$)).ti,ab,et.	
34	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab,et.	4207
35	or/20-34	17773
36	and/5,19,35	3

Maternal request – health economics

Ovid MEDLINE(R) 1950 to July Week 4 2010

CS_Q4_maternal_request_economic_medline_100810

#	Searches	Results
1	costs.tw.	89224
2	cost effective$.tw.	51626
3	economic.tw.	81703
4	or/1-3	193020
5	(metabolic adj cost).tw.	562
6	((energy or oxygen) adj cost).tw.	2211
7	4 not (5 or 6)	192748
8	exp CAESAREAN SECTION/	29844
9	(caesar#an$ or cesar#an$).ti,ab.	33137
10	(deliver$ adj3 abdom$).ti,ab.	678
11	(c section$ or c?section$).ti,ab.	459
12	or/8-11	43409
13	SURGICAL PROCEDURES, ELECTIVE/	5822
14	PATIENT PREFERENCE/	314
15	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	42700
16	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	1638866
17	exp FEAR/	20663
18	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	403
19	to#ophobi$.ti,ab.	10
20	exp DYSTOCIA/	2943
21	LABOR PAIN/	371
22	STRESS DISORDERS, POST-TRAUMATIC/	15358
23	dystoci$.ti,ab.	2358
24	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3	8414

	(pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	
25	SPOUSE ABUSE/	4645
26	exp CRIME VICTIMS/	3549
27	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	14612
28	or/13-27	1736760
29	PATIENT EDUCATION AS TOPIC/	59350
30	PRENATAL CARE/	17113
31	exp COUNSELING/	27593
32	exp DECISION MAKING/	91778
33	exp CHOICE BEHAVIOR/	29182
34	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE/	50481
35	exp PATIENT CARE TEAM/	45724
36	(de brief$ or de?brief$).ti,ab.	1095
37	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab.	1492
38	psychoprophyla$.ti,ab.	465
39	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	17183
40	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	13041
41	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	4226
42	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	135544
43	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	1290
44	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	120840
45	or/29-44	522080
46	and/12,28,45	1112
47	limit 46 to english language	968
48	limit 47 to animals	10
49	limit 47 to (animals and humans)	3
50	48 not 49	7
51	47 not 50	961
52	limit 51 to yr="2003 -Current"	519
53	and/7,52	18

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_Q4_maternal_request_economic_cctr_100810

#	Searches	Results
1	costs.tw.	6200
2	cost effective$.tw.	4915
3	economic.tw.	2752
4	or/1-3	10398
5	(metabolic adj cost).tw.	42
6	((energy or oxygen) adj cost).tw.	197
7	4 not (5 or 6)	10384
8	exp CAESAREAN SECTION/	1760
9	(caesar#an$ or cesar#an$).ti,ab.	3795
10	(deliver$ adj3 abdom$).ti,ab.	46
11	(c section$ or c?section$).ti,ab.	29
12	or/8-11	3973
13	SURGICAL PROCEDURES, ELECTIVE/	979
14	PATIENT PREFERENCE/	24
15	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	5768
16	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	54555
17	exp FEAR/	922
18	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	7
19	to#ophobi$.ti,ab.	0
20	exp DYSTOCIA/	61
21	LABOR PAIN/	54
22	STRESS DISORDERS, POST-TRAUMATIC/	510
23	dystoci$.ti,ab.	92
24	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	877
25	SPOUSE ABUSE/	84
26	exp CRIME VICTIMS/	74
27	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	449
28	or/13-27	62148
29	PATIENT EDUCATION AS TOPIC/	4263
30	PRENATAL CARE/	649
31	exp COUNSELING/	1871

32	exp DECISION MAKING/	1518
33	exp CHOICE BEHAVIOR/	574
34	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE/	2183
35	exp PATIENT CARE TEAM/	823
36	(de brief$ or de?brief$).ti,ab.	80
37	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab.	168
38	psychoprophyla$.ti,ab.	8
39	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	2195
40	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	750
41	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	281
42	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	20940
43	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	112
44	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	24533
45	or/29-44	52681
46	and/12,28,45	118
47	limit 46 to yr="2003 -Current"	47
48	and/7,47	0

EBM Reviews - Health Technology Assessment 3rd Quarter 2010

CS_Q4_maternal_request_economic_hta_110810

#	Searches	Results
1	exp CAESAREAN SECTION/	6
2	(caesar#an$ or cesar#an$).tw.	15
3	(deliver$ adj3 abdom$).tw.	0
4	(c section$ or c?section$).tw.	0
5	or/1-4	15
6	SURGICAL PROCEDURES, ELECTIVE/	10
7	PATIENT PREFERENCE/	34
8	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).tw.	161
9	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency	1803

	or demand$).tw.	
10	exp FEAR/	2
11	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).tw.	0
12	to#ophobi$.tw.	0
13	exp DYSTOCIA/	0
14	LABOR PAIN/	0
15	STRESS DISORDERS, POST-TRAUMATIC/	9
16	dystoci$.tw.	0
17	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).tw.	5
18	SPOUSE ABUSE/	4
19	exp CRIME VICTIMS/	0
20	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).tw.	9
21	or/6-20	1921
22	PATIENT EDUCATION AS TOPIC/	43
23	PRENATAL CARE/	15
24	exp COUNSELING/	22
25	exp DECISION MAKING/	58
26	exp CHOICE BEHAVIOR/	6
27	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE/	5
28	exp PATIENT CARE TEAM/	16
29	(de brief$ or de?brief$).tw.	1
30	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).tw.	2
31	psychoprophyla$.tw.	0
32	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).tw.	36
33	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).tw.	39
34	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).tw.	7
35	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).tw.	310
36	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).tw.	1
37	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).tw.	203
38	or/22-37	643
39	and/5,21,38	4
40	limit 39 to yr="2003 -Current"	4

EBM Reviews - NHS Economic Evaluation Database 3rd Quarter 2010

CS_Q4_maternal_request_economic_nhseed_110810

#	Searches	Results
1	exp CAESAREAN SECTION/	85
2	(caesar#an$ or cesar#an$).tw.	148
3	(deliver$ adj3 abdom$).tw.	2
4	(c section$ or c?section$).tw.	2
5	or/1-4	149
6	SURGICAL PROCEDURES, ELECTIVE/	108
7	PATIENT PREFERENCE/	2
8	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).tw.	734
9	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).tw.	3908
10	exp FEAR/	5
11	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).tw.	0
12	to#ophobi$.tw.	0
13	exp DYSTOCIA/	1
14	LABOR PAIN/	0
15	STRESS DISORDERS, POST-TRAUMATIC/	16
16	dystoci$.tw.	5
17	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).tw.	28
18	SPOUSE ABUSE/	9
19	exp CRIME VICTIMS/	6
20	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).tw.	25
21	or/6-20	4413
22	PATIENT EDUCATION AS TOPIC/	286
23	PRENATAL CARE/	124
24	exp COUNSELING/	182
25	exp DECISION MAKING/	565
26	exp CHOICE BEHAVIOR/	82
27	HEALTH KNOWLEDGE, ATTITUDES, PRACTICE/	82
28	exp PATIENT CARE TEAM/	268
29	(de brief$ or de?brief$).tw.	1
30	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).tw.	10

31	psychoprophyla$.tw.	0
32	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).tw.	94
33	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).tw.	149
34	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).tw.	17
35	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).tw.	1212
36	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).tw.	6
37	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).tw.	1003
38	or/22-37	3309
39	and/5,21,38	21
40	limit 39 to yr="2003 -Current"	9

EMBASE 1980 to 2010 Week 31

CS_Q4_maternal_request_economic_embase_110810

#	Searches	Results
1	costs.tw.	110645
2	cost effective$.tw.	64459
3	economic.tw.	97226
4	or/1-3	234990
5	(metabolic adj cost).tw.	611
6	((energy or oxygen) adj cost).tw.	2435
7	4 not (5 or 6)	234691
8	CESAREAN SECTION/	42519
9	(caesar#an$ or cesar#an$).ti,ab.	38678
10	(deliver$ adj3 abdom$).ti,ab.	752
11	(c section$ or c?section$).ti,ab.	567
12	or/8-11	52798
13	ELECTIVE SURGERY/	14048
14	((maternal or mother$ or patient$ or wom#n$) adj3 (choice$ or choose$ or request$ or prefer$ or decide$ or decision$ or seek$)).ti,ab.	50056
15	(plan$ or elect$ or schedule$ or pre?arrange$ or pre arrange$ or non emergency or demand$).ti,ab.	1869035
16	exp FEAR/	95943

17	TOKOPHOBIA/	2
18	((fear$ or phobi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	394
19	to#ophobi$.ti,ab.	13
20	exp DYSTOCIA/	4147
21	LABOR PAIN/	1092
22	POSTTRAUMATIC STRESS DISORDER/	22628
23	dystoci$.ti,ab.	2652
24	((pain$ or trauma$ or difficult$ or stress$ or PTSD or distress$ or anxi$) adj3 (pregnan$ or childbirth$ or birth$ or partu$ or labo?r)).ti,ab.	9593
25	exp DOMESTIC VIOLENCE/	32918
26	SEXUAL ABUSE/	8388
27	((abuse$ or violen$) adj3 (sex$ or domestic or spous$ or victim$ or suffer$)).ti,ab.	17680
28	or/13-27	2070766
29	PATIENT EDUCATION/	69708
30	exp PRENATAL CARE/	84602
31	exp COUNSELING/	75817
32	PATIENT DECISION MAKING/	2117
33	exp PATIENT CARE/	381116
34	PSYCHOLOGICAL DEBRIEFING/	20
35	DOULA/	11
36	(de brief$ or de?brief$).ti,ab.	1371
37	(doula$ or ((labo?r or birth$ or childbirth$ or obstetric) adj3 (support$ or assist$ or companion$))).ti,ab.	1600
38	psychoprophyla$.ti,ab.	475
39	((psycholog$ or psychosoci$ or psychotherap$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	23221
40	((mental health or interdisciplin$ or multi?disciplin$) adj3 (support$ or counsel$ or assess$ or care$ or caring or therap$)).ti,ab.	16433
41	((antenatal or prenatal or perinatal) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	4735
42	((maternal or mother$ or patient$) adj3 (educat$ or inform$ or mental health or support$ or counsel$ or assess$ or knowledge or attitude$)).ti,ab.	163637
43	((antenatal or prenatal or perinatal) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	1483
44	((maternal or mother$ or patient$) adj3 (choice$ or choose$ or decide$ or decision$ or therap$ or psychotherap$)).ti,ab.	147680
45	or/29-44	857057
46	and/12,28,45	2652
47	limit 46 to english language	2285

48	limit 47 to yr="2003 -Current"	1286
49	and/7,48	45

Decision to delivery interval

Database(s): Ovid MEDLINE(R) 1950 to November Week 3 2010

CS_Q8_DDI_medline_071210

Search Strategy:

#	Searches	Results
1	exp CESAREAN SECTION/	30342
2	c?esar#an$.ti,ab.	33866
3	(deliver$ adj3 abdom$).ti,ab.	686
4	(c section$ or c?section$).ti,ab.	475
5	or/1-4	44269
6	EMERGENCIES/ or exp EMERGENCY MEDICAL SERVICES/	105359
7	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	166338
8	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	3627
9	LABOR STAGE, FIRST/ or LABOR STAGE, SECOND/	1629
10	((first or "1st" or second or "2nd") adj stage$).ti,ab.	14077
11	or/6-10	238664
12	TIME FACTORS/	887477
13	exp DECISION MAKING/	95276
14	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	4440
15	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	8452
16	DDI.ti,ab.	1443
17	or/12-16	990289
18	and/5,11,17	813
19	limit 18 to english language	721
20	limit 19 to animals	8
21	limit 19 to (animals and humans)	2
22	20 not 21	6
23	19 not 22	715
24	limit 23 to yr="2003 -Current"	300

Database(s): Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations December 06, 2010

CS_Q8_DDI_mip_071210

Search Strategy:

#	Searches	Results
1	c?esar#an$.ti,ab.	1433
2	(deliver$ adj3 abdom$).ti,ab.	23
3	(c section$ or c?section$).ti,ab.	22
4	or/1-3	1461
5	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	7973
6	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	149
7	((first or "1st" or second or "2nd") adj stage$).ti,ab.	1217
8	or/5-7	9292
9	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	222
10	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	393
11	DDI.ti,ab.	49
12	or/9-11	656
13	and/4,8,12	17
14	limit 13 to yr="2003 -Current"	15

Database(s): EBM Reviews - Cochrane Central Register of Controlled Trials 4th Quarter 2010

CS_Q8_DDI_cctr_071210

Search Strategy:

#	Searches	Results
1	exp CESAREAN SECTION/	1784
2	c?esar#an$.ti,ab.	3871
3	(deliver$ adj3 abdom$).ti,ab.	49
4	(c section$ or c?section$).ti,ab.	29
5	or/1-4	4051
6	EMERGENCIES/ or exp EMERGENCY MEDICAL SERVICES/	2065
7	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	25632

8	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	266
9	LABOR STAGE, FIRST/ or LABOR STAGE, SECOND/	229
10	((first or "1st" or second or "2nd") adj stage$).ti,ab.	860
11	or/6-10	26754
12	TIME FACTORS/	39150
13	exp DECISION MAKING/	1575
14	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	173
15	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	1261
16	DDI.ti,ab.	184
17	or/12-16	41858
18	and/5,11,17	364
19	limit 18 to yr="2003 -Current"	122

Database(s): EBM Reviews - Cochrane Database of Systematic Reviews 2005 to November 2010, EBM Reviews - Database of Abstracts of Reviews of Effects 4th Quarter 2010

CS_Q8_DDI_cdsrdare_071210

Search Strategy:

#	Searches	Results
1	CESAREAN SECTION.kw.	124
2	c?esar#an$.tw,tx.	559
3	(deliver$ adj3 abdom$).tw,tx.	20
4	(c section$ or c?section$).tw,tx.	4
5	or/1-4	565
6	(EMERGENCIES or EMERGENCY MEDICAL SERVICES).kw.	78
7	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).tw,tx.	3289
8	(categor$ adj ("1" or one or "2" or two or "3" or three)).tw,tx.	267
9	(LABOR STAGE, FIRST or LABOR STAGE, SECOND).kw.	18
10	((first or "1st" or second or "2nd") adj stage$).tw,tx.	204
11	or/6-10	3542
12	TIME FACTORS.kw.	661
13	DECISION MAKING.kw.	66
14	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).tw,tx.	123
15	((decision$ or deliver$) adj3 (time$ or timing or interval$)).tw,tx.	414

16	DDI.tw,tx.	16
17	or/12-16	1228
18	and/5,11,17	128
19	limit 18 to last 8 years	124

Database(s): EMBASE 1980 to 2010 Week 48

CS_Q8_DDI_embase_081210

Search Strategy:

#	Searches	Results
1	CESAREAN SECTION/	44250
2	c?esar#an$.ti,ab.	40302
3	(deliver$ adj3 abdom$).ti,ab.	773
4	(c section$ or c?section$).ti,ab.	640
5	or/1-4	54798
6	EMERGENCY/ or EMERGENCY SURGERY/	33699
7	exp EMERGENCY TREATMENT/ or EMERGENCY HEALTH SERVICE/	158367
8	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	196673
9	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	4192
10	LABOR STAGE 1/ or LABOR STAGE 2/	904
11	((first or "1st" or second or "2nd") adj stage$).ti,ab.	16560
12	or/6-11	348540
13	exp TIME/	428108
14	DECISION MAKING/	102797
15	MEDICAL DECISION MAKING/ or CLINICAL DECISION MAKING/	61895
16	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	5415
17	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	9854
18	DDI.ti,ab.	1590
19	or/13-18	600565
20	and/5,12,19	727
21	limit 20 to english language	638
22	limit 21 to yr="2003 -Current"	360

Wednesday, December 08, 2010 9:38:37 AM

CINAHL with Full Text

CS_Q8_DDI_cinahl_081210_2

#	Query	Limiters/Expanders	Last Run Via	Results
S29	S28	Limiters - Published Date from: 20030101-20111231 Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	18
S28	S27	Limiters - Exclude MEDLINE records Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	32
S27	S5 and S16 and S26	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	160
S26	S17 or S18 or S19 or S20 or S21 or S22 or S23 or S24 or S25	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	83867
S25	TI (DDI) or AB (DDI)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen	85

			- Advanced Search Database - CINAHL with Full Text	
S24	AB (deliver* N3 time*) or AB (deliver* N3 timing*) or AB (deliver* N3 interval)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	944
S23	TI (deliver* N3 time*) or TI (deliver* N3 timing*) or TI (deliver* N3 interval)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	132
S22	AB (decision* N3 time*) or AB (decision* N3 timing*) or AB (decision* N3 interval)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	519
S21	TI (decision* N3 time*) or TI (decision* N3 timing*) or TI (decision* N3 interval)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	101
S20	AB (decision* N3 deliver*) or AB (decision* N3 incision*) or AB (decision* N3 surg*) or AB (decision* N3 operat*) or AB (decision* N3 c#esar?an*) or AB (decision* N3 knife*) or AB (decision* N3 skin*) or	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database -	730

	AB (decision* N3 scalpel*) or AB (decision* N3 lancet*)		CINAHL with Full Text	
S19	TI (decision* N3 deliver*) or TI (decision* N3 incision*) or TI (decision* N3 surg*) or TI (decision* N3 operat*) or TI (decision* N3 c#esar?an*) or TI (decision* N3 knife*) or TI (decision* N3 skin*) or TI (decision* N3 scalpel*) or TI (decision* N3 lancet*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	170
S18	MH DECISION MAKING+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	37551
S17	MH TIME FACTORS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	45511
S16	S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	69919
S15	AB (first stage* or 1st stage* or second stage* or 2nd stage*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1158

S14	TI (first stage* or 1st stage* or second stage* or 2nd stage*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	313
S13	MH LABOR STAGE, FIRST or MH LABOR STAGE, SECOND	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	544
S12	AB (categor* 1 or categor* one or categor* 2 or categor* two or categor* 3 or categor* three)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	557
S11	TI (categor* 1 or categor* one or categor* 2 or categor* two or categor* 3 or categor* three)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25
S10	AB (emergency or un-schedule* or un#schedule* or un-plan* or un#plan* or crash or in-labo#r* or in#labo#r* or intra-partu* or intra#partu* or non-elect* or non#elect*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25732
S9	TI (emergency or un-schedule* or un#schedule* or un-plan* or un#plan* or crash or in-labo#r* or in#labo#r* or	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen	22300

	intra-partu* or intra#partu* or non-elect* or non#elect*)		- Advanced Search Database - CINAHL with Full Text	
S8	MH EMERGENCY MEDICAL SERVICES+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	39485
S7	MH EMERGENCIES	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	3205
S6	MH OBSTETRIC EMERGENCIES	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	250
S5	S1 or S2 or S3 or S4	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6794
S4	TI (c-section* or c#section*) or AB (c-section* or c#section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database -	191

			CINAHL with Full Text	
S3	TI (deliver* N3 abdom*) or AB (deliver* N3 abdom*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	45
S2	TI (c#esar?an*) or AB (c#esar?an*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4399
S1	MH CESAREAN SECTION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	5275

Decision to delivery interval – health economics

Database(s): Ovid MEDLINE(R) 1950 to November Week 3 2010

CS_Q8_DDI_economic_medline_101210

Search Strategy:

#	Searches	Results
1	costs.tw.	92499
2	cost effective$.tw.	53668
3	economic.tw.	84643
4	or/1-3	200093
5	(metabolic adj cost).tw.	589
6	((energy or oxygen) adj cost).tw.	2263

7	4 not (5 or 6)	199813
8	exp CESAREAN SECTION/	30342
9	c?esar#an$.ti,ab.	33866
10	(deliver$ adj3 abdom$).ti,ab.	686
11	(c section$ or c?section$).ti,ab.	475
12	or/8-11	44269
13	EMERGENCIES/ or exp EMERGENCY MEDICAL SERVICES/	105359
14	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	166338
15	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	3627
16	LABOR STAGE, FIRST/ or LABOR STAGE, SECOND/	1629
17	((first or "1st" or second or "2nd") adj stage$).ti,ab.	14077
18	or/13-17	238664
19	TIME FACTORS/	887477
20	exp DECISION MAKING/	95276
21	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	4440
22	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	8452
23	DDI.ti,ab.	1443
24	or/19-23	990289
25	and/12,18,24	813
26	limit 25 to english language	721
27	limit 26 to animals	8
28	limit 26 to (animals and humans)	2
29	27 not 28	6
30	26 not 29	715
31	limit 30 to yr="2003 -Current"	300
32	and/7,31	10

Database(s): EBM Reviews - Cochrane Central Register of Controlled Trials 4th Quarter 2010

CS_Q8_DDI_economic_cctr_101210

Search Strategy:

#	Searches	Results
1	costs.tw.	6386
2	cost effective$.tw.	5088
3	economic.tw.	2849

4	or/1-3	10746
5	(metabolic adj cost).tw.	42
6	((energy or oxygen) adj cost).tw.	199
7	4 not (5 or 6)	10731
8	exp CESAREAN SECTION/	1784
9	c?esar#an$.ti,ab.	3871
10	(deliver$ adj3 abdom$).ti,ab.	49
11	(c section$ or c?section$).ti,ab.	29
12	or/8-11	4051
13	EMERGENCIES/ or exp EMERGENCY MEDICAL SERVICES/	2065
14	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	25632
15	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	266
16	LABOR STAGE, FIRST/ or LABOR STAGE, SECOND/	229
17	((first or "1st" or second or "2nd") adj stage$).ti,ab.	860
18	or/13-17	26754
19	TIME FACTORS/	39150
20	exp DECISION MAKING/	1575
21	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	173
22	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	1261
23	DDI.ti,ab.	184
24	or/19-23	41858
25	and/12,18,24	364
26	limit 25 to yr="2003 -Current"	122
27	and/7,26	7

Database(s): EBM Reviews - Health Technology Assessment 4th Quarter 2010

CS_Q8_DDI_economic_hta_101210

Search Strategy:

#	Searches	Results
1	exp CESAREAN SECTION/	6
2	c?esar#an$.tw.	15
3	(deliver$ adj3 abdom$).tw.	0
4	(c section$ or c?section$).tw.	0
5	or/1-4	15

6	EMERGENCIES/ or exp EMERGENCY MEDICAL SERVICES/	73
7	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).tw.	166
8	(categor$ adj ("1" or one or "2" or two or "3" or three)).tw.	2
9	LABOR STAGE, FIRST/ or LABOR STAGE, SECOND/	3
10	((first or "1st" or second or "2nd") adj stage$).tw.	12
11	or/6-10	186
12	TIME FACTORS/	27
13	exp DECISION MAKING/	58
14	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).tw.	6
15	((decision$ or deliver$) adj3 (time$ or timing or interval$)).tw.	19
16	DDI.tw.	0
17	or/12-16	108
18	and/5,11,17	0
19	limit 18 to yr="2003 -Current"	0

Database(s): EBM Reviews - NHS Economic Evaluation Database 4th Quarter 2010

CS_Q8_DDI_economic_nhseed_101210

Search Strategy:

#	Searches	Results
1	exp CESAREAN SECTION/	90
2	c?esar#an$.tw.	150
3	(deliver$ adj3 abdom$).tw.	2
4	(c section$ or c?section$).tw.	2
5	or/1-4	151
6	EMERGENCIES/ or exp EMERGENCY MEDICAL SERVICES/	738
7	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).tw.	1446
8	(categor$ adj ("1" or one or "2" or two or "3" or three)).tw.	9
9	LABOR STAGE, FIRST/ or LABOR STAGE, SECOND/	2
10	((first or "1st" or second or "2nd") adj stage$).tw.	40
11	or/6-10	1673
12	TIME FACTORS/	1561
13	exp DECISION MAKING/	570
14	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$	34

	or skin$ or scalpel$ or lancet$)).tw.	
15	((decision$ or deliver$) adj3 (time$ or timing or interval$)).tw.	66
16	DDI.tw.	3
17	or/12-16	2192
18	and/5,11,17	6
19	limit 18 to yr="2003 -Current"	0

Database(s): EMBASE 1980 to 2010 Week 48

CS_Q8_DDI_economic_embase_101210

Search Strategy:

#	Searches	Results
1	costs.tw.	114791
2	cost effective$.tw.	67274
3	economic.tw.	100753
4	or/1-3	243848
5	(metabolic adj cost).tw.	628
6	((energy or oxygen) adj cost).tw.	2471
7	4 not (5 or 6)	243542
8	CESAREAN SECTION/	44250
9	c?esar#an$.ti,ab.	40302
10	(deliver$ adj3 abdom$).ti,ab.	773
11	(c section$ or c?section$).ti,ab.	640
12	or/8-11	54798
13	EMERGENCY/ or EMERGENCY SURGERY/	33699
14	exp EMERGENCY TREATMENT/ or EMERGENCY HEALTH SERVICE/	158367
15	(emergency or un schedule$ or un?schedule$ or un plan$ or un?plan$ or crash or in labo?r$ or in?labo?r$ or intra partu$ or intra?partu$ or non elect$ or non?elect$).ti,ab.	196673
16	(categor$ adj ("1" or one or "2" or two or "3" or three)).ti,ab.	4192
17	LABOR STAGE 1/ or LABOR STAGE 2/	904
18	((first or "1st" or second or "2nd") adj stage$).ti,ab.	16560
19	or/13-18	348540
20	exp TIME/	428108
21	DECISION MAKING/	102797
22	MEDICAL DECISION MAKING/ or CLINICAL DECISION MAKING/	61895
23	(decision$ adj3 (deliver$ or incision$ or surg$ or operat$ or c?esar#an$ or knife$ or skin$ or scalpel$ or lancet$)).ti,ab.	5415

24	((decision$ or deliver$) adj3 (time$ or timing or interval$)).ti,ab.	9854
25	DDI.ti,ab.	1590
26	or/20-25	600565
27	and/12,19,26	727
28	limit 27 to english language	638
29	limit 28 to yr="2003 -Current"	360
30	and/7,29	15

Timing of antibiotics

Ovid MEDLINE(R) 1950 to May Week 2 2010

CS_Q2_antibiotics_ medline_250510

#	Searches	Results
1	exp CESAREAN SECTION/	29572
2	((cesarean or caesarean or cesarian or caesarian) adj2 section$).ti,ab.	26172
3	(deliver$ adj2 abdominal$).ti,ab.	504
4	(c section$ or c?section$).ti,ab.	443
5	or/1-4	40017
6	exp ANTI-BACTERIAL AGENTS/	447064
7	(anti?bacterial or anti bacterial or anti?biotic$ or anti biotic$ or bacteriocid$ or anti?mycobacterial or anti mycobacterial or anti?microbial or anti microbial).ti,ab.	242309
8	AMOXICILLIN-POTASSIUM CLAVULANATE COMBINATION/	1691
9	(co amoxiclav or co?amoxiclav or augment#n).ti,ab.	789
10	exp AMPICILLIN/	21475
11	(ampicillin$ or penbritin or magnapen or rimacillin).ti,ab.	15546
12	exp AMOXICILLIN/	7879
13	(amox#cillin$ or amix or amoram or amoxident or galenamox or rimoxallin or amoxil).ti,ab.	10097
14	METRONIDAZOLE/	9564
15	(metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet).ti,ab.	9776
16	SULBACTAM/	1262
17	(sulbactam or combactam or betamaze).ti,ab.	1931
18	exp CEPHALOSPORINS/	33234
19	(cephalospor$ or cefalospor$).ti,ab.	14833
20	exp CEPHALEXIN/	2958
21	(cephalexin or cefalexin or ceporex or keflex).ti,ab.	2073
22	CEPHRADINE/	512
23	(cephradine or cefradine or nicef or velosef).ti,ab.	613
24	exp CEFADROXIL/	424
25	(cephadroxil or cefadroxil or baxan).ti,ab.	544
26	CEFACLOR/	777
27	(cephaclor or cefaclor or keftid or distaclor$).ti,ab.	1443
28	CEFUROXIME/	1732
29	(cephuroxime or cefuroxime or zinacef or zinnat).ti,ab.	3003
30	CLINDAMYCIN/	4349

31	(clindamycin or dalacin$ or duac).ti,ab.	6397
32	or/6-31	557557
33	ANTIBIOTIC PROPHYLAXIS/	6434
34	(prophyla$ or prevent$ or precaution$ or anticipat$ or pre medicat$ or pre?medicat$).ti,ab.	807861
35	INFUSIONS, INTRAVENOUS/	42192
36	INJECTIONS, INTRAVENOUS/	72068
37	(intra?venous$ or intra venous$ or IV$).ti,ab.	480552
38	or/33-37	1293937
39	and/5,32,38	822
40	limit 39 to english language	592
41	limit 40 to animals	14
42	limit 40 to (animals and humans)	5
43	41 not 42	9
44	40 not 43	583

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations May 24, 2010

CS_ Q2_antibiotics_medline_in-process_250510

#	Searches	Results
1	((cesarean or caesarean or cesarian or caesarian) adj2 section$).ti,ab.	933
2	(deliver$ adj2 abdominal$).ti,ab.	14
3	(c section$ or c?section$).ti,ab.	23
4	or/1-3	959
5	(anti?bacterial or anti bacterial or anti?biotic$ or anti biotic$ or bacteriocid$ or anti?mycobacterial or anti mycobacterial or anti?microbial or anti microbial).ti,ab.	6954
6	(co amoxiclav or co?amoxiclav or augment#n).ti,ab.	20
7	(ampicillin$ or penbritin or magnapen or rimacillin).ti,ab.	319
8	(amox#cillin$ or amix or amoram or amoxident or galenamox or rimoxallin or amoxil).ti,ab.	306
9	(metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet).ti,ab.	241
10	(sulbactam or combactam or betamaze).ti,ab.	71
11	(cephalospor$ or cefalospor$).ti,ab.	316
12	(cephalexin or cefalexin or ceporex or keflex).ti,ab.	44
13	(cephradine or cefradine or nicef or velosef).ti,ab.	15
14	(cephadroxil or cefadroxil or baxan).ti,ab.	8
15	(cephaclor or cefaclor or keftid or distaclor$).ti,ab.	25

16	(cephuroxime or cefuroxime or zinacef or zinnat).ti,ab.	70
17	(clindamycin or dalacin$ or duac).ti,ab.	148
18	or/5-17	7464
19	(prophyla$ or prevent$ or precaution$ or anticipat$ or pre medicat$ or pre?medicat$).ti,ab.	27684
20	(intra?venous$ or intra venous$ or IV$).ti,ab.	14157
21	or/19-20	40849
22	and/4,18,21	18

EBM Reviews - Cochrane Central Register of Controlled Trials 2nd Quarter 2010

CS_ Q2_antibiotics_cctr_250510

#	Searches	Results
1	exp CESAREAN SECTION/	1760
2	((cesarean or caesarean or cesarian or caesarian) adj2 section$).ti,ab.	2927
3	(deliver$ adj2 abdominal$).ti,ab.	36
4	(c section$ or c?section$).ti,ab.	29
5	or/1-4	3487
6	exp ANTI-BACTERIAL AGENTS/	16288
7	(anti?bacterial or anti bacterial or anti?biotic$ or anti biotic$ or bacteriocid$ or anti?mycobacterial or anti mycobacterial or anti?microbial or anti microbial).ti,ab.	12359
8	AMOXICILLIN-POTASSIUM CLAVULANATE COMBINATION/	410
9	(co amoxiclav or co?amoxiclav or augment#n).ti,ab.	238
10	exp AMPICILLIN/	3013
11	(ampicillin$ or penbritin or magnapen or rimacillin).ti,ab.	1137
12	exp AMOXICILLIN/	1789
13	(amox#cillin$ or amix or amoram or amoxident or galenamox or rimoxallin or amoxil).ti,ab.	2620
14	METRONIDAZOLE/	1460
15	(metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet).ti,ab.	2119
16	SULBACTAM/	186
17	(sulbactam or combactam or betamaze).ti,ab.	290
18	exp CEPHALOSPORINS/	3426
19	(cephalospor$ or cefalospor$).ti,ab.	805
20	exp CEPHALEXIN/	493
21	(cephalexin or cefalexin or ceporex or keflex).ti,ab.	270
22	CEPHRADINE/	75

23	(cephradine or cefradine or nicef or velosef).ti,ab.	111
24	exp CEFADROXIL/	83
25	(cephadroxil or cefadroxil or baxan).ti,ab.	149
26	CEFACLOR/	221
27	(cephaclor or cefaclor or keftid or distaclor$).ti,ab.	384
28	CEFUROXIME/	383
29	(cephuroxime or cefuroxime or zinacef or zinnat).ti,ab.	608
30	CLINDAMYCIN/	586
31	(clindamycin or dalacin$ or duac).ti,ab.	881
32	or/6-31	24628
33	ANTIBIOTIC PROPHYLAXIS/	705
34	(prophyla$ or prevent$ or precaution$ or anticipat$ or pre medicat$ or pre?medicat$).ti,ab.	57729
35	INFUSIONS, INTRAVENOUS/	7592
36	INJECTIONS, INTRAVENOUS/	6369
37	(intra?venous$ or intra venous$ or IV$).ti,ab.	48135
38	or/33-37	102316
39	and/5,32,38	277

EBM Reviews - Cochrane Database of Systematic Reviews 2005 to April 2010, EBM Reviews - Database of Abstracts of Reviews of Effects 2nd Quarter 2010

CS_Q2_antibiotics_cdsrdare_250510

#	Searches	Results
1	CESAREAN SECTION.kw.	112
2	((cesarean or caesarean or cesarian or caesarian) adj2 section$).tw,tx.	471
3	(deliver$ adj2 abdominal$).tw,tx.	11
4	(c section$ or c?section$).tw,tx.	4
5	or/1-4	475
6	ANTI-BACTERIAL AGENTS.kw.	459
7	(anti?bacterial or anti bacterial or anti?biotic$ or anti biotic$ or bacteriocid$ or anti?mycobacterial or anti mycobacterial or anti?microbial or anti microbial).tw,tx.	1650
8	AMOXICILLIN-POTASSIUM CLAVULANATE COMBINATION.kw.	4
9	(co amoxiclav or co?amoxiclav or augment#n).tw,tx.	33
10	AMPICILLIN.kw.	8
11	(ampicillin$ or penbritin or magnapen or rimacillin).tw,tx.	130
12	AMOXICILLIN.kw.	33

13	(amox#cillin$ or amix or amoram or amoxident or galenamox or rimoxallin or amoxil).tw,tx.	210
14	METRONIDAZOLE.kw.	34
15	(metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet).tw,tx.	152
16	SULBACTAM.kw.	1
17	(sulbactam or combactam or betamaze).tw,tx.	28
18	CEPHALOSPORINS.kw.	17
19	(cephalospor$ or cefalospor$).tw,tx.	153
20	CEPHALEXIN.kw.	0
21	(cephalexin or cefalexin or ceporex or keflex).tw,tx.	42
22	CEPHRADINE.kw.	1
23	(cephradine or cefradine or nicef or velosef).tw,tx.	23
24	CEFADROXIL.kw.	0
25	(cephadroxil or cefadroxil or baxan).tw,tx.	18
26	CEFACLOR.kw.	0
27	(cephaclor or cefaclor or keftid or distaclor$).tw,tx.	32
28	CEFUROXIME.kw.	1
29	(cephuroxime or cefuroxime or zinacef or zinnat).tw,tx.	66
30	CLINDAMYCIN.kw.	9
31	(clindamycin or dalacin$ or duac).tw,tx.	102
32	or/6-31	1691
33	ANTIBIOTIC PROPHYLAXIS.kw.	131
34	(prophyla$ or prevent$ or precaution$ or anticipat$ or pre medicat$ or pre?medicat$).tw,tx.	8074
35	INFUSIONS, INTRAVENOUS.kw.	93
36	INJECTIONS, INTRAVENOUS.kw.	82
37	(intra?venous$ or intra venous$ or IV$).tw,tx.	3337
38	or/33-37	9306
39	and/5,32,38	65

EMBASE 1980 to 2010 Week 20

CS_ Q2_antibiotics_embase_250510

#	Searches	Results
1	CESAREAN SECTION/	28162
2	((cesarean or caesarean or cesarian or caesarian) adj2 section$).ti,ab.	20760
3	(deliver$ adj2 abdominal$).ti,ab.	421

4	(c section$ or c?section$).ti,ab.	303
5	or/1-4	33579
6	exp ANTIBIOTIC AGENT/	594285
7	(anti?bacterial or anti bacterial or anti?biotic$ or anti biotic$ or bacteriocid$ or anti?mycobacterial or anti mycobacterial or anti?microbial or anti microbial).ti,ab.	205566
8	AMOXICILLIN PLUS CLAVULANIC ACID/	18715
9	(co amoxiclav or co?amoxiclav or augment#n).ti,ab.	840
10	AMPICILLIN/	47689
11	(ampicillin$ or penbritin or magnapen or rimacillin).ti,ab.	12014
12	AMOXICILLIN/	34153
13	(amox#cillin$ or amix or amoram or amoxident or galenamox or rimoxallin or amoxil).ti,ab.	10330
14	METRONIDAZOLE/	35402
15	(metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet).ti,ab.	8657
16	SULBACTAM/	3593
17	(sulbactam or combactam or betamaze).ti,ab.	2348
18	exp CEPHALOSPORIN DERIVATIVE/	120116
19	(cephalospor$ or cefalospor$).ti,ab.	14344
20	CEFALEXIN/	9593
21	(cephalexin or cefalexin or ceporex or keflex).ti,ab.	1609
22	CEFRADINE/	2539
23	(cephradine or cefradine or nicef or velosef).ti,ab.	472
24	CEFRADROXIL/	0
25	(cephadroxil or cefadroxil or baxan).ti,ab.	668
26	CEFACLOR/	6517
27	(cephaclor or cefaclor or keftid or distaclor$).ti,ab.	1756
28	CEFUROXIME/	14361
29	(cephuroxime or cefuroxime or zinacef or zinnat).ti,ab.	3312
30	CLINDAMYCIN/	27248
31	(clindamycin or dalacin$ or duac).ti,ab.	5551
32	or/6-31	669356
33	exp PROPHYLAXIS/	384377
34	ANTIBIOTIC PROPHYLAXIS/	12977
35	(prophyla$ or prevent$ or precaution$ or anticipat$ or pre medicat$ or pre?medicat$).ti,ab.	676251
36	INTRAVENOUS DRUG ADMINISTRATION/	270018
37	(intra?venous$ or intra venous$ or IV$).ti,ab.	415179
38	or/33-37	1481836

39	and/5,32,38	1130
40	limit 39 to english language	898

Tuesday, May 25, 2010 10:43:47 AM

CINAHL with Full Text

CS_ Q2_antibiotics_cinahl_250510

#	Query	Limiters/Expanders	Last Run Via	Results
S43	S8 and S34 and S42	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	85
S42	S35 or S36 or S37 or S38 or S39 or S40 or S41	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	131014
S41	TI (intra-venous* or intravenous* or IV*) or AB (intra-venous* or intravenous* or IV*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	22770
S40	MH INJECTIONS, INTRAVENOUS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1212
S39	MH INFUSIONS, INTRAVENOUS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced	3064

			Search Database - CINAHL with Full Text	
S38	MH ADMINISTRATION, INTRAVENOUS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2442
S37	TI (anticipat* or pre-medicat* or premedicat*) or AB (anticipat* or pre-medicat* or premedicat*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	6107
S36	TI (prophyla* or prevent* or precaution*) or AB (prophyla* or prevent* or precaution*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	101427
S35	MH ANTIBIOTIC PROPHYLAXIS	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	2081
S34	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	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	25939
S33	TI (clindamycin or dalacin* or duac) or AB (clindamycin or dalacin* or duac)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen	307

			- Advanced Search Database - CINAHL with Full Text	
S32	MH CLINDAMYCIN	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	332
S31	TI (cephuroxime or cefuroxime or zinacef or zinnat) or AB (cephuroxime or cefuroxime or zinacef or zinnat)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	147
S30	MH CEFUROXIME	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	107
S29	TI (cephaclor or cefaclor or keftid or distaclor*) or AB (cephaclor or cefaclor or keftid or distaclor*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	35
S28	MH CEFACLOR	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	11
S27	TI (cephadroxil or cefadroxil or baxan) or AB (cephadroxil or cefadroxil or	Search modes - Boolean/Phrase	Interface - EBSCOhost	11

	baxan)		Search Screen - Advanced Search Database - CINAHL with Full Text	
S26	TI (cephradine or cefradine or nicef or velosef) or AB (cephradine or cefradine or nicef or velosef)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	9
S25	TI (cephalexin or cefalexin or ceporex or keflex) or AB (cephalexin or cefalexin or ceporex or keflex)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	50
S24	MH CEPHALEXIN+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	54
S23	TI (cephalospor* or cefalospor*) or AB (cephalospor* or cefalospor*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	615
S22	MH CEPHALOSPORINS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1183
S21	TI (sulbactam or combactam or	Search modes -	Interface -	66

	betamaze) or AB (sulbactam or combactam or betamaze)	Boolean/Phrase	EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	
S20	AB (metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	346
S19	TI (metronidazole or vaginyl or norzol or flagyl or metrolyl or metrogel or metrotop or rosiced or rozex or zidoval or zyomet)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	160
S18	MH METRONIDAZOLE	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	599
S17	AB (amox?cillin* or amix or amoram or amoxident or galenamox or rimoxallin or amoxil)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	470
S16	TI (amox?cillin* or amix or amoram or amoxident or galenamox or rimoxallin or amoxil)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	168

S15	MH AMOXICILLIN	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	544
S14	TI (ampicillin* or penbritin or magnapen or rimacillin) or AB (ampicillin* or penbritin or magnapen or rimacillin)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	304
S13	MH AMPICILLIN+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	729
S12	TI (co-amoxiclav or coamoxiclav or augment?n) or AB (co-amoxiclav or coamoxiclav or augment?n)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	37
S11	AB (anti-bacterial or antibacterial or anti-biotic* or antibiotic* or bacteriocid* or anti-mycobacterial or antimycobacterial or anti-microbial or anti microbial)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	9303
S10	TI (anti-bacterial or antibacterial or anti-biotic* or antibiotic* or bacteriocid* or anti-mycobacterial or antimycobacterial or anti-microbial or anti microbial)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4659

S9	MH ANTIBIOTICS+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	19523
S8	S1 or S2 or S3 or S4 or S5 or S6 or S7	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	5772
S7	TI (c-section* or csection*) or AB (c-section* or csection*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	177
S6	TI (deliver* N3 abdominal*) or AB (deliver* N3 abdominal*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	42
S5	TI (caesarian N3 section*) or AB (caesarian N3 section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	33
S4	TI (cesarian N3 section*) or AB (cesarian N3 section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	13

S3	TI (caesarean N3 section*) or AB (caesarean N3 section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	893
S2	TI (cesarean N3 section*) or AB (cesarean N3 section*)	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	1199
S1	MH CESAREAN SECTION+	Search modes - Boolean/Phrase	Interface - EBSCOhost Search Screen - Advanced Search Database - CINAHL with Full Text	4932

Appendix F Excluded studies

Risks and benefits of planned caesarean section compared with planned vaginal birth

This section was updated and replaced in 2020. Please see the NICE website for the updated guideline.

Accuracy of diagnostic tests for morbidly adherent placenta

Table F.2 What is the accuracy of imaging techniques (colour-flow ultrasound [US] and magnetic resonance imaging [MRI]) for diagnosis of a morbidly adherent placenta in pregnant women who have had a previous caesarean section and are currently diagnosed with placenta praevia?

Bibliographic Information	Reason for Exclusion
Baker,P.N., Issa,B., Takarczuk,P., Adams,V., Johnson,I.R., Exclusion of morbid placental adherence using echo-planar magnetic resonance imaging, Journal of Obstetrics and Gynaecology, 16, 366-367, 1996	Single case study
Belfort,M.A., Placenta accreta, American Journal of Obstetrics and Gynecology, #203, 430-439, 2010	Narrative review with no data reported
Chou,M.M., Ho,E.S., Lee,Y.H., Prenatal diagnosis of placenta previa accreta by transabdominal color Doppler ultrasound, Ultrasound in Obstetrics and Gynecology, 15, 28-35, 2000	Wrong population – 50% women had no prior CS were included. No subgroup analysis for women with previous CS reported.
Chou,M.M., Tseng,J.J., Ho,E.S., The application of three-dimensional color power Doppler ultrasound in the depiction of abnormal uteroplacental angioarchitecture in placenta previa percreta, Ultrasound in Obstetrics and Gynecology, 19, 625-627, 2002	Single case study
Comstock,C.H., Antenatal diagnosis of placenta accreta: a review. [35 refs], Ultrasound in Obstetrics and Gynecology, 26, 89-96, 2005	Narrative review with no data
Jaraquemada,J.M.P., Bruno,C.H., Clavelli,W.A., Morbid adherent placenta: Prediction, diagnosis and management, Fetal and Maternal Medicine Review, 18, 357-381, 2007	Narrative review with no data
Lam,G., Kuller,J., McMahon,M., Use of magnetic resonance imaging and ultrasound in the antenatal diagnosis of placenta accreta, Journal of the Society for Gynecologic Investigation, 9, 37-40, 2002	Wrong population - women with no previous CS were included. No subgroup analysis for women with previous CS reported.
Lax,A., Prince,M.R., Mennitt,K.W., Schwebach,J.R., Budorick,N.E., The value of specific MRI features in	No outcomes of interest reported

the evaluation of suspected placental invasion, Magnetic Resonance Imaging, 25, 87-93, 2007	
Moodley,J., Ngambu,N.F., Corr,P., Imaging techniques to identify morbidly adherent placenta praevia: a prospective study, Journal of Obstetrics and Gynaecology, 24, 742-744, 2004	Wrong population - women with no previous CS were included. No subgroup analysis for women with previous CS reported
Palacios Jaraquemada,J.M., Bruno,C.H., Magnetic resonance imaging in 300 cases of placenta accreta: surgical correlation of new findings, Acta Obstetricia et Gynecologica Scandinavica, 84, 716-724, 2005	No outcomes of interest reported
Tanaka,Y.O., Sohda,S., Shigemitsu,S., Niitsu,M., Itai,Y., High temporal resolution dynamic contrast MRI in a high risk group for placenta accreta, Magnetic Resonance Imaging, 19, 635-642, 2001	No outcomes of interest reported
Wong,H.S., Cheung,Y.K., Zuccollo,J., Tait,J., Pringle,K.C., Evaluation of sonographic diagnostic criteria for placenta accreta, Journal of Clinical Ultrasound, 36, 551-559, 2008	No outcomes of interest reported

Effect of diagnosis of morbidly adherent placenta on outcomes

Table F.3 Does a diagnosis of morbidity adherent placenta using imaging techniques lead to improved outcomes in pregnant women with a previous caesarean section currently diagnosed with placenta praevia?

Bibliographic Information	Reason for Exclusion
Belfort,M.A., Placenta accreta, American Journal of Obstetrics and Gynecology, #203, 430-439, 2010	No outcome of interest reported
Buetow,M.P., Sonography of placenta percreta during the first trimester, American Journal of Roentgenology, 179, 535-, 2002	Single case study
Doumouchtsis,S.K., Arulkumaran,S., Morbidly adherent placenta, Obstetrics, Gynaecology and Reproductive Medicine, #20, 272-277, 2010	Case series
Gielchinsky,Y., Rojansky,N., Fasouliotis,S.J., Ezra,Y., Placenta accreta--summary of 10 years: a survey of 310 cases, Placenta, 23, 210-214, 2002	No outcomes of interest reported

HIV

Table F.4 What is the effectiveness of planned caesarean section compared with planned vaginal birth at decreasing the mother-to-child transmission of the virus in pregnant women with HIV, for both low and high viral load?

Bibliographic Information	Reason for Exclusion
ACOG committee opinion-Scheduled Cesarean Delivery and the Prevention of Vertical Transmission of HIV Infection, International Journal of Gynecology & Obstetrics, 73, 279-281, 2001	Narrative review with no relevant data reported
Angelillo,I.F., Villari,P., Meta-analysis of published studies or meta-analysis of individual data?	Study did not report maternal HIV viral load status

Caesarean section in HIV-positive women as a study case, Public Health, 117, 323-328, 2003	
Brocklehurst,P., Interventions for reducing the risk of mother-to-child transmission of HIV infection, Cochrane Database of Systematic Reviews, CD000102-, 2002	None of the included studies in this review report on maternal viral load in relation to the mode of delivery
Brocklehurst,P., Volmink,J., Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection., Cochrane Database of Systematic Reviews, CD003510-, 2002	None of the included studies in this review report on maternal viral load in relation to the mode of delivery
Centre for Reviews and Dissemination., A review of clinical trials to prevent mother-to-child HIV-1 transmission in Africa and inform rational intervention strategies (Structured abstract), Database of Abstracts of Reviews of Effects, -, 2010	Does not report association between mother to child transmission, maternal viral load and mode of delivery.
Chama,C., Gashau,W., Oguche,S., The value of highly active antiretroviral therapy in the prevention of mother-to-child transmission of HIV, Journal of Obstetrics and Gynaecology, 27, 134-137, 2007	Study did not report maternal HIV viral load status
Chansinghakul,D., Soongswang,K., Pancharoen,C., Thaithumyanon,P., Limpongsanurak,S., Thisyakorn,U., Prevention of mother-to-child HIV transmission: MTCT-PLUS initiative program, Journal of Pediatric Infectious Diseases, 4, 281-287, 2009	Study did not report maternal HIV viral load status
Dal,FabbroM, Da,CunhaR, Miranda,PaniagoA, Lindenberg,A.D.S.C., Brandao,DeFreitasG, Nogueira,S.A., Prospective study on the prevention of vertical transmission of HIV in Campo Grande, Mato Grosso do Sul, Brazil, from 1996 to 2001, Brazilian Journal of Infectious Diseases, 9, -27, 2005	Maternal viral load count at time of birth reported for about half of the participants but its relation to the mode of delivery was not investigated.
DuBard,C.A., Newton,W.P., Elective cesarean delivery to prevent vertical transmission of HIV, Journal of Family Practice, 48, 493-494, 1999	Short report of a study that is already included in the review. No additional data reported.
Edathodu,J., Halim,M.M., Dahham,M.B., Alrajhi,A.A., Mother-to-child transmission of HIV: experience at a referral hospital in Saudi Arabia, Annals of Saudi Medicine, 30, 15-17, 2010	Viral load in relation to mode of delivery not reported
European,Collaborative Study, Mother-to-child transmission of HIV infection in the era of highly active antiretroviral therapy, Clinical Infectious Diseases, 40, 458-465, 2005	An updated version of this study is included {Boer, 2010}. No additional data reported in this earlier version.
Garcia-Tejedor,A., Maiques,V., Perales,A., Lopez-Aldeguer,J., Influence of highly active antiretroviral treatment (HAART) on risk factors for vertical HIV transmission, Acta Obstetricia et Gynecologica Scandinavica, 88, 882-887, 2009	Study did not report association between mother to child transmission, maternal viral load and mode of delivery
Giles,M.L., McDonald,A.M., Elliott,E.J., Ziegler,J.B., Hellard,M.E., Lewin,S.R., Kaldor,J.M., Variable uptake of recommended interventions to reduce mother-to-child transmission of HIV in Australia, 1982-2005, Medical Journal of Australia, 189, 151-154, 2008	Maternal HIV viral load not reported

Giles,M.L., Mijch,A.M., Garland,S.M., Grover,S.R., Hellard,M.E., HIV and pregnancy in Australia, Australian and New Zealand Journal of Obstetrics and Gynaecology, 44, -204, 2004	Study did not report association between mother to child transmission, maternal viral load and mode of delivery
Grosch-Worner,I., Schafer,A., Obladen,M., Maier,R.F., Seel,K., Feiterna-Sperling,C., Weigel,R., An effective and safe protocol involving zidovudine and caesarean section to reduce vertical transmission of HIV-1 infection, AIDS, 14, 2903-2911, 2000	Narrative review of articles with no relevant data reported
HIV-infected pregnant women and vertical transmission in Europe since 1986. European collaborative study, AIDS, 15, 761-770, 2001	Study did not report association between mother to child transmission, maternal viral load and mode of delivery
Horvath,T., Madi,B.C., Iuppa,I.M., Kennedy,G.E., Rutherford,G.W., Read,J.S., Interventions for preventing late postnatal mother-to-child transmission of HIV, Cochrane Database of Systematic Reviews, -, 2009	Does not report association between mother to child transmission, maternal viral load and mode of delivery
Hudson,C.N., Elective caesarean section for prevention of vertical transmission of HIV-1 infection, Lancet, 353, 1030-1031, 1999	Narrative review with no relevant data reported
International Perinatal HIV Group, The mode of delivery and the risk of vertical transmission of human immunodeficiency virus type 1--a meta-analysis of 15 prospective cohort studies. The International Perinatal HIV Group [see comments], New England Journal of Medicine,N.Engl.J.Med., 340, 977-987, 1999	Maternal HIV viral load status not reported
International Perinatal HIV Group., Duration of ruptured membranes and vertical transmission of HIV-1: a meta-analysis from 15 prospective cohort studies, AIDS, 15, 357-368, 2001	Does not report maternal HIV viral load and its association to mode of delivery
Italian Register for Human Immunodeficiency Virus Infection in Children, Determinants of mother to infant human immunodeficiency virus 1 transmission before and after the introduction of zidovudine prophylaxis., Archives of Pediatrics and Adolescent Medicine, 156, 915-921, 2002	Maternal HIV viral load status not reported
Kakehasi,F.M., Pinto,J.A., Romanelli,R.M., Carneiro,M., Cardoso,C.S., Tavares,Mdo C., Melo,V.H., Aguiar,R.A., Determinants and trends in perinatal human immunodeficiency virus type 1 (HIV-1) transmission in the metropolitan area of Belo Horizonte, Brazil: 1998 - 2005, Memorias do Instituto Oswaldo Cruz, 103, 351-357, 2008	Does not report maternal HIV viral load and its association to mode of delivery
Kind,C., Mother-to-child transmission of human immunodeficiency virus type 1: influence of parity and mode of delivery. Paediatric AIDS Group of Switzerland, European Journal of Pediatrics, 154, 542-545, 1995	Maternal HIV viral load status not reported
Kind,C., Rudin,C., Siegrist,C.A., Wyler,C.A., Biedermann,K., Lauper,U., Irion,O., Schupbach,J., Nadal,D., Prevention of vertical HIV transmission: additive protective effect of elective Cesarean section	Maternal HIV viral load status not reported

and zidovudine prophylaxis. Swiss Neonatal HIV Study Group, AIDS, 12, 205-210, 1998	
Kowalska,A., Niemiec,T., El,Midaoui A., Burkacka,E., Effect of antiretroviral therapy on pregnancy outcome in HIV-1 positive women, Medycyna Wieku Rozwojowego, 7, 459-468, 2003	Does not report association between maternal HIV viral load and mode of delivery
Lehtovirta,P., Skogberg,K., Salo,E., Ammala,P., Ristola,M., Suni,J., Paavonen,J., Heikinheimo,O., Pregnancy outcome among HIV-infected women in the Helsinki metropolitan area, Acta Obstetricia et Gynecologica Scandinavica, 84, 945-950, 2005	Maternal viral load and mode of delivery not reported
Mandelbrot,L., Le Chenadec,J., Berrebi,A., Bongain,A., Benifla,J.-L., Delfraissy,J.F., Blanche,S., Mayaux,M.J., Perinatal HIV-1 transmission: Interaction between zidovudine prophylaxis and mode of delivery in the French Perinatal Cohort, JAMA: the journal of the American Medical Association,JAMA, 280, 55-60, 1998	Maternal HIV viral load status not reported
Mandelbrot,L., Mayaux,M.J., Bongain,A., Berrebi,A., Moudoub-Jeanpetit,Y., Benifla,J.L., Ciraru-Vigneron,N., Le,ChenadecJ, Blanche,S., Delfraissy,J.F., Boulanger,J.C., Pautard,B., Piquet,P.M., Smolarski,J.C., Eloy,P., Mamon,A., Rozan,M.A., Caubel,P., Dandine,M., et,al, Obstetric factors and mother-to-child transmission of human immunodeficiency virus type 1: The French perinatal cohorts, American Journal of Obstetrics and Gynecology,Am.J.Obstet.Gynecol., 175, 661-667, 1996	Maternal HIV viral load status not reported
Maternal viral load and vertical transmission of HIV-1: an important factor but not the only one. The European Collaborative Study, AIDS, 13, 1377-1385, 1999	An updated version of this study is included (Boer, 2010). No additional data reported in this earlier version
McDonald,A.M., Li,Y., Cruickshank,M.A., Elliott,E.J., Kaldor,J.M., Ziegler,J.B., Use of interventions for reducing mother-to-child transmission of HIV in Australia, Medical Journal of Australia, 174, 449-452, 2001	Maternal HIV viral load not reported
Menezes Succi,R.C., Mother-to-child transmission of HIV in Brazil during the years 2000 and 2001: results of a multi-centric study, Cadernos de Saude Publica, 23 Suppl 3, S379-S389, 2007	Does not report association between maternal HIV viral load and mode of delivery
Merchant,R.H., Damania,K., Gilada,I.S., Bhagwat,R.V., Karkare,J.S., Oswal,J.S., Merchant,S.R., Changedia,S., Strategy for preventing vertical transmisssion of HIV : Bombay experience, Indian Pediatrics, 38, 132-138, 2001	Maternal HIV viral load not reported
Panburana,P., Sirinavin,S., Phuapradit,W., Vibhagool,A., Chantratita,W., Elective cesarean delivery plus short-course lamivudine and zidovudine for the prevention of mother-to-child transmission of human immunodeficiency virus type 1, American Journal of Obstetrics and Gynecology, 190, 803-808,	Study did not report association between mother to child transmission, maternal viral load and mode of delivery.

2004

Read,J.S., Newell,M.K., Efficacy and safety of cesarean delivery for prevention of mother-to-child transmission of HIV-1, Cochrane Database of Systematic Reviews, CD005479-, 2005	None of the included studies in this systematic review reported on maternal HIV viral load
Shah,I., Is elective caesarian section really essential for prevention of mother to child transmission of HIV in the era of antiretroviral therapy and abstinence of breast feeding?, Journal of Tropical Pediatrics, 52, 163-165, 2006	Maternal HIV viral load not reported
Sperling,R.S., Shapiro,D.E., Coombs,R.W., Todd,J.A., Herman,S.A., McSherry,G.D., O'Sullivan,M.J., Van Dyke,R.B., Jimenez,E., Rouzioux,C., Flynn,P.M., Sullivan,J.L., Maternal viral load, zidovudine treatment, and the risk of transmission of human immunodeficiency virus type 1 from mother to infant. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group, New England Journal of Medicine,N.Engl.J.Med., 335, 1621-1629, 1996	Mode of birth not reported
Sturt,A.S., Dokubo,E.K., Sint,T.T., Antiretroviral therapy (ART) for treating HIV infection in ART- eligible pregnant women, Cochrane Database of Systematic Reviews, 3, CD008440-, 2010	This systematic review did not report association between mother to child transmission, maternal viral load and mode of delivery
The European Mode of Delivery Collaboration, Elective caesarean-section versus vaginal delivery in prevention of vertical HIV-1 transmission: a randomised clinical trial. The European Mode of Delivery Collaboration.[comment][erratum appears in Lancet 1999 May 15;353(9165):1714], Lancet, 353, 1035-1039, 1999	Study did not report maternal HIV viral load status
Thorne,C., Newell,M.L., Injecting drug use in pregnant HIV-infected women in Europe, Medycyna Wieku Rozwojowego, 10, 1005-1016, 2006	Study did not report maternal HIV viral load status
Thorne,C., Semenenko,I., Pilipenko,T., Malyuta,R., Ukraine European Collaborative Study Group., Progress in prevention of mother-to-child transmission of HIV infection in Ukraine: results from a birth cohort study, BMC Infectious Diseases, 9, 40-, 2009	Maternal HIV viral load status not reported
Tibaldi,C., Bucceri,A., Perrini,G., Rossi,G., Ponti,A., D'Ambrosio,R., Perinatal transmission of HIV virus: Risk factors, Italian Journal of Gynaecology and Obstetrics, 6, 44-47, 1994	Maternal HIV viral load status not reported
Tubiana,R., Le,Chenadec,J, Rouzioux,C., Mandelbrot,L., Hamrene,K., Dollfus,C., Faye,A., Delaugerre,C., Blanche,S., Warszawski,J., Factors associated with mother-to-child transmission of HIV-1 despite a maternal viral load <500 Copies/ ml at Delivery: A case-control study nested in the french perinatal cohort (EPF-ANRS COI), Clinical Infectious Diseases, 50, 585-596, 2010	Study does not report association between mother to child transmission, maternal viral load and mode of delivery

Tukur,J., Galadanci,H., Adeleke,S.I., Mukhtar-Yola,M., Outcome of delivery among HIV positive mothers at Aminu Kano Teaching Hospital, Kano, Nigerian Journal of Medicine: Journal of the National Association of Resident Doctors of Nigeria, 16, 34-37, 2007	Maternal HIV viral load status not reported
Villari,P., Spino,C., Chalmers,T.C., Lau,J., Sacks,H.S., Cesarean section to reduce perinatal transmission of human immunodeficiency virus. A metaanalysis, Online Journal of Current Clinical Trials, Doc No 74, 5107-, 1993	An updated version of the one included study in this meta-analysis with maternal viral load reported is already included in our review {Boer, 2010}. No additional date reported in this earlier version.

Maternal request for CS

Table F.5 What is the appropriate care pathway for women who request a primary caesarean section where there is no obstetric or medical indication?

Bibliographic Information	Reason for Exclusion
Barnes,H., Midwife led antenatal care for women with a previous caesarean section, MIDIRS Midwifery Digest, 20, 41-45, 2010	Narrative review
Benoit,C., Westfall,R., Treloar,A.E.B., Phillips,R., Jansson,S.M., Social factors linked to postpartum depression: a mixed-methods longitudinal study, Journal of Mental Health, 16, 719-730, 2007	Wrong population – includes all modes of birth with no sub-group analysis for those requesting CS
Corry,M.P., Recommendations from Listening to Mothers: The First National U.S. Survey of Women's Childbearing Experiences, Birth, 31, 61-65, 2004	No results presented for women requesting CS
Dahlgren,L.S., von,Dadelszen P., Christilaw,J., Janssen,P.A., Lisonkova,S., Marquette,G.P., Liston,R.M., Caesarean section on maternal request: risks and benefits in healthy nulliparous women and their infants, Journal of Obstetrics and Gynaecology Canada: JOGC, 31, 808-817, 2009	Wrong population - women did not request CS
Danish Centre for Evaluation and Health Technology Assessment., Caesarean section on maternal request: a health technology assessment (Structured abstract), Health Technology Assessment Database, -, 2010	Review article with no relevant outcomes reported
Druzin,M.L., El-Sayed,Y.Y., Cesarean delivery on maternal request: wise use of finite resources? A view from the trenches, Seminars in Perinatology, 30, 305-308, 2006	Discussion article
Eden,K.B., Hashima,J.N., Osterweil,P., Nygren,P., Guise,J.M., Childbirth preferences after cesarean birth: a review of the evidence. [27 refs], Birth, 31, 49-60, 2004	Wrong population - women did not request CS
Emmett,C.L., Murphy,D.J., Patel,R.R., Fahey,T., Jones,C., Ricketts,I.W., Gregor,P., Macleod,M., Montgomery,A.A., DiAMOND Study Group., Decision-making about mode of delivery after previous caesarean section: development and piloting of two	Wrong population - women did not request CS

computer-based decision aids, Health Expectations, 10, 161-172, 2007	
Farnworth,A., Robson,S.C., Thomson,R.G., Watson,D.B., Murtagh,M.J., Decision support for women choosing mode of delivery after a previous caesarean section: a developmental study, Patient Education & Counseling, 71, 116-124, 2008	Wrong population - women did not request CS
Heaman,M., Toward evidence-based practice. [Commentary on] Making choices for childbirth: a randomized controlled trial of a decision-aid for informed birth after cesarean, MCN: The American Journal of Maternal Child Nursing, 31, 336-336, 2006	Secondary abstract of excluded study Shorten 2004
Horey,Dell, Weaver,Jane, Russell,Hilary, Information for pregnant women about caesarean birth, Cochrane Database of Systematic Reviews, -, 2009	Wrong population - women did not request CS
Kingdon,C., Baker,L., Lavender,T., Systematic review of nulliparous women's views of planned cesarean birth: The missing component in the debate about a term cephalic trial, Birth, 33, 229-237, 2006	Wrong population - women did not request CS
KjÃƒÂ¦rgaard,H., Wijma,K., Dykes,A., Alehagen,S., Fear of childbirth in obstetrically low-risk nulliparous women in Sweden and Denmark, Journal of Reproductive & Infant Psychology, 26, 340-350, 2008	Wrong population - women did not request CS
Montgomery,A.A., Emmett,C., Fahey,T., Gregor,P., Hollinghurst,S., Jones,C., Lovering,B., Montgomery,A., Munro,I., Murphy,D., Patel,R., Peters,T., Ricketts,I., Schlegelmilch,A., Shaw,A., Vedhara,K., Warren,K., The DiAMOND trial protocol: A randomised controlled trial of two decision aids for mode of delivery among women with a previous caesarean section [ISRCTN8437722], BMC Pregnancy and Childbirth, 4,;#2004. Date of Publication, -, 2004	RCT protocol only
Montgomery,A.A., Emmett,C.L., Fahey,T., Jones,C., Ricketts,I., Patel,R.R., Peters,T.J., Murphy,D.J., Two decision aids for mode of delivery among women with previous caesarean section: Randomised controlled trial, British Medical Journal, 334, 1305-1309, 2007	Wrong population - women did not request CS
Nerum,Hilde, Halvorsen,Lotta, Sorlie,Tore, Oian,Pal, Maternal Request for Cesarean Section due to Fear of Birth: Can It Be Changed Through Crisis-Oriented Counseling?, Birth: Issues in Perinatal Care, Vol.33, 221-228, 2006	Wrong population - women did not request CS
Pakenham,S., Chamberlain,S.M., Smith,G.N., Women's views on elective primary caesarean section, Journal of Obstetrics and Gynaecology Canada: JOGC, 28, 1089-1094, 2006	Wrong population - women did not request CS
Pang,M.W., Lee,T.S., Leung,A.K., Leung,T.Y., Lau,T.K., Leung,T.N., A longitudinal observational study of preference for elective caesarean section among nulliparous Hong Kong Chinese women, BJOG: An International Journal of Obstetrics and	Outcomes (eventual mode of delivery compared to stated preference during pregnancy) not relevant

Gynaecology, 114, 623-629, 2007	
Rees,K.M., Shaw,A.R., Bennert,K., Emmett,C.L., Montgomery,A.A., Healthcare professionals' views on two computer-based decision aids for women choosing mode of delivery after previous caesarean section: a qualitative study, BJOG: An International Journal of Obstetrics and Gynaecology, 116, 906-914, 2009	Wrong population - women did not request CS
Shorten,A., Shorten,B., Keogh,J., West,S., Morris,J., Making choices for childbirth: a randomized controlled trial of a decision-aid for informed birth after cesarean, Birth, 32, 252-261, 2005	Wrong population - women did not request CS
Shorten,Allison, Chamberlain,Marie, Shorten,Brett, Kariminia,Azar, Making choices for childbirth: Development and testing of a decision-aid for women who have experienced previous caesarean., Patient Education and Counseling, Vol.52, 307-313, 2004	Wrong population - women did not request CS
Tsui,M.H., Pang,M.W., Melender,H.L., Xu,L., Lau,T.K., Leung,T.N., Maternal fear associated with pregnancy and childbirth in Hong Kong Chinese women, Women and Health, 44, 79-92, 2006	Wrong population - women did not request CS
Waldenstrom,U., Hildingsson,I., Ryding,E.L., Antenatal fear of childbirth and its association with subsequent caesarean section and experience of childbirth, BJOG: An International Journal of Obstetrics and Gynaecology, 113, 638-646, 2006	Wrong population - women did not request CS

Table F.6 What is the appropriate decision to delivery interval (DDI) for unplanned caesarean section?

Bibliographic Information	Reason for Exclusion
Annappa,R., Campbell,D.J., Simpson,N.A., Fetal blood sampling in labour and the decision to delivery interval, European Journal of Obstetrics, Gynecology, and Reproductive Biology, 141, 10-12, 2008	Only 20% of the population delivered by CS. No subgroup analysis for CS group
de Regt,R.H., Marks,K., Joseph,D.L., Malmgren,J.A., Time from decision to incision for cesarean deliveries at a community hospital, Obstetrics and Gynecology, 113, 625-629, 2009	No outcomes of interest reported
Kwek,K., Yeap,M.L., Tan,K.H., Tee,J.C., Yeo,G.S., Crash caesarean section--decision-to-delivery interval, Acta Obstetricia et Gynecologica Scandinavica, 84, 914-915, 2005	Inadequate description of population. Inadequate reporting of findings
Livermore,L.J., Cochrane,R.M., Decision to delivery interval: a retrospective study of 1,000 emergency caesarean sections, Journal of Obstetrics and Gynaecology, 26, 307-310, 2006	No outcomes of interest reported
Lurie,S., Sulema,V., Kohen-Sacher,B., Sadan,O., Glezerman,M., The decision to delivery interval in emergency and non-urgent cesarean sections, European Journal of Obstetrics, Gynecology, and Reproductive Biology, 113, 182-185, 2004	No outcomes of interest reported

Mooney,S.E., Ogrinc,G., Steadman,W., Improving emergency caesarean delivery response times at a rural community hospital, Quality and Safety in Health Care, 16, 60-66, 2007	No outcomes of interest reported
Onah,H.E., Ibeziako,N., Umezulike,A.C., Effetie,E.R., Ogbuokiri,C.M., Decision - delivery interval and perinatal outcome in emergency caesarean sections, Journal of Obstetrics and Gynaecology, 25, 342-346, 2005	Study conducted in a developing country.
O'Regan,M., Delivery times for caesarean section at Queen Elizabeth Central Hospital, Blantyre, Malawi: is a 30-minute 'informed to start of operative delivery time' achievable?, Anaesthesia, 58, 756-759, 2003	No outcomes of interest reported
Tan,W.C., Tan,L.K., Tan,H.K., Tan,A.S., Audit of 'crash' emergency caesarean sections due to cord prolapse in terms of response time and perinatal outcome, Annals of the Academy of Medicine, Singapore, 32, 638-641, 2003	Very small sample size for comparative data (n=6)

Timing of antibiotic administration

Table F.7 What is the effectiveness of antibiotics given prior to clamping of the cord compared to antibiotics given after clamping of the cord during a planned or emergency caesarean section?

Bibliographic Information	Reason for Exclusion
Costantine,M.M., Rahman,M., Ghulmiyah,L., Byers,B.D., Longo,M., Wen,T., Hankins,G.D., Saade,G.R., Timing of perioperative antibiotics for cesarean delivery: a metaanalysis, American Journal of Obstetrics and Gynecology, 199, 301-306, 2008	All component trials included in current review. No additional relevant data reported here
Cunningham,F.G., Leveno,K.J., DePalma,R.T., Perioperative antimicrobials for cesarean delivery: Before or after cord clamping?, Obstetrics and Gynecology, 62, 151-154, 1983	Does not compare before and after cord-clamping
De Palma RT, Leveno KJ, Cunningham FG, Pope T, Kappus SS, Roark ML, Nobles BJ., Identification and management of women at high risk for pelvic infection following cesarean section., Obstetrics and Gynecology, 55, 185s-192s, 1980	Does not compare before and after cord-clamping
DePalma RT, Cunningham FG, Leveno KJ, Roark ML, Continuing investigation of women at high risk for infection following cesarean delivery. Three-dose perioperative antimicrobial therapy, Obstetrics and Gynecology, 60, 53-59, 1982	Does not compare before and after cord-clamping
Faro,S., Martens,M.G., Hammill,H.A., Riddle,G., Tortolero,G., Antibiotic prophylaxis: is there a difference?, American Journal of Obstetrics and Gynecology, 162, 900-907, 1990	Does not compare before and after cord-clamping
Gall,S.A., The efficacy of prophylactic antibiotics in cesarean section, American Journal of Obstetrics and Gynecology, 134, 506-511, 1979	Does not compare before and after cord-clamping

Gilstrap LC, 3rd, Cunningham FG., The bacterial pathogenesis of infection following cesarean section., Obstetrics and Gynecology, 53, 545-549, 1979	Does not compare before and after cord-clamping
Hopkins,L., Smaill,F.M., Antibiotic prophylaxis regimens and drugs for cesarean section, Cochrane Database of Systematic Reviews, -, 2009	Does not compare before and after cord-clamping
Kaimal,A.J., Zlatnik,M.G., Cheng,Y.W., Thiet,M.P., Connatty,E., Creedy,P., Caughey,A.B., Effect of a change in policy regarding the timing of prophylactic antibiotics on the rate of postcesarean delivery surgical-site infections, American Journal of Obstetrics and Gynecology, 199, 310-315, 2008	Non–RCT
Owens,S.M., Brozanski,B.S., Meyn,L.A., Wiesenfeld,H.C., Antimicrobial prophylaxis for cesarean delivery before skin incision, Obstetrics and Gynecology, 114, 573-579, 2009	Non-RCT
Smaill,Fiona M., Gyte,ML Gillian, Antibiotic prophylaxis versus no prophylaxis for preventing infection after cesarean section, Cochrane Database of Systematic Reviews, -, 2010	All relevant included trials included in review and reported separately
Tassi,P.G., Tarantini,M., Cadenelli,G.P., Gastaldi,A., Benedetti,M., Ceftazidime in antibiotic prophylaxis for emergency cesarean section: a randomized prospective study, International Journal of Clinical Pharmacology, Therapy, and Toxicology, 25, 582-588, 1987	Does not compare before and after cord-clamping
Tita,A.T., Rouse,D.J., Blackwell,S., Saade,G.R., Spong,C.Y., Andrews,W.W., Emerging concepts in antibiotic prophylaxis for cesarean delivery: a systematic review, Obstetrics & Gynecology, 113, 675-682, 2009	All relevant included trials included in review and reported separately
Walsh,C.A., Evidence-based cesarean technique, Current Opinion in Obstetrics and Gynecology, 22, 110-115, 2010	Narrative overview (no empirical data reported)

Pregnancy and childbirth after CS

Table F.8 What are the risks and benefits of planned caesarean section compared with planned vaginal birth for both women and babies in women who have had a previous caesarean section?

Bibliographic Information	Reason for Exclusion
Algert,C.S., Morris,J.M., Simpson,J.M., Ford,J.B., Roberts,C.L., Labor before a primary cesarean delivery: reduced risk of uterine rupture in a subsequent trial of labor for vaginal birth after cesarean, Obstetrics & Gynecology, 112, 1061-1066, 2008	Included in sytematic review (Guise, 2010)
Cahill,A.G., Stamilio,D.M., Odibo,A.O., Peipert,J.F., Ratcliffe,S.J., Stevens,E.J., Sammel,M.D., Macones,G.A., Is vaginal birth after cesarean (VBAC) or elective repeat cesarean safer in women with a prior vaginal delivery?, American Journal of	Included in sytematic review (Guise, 2010)

Obstetrics & Gynecology, 195, 1143-1147, 2006	
Centre for Reviews and Dissemination., Induction of labour for women with a previous Caesarean birth: a systematic review of the literature (Brief record), Database of Abstracts of Reviews of Effects, -, 2011	No full-text paper available/abstract only
Centre for Reviews and Dissemination., Trial of labor or repeated Cesarean section: the woman's choice (Structured abstract), Database of Abstracts of Reviews of Effects, -, 2011	No full-text paper available/abstract only
Centre for Reviews and Dissemination., Vaginal birth after Caesarean versus elective repeat Caesarean for women with a single prior Caesarean birth: a systematic review of the literature (Provisional abstract), Database of Abstracts of Reviews of Effects, -, 2011	No full-text paper available/abstract only
Dodd,J.M., Crowther,C.A., Hiller,J.E., Haslam,R.R., Robinson,J.S., Birth after caesarean study--planned vaginal birth or planned elective repeat caesarean for women at term with a single previous caesarean birth: protocol for a patient preference study and randomised trial, BMC Pregnancy and Childbirth, 7, 17-, 2007	No outcomes of interest reported
Dodd,J.M., Crowther,C.A., Huertas,E., Guise,J.M., Horey,D., Planned elective repeat caesarean section versus planned vaginal birth for women with a previous caesarean birth. [88 refs], Cochrane Database of Systematic Reviews, CD004224-, 2004	Included in sytematic review (Guise, 2010)
Doret,M., Touzet,S., Bourdy,S., Gaucherand,P., Vaginal birth after two previous c-sections: obstetricians-gynaecologists opinions and practice patterns, Journal of Maternal-Fetal and Neonatal Medicine, 23, 1487-1492, 2010	No outcomes of interest reported
Dunn,E.A., O'Herlihy,C., Comparison of maternal satisfaction following vaginal delivery after caesarean section and caesarean section after previous vaginal delivery, European Journal of Obstetrics, Gynecology, and Reproductive Biology, 121, 56-60, 2005	Wrong population – not all women had had a previous CS
Gonen,R., Barak,S., Nissenblat,V., Ohel,G., The outcome and cumulative morbidity associated with the second and third postcesarean delivery, American Journal of Perinatology, 24, 483-486, 2007	Included in the sytematic review (Guise, 2010)
Guise,J.M., Berlin,M., McDonagh,M., Osterweil,P., Chan,B., Helfand,M., Safety of vaginal birth after cesarean: a systematic review. [27 refs], Obstetrics and Gynecology, 103, 420-429, 2004	All studies are included in sytematic review (Guise, 2010)
Guise,J.M., McDonagh,M.S., Osterweil,P., Nygren,P., Chan,B.K., Helfand,M., Systematic review of the incidence and consequences of uterine rupture in women with previous caesarean section. [30 refs], BMJ, 329, 19-25, 2004	All studies are included in sytematic review (Guise, 2010)
Kamath,B.D., Todd,J.K., Glazner,J.E., Lezotte,D.,	Included in sytematic review (Guise, 2010)

Lynch,A.M., Neonatal outcomes after elective cesarean delivery, Obstetrics and Gynecology, 113, 1231-1238, 2009	
Landon,M.B., Hauth,J.C., Leveno,K.J., Spong,C.Y., Leindecker,S., Varner,M.W., Moawad,A.H., Caritis,S.N., Harper,M., Wapner,R.J., Sorokin,Y., Miodovnik,M., Carpenter,M., Peaceman,A.M., O'Sullivan,M.J., Sibai,B., Langer,O., Thorp,J.M., Ramin,S.M., Mercer,B.M., Gabbe,S.G., National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network., Maternal and perinatal outcomes associated with a trial of labor after prior cesarean delivery, New England Journal of Medicine, 351, 2581-2589, 2004	Included in systematic review (Guise 2010)
Loebel,G., Zelop,C.M., Egan,J.F.X., Wax,J., Maternal and neonatal morbidity after elective repeat Cesarean delivery versus a trial of labor after previous Cesarean delivery in a community teaching hospital, Journal of Maternal-Fetal and Neonatal Medicine, 15, 243-Fetal, 2004	Included in systematic review Guise 2010
Lpez,A.B., Del,BarrioP, Gonzlez,A., Fernndez,M., Gianella,C., Castellanos,T., Martn,N., Rubio,S., Mode of delivery, vaginal versus cesarean, in pregnancies after a prior cesarean section, Journal of Maternal-Fetal and Neonatal Medicine, 22nd European Congress of Perinatal Medicine,;#2010 Granada Spain. Conference Start, 443-Fetal, 2010	No outcomes of interest reported
Macones,G.A., Cahill,A., Pare,E., Stamilio,D.M., Ratcliffe,S., Stevens,E., Sammel,M., Peipert,J., Obstetric outcomes in women with two prior cesarean deliveries: is vaginal birth after cesarean delivery a viable option?, American Journal of Obstetrics and Gynecology, 192, 1223-1228, 2005	Included in sytematic review (Guise, 2010)
Macones,G.A., Peipert,J., Nelson,D.B., Odibo,A., Stevens,E.J., Stamilio,D.M., Pare,E., Elovitz,M., Sciscione,A., Sammel,M.D., Ratcliffe,S.J., Maternal complications with vaginal birth after cesarean delivery: a multicenter study, American Journal of Obstetrics and Gynecology, 193, 1656-1662, 2005	Included in sytematic review (Guise, 2010)
Mercer,B.M., Gilbert,S., Landon,M.B., Spong,C.Y., Leveno,K.J., Rouse,D.J., Varner,M.W., Moawad,A.H., Simhan,H.N., Harper,M., Wapner,R.J., Sorokin,Y., Miodovnik,M., Carpenter,M., Peaceman,A., O'Sullivan,M.J., Sibai,B.M., Langer,O., Thorp,J.M., Ramin,S.M., National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network., Labor outcomes with increasing number of prior vaginal births after cesarean delivery, Obstetrics and Gynecology, 111, 285-291, 2008	Included in systematic review (Guise 2010)
Oboro,V., Adewunmi,A., Ande,A., Olagbuji,B., Ezeanochie,M., Oyeniran,A., Morbidity associated with failed vaginal birth after cesarean section, Acta Obstetricia et Gynecologica Scandinavica, 89, 1229-1232, 2010	Developing country

Perveen,S., Maternal and neonatal adverse outcome at repeat cesarean delivery versus repeat vaginal delivery, Jcpsp, Journal of the College of Physicians and Surgeons - Pakistan, 21, 84-87, 2011	Developing country
Scifres,C.M., Rohn,A., Odibo,A., Stamilio,D., Macones,G.A., Predicting significant maternal morbidity in women attempting vaginal birth after cesarean section, American Journal of Perinatology, 28, 181-186, 2011	Non- comparative study
Tillett,J., Vaginal birth after cesarean delivery: application of evolving evidence, Journal of Perinatal and Neonatal Nursing, 24, 290-292, 2010	Narrative review with no empirical data reported
Upadhyaya,C.D., Upadhyaya,D.M., Carlan,S.J., Vaginal birth after cesarean delivery in a small rural community with a solo practice, American Journal of Perinatology, #20, 63-67, 2003	Included in sytematic review (Guise, 2010)
Wen,S.W., Rusen,I.D., Walker,M., Liston,R., Kramer,M.S., Baskett,T., Heaman,M., Liu,S., Maternal Health Study Group,, Comparison of maternal mortality and morbidity between trial of labor and elective cesarean section among women with previous cesarean delivery, American Journal of Obstetrics and Gynecology, 191, 1263-1269, 2004	Included in sytematic review (Guise, 2010)

Appendix G Evidence tables

For evidence tables, please see separate document.

Appendix H GRADE tables

The GRADE tables in this section provide further detail about the quality assessment for the studies included in the review. Each table in the appendix corresponds to a summary GRADE table in the main text. For example, Table H.5.1 in this appendix accompanies the table 5.1 in the full guideline.

Risks and benefits of planned CS compared with planned vaginal birth

This section was updated and replaced in 2020. Please see the NICE website for the updated guideline.

Morbidly adherent placenta

Diagnostic accuracy of screening tests

Table H.5.1 GRADE findings for diagnostic accuracy of tests for placenta accreta, increta and percreta

Quality assessment							Summary of findings							
								Measure of diagnostic accuracy						
No. of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Number of women	Sensitivity	Specificity	Positive predictive value	Negative predictive value	Positive likelihood ratio	Negative likelihood ratio	Quality
Grey scale transabdominal ultrasound (mean gestational age at diagnosis = 30 ± 2.2 weeks)														
1 study (Shih et al., 2009)	Prospective study	serious[4]	no serious inconsistency	serious[2]	no serious imprecision	none	72	95 (79 to 100)*	76 (52 to 92)*	82 (47 to 89)*	93 (85 to 100)*	4.02 (2.18 to 7.41)*	0.06 (0.01 to 0.26)*	Low

Grey scale transvaginal ultrasound (gestational age at diagnosis = 15 to 20 weeks)														
1 study (Comstock et al., 2009)	Prospective study	serious[7]	no serious inconsistency	serious[2]	no serious imprecision	none	33	86 (0.67 to 1.04)*	NC	63 (0.41 to 0.84)*	Not calculable (NC)	NC	NC	Low
Grey scale transvaginal ultrasound (gestational age at diagnosis = 15 to 40 weeks)														
1 study (Comstock et al., 2009)	Prospective study	serious[7]	no serious inconsistency	serious[2]	no serious imprecision	none	33	100 (100 to 100)*	NC	48 (0.41 to 0.84)*	NC	NC	NC	Low
Grey scale or colour Doppler ultrasound (mean gestational age at diagnosis = 25 weeks, range 11 to 37 weeks)														
1 study (Warshak et al., 2006)	Retrospective study	serious[1]	no serious inconsistency	serious[2,5]	no serious imprecision	none	453	77 (60 to 88)	96 (93 to 97)	65 (49 to 78)	98 (95 to 98)	0.20 (0.11 to 0.33)	0.24 (0.13 to 0.42)	Low
US colour Doppler (Masselli et al., 2008; mean gestational age at diagnosis = 30 weeks, range 20 - 37 weeks) (Twickler. et al., 2000; gestational age at diagnosis not reported) (Shih et al., 2009; mean gestational age at diagnosis 30 ± 2.2 weeks)														
1 study (Masselli et al., 2008)	Prospective study	no serious limitations	no serious inconsistency	serious[2]	no serious imprecision	none	50	91 (68 to 94)	100 (85 to 100)	100 (87 to 100)	97 (75 to 100)	infinity	0.08 (0.01 to 0.54)*	Moderate
1 study (Twickler et al., 2000)	Prospective study	serious[6]	no serious inconsistency	serious[2]	no serious imprecision	none	20	100 (100 to 100)*	72 (46 to 99)*	75 (50 to 99)*	100 (100 to 100)*	3.60 (1.39 to 9.26)*	0	Low
1 study (Shih et al., 2009)	Prospective study	serious[4]	no serious inconsistency	serious[2]	no serious imprecision	none	72	92 (83 to 100)	68 (53 to 83)	76 (63 to 88)	88 (77 to 100)	2.93 (1.78 to 4.82)*	0.11 (0.03 to 0.34)*	Low

MRI (Masselli et al., 2008; mean gestational age at the diagnosis = 30 weeks, range 20 - 37 weeks) (Warshak et al., 2006; mean gestational age at diagnosis = 28 weeks, range 18 to 37 weeks)														
1 study (Masselli et al., 2008)	Prospective study	no serious limitations	no serious inconsistency	serious[2]	no serious imprecision	none	50	100 (86 to 100)	100 (90 to 100)	100 (88 to 100)	100 (89 to 100)	infinity	0	Moderate
1 study (Warshak et al., 2006)	Retrospective study	serious[1]	no serious inconsistency	serious[2,5]	no serious imprecision	none	40	88 (80 to 100)	100 (76 to 100)	100 (85 to 100)	82 (64 to 100)	infinity*	0.11 (0.03 to 0.33)	Low
3D power colour sonography (mean gestational age at diagnosis 30 ± 2.2 weeks)														
1 study (Shih et al., 2009)	Prospective study	serious[4]	no serious inconsistency	serious[2]	no serious imprecision	none	72	100 (100 to 100)	85 (73 to 97)	88 (78 to 97)	100 (100 to 100)	6.80 (3.02 to 15.27)*	0	Low

[1]MRI scans were interpreted by different attending radiologist who were not blinded to the ultrasound report

[2]No side effects were reported

[3]4/13 women had no prior CS. Not clear if the participants were diagnosed with placenta praevia.

[4]Not clear if the same sonographer performed the three different ultrasounds and whether he/she was blinded to the result of grey scale or colour Doppler when interpreting the result of the 3D power Doppler

[5]Women with diagnosis of low lying placenta were also included in the study

[6]The selection criteria were not clearly described. No explanation about the study period provided

[7]No information is provided for negative cases (true negative and false negative) therefore diagnostic accuracy of ultrasounds cannot be fully evaluated.

*NCC calculation

Effect of diagnosis on outcomes

Maternal outcomes

Table H.5.2 GRADE findings for antenatal diagnosis of placenta accreta compared with no antenatal diagnosis (maternal outcomes)

Quality assessment	**Summary of findings**	
	No. of women	**Effect**

No. of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Antenatal diagnosis of placenta accreta	No antenatal diagnosis of placenta accreta	Relative (95% CI)	Absolute (95% CI)	Quality
Estimated blood loss											
1 study (Warshak et al., 2009)	observational study	serious[2]	no serious inconsistency	serious[1,5]	no serious imprecision	none	Mean (litre) ± SD 2.3 ± 1.7 n = 62	Mean (litre) ± SD 2.9 ± 1.8 n = 37	Not calculable (NC)	MD 0.6 lower (1.32 lower to 0.12 higher) p = 0.053	Very low
1 study (Wong et al., 2008)	observational study	Serious[2]	no serious inconsistency	serious[3,4]	no serious imprecision	none	Mean (litre) ± SD 1.4 ± 1.0 n = 7	Mean (litre) ± SD 3.6 ± 1.3 n = 9	NC	MD 2.20 lower (3.48 lower to 0.92 lower) p = 0.003	Very low
Number of units of blood transfused											
1 study (Warshak et al., 2009)	observational study	serious[2]	no serious inconsistency	serious[1,5]	no serious imprecision	none	Mean ± SD 4.7 ± 2.2 n = 62	Mean ± SD 6.9 ± 1.8 n = 37	NC	MD 2.20 lower (3.05 lower to 1.35 lower) p = 0.02	Very low
1 study (Wong et al., 2008)	observational study	serious[2]	no serious inconsistency	serious[3,4]	no serious imprecision	none	2.3 ± 2.9 n = 7	5.1 ± 2.9 n = 9	NC	MD 2.80 lower (5.93 lower to 0.33	Very low

										higher) p = 0.07	
Emergency hysterectomy											
1 study (Wong et al., 2008)	observational study	serious[2]	no serious inconsistency	serious[3,4]	no serious imprecision	none	1/7 (14%) n = 7	9/9 (100%) n = 9	RR 0.14 (0.02 to 0.55)	857 fewer per 1000 (from 975 fewer to 435 fewer)* p = 0.001	Very low
Intensive care unit [ICU] admission											
1 study (Warshak et al., 2009)	observational study	serious[2]	no serious inconsistency	serious[1,5]	serious[5]	none	43/62 (69%)	22/37 (59%)	RR 1.16 (0.86 to 1.64)*	98 more per 1000 (from 92 fewer to 293 more)* p = 0.49	Very low
1 study (Wong et al., 2008)	observational study	serious[2]	no serious inconsistency	serious[3,4]	serious[5,6]	none	1/7 (14%)	1/9 (11%)	RR 1.28 (0.14 to 11)*	31 more per 1000 (from 344 fewer to 443 more)* p = 1.0	Very low
Length of hospital stay											
1 study (Warshak et al., 2009)	observational study	serious[2]	no serious inconsistency	serious[1,5]	no serious imprecision	none	7.4 days (SD 1.8) n = 62	5.5 days (SD 1.6) n = 37	NC	MD 1.90 higher (1.19 lower to 2.61 higher)	Very low

										p = 0.92	
1 study (Wong et al., 2008)	observational study	serious[2]	no serious inconsistency	serious[3,4]	no serious imprecision	none	8.6 days (SD 1.36) n = 7	9.9 days (SD 4.9) n = 9	NC	MD 1.30 lower (5.41 lower to 2.81 higher) P value not reported	Very low
Bladder injuries											
1 study (Warshak et al., 2009)	observational study	serious[2]	no serious inconsistency	serious[1,5]	serious[6]	none	14/62 (22%)	3/37 (8.1%)	RR 2.78 (0.94 to 8.71)*	144 more per 1000 (from 11 fewer to 280 more)*	Very low
1 study (Wong et al., 2008)	observational study	serious[2]	no serious inconsistency	serious[3,4]	serious[6]	none	1/7 (14%)	1/9 (11%)	RR 1.28 (0.14 to 11)*	31 more per 1000 (from 344 fewer to 443 more)*	Very low

[1]15% of the total population (n = 15/99) had no previous CS.

[2]Small size study with low statistical power

[3]Twelve out of the total population (n = 12/16) had previous CS.

[4]Eleven out of the total population (n = 11/16) had placenta praevia in their current pregnancy.

[5]71 out of the total population (n = 71/99) had placenta praevia in their current pregnancy.

[6] Wide CI

*Calculated by NCC-WCH technical team

Neonatal outcomes

Table H.5.3 GRADE findings for antenatal diagnosis of placenta accreta compared with no antenatal diagnosis (neonatal outcomes)

Quality assessment							**Summary of findings**				

							No. of patients		Effect		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Antenatal diagnosis of placenta accreta**	**No antenatal diagnosis of placenta accreta**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Neonatal intensive care unit [NICU] admission											
1 study (Warshak et al., 2009)	observational study	Serious[1]	no serious inconsistency	Serious[2,3]	serious[4]	none	50/62 (80%)	19/37 (51%)	RR 1.57 (1.16 to 2.28)*	292 more per 1000 (from 102 more to 437 more)*	Very low
NICU length of stay											
1 study (Warshak et al., 2009)	observational study	Serious[1]	no serious inconsistency	serious[1,3]	no serious imprecision	none	9.8 days (SD 2.5) n = 62	6.3 days (SD 3.5) n = 37	Not calculable	MD 3.50 higher (2.30 lower to 4.70 higher) p = 0.13	Very low

[1]Small size study with low statistical power

[2]15% of the total population (n = 15/99) had no previous CS.[3]71 out of the total population (n = 71/99) had placenta praevia in their current pregnancy.

[4]Wide CI

* Calculated by NCC-WCH technical team

Mother-to-child transmission of maternal infections

HIV

Table H.5.4 GRADE findings for mother-to-child transmission of HIV

Quality assessment							Summary of findings				
							No. of patients		Effect		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Planned CS**	**Vaginal birth**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Mother to child transmission (MTCT) in women with viral load < 50 copies/ml on highly active anti-retroviral therapy (HAART)											
1 study (Boer et al., 2010)	observational study	no serious limitations	no serious inconsistency	serious[1]	Serious[2]	none	1/238 (0.4%)	1/321 (0.3 %)	OR 1.35 (0.08 to 21.6)**	1 more per 1000 (from 1 fewer to 60 more)	Very low
1 study (Townsend et al., 2008)	observational study	no serious limitations	no serious inconsistency	Serious[3]	Serious[2]	none	2/1135 (0.2%)	1/417* (0.2%)	OR 0.73 (0.06 to 8.12)**	Not calculable (NC)	Very low
MTCT in women with viral load < 50 copies/ml 14/23 of whom were on HAART											
1 study (Islam et al., 2010)	observational study	Serious[4]	no serious inconsistency	Serious[5]	no serious imprecision	none	Not reported (NR)	0/23 (0%)*	NC	NC	Very low
MTCT in women with viral load ≥ 50 and < 1000 copies/ml on HAART											
1 study (Townsend et al., 2008)	observational study	no serious limitations	no serious inconsistency	Serious[3]	Serious[2]	none	4/417 (0.95%)	2/81* (2.5%)	OR 0.39 (0.07 to 2.17)**	15 fewer per 1000 (from 23 fewer to 27 more)	Very low
MTCT in women with viral load < 400 copies/ml with and without HAART											

1 study (Boer et al., 2010)	observational study	no serious limitations	no serious inconsistency	serious[1]	no serious imprecision	none	4/571 (0.7%)	11/242 (4.5%)	OR 0.14 (0.04 to 0.47)**	38 fewer per 1000 (from 24 fewer to 44 fewer)	Very low
MTCT in women viral load < 400 copies/ml on antenatal antiretroviral therapy (ART) (term birth)											
1 study (Warszawski et al., 2008)	observational study	Serious[6]	no serious inconsistency	Serious[6]	Serious[2]	none	7/1296 (0.5%)	7/1083 (0.6%)	OR 0.83 (0.29 to 2.38)**	1 fewer per 1000 (from 5 fewer to 9 more)	Very low
MTCT women with viral load < 1000 copies/ml on HAART											
1 study (Boer et al., 2010)	observational study	no serious limitations	no serious inconsistency	serious[1]	no serious imprecision	none	3/424 (0.7%)	0/155 (0%)	NC	NC	Very low
MTCT in women with viral load ≥ 1000 copies/ml on HAART											
1 study (Boer et al., 2010)	observational study	no serious limitations	no serious inconsistency	serious[1]	Serious[2]	none	11/822 (1.3%)	2/310 (0.6%)	OR 2.08 (0.46 to 9.47)**	7 more per 1000 (from 3 fewer to 50 more)	Very low
MTCT in women with viral load ≥ 10000 copies/ml on antenatal antiretroviral therapy (ART including HAART) (term birth)											
1 study (Warszawski et al., 2008)	observational study	Serious[6]	no serious inconsistency	Serious[6]	Serious[2]	none	10/203 (4.9%)	5/72 (6.9%)	OR 0.69 (0.22 to 2.10)**	20 fewer per 1000 (from 53 fewer to 60 more)	Very low

[1] Vaginal birth includes emergency CS, number of women who gave birth vaginally not reported

[2] Wide CI

[3] Number of actual vaginal birth in planned vaginal birth group not reported

[4] Small sample size
[5] MTCT rate for women allocated in elective CS group not reported
[6] No definition for vaginal birth and planned CS provided
* planned vaginal birth
** calculated by NCC technical team

Maternal request for CS

Maternal outcomes

Table H.5.5 GRADE findings for comparison of planned CS vs. vaginal birth (maternal outcomes)

Quality assessment							Summary of findings				
							Results		Effect		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Maternal request CS**	**Planned vaginal birth**	**Comparative t test/chi² (p value)**	**Absolute**	**Quality**
Maternal hospital stay (mean days)											
1 study (Wiklund et al., 2007)	observational study	serious[1,2]	no serious inconsistency	no serious indirectness	no serious imprecision	none	3.6	2.8	34.40 (0.001)	0.8 days more	Very low
Birth experience (at 2 days postpartum) (mean Likert scale score where1 = worst, 10 = best)											
1 study (Wiklund et al., 2007)	observational study	serious[1,2]	no serious inconsistency	no serious indirectness	no serious imprecision	none	8.3	6.7	31.25 (0.001)	1.6 more	Very low
Birth experience (at 3months postpartum) (mean Likert scale score where1 = worst, 10 = best)											
1 study (Wiklund et al.,	observational study	serious[1,2]	no serious inconsistency	no serious indirectness	no serious imprecision	none	8.1	6.6	14.66 (0.002)	1.5 more	Very low

2007)											
Uncomplicated breastfeeding (at 2 days postpartum)											
1 study (Wiklund et al., 2007)	observational study	serious[1,5]	no serious inconsistency	no serious indirectness	serious[3]	none	50/92 (54%)	162/237 (68%)	10.95 (0.052)	1.4/1000 fewer	Very low
Breastfeeding (at 3 months postpartum)											
1 study (Wiklund et al., 2007)	observational study	serious[1,4]	no serious inconsistency	no serious indirectness	no serious imprecision	none	79%*	248/266 (93%)	22.65 (0.001)	1.4/1000 fewer	Very low
Coitus (at 3 months postpartum)											
1 study (Wiklund et al., 2007)	observational study	serious[1,4]	no serious inconsistency	no serious indirectness	serious[3]	none	57%*	67%*	2.61 (0.106)	1.0/1000 fewer	Very low
Family planning (plans for a sibling at 3 months postpartum)											
1 study (Wiklund et al., 2007)	observational study	serious[1,4]	no serious inconsistency	no serious indirectness	no serious imprecision	none	52%*	81%*	28.13 (0.001)	2.9/1000 fewer	Very low
Depression (Edinburgh Postnatal Depression Scale)											
1 study (Wiklund et al., 2007)	observational study	serious[1,4]	no serious inconsistency	no serious indirectness	serious[3]	none	not reported (NR)	NR	p = 0.877	not calculable	Very low

[1]Groups differ significantly at baseline for age, native Swede, IVF, planned pregnancy, parenthood education and perceived good health. Inconsistent and poor reporting of results

[2]SD of mean not provided

[3]Not statistically significant

[4]Total number in case and/or control group not provided

[5]Vaginal birth includes 11% emergency CS, results for the number of women who gave birth vaginally not reported separately

* Total number in case and/or control group not provided. Percentage figures are those reported in the study

Neonatal outcomes

Table H.5.6 GRADE findings for comparison of planned CS vs. vaginal birth (neonatal outcomes)

Quality assessment							Summary of findings				
							No. of neonates (%)		Effect		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Maternal request CS**	**Planned vaginal birth**	**Comparative t test/chi²**	**Absolute**	**Quality**
Neonatal intensive care unit (NICU) care											
1 study (Wiklund et al., 2007)	observational study	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	5/99 (5%)	12/237 (5%)	p = 0.996	0/1000	Very low

[1]Groups differ significantly at baseline for age, native Swede, IVF, planned pregnancy, parenthood education and perceived good health. Inconsistent and poor reporting of results

[2]Not statistically significant

Decision-to-delivery interval for emergency CS

Maternal outcomes

Table H.7.1 GRADE findings for comparison of a decision to delivery interval of < 30 minutes with a decision to delivery interval of > 30 minutes (maternal outcomes)

Quality assessment							Summary of findings				
							Number of women		Effect		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**DDI < 30 minutes**	**DDI > 30 minutes**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Blood transfusion											

1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,5]	no serious inconsistency	no serious indirectness	no serious imprecision	none	6/83 (7.2%)	0/28 (0%)	Not calculable (NC)	NC	Very low
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	serious[2]	none	11/109 (10.1%)	1/109 (0.9%)	11 (1.8 to 68)*	92 more per 1000 (from 7 more to 615 more)*	Very low
Uterine/bladder rupture											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	serious[2]	none	7/109 (6.4%)	8/109 (7.3%)	0.87 (0.34 to 2.24)*	1 fewer per 1000 (from 6 fewer to 11 more)*	Very low
Ureteric injuries											
1 study (Bloom et al., 2006)	Prospective study	serious[1,7]	no serious inconsistency	no serious indirectness	serious[2]	none	2/1814 (0.1%)	1/994 (0.1%)	1.09 (0.14 to 8.35)*	1 fewer per 1000 (from 1 fewer to 7 more)*	Very low
Cystotomy											
1 study (Bloom et al., 2006)	Prospective study	serious[1,7]	no serious inconsistency	no serious indirectness	serious[2]	none	2/1814 (0.1%)	3/994 (0.3%)	0.36 (0.07 to 1.82)*	2 fewer per 1000 (from 3 fewer to 2 more)*	Very low
Wound complication											
1 study	Prospective	serious[1,7]	no serious	no serious	serious[2]	none	23/1814	9/994	1.40	4 more	Very

(Bloom et al., 2006)	study		inconsistency	indirectness			(1.3%)	(0.9%)	(0.66 to 2.96)*	per 1000 (from 3 fewer to 18 more)*	low
Urinary tract infection											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	serious[2]	none	3/109 (2.8%)	2/109 (1.8%)	1.5 (0.30 to 7.40)*	9 more per 1000 (from 13 fewer to 117 more)*	Very low
Wound infection											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	no serious imprecision	none	1/109 (0.9%)	5/109 (4.6%)	0.2 (0.03 to 1.26)*	37 fewer per 1000 (from 44 fewer to 12 more)*	Very low
Surgical injuries											
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,5]	no serious inconsistency	no serious indirectness	serious[2]	none	10/83 (12%)	1/28 (4%)	3.37 (0.61 to 20.1)*	85 more per 1000 (from 14 fewer to 682 more)*	Very low
Caesarean hysterectomy											
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,5]	no serious inconsistency	no serious indirectness	no serious imprecision	none	2/83 (2.4%)	0/28 (0%)	NC	NC	Very low
Postpartum haemorrhage											

1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	serious[2]	none	2/109 (1.8%)	1/109 (0.9%)	2 (0.26 to 15.1)*	9 more per 1000 (from 7 fewer to 129 more)*	Very low
Bowel laceration											
1 study (Bloom et al., 2006)	Prospective study	serious[1,7]	no serious inconsistency	no serious indirectness	serious[2]	none	1/1814 (0.1%)	1/994 (0.1%)	0.54 (0.05 to 5.24)*	0 fewer per 1000 (from 1 fewer to 4 more)*	Very low
Intensive care unit											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	serious[2]	none	11/109 (10.1%)	5/109 (4.6%)	2.2 (0.82 to 5.90)*	55 more per 1000 (from 8 fewer to 225 more)*	Very low
Endometritis											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,3]	no serious inconsistency	no serious indirectness	serious[2]	none	3/109 (2.8%)	2/109 (1.8%)	1.5 (0.30 to 7.40)*	9 more per 1000 (from 13 fewer to 117 more)*	Very low
Special care requirements**											
1 study (Thomas. et al., 2004)	Retrospective study	Serious[6]	no serious inconsistency	no serious indirectness	no serious imprecision	none	495/3958 (12.5%)	1587/12,606 (12.5%)	0.99 (0.90 to 1.09)*	1 fewer per 1000 (from 13	Very low

										fewer to 11 more)*	

[1] Exclusion criteria not reported.
[2] Wide CI
[3] Control group comprised of women with non emergency CS
[4] Very different indications for CS between the two groups
[5] 60% in group I had general anaesthetic compared with 7% in group II
[6] Women characteristic not reported.
[7] Indications for CS were different in two groups
* Calculated by NCC-WCH
** Defined as care following CS that was additional to „routine" post-operative care

Neonatal outcomes

Table H.7.2 GRADE findings for comparison of a decision to delivery interval of < 30 minutes with a decision to delivery interval of > 30 minutes (neonatal outcomes)

Quality assessment							**Summary of findings**				
							No. of babies		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**DDI < 30 minutes**	**DDI > 30 minutes**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Neonatal deaths											
1 study (Holcroft et al., 2005)	Retrospective study	serious[1,5]	no serious inconsistency	no serious indirectness	no serious imprecision	none	1/34 (2.9%)	0/83 (0%)	Not calculable (NC)	NC	Very low
1 study (Bloom et al., 2006)	Prospective study	serious[1,4]	no serious inconsistency	no serious indirectness	serious[3]	none	7/1814 (0.4%)	1/994 (0.1%)	3.83 (0.61 to 23.8)*	3 more per 1000 (from 0 fewer to 23 more)*	Very low
Stillbirth											
1 study	Prospective	serious[2]	no serious	no serious	no serious	none	1/121	0/96	NC	NC	Very low

(Roy et al., 2008)	study		inconsistency	indirectness	imprecision		(0.8%)	(0%)			
1 study (Thomas. et al., 2004)	Retrospective study	serious[7]	no serious inconsistency	no serious indirectness	no serious imprecision	none	27/3958 (0.68%)	23/12,606 (0.18%)	3.73 (2.16 to 6.46)*	5 more per 1000 (from 2 more to 10 more)*	Very low
Fetal death in labour											
1 study (Bloom et al., 2006)	Prospective study	serious[1,4]	no serious inconsistency	no serious indirectness	no serious imprecision	none	3/1814 (0.2%)	0/994 (0%)	NC	NC	Very low
Perinatal mortality											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	7/124 (5.6%)	3/124 (2.4%)	2.33 (0.67 to 8.15)*	32 more per 1000 (from 8 fewer to 173 more)*	Very low
5 mins Apgar < 7											
1 study (Holcroft et al., 2005)	Retrospective study	serious[1,5]	no serious inconsistency	no serious indirectness	serious[3]	none	3/34 (8.8%)	8/83 (9.6%)	0.91 (0.27 to 2.93)*	9 fewer per 1000 (from 70 fewer to 186 more)*	Very low
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1,6]	no serious inconsistency	no serious indirectness	no serious imprecision	none	21/124 (16.9%)	9/124 (7.3%)	2.33 (1.13 to 4.84)*	97 more per 1000 (from 9 more to 279 more)*	Very low
1 study	Retrospective	serious[1]	no serious	no serious	serious[3]	none	8/83	1/28	2.69	60 more	Very low

(Nasrallah et al., 2004)	study		inconsistency	indirectness			(9.5%)	(3.6%)	(0.48 to 16.4)	per 1000 (from 19 fewer to 550 more)	
1 study (Roy et al., 2008)	Prospective study	serious[1,2]	no serious inconsistency	no serious indirectness	no serious imprecision	none	18/121 (14.9%)	15/96 (15.6%)	0.95 (0.51 to 1.77)*	8 fewer per 1000 (from 77 fewer to 120 more)*	Very low
1 study (Kolas. et al., 2006)	Prospective study	serious[1,5]	no serious inconsistency	no serious indirectness	no serious imprecision	none	50/624 (8%)	8/576 (1.4%)	5.76 (2.81 to 11.8)*	66 more per 1000 (from 25 more to 150 more)*	Very low
1 study (Thomas. et al., 2004)	Retrospective study	serious[7]	no serious inconsistency	no serious indirectness	no serious imprecision	none	226/3958 (5.7%)	328/12606 (2.6%)	2.19 (1.85 to 2.58)*	31 more per 1000 (from 22 more to 41 more)*	Very low
5 minute Apgar ≤ 3											
1 study (Bloom et al., 2006)	Prospective study	serious[1,4]	no serious inconsistency	no serious indirectness	serious[3]	none	18/1814 (1%)	9/994 (0.9%)	1.09 (0.50 to 2.38)*	1 more per 1000 (from 5 fewer to 12 more)*	Very low
Cord pH < 7.0											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	10/124 (8.1%)	0/124 (0%)	NC	NC	Very low

1 study (Holcroft et al., 2005)	Retrospective study	serious[1,5]	no serious inconsistency	no serious indirectness	some imprecision[3]	none	6/34 (17.6%)	2/83 (2.4%)	8.20 (1.97 to 34.2)*	173 more per 1000 (from 23 more to 800 more)*	Very low
1 study (Roy et al., 2008)	Prospective study	serious[2]	no serious inconsistency	no serious indirectness	serious[3]	none	8/121 (6.6%)	5/96 (5.2%)	1.26 (0.45 to 3.59)*	14 more per 1000 (from 29 fewer to 135 more)*	Very low
1 study (Bloom et al., 2006)	Prospective study	serious[1,4]	no serious inconsistency	no serious indirectness	no serious imprecision	none	52/1814 (2.9%)	9/994 (0.9%)	3.16 (1.59 to 6.31)*	20 more per 1000 (from 5 more to 48 more)*	Very low
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,6]	no serious inconsistency	no serious indirectness	no serious imprecision	none	5/83 (6%)	0/28 (0%)	NC	NC	Very low
Admission to neonatal intensive care unit (NICU)											
1 study (Hillemanns et al., 2003)	Retrospective study	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	74/124 (59.7%)	65/124 (52.4%)	1.13 (0.91 to 1.42)*	68 more per 1000 (from 74 fewer to 220 more)*	Very low
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,6]	no serious inconsistency	no serious indirectness	serious[3]	none	21/83 (25.3%)	6/28 (21.4%)	1.18 (0.56 to 2.67)*	39 more per 1000 (from 94 fewer to 358 more)*	Very low
1 study	Prospective	serious[2]	no serious	no serious	no serious	none	26/121	7/96	2.94	141 more	Very low

(Roy et al., 2008)	study		inconsistency	indirectness	imprecision		(21.5%)	(7.3%)	(1.38 to 6.43)*	per 1000 (from 28 more to 396 more)*	
1 study (Kolas. et al., 2006)	Prospective study	serious[1,5]	no serious inconsistency	no serious indirectness	no serious imprecision	none	147/624 (23.6%)	104/576 (18.1%)	1.30 (1.04 to 1.63)	54 more per 1000 (from 7 more to 114 more)	Very low
1 study (Chauleur et al., 2009)	Prospective study	serious[1,8]	no serious inconsistency	no serious indirectness	no serious imprecision	none	24/25 (96%)	35/46 (76%)	1.26 (1.02 to 1.55)*	198 more per 1000 (from 15 more to 418 more)*	Very low
Seizures											
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,6]	no serious inconsistency	no serious indirectness	no serious imprecision	none	4/83 (4.8%)	0/28 (0%)	NC	NC	Very low
Intraventricular haemorrhage											
1 study (Holcroft et al., 2005)	Observational study	serious[1,5]	no serious inconsistency	no serious indirectness	serious[3]	none	2/34 (5.9%)	5/83 (6%)	0.97 (0.22 to 4.08)*	2 fewer per 1000 (from 47 fewer to 176 more)*	Very low
Encephalopathy											
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,6]	no serious inconsistency	no serious indirectness	no serious imprecision	none	5/83 (6%)	0/28 (0%)	NC	NC	Very low
1 study	Prospective	serious[1,4]	no serious	no serious	serious[3]	none	12/1814	5/994	1.31	2 more per	Very low

(Bloom et al., 2006)	study		inconsistency	indirectness			(0.7%)	(0.5%)	(0.48 to 3.57)*	1000 (from 3 fewer to 13 more)*	
Median NICU stay (days)											
1 study (Nasrallah et al., 2004)	Retrospective study	serious[1,6]	no serious inconsistency	no serious indirectness	no serious imprecision	none	13 (range 1-40)	9 (range 3-35)	NC	4	Very low
Neonate requiring immediate ventilation											
1 study (Roy et al., 2008)	Prospective study	serious[2]	no serious inconsistency	no serious indirectness	no serious imprecision	none	4/121 (3.3%)	2/96 (2.1%)	1.58 (0.34 to 7.31)*	12 more per 1000 (from 14 fewer to 121 more)*	Very low

[1] Exclusion criteria not reported

[2] CS were not categorised. Women"s characteristics were not reported

[3] Wide CI

[4] Indications for CS were different in the two groups

[5] The start of the DDI was chosen as the time women were taken off the cardiotocograph [CTG] monitor in the labour room

[6] 60% in group I had general anaesthetic compared with 7% in group II

[7] Women"s characteristics not reported

[8] No definition for DDI given. Indications for CS not specified

* Calculated by NCC-WCH technical team

Timing of antibiotic administration

Table H.7.3 GRADE findings comparing pre-clamp vs. post-clamp administration of antibiotics

Quality assessment	**Summary of findings**	
	Number of women/ babies (%), or no. of hours	**Effect**

No. of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Pre cord-clamp antibiotics	Post cord-clamp antibiotics during CS	Relative (95% CI)	Absolute (95% CI)	Quality
Overall/total maternal infectious morbidity											
5 studies (Gordon et al., 1979; Sullivan, 2007, Thigpen et al., 2005, Wax et al., 1997; Yildirim, 2009)	randomised trials[1]	no serious limitations	serious [2]	no serious indirectness	no serious imprecision	none	55/609 (9%)	84/607 (13.8%)	RR 0.65 (0.47 to 0.9)	48 fewer per 1000 (from 14 fewer to 73 fewer)	High
Maternal wound infection											
5 studies (Gordon et al., 1979; Sullivan, 2007, Thigpen et al., 2005, Wax et al., 1997; Yildirim, 2009)	randomised trials	no serious limitations	no serious inconsistency	no serious indirectness	serious[3]	none	18/609 (3%)	29/607 (4.8%)	RR 0.63 (0.35 to 1.11)	18 fewer per 1000 (from 31 fewer to 5 more)	Moderate
Surgical site opening											
1 study (Nokiani, 2009)	randomised trials	serious[4]	no serious inconsistency	no serious indirectness	serious[3]	none	0/196 (0%)	1/91 (1.1%)	RR 0.16 (0.01 to 3.78)	9 fewer per 1000 (from 11 fewer to 31 more)	Low

Total maternal fever											
1 study (Nokiani, 2009)	randomised trials	serious[4]	no serious inconsistency	no serious indirectness	serious[3]	none	10/196 (5.1%)	3/91 (3.3%)	RR 1.55 (0.44 to 5.49)	18 more per 1000 (from 18 fewer to 148 more)	Low
Maternal urinary tract infection [UTI]											
3 studies[5] (Gordon et al., 1979; Wax et al., 1997; Yildirim, 2009)	randomised trials	no serious limitations	no serious inconsistency	no serious indirectness	serious[6]	none	3/281 (1.1%)	6/276 (2.2%)	RR 0.55 (0.15 to 1.98)	10 fewer per 1000 (from 18 fewer to 21 more)	Moderate
Endometritis or endomyometritis											
5 studies[7] (Gordon et al., 1979; Sullivan, 2007, Thigpen et al., 2005, Wax et al., 1997; Yildirim, 2009)	randomised trials	no serious limitations	serious [8]	no serious indirectness	no serious imprecision	none	24/609 (3.9%)	42/607 (6.9%)	RR 0.57 (0.35 to 0.92)	30 fewer per 1000 (from 6 fewer to 45 fewer)	High
Endometritis											
1 study (Nokiani, 2009)	randomised trials	serious[6]	no serious inconsistency	no serious indirectness	serious[9]	none	0/196 (0%)	0/91 (0%)	not pooled	not pooled	Low
Maternal pneumonia or respiratory tract infection [RTI]											
2 studies (Wax et al.,	randomised trials	serious[10]	no serious inconsistency	no serious indirectness	serious[6]	none	0/243	0/236	not pooled	not pooled	Low

1997; Yildirim 2009)							(0%)	(0%)			
Neonatal sepsis or infection											
4 studies[11] (Sullivan, 2007, Thigpen et al., 2005, Wax et al., 1997; Yildirim, 2009)	randomised trials	no serious limitations	serious [12]	no serious indirectness	serious[3]	none	37/588 (6.3%)	41/582 (7%)	RR 0.89 (0.58 to 1.35)	8 fewer per 1000 (from 30 fewer to 25 more)	Moderate
Neonatal sepsis											
1 study (Nokiani,2009)	randomised trials	serious[6]	no serious inconsistency	no serious indirectness	serious[3]	none	4/196 (2%)	1/91 (1.1%)	RR 1.86 (0.21 to 16.38)	9 more per 1000 (from 9 fewer to 169 more)	Low
Mean neonatal length of stay											
1 study (Sullivan, 2007)	no serious limitations	no serious inconsistency	no serious indirectness	serious[3]	none	no serious limitations	6.6 ± 9.9 (n=185)	8.5 ± 15.8 (n=194)	NC	MD 1.9 hours shorter (4.54 shorter to 0.74 longer)	Moderate
Mean neonatal length of stay											
1 study (Nokiani, 2009)	randomised trials	serious[4]	no serious inconsistency	no serious indirectness	serious[3]	none	2.99 ± 0.07 (n=196)	2.99 ± 0.11 (n=191)	NC	MD 0.0 hours (0.02 shorter to 0.02	Low

										longer)	
Mean neonatal intensive care unit [NICU] length of stay											
1 study (Sullivan, 2007)	randomised trials	no serious limitations	serious[13]	no serious indirectness	no serious imprecision	none	14.2 ± 15.8 (n=185)	19.7 ± 24.9 (n=194)	NC	MD 5.50 shorter (9.68 shorter to -1.32 shorter)	Moderate
Mean NICU length of stay											
1 study (Yildirim, 2009)	randomised trials	no serious limitations	serious[13]	no serious indirectness	no serious imprecision	none	8.25 ± 2.62 (n=201)	5.66 ± 2.58 (n=198)	NC	MD 2.59 longer (2.08 longer to 3.10 longer)-	Moderate

[1] Sullivan reports total infectious morbidity as endomyometritis, wound infection, haematoma/seroma, pyelonephritis and pneumonia. Thigpen includes wound infection and endometritis only. Yildirim reports overall infectious morbidity as including febrile morbidity, wound infection, endometritis, UTI, mastitis, septic pelvic thrombophlebitis, and RTI. Wax et al. report total infectious morbidity as wound infection, endometritis, intra-abdominal abscess formation, septic pelvic thrombophlebitis, pneumonia or UTI. Gordon et al. report total infectious morbidity as including endometritis, urinary tract infection and wound infection although inclusion of other infections not confirmed.

[2] One study (Gordon et al., 1979) reported a statistically non-significant benefit of giving ampicillin after clamping (pre clamping group 4/38 vs. post clamping group 3/40 (RR 1.40, 95% CI 0.34 to 5.86). However no heterogeneity was indicated (I^2 = 0). The result remains statistically significant (RR 0.63, 95% CI 0.45 to 0.87) when this study is removed.

[3] Confidence interval crosses the line of null hypothesis

[4] There were significantly more women undergoing elective surgery in the "before incision" intervention group (179/196) compared to the "post clamping" comparison group (74/91) (p=0.015) in the Nokiani study.

[5] One study (Wax et al., 1997) reported no events in either treatment group.

[6] No explanation was provided.

[7] One study (Sullivan, 2007) reported results for endomyometritis (definition: maternal fever greater than 100.4° F on two separate occasions, along with fundal tenderness, tachycardia or leukocytosis) and the other 5 studies reported endometritis as an outcome.

[8] One study (Gordon et al., 1979) reported a statistically non-significant benefit of giving ampicillin after clamping (pre clamping gp 4/38 vs. post clamping gp 2/40, RR 2.11 [0.41 to 10.83]). There was little heterogeneity (I^2 = 10%). The result remains statistically significant (RR 0.49, 95% CI 0.29 to 0.83) when this study is removed (I^2 = 0%).

[9] No cases of endometritis in either group.

[10] Neither of the contributing studies (Wax et al., 1997 and Yildirim, 2009) reported any events in either group.

[11] Results for Thigpen et al., 2005 are for neonatal infection, which included 7 cases of sepsis in each treatment group. The 2 reported infections in Yildirim, 2009 occurred in the treatment group and were both clinically and X-ray confirmed pneumonia, no cases of sepsis were recorded.

[12] One study (Wax et al., 1997) reported a statistically non-significant benefit of giving cefazolin after clamping (RR 4.20, 95% CI 0.21 to 85.08). There was no heterogeneity (I^2 = 0%). The result remains statistically non-significant (RR 0.84, 95% CI 0.55 to 1.30) when this study is removed from the meta-analysis.

[13] Pooling the mean differences from the two studies (Sullivan, 2007 and Yildirim, 2009) resulted in very high heterogeneiety (I^2 = 93%) hence these two studies have not been pooled. This heterogeneity maybe partly explained by the different inclusion criteria for recruiting participants into the studies e.g. Sullivan excluded women having emergency CS and women with diabetes but included women with pre-labour rupture of membranes (these criteria were reversed for Yildirim)

Pregnancy and childbirth after CS

Maternal outcomes

Table H.11.1 GRADE findings comparing planned CS with planned vaginal birth in women with a previous CS (maternal outcomes)

Quality assessment							**Summary of findings**				
							Results		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Planned CS**	**Planned vaginal birth**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Maternal mortality (term)											
4 studies (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	17/225,239 (7.5 per 100,000)	3/156,690 (1.9 per 100,000)	RR 3.94 (1.20 to 12.5)*	Absolute risk difference: 5.6 more deaths per 100,000 (from 1.2 more to 10.4 more)	Moderate
Maternal mortality (any gestational age)											

12 studies (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	19/229,635 (8.2 per 100,000)	5/167,220 (3.0 per 100,000)	RR 2.76 (1.07 to 7.14)*	Absolute risk difference: 5.3 more deaths per 100,000 (from 0.4 more to 10.3 more)	Moderate
Uterine rupture (term)											
2 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[1]	serious[2]	no serious imprecision	none	4/18195 (0.22 per 1000)	118/16250 (7.26 per 1000)	RR 0.03 (0.011 to 0.082)*	Absolute risk difference: 7.04 fewer per 1000 (from 8.5 fewer to 5.8 fewer)*	Very low
Uterine rupture (any gestational age)											
4 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[8]	serious	no serious imprecision	none	6/26,535 (0.22 per 1000)	148/20,717 (7.14 per 1000)	RR 0.031 (0.014 to 0.070)*	Absolute risk difference: 7 fewer per 1000* (Adjusted	Very low

										risk difference: 5.1 (from 2.3 fewer to 11.2 fewer)	
Blood transfusion (term)											
4 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[3]	no serious indirectness	no serious imprecision	none	607/227,960 (2.6 per 1000)	547/156,690 (3.5 per 1000)	RR 0.76 (0.67 to 0.85)*	Absolute risk difference: 0.9 fewer per 1000* (Adjusted risk difference: 1.4 fewer per 1000 (from 0.7 fewer to 2.2 fewer)	Very low
Blood transfusion (any gestational age)											
9 studies (Guise et al., 2010)	observational studies	no serious limitations	serious [7]	no serious indirectness	no serious imprecision	none	712/233,884 (3 per 1000)	641/167,423 (3.8 per 1000)	RR 0.795 (0.714 to 0.884)*	Absolute risk difference: 0.8 fewer per 1000	Very low

										(from 1.16 fewer to 0.41 fewer)*	
Hysterectomy (term)											
3 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[4]	no serious indirectness	no serious imprecision	none	248/227,479 (1.09 per 1000)	174/155,763 (1.11 per 1000)	RR 0.97 (0.80 to 1.18)*	Absolute risk difference: 0.02 fewer per 1000 (from 0.24 fewer t0 0.18 more)*	Very low
Hysterectomy (any gestational age)											
8 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[7]	no serious indirectness	no serious imprecision	none	280/234,349 (1.19 per 1000)	197/167,710 (1.17 per 1000)	RR 1.01 (0.84 to 1.22)*	Absolute risk difference: 0.02 more per 1000 (from 0.19 fewer to 0.23 more)*	Very low
Infection: endometritis, chorioamnionitis, wound and other postpartum infections (any gestational age)											
10 studies (Guise	observational studies	no serious limitations	serious[5]	no serious indirectness	no serious imprecision	none	32 per 1000	46 per 1000	Not calculable (NC)	Absolute risk difference	Very low

et al., 2010)										: 14 fewer per 1000*	
Length of hospital stay (any gestational age)											
8 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[6]	no serious indirectness	no serious imprecision	none	Mean 3.92 days	Mean 2.55 days	NC	1.37 days more	Very low
Edinburgh Postnatal Depression Scale (6 months postpartum)											
1 study (Law et.al., 2010)	Randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	Median 0.0 (inter-quartile range 0.0 – 4.0)	Median 0.5 (inter-quartile range) 0.0 – 4.0)	NC	p = 0.766	Low
Beck Depression Inventory (6 months postpartum)											
1 study (Law et.al., 2010)	Randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	Median 1.5 (inter-quartile range 0.0 – 4.8)	Median 1.0 (inter-quartile range 0.0 – 4.3)	NC	p = 0.929	Low
Client Satisfaction Questionnaire (6 months postpartum)											
1 study (Law et.al., 2010)	Randomised trial	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	Median 24.0 (inter-quartile range 22.0 – 25.0)	Median 23.0 (inter-quartile range 22.0 – 25.0)	NC	p = 0.433	Low

[1]Heterogeneity performed for all studies (any gestational age) TOL I^2 = 77.6% p = 0.004

[2]None of the four studies provide details on proportion of the women who underwent induction of labour

[3]Heterogeneity TOL I^2 = 99.4%, p < 0.001 Heterogeneity ERCS I^2 = 99.3%, p < 0.001

[4]Heterogeneity TOL I^2 = 85.2%, p = 0.001 Heterogeneity ERCS I^2 = 97.3%, p < 0.001
[5]Heterogeneity performed for all studies (any gestational age) TOL I^2 = 99.7%, p < 0.001 Heterogeneity performed for all studies (any gestational age) ERCS I^2 = 99.4%, p < 0.001
[6]Significant heterogeneity among studies I^2 = 98.2%, p < 0.001
[7]Heterogeneity TOL and ERCS based on Fisher"s exact test p < 0.001
[8]Heterogeneity Fisher"s exact test TOL I^2 = 77.6% p = 0.004 and ERCS p = 0.421
*Calculated by NCC-WCH technical team

Repeat CS

Table H.11.2 GRADE findings for repeat CS (1 prior CS vs. 2 prior CS)

Quality assessment							**Summary of findings**				
							No. of women		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**1 prior CS**	**2 prior CS**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Blood transfusion rates											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	427/23,579 (1.8%)	202/7,902 (2.6%)	0.70 (0.60 to 0.83)*	Absolute risk difference: 7 fewer per 1000 (from 11 fewer to 3 fewer)*	Low
Infection rates (endometritis)											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	404/14,808 (2.7%)	178/6,324 (2.8%)	0.96 (0.81 to 1.16)*	Absolute risk difference: 1 fewer per 1000 (from 5	Low

										fewer to 3 more)	
Wound complication (infection and wound dehiscence)											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	165/15,808 (1.0%)	107/5,324 (2.0%)	0.55 (0.43 to 0.70)*	Absolute risk difference 10 fewer per 1000 (from 13 fewer to 5 fewer)*	Low
Surgical (bladder) injuries rates											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	15/15,808 (0.1%)	18/6,324 (0.3%)	0.33 (0.17 to 0.65)	Absolute risk difference: 3 fewer per 1000 (from 3 fewer to 3 fewer)	Low

*Calculated by NCC-WCH technical team

Table H.11.3 GRADE findings for repeat CS (1 prior CS vs. ≥ 2 prior CS)

Quality assessment							**Summary of findings**				
							No. of women		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**1 prior CS**	**≥ 2 prior CS**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Blood transfusion rates											

1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	16/491 (3.3%)	22/277 (7.9%)	0.41 (0.22 to 0.76)*	Absolute risk difference: 46 fewer per 1000 (from 56 fewer to 14 fewer)	Low
Hysterectomy rates											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	1/491 (0.20%)	3/277 (1.08%)	0.18 (0.03 to 1.30)*	Absolute risk difference: 9 fewer per 1000 (from 29 fewer to 2 more)	Low

*Calculated by NCC-WCH technical team

Table H.11.4 GRADE findings for repeat CS (1 prior CS vs. 3 prior CS)

Quality assessment							**Summary of findings**				
							No. of women		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**1 prior CS**	**3 prior CS**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Surgical (bladder) injuries rates (any gestational age)											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	15/15,808 (0.09%)	17/1452 (1.2%)	0.08 (0.04 to 0.15)	Absolute risk difference: 11 fewer per 1000 (from 17 fewer to 6	Low

										fewer)*	
Infection (endometritis): (any gestational age)											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	404/15,808 (2.5%)	43/1452 (3.0%)	0.86 (0.63 to 1.17)	Absolute risk difference: 5 fewer per 1000 (from 14 fewer to 4 more)*	Low
Wound complication (infection and wound dehiscence)											
1 study (Guise et al., 2010)	observational studies	no serious limitations	no serious inconsistency	no serious indirectness	no serious imprecision	none	165/15,808 (1.0%)	22/1452 (1.5%)	0.68 (0.44 to 1.06)*	Absolute risk difference: 5 fewer per 1000 (from 12 fewer to 1 more)*	Low

*Calculated by NCC-WCH technical team

Vaginal birth attempt following CS

Table H.11.5 GRADE findings for planned VBAC after 2 prior CS versus elective repeat CS after 2 prior CS

Quality assessment							**Summary of findings**				
							No. of women		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Planned vaginal birth** **2 prior CS**	**Planned repeat CS** **2 prior CS**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**

Blood transfusion											
6 studies (Tahseen & Griffiths, 2010)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[2]	none	47/2,292 (2.1%)	172/10,277 (1.7%)	RR 1.22 (0.89 to 1.68)	Absolute risk difference: 4 more per 1000 (from 2 fewer to 11 more)*	Very low
Febrile morbidity											
6 studies (Tahseen & Griffiths, 2010)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	serious[3]	none	192/2,678 (7.2%)	630/9,858 (6.4%)	RR 1.12 (0.95 to 1.3)	Absolute risk difference: 8 more per 1000 (from 3 fewer to 19 more)*	Very low
Hysterectomy											
7 studies (Tahseen & Griffiths, 2010)	observational studies	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision	none	9/1,747 (0.5%)	51/8,009 (0.6%)	RR 0.80 (0.40 to 1.61)	Absolute risk difference: 1 fewer per 1000 (from 4 fewer to 4 more)	Very low

[1]poorly conducted meta-analysis (analysis software developed for RCTs used for observational studies without adjustment)

[2]Heterogeneity across studies $I^2 = 64$

[3]Heterogeneity across studies $I^2 = 65$

*Calculated by NCC-WCH technical team

Table H.11.6 GRADE findings for planned VBAC after ≥ 3 prior CS versus elective repeat CS after ≥ 3 prior CS

Quality assessment							Summary of findings				
							No. of women		Effect		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Planned vaginal birth** **≥ 3 prior CS**	**Planned repeat CS** **≥ 3 prior CS**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**
Blood transfusion											
1 study (Cahill et al., 2010)	observational studies	no serious limitations	no serious inconsistency	serious[1]	serious[2,3]	none	2/89 (2.2%)	17/771 (2.2%)	RR 1.02 (0.24 to 4.43)	Absolute risk difference: 0.4 more per 1000 (from 21 fewer to 56 more)*	Very low
Fever											
1 study (Cahill et al., 2010)	observational studies	no serious limitations	no serious inconsistency	serious[1]	serious[2]	none	14/89 (15.7%)	121/771 (15.7%)	RR 1.00 (0.60 to 1.67)	Absolute risk difference: 0.3 more per 1000 (from 67 fewer to 93 more)*	Very low
Bladder injury rates											
1 study (Cahill et al., 2010)	observational studies	no serious limitations	no serious inconsistency	serious[1]	serious[2]	none	0/89	12/771 (1.6%)	Not calculable (NC)	Absolute risk difference: 15 fewer per	Very low

										1000 (from 27 fewer to 25 more)*	
Surgical injury rates											
1 study (Cahill et al., 2010)	observational studies	no serious limitations	no serious inconsistency	serious[1]	serious[2]	none	0/89	7/771 (0.9%)	NC	Absolute risk difference: 9 fewer per 1000 (from 18 fewer to 32 more)*	Very low
Uterine rupture											
1 study (Cahill et al., 2010)	observational studies	no serious limitations	no serious inconsistency	serious[1]	serious[2]	none	0/89	0/771	NC	NC	Very low

[1]Indirectness of study population: the average gestational age at delivery was 37 weeks (therefore a significant proportion are likely to have been preterm), 42% were smokers, half were black, and babies had an average birth weight of over 3000 g

[2] Total number of events is low

[3] Wide CI

*Calculated by NCC-WCH technical team

Neonatal outcomes

Table H.11.7 GRADE findings comparing planned CS with planned vaginal birth in women with a previous CS (neonatal outcomes)

Quality assessment							**Summary of findings**				
							No. of neonates		**Effect**		
No. of studies	**Design**	**Limitations**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**Planned CS**	**Planned vaginal**	**Relative (95% CI)**	**Absolute (95% CI)**	**Quality**

								birth			
Perinatal mortality (term)											
5 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[1]	no serious indirectness	no serious imprecision	none	46/35,686 (0.12%)	72/41,213 (0.17%)	RR 0.73 (0.51 to 1.06)*	Absolute risk difference: 0.46 less deaths per 1000 (Calculated risk difference: 0.41 [from 1.0 fewer to 0.1 more])	Very low
Neonatal mortality (term)											
6 studies (Guise et al., 2010)	observational studies	no serious limitations	serious[2]	no serious indirectness	no serious imprecision	none	40/63,843 (0.06%)	51/44,485 (0.11%)	RR 0.546 (0.36 to 0.82)*	Absolute risk difference: 0.52 fewer deaths per 1000 (from 0.92 fewer to 0.17 fewer)*	Very low
Bag and mask ventilation (term)											
3 studies (Guise et al., 2010)	observational studies	serious[3]	no serious inconsistency	no serious indirectness	no serious imprecision	none	62/976 (6.3%)	183/1134 (16.1%)	RR 0.39 (0.30 to 0.52)*	Absolute risk difference: 98 fewer per 1000 (Calculated risk difference:	Very low

										25 fewer per 1000 [from 7.7 fewer to 50 fewer])*	
Transient Tachypnea (term)											
3 studies (Guise et al., 2010)	observational studies	serious[3]	serious[4]	no serious indirectness	no serious imprecision	none	190/1476 (12.9%)	427/3451 (12.4%)	RR 1.04 (0.88 to 1.21)*	Absolute risk difference: 5 more per 1000 (Calculated risk difference: 8.3 more per 1000 [from 33 fewer to 17 more])	Very low

[1]Heterogeneity TOL and ERCS based on Fisher"s exact test p < 0.001

[2]significant heterogeneity ERCS based on fisher exact test p = 0.02

[3]Lack of consistency in measurement present in the studies

[4]Heterogeneity between studies (any gestational age studies I^2 = 67% p = 0.048

* Calculated by NCC-WCH technical team

Appendix I Deleted material from 2004 version

1.1 Aim of the guideline

Caesarean section (CS) is the end point of a number of care pathways hence it is not possible to cover all the clinical decisions and pathways which may lead to a CS in one guideline. This evidence based guideline has been developed to help ensure consistency of quality of care experienced by women having CS. It provides evidence based information for health care professionals and women about:

- the risks and benefits of CS
- certain specific indications for CS
- effective management strategies which avoid CS
- anaesthetic and surgical aspects of care
- interventions to reduce morbidity from CS and
- aspects of organisation and environment which affect CS rates.

This guideline draws together and builds on work from other relevant NICE guidelines (such as Antenatal Care, Electronic Fetal Monitoring and Induction of Labour[1–3]), the findings of the NSCSA[4] and the Children"s National Service Frameworks (England and Wales). The NSF is in development and will produce standards for service configuration, with emphasis on how care is delivered and by whom, including issues of ensuring equity of access to care for disadvantaged women and women"s views about service provision. (For more information, see www.doh.gov.uk/nsf/children.htm for England and www.wales.nhs.uk/sites/page.cfm?orgid= 334&pid = 934 for Wales).

In England, CS rates have increased from 9% of deliveries in 1980 to 21% in 2001 therefore about 120,000 caesarean sections are performed annually in England and Wales. A similar increase in CS rates has been seen in many developed countries.[4]

Evaluation of factors associated with the increase in CS rates has been carried out in several countries.[5–11] These studies have demonstrated that some of the difference in CS rates observed can be explained by changes in the demographic characteristics of the childbearing population. For example where women are delaying childbirth and having fewer children the average age of women giving birth and the proportion having their first pregnancy has increased.[4]

CS rates increase with maternal age [see evidence table] and this association persists after adjustment for other factors[4] [evidence level 3]. The overall CS rate for women in their first pregnancy is increased (24%). For women who have had a baby before but who have not had a CS, the rate of CS is reduced (10%) and for women who have had a baby before but who have had at least one previous CS the CS rate is markedly increased (67%).[4] The CS rate also varies in the UK according to ethnic group with higher CS rates reported in women who are black African or black Caribbean. This association persists after adjustment for other demographic or clinical differences[12] [evidence level 3]. However these factors only explain part of the variation observed between regions and maternity units.[4]

Although CS rates have increased over the last ten to fifteen years, the four major clinical determinants of the CS rate have not changed.[4] These remain fetal compromise (22%), “failure to progress” in labour (20%), repeat CS (14%) and breech (11%). The fifth most common reason given for performing a CS has changed and is now reported to be “maternal request” (7%).[4]

Variation in clinical practice contributes to variation in CS rate. For example, the use of continuous electronic fetal monitoring in labour is associated with increases in CS rates but not with a reduction in perinatal mortality rate. A national clinical standard recommends that fetal blood sampling is undertaken to assess whether there is fetal compromise in labour prior to the decision to perform a CS. Concordance with this standard was assessed in the NSCSA which demonstrated that maternity services meeting the standard had lower CS rates. If this standard was met throughout maternity services it is likely the CS rate would be reduced by 1%.[2–4]

A clinical unit"s CS rate is also affected by organisational factors (such as being a tertiary referral centre or the presence of a neonatal intensive care unit). A review of Canadian hospitals with low CS rates suggested that achievement and attainment of a low CS rate was associated with a range of factors including attitudinal factors (such as pride in a low CS rate, a „culture" of birth as a normal physiological process, a commitment to one-to-one supportive care in labour), organisation of care (such as strong leadership, effective multidisciplinary teams, timely access to skilled professionals), clinicians application of knowledge and information (such as a strong commitment to evidence based practice and programmes to ensure continuous quality improvement).[11]

2. Summary of recommendations and practice algorithm

2.1 Summary of recommendations

Chapter 3 Woman centred care

3.1 Provision of information

Pregnant women should be offered evidence-based information and support to enable them to make informed decisions about childbirth. Addressing women"s views and concerns should be recognised as being integral to the decision making process. [C]

Pregnant women should be given evidence-based information about CS during the antenatal period, because about 1 in 5 women will have a CS. This should include information about CS, such as:

- indications for CS (such as presumed fetal compromise, „failure to progress" in labour, breech presentation)
- what the procedure involves
- associated risks and benefits
- implications for future pregnancies and birth after CS. [GPP]

Communication and information should be provided in a form that is accessible to pregnant women, taking into account the information and cultural needs of minority communities and women whose first language is not English or who cannot read, together with the needs of women with disabilities or learning difficulties. [GPP]

3.2 Consent for CS

Consent for CS should be requested after providing pregnant women with evidence-based information and in a manner that respects the woman"s dignity, privacy, views and culture whilst taking into consideration the clinical situation. [C]

A competent pregnant woman is entitled to refuse the offer of treatment such as CS, even when the treatment would clearly benefit her or her baby"s health. Refusal of treatment needs to be one of the patient"s options. [D]

When considering a CS there should be discussion on the benefits and risks of CS compared with vaginal birth specific to the woman and her pregnancy. [GPP]

When the decision is made to perform a CS, a record should be made of all the factors that influence the decision, and which of these is the most influential. [GPP]

3.3 Classification of urgency

The urgency of CS should be documented using the following standardised scheme in order to aid clear communication between healthcare professionals about the urgency of a CS:

1. immediate threat to the life of the woman or fetus
2. maternal or fetal compromise which is not immediately life-threatening
3. no maternal or fetal compromise but needs early delivery
4. delivery timed to suit woman or staff. [C]

Chapter 4 Planned CS

4.1 Breech presentation

Women who have an uncomplicated singleton breech pregnancy at 36 weeks gestation should be offered external cephalic version. Exceptions include women in labour and women with a uterine scar or abnormality, fetal compromise, ruptured membranes, vaginal bleeding or medical conditions. [A]

Pregnant women with a singleton breech presentation at term, for whom external cephalic version is contraindicated or has been unsuccessful, should be offered CS as it reduces perinatal mortality and neonatal morbidity. [A]

4.2 Multiple pregnancy

In otherwise uncomplicated twin pregnancies at term where the presentation of the first twin is cephalic, perinatal morbidity and mortality is increased for the second twin. However, the effect of planned CS in improving outcome for the second twin remains uncertain and therefore CS should not routinely be offered outside a research context. [C]

In twin pregnancies where the first twin is not cephalic the effect of CS in improving outcome is uncertain but current practice is to offer a planned CS. [GPP]

Planned CS for uncomplicated twin pregnancy should not be carried out before 38 weeks because this increases the risk of respiratory problems in these babies. [B]

4.3 Preterm birth

Preterm birth is associated with higher neonatal morbidity and mortality. However, the effect of planned CS in improving these outcomes remains uncertain and therefore CS should not routinely be offered outside a research context. [C]

4.4 Small for gestational age

The risk of neonatal morbidity and mortality is higher with „small for gestational age" babies. However, the effect of planned CS in improving this outcome remains uncertain and therefore CS should not routinely be offered outside a research context. [C]

4.5 Placenta praevia

Women with a placenta that partly or completely covers the internal cervical os (grade 3 or 4 placenta praevia) should be offered CS. [D]

4.6 Predicting CS for cephalopelvic disproportion in labour

Pelvimetry is not useful in predicting “failure to progress” in labour and should not be used in decision making about mode of birth. [A]

Shoe size, maternal height and estimations of fetal size (ultrasound or clinical examination) do not accurately predict cephalopelvic disproportion and should not be used to predict “failure to progress” during labour. [B]

4.7 Mother-to-child transmission of maternal infections

HIV-positive women who are pregnant should be offered a planned CS because it reduces the risk of mother-to-child transmission of HIV. [A]

Mother-to-child transmission of hepatitis B can be reduced if the baby receives immunoglobulin and vaccination. In these situations pregnant women with hepatitis B should not be offered a planned CS

because there is insufficient evidence that this reduces mother-to-child transmission of hepatitis B virus. [B]

Women who are infected with hepatitis C should not be offered planned CS because this does not reduce mother-to-child transmission of the virus. [C]

Pregnant women who are co-infected with hepatitis C virus and HIV should be offered a planned CS as this reduces the mother-to-child-transmission of both hepatitis C virus and HIV. [C]

Women with primary genital herpes simplex virus (HSV) infection occurring in the third trimester of pregnancy should be offered planned CS because it decreases the risk of neonatal HSV infection. [C]

Pregnant women with a recurrence of HSV at birth should be informed that there is uncertainty about the effect of planned CS in reducing the risk of neonatal HSV infection. Therefore, CS should not routinely be offered outside a research context. [C]

4.8 Maternal request

Maternal request is not on its own an indication for CS and specific reasons for the request should be explored, discussed and recorded. [GPP]

When a woman requests a CS in the absence of an identifiable reason, the overall benefits and risks of CS compared with vaginal birth should be discussed and recorded. [GPP]

When a woman requests a CS because she has a fear of childbirth, she should be offered counselling (such as cognitive behavioural therapy) to help her to address her fears in a supportive manner, because this results in reduced fear of pain in labour and shorter labour. [A]

An individual clinician has the right to decline a request for CS in the absence of an identifiable reason. However the woman"s decision should be respected and she should be offered referral for a second opinion. [GPP]

Chapter 5 Factors affecting likelihood of CS during intrapartum care

5.1 Place of birth

During their discussions about options for birth, healthy pregnant women with anticipated uncomplicated pregnancies should be informed that delivering at home reduces the likelihood of CS. [B]

During their discussions about options for birth, healthy pregnant women with anticipated uncomplicated pregnancies should be informed that planned childbirth in a „midwifery led unit" does not reduce the likelihood of CS. [A]

5.2 Factors reducing the likelihood of CS

Women should be informed that continuous support during labour from women with or without training reduces the likelihood of CS. [A]

Women with an uncomplicated pregnancy should be offered induction of labour beyond 41 weeks because this reduces the risk of perinatal mortality and the likelihood of CS. [A]

A partogram with a 4-hour action line should be used to monitor progress of labour of women in spontaneous labour with an uncomplicated singleton pregnancy at term, because it reduces the likelihood of CS. [A]

Consultant obstetricians should be involved in the decision making for CS, because this reduces the likelihood of CS. [C]

Electronic fetal monitoring is associated with an increased likelihood of CS. When CS is contemplated because of an abnormal fetal heart rate pattern, in cases of suspected fetal acidosis, fetal blood sampling should be offered if it is technically possible and there are no contraindications. [B]

5.3 No influence on likelihood of CS

Women should be informed that the following interventions during intrapartum care have not been shown to influence the likelihood of CS, although they may affect other outcomes that are outside the scope of this guideline:

- walking in labour
- non-supine position during the second stage of labour
- immersion in water during labour
- epidural analgesia during labour
- the use of raspberry leaf. [A]

Women should be informed that the effects on the likelihood of CS of complementary therapies used during labour (such as acupuncture, aromatherapy, hypnosis, herbal products, nutritional supplements, homeopathic medicines, and Chinese medicines) have not been properly evaluated and further research is needed before such interventions can be recommended. [D]

5.4 „Failure to progress" (FTP) in labour and CS

The following aspects of intrapartum care have not been shown to influence the likelihood of CS for "failure to progress" and should not be offered for this reason, althought they may affect other outcomes which are outside the scope of this guideline:

- Active management of labour
- Early amniotomy. [A]

5.5 Eating during labour

Women should be informed that eating a low-residue diet during labour (toast, crackers, low-fat cheese) results in larger gastric volumes, but the effect on the risk of aspiration if anaesthesia is required is uncertain. [A]

Women should be informed that having isotonic drinks during labour prevents ketosis without a concomitant increase in gastric volume. [A]

Chapter 6 Procedural aspects of CS

6.1 Timing of planned CS

The risk of respiratory morbidity is increased in babies born by CS before labour, but this risk decreases significantly after 39 weeks. Therefore planned CS should not routinely be carried out before 39 weeks. [B]

6.2 Decision to delivery interval for emergency CS

Delivery at emergency CS for maternal or fetal compromise should be accomplished as quickly as possible, taking into account that rapid delivery has the potential to do harm. A decision to delivery interval of less than 30 minutes is not in itself critical in influencing baby outcome, but has been accepted an audit standard for response to emergencies within maternity services. [C]

6.3 Preoperative testing and preparation for CS

Pregnant women should be offered a haemoglobin assessment before CS to identify those who have anaemia. Although blood loss of more than 1000ml is infrequent after CS (it occurs in 4 to 8% of CS) it is a potentially serious complication. [C]

Pregnant women having CS for ante partum haemorrhage, abruption, uterine rupture and placenta praevia are at increased risk of blood loss greater than 1000 ml and should have the CS carried out at a maternity unit with on-site blood transfusion services. [C]

Pregnant women who are healthy and who have otherwise uncomplicated pregnancies should not routinely be offered the following tests before CS:

- grouping and saving of serum
- cross-matching of blood
- a clotting screen

preoperative ultrasound for localisation of placenta, because this does not improve CS morbidity outcomes (such as blood loss of more than 1000 ml, injury of the infant, injury to the cord or to other adjacent structures). [C]

Women having CS with regional anesthesia require an indwelling urinary catheter to prevent over-distension of the bladder, because the anaesthetic block interferes with normal bladder function. [GPP]

6.4 Anaesthesia for CS

Pregnant women having a CS should be given information on different types of post-CS analgesia so that analgesia best suited to their needs can be offered. [GPP]

Women who are having a CS should be offered regional anaesthesia because it is safer and results in less maternal and neonatal morbidity than general anaesthesia. This includes women who have a diagnosis of placenta praevia. [A]

Women who are having induction of regional anaesthesia for CS should be cared for in theatre because this does not increase patient anxiety. [B]

Women who are having a CS under regional anaesthesia should be offered intravenous ephedrine or phenylephrine, and volume pre-loading with crystalloid or colloid to reduce the risk of hypotension occurring during CS. [A]

Each maternity unit should have a drill for failed intubation during obstetric anaesthesia. [D]

To reduce the risk of aspiration pneumonitis women should be offered antacids and drugs (such as H2 receptor antagonists or proton pump inhibitors) to reduce gastric volumes and acidity before CS. [B]

Women having a CS should be offered anti-emetics (either pharmacological or acupressure) to reduce nausea and vomiting during CS. [A]

General anaesthesia for emergency CS should include preoxygenation, cricoid pressure and rapid sequence induction to reduce the risk of aspiration. [GPP]

Intravenous ephedrine or phenylephrine should be used in the management of hypotension during CS. [A]

The operating table for CS should have a lateral tilt of 15 degrees, because this reduces maternal hypotension. [A]

6.5 Surgical techniques for CS

Healthcare professionals should wear double gloves when performing or assisting at CS on women who have tested positive for HIV, to reduce the risk of HIV infection of healthcare professionals during surgery. [A]

General recommendations for safe surgical practice should be followed at CS to reduce the risk of HIV infection of staff. [C]

CS should be performed using a transverse abdominal incision because this is associated with less postoperative pain and an improved cosmetic effect compared with a midline incision. [B]

The transverse incision of choice should be the Joel Cohen incision (straight skin incision, 3 cm above the symphysis pubis; subsequent tissue layers are opened bluntly and if necessary extended with scissors and not a knife), because it is associated with shorter operating times and reduced postoperative febrile morbidity. [A]

The use of separate surgical knives to incise the skin and the deeper tissues at CS is not recommended because it does not decrease wound infection. [B]

When there is a well formed lower uterine segment, blunt rather than sharp extension of the uterine incision should be used because it reduces blood loss, incidence of postpartum haemorrhage and the need for transfusion at CS. [A]

Women who are having a CS birth should be informed that the risk of fetal lacerations at CS is about 2%. [C]

Forceps should only be used at CS if there is difficulty delivering the baby"s head. The effect on neonatal morbidity of the routine use of forceps at CS remains uncertain. [C]

Oxytocin 5 iu by slow intravenous injection should be used at CS to encourage contraction of the uterus and to decrease blood loss. [C]

At CS, the placenta should be removed using controlled cord traction and not manual removal as this reduces the risk of endometritis. [A]

Intraperitoneal repair of the uterus at CS should be undertaken. Exteriorisation of the uterus is not recommended because it is associated with more pain and does not improve operative outcomes such as haemorrhage and infection. [A]

The effectiveness and safety of single layer closure of the uterine incision is uncertain. Except within a research context, the uterine incision should be sutured with two layers. [B]

Neither the visceral nor the parietal peritoneum should be sutured at CS because this reduces operating time, the need for postoperative analgesia and improves maternal satisfaction. [A]

In the rare circumstances that a midline abdominal incision is used at CS, mass closure with slowly absorbable continuous sutures should be used because this results in fewer incisional hernias and less dehiscence than layered closure. [B]

Routine closure of the subcutaneous tissue space should not be used, unless the woman has more than 2 cm subcutaneous fat, because it does not reduce the incidence of wound infection. [A]

Superficial wound drains should not be used at CS because they do not decrease the incidence of wound infection or wound haematoma. [A]

Obstetricians should be aware that the effects of different suture materials or methods of skin closure at CS are not certain. [C]

Umbilical artery pH should be performed after all CS for suspected fetal compromise, to allow review of fetal wellbeing and guide ongoing care of the baby. [B]

Women having a CS should be offered prophylactic antibiotics, such as a single dose of first generation cephalosporin or ampicillin, to reduce the risk of postoperative infections (such as endometritis, urinary tract and wound infection) which occurs in about 8% of women who have had a CS. [A]

Women having a CS should be offered thromboprophylaxis because they are at increased risk of venous thromboembolism. The choice of method of prophylaxis (for example, graduated stockings, hydration, early mobilisation, low molecular weight heparin) should take into account risk of thromboembolic disease and follow existing guidelines. [D]

Women"s preferences for the birth, such as music playing in theatre, lowering the screen to see baby born, or silence so that the mother"s voice is the first the baby hears, should be accommodated where possible. [GPP]

Chapter 7 Care of the baby born by CS

7.1 Presence of paediatrician at CS

An appropriately trained practitioner skilled in the resuscitation of the newborn should be present at CS performed under general anaesthesia or where there is evidence of fetal compromise. [C]

7.4 Thermal care for babies born by CS

Babies born by CS are more likely to have a lower temperature, and thermal care should be in accordance with good practice for thermal care of the newborn baby. [GPP]

7.5 Maternal contact (skin to skin)

Early skin-to-skin contact between the woman and her baby should be encouraged and facilitated because it improves maternal perceptions of their infant, mothering skills, maternal behaviour, breastfeeding outcomes and reduces infant crying. [A]

7.6 Breastfeeding

Women who have had a CS should be offered additional support to help them to start breastfeeding as soon possible after the birth of their baby. This is because women who have had a CS are less likely to start breastfeeding in the first few hours after the birth, but, when breastfeeding is established, they are as likely to continue as women who have a vaginal birth. [A]

Chapter 8 Care of the woman after CS

Health professionals caring for women after CS should be aware that, although it is rare for women to need intensive care following childbirth, this occurs more frequently after CS (about 9 per 1000). [B]

After CS women should be observed on a one-to-one basis by a properly trained member of staff until they have regained airway control and cardiorespiratory stability and are able to communicate. [D]

After recovery from anaesthesia, observations (respiratory rate, heart rate, blood pressure, pain and sedation) should be continued every half hour for two hours, and hourly thereafter provided that the observations are stable or satisfactory. If these observations are not stable, more frequent observations and medical review are recommended. [GPP]

For women who have had intrathecal opioids, there should be a minimum hourly observation of respiratory rate, sedation and pain scores for at least 12 hours for diamorphine and 24 hours for morphine. [GPP]

For women who have had epidural opioids and patient-controlled analgesia with opioids, there should be routine hourly monitoring of respiratory rate, sedation and pain scores throughout treatment and for at least 2 hours after discontinuation of treatment. [GPP]

8.2 Pain management after CS

Women should be offered diamorphine (0.3–0.4 mg intrathecally) for intra- and postoperative analgesia because it reduces the need for supplemental analgesia after a CS. Epidural diamorphine (2.5–5.0 mg) is a suitable alternative. [A]

Patient-controlled analgesia using opioid analgesics should be offered after CS because it improves pain relief. [GPP]

Providing there is no contraindication, nonsteroidal anti-inflammatory drugs should be offered post-CS as an adjunct to other analgesics, because they reduce the need for opioids. [A]

8.3 Early eating and drinking after CS

Women who are recovering well after CS and who do not have complications can eat and drink when they feel hungry or thirsty. [A]

8.4 Urinary catheter removal after CS

Removal of the urinary bladder catheter should be carried out once a woman is mobile after a regional anaesthetic and not sooner than 12 hours after the last epidural „top up" dose. [D]

8.5 Respiratory physiotherapy after CS

Routine respiratory physiotherapy does not need to be offered to women after a CS under general anaesthesia, because it does not improve respiratory outcomes such as coughing, phlegm, body temperature, chest palpation and auscultatory changes. [A]

8.6 De-briefing for women after CS

Women who have had a CS should be offered the opportunity to discuss with their health care providers the reasons for the CS and implications for the child or future pregnancies. [GPP]

8.7 Length of hospital stay and readmission to hospital

Length of hospital stay is likely to be longer after a CS (an average of 3–4 days) than after a vaginal birth (average 1–2 days). However, women who are recovering well, are apyrexial and do not have complications following CS should be offered early discharge (after 24 hours) from hospital and follow up at home, because this is not associated with more infant or maternal readmissions. [A]

Chapter 9 Recovery following CS

In addition to general postnatal care, women who have had a CS should be provided with:

- specific care related to recovery after CS
- care related to management of other complications during pregnancy or childbirth. [GPP]

Women who have a CS should be prescribed and encouraged to take regular analgesia for postoperative pain, using:

- for severe pain, co-codamol with added ibuprofen
- for moderate pain, co-codamol
- for mild pain, paracetamol. [D]

CS wound care should include:

- removing the dressing 24 hours after the CS
- specific monitoring for fever
- assessing the wound for signs of infection (such as increasing pain, redness or discharge), separation or dehiscence
- encouraging the woman to wear loose, comfortable clothes and cotton underwear
- gently cleaning and drying the wound daily
- if needed, planning the removal of sutures or clips. [D]

Healthcare professionals caring for women who have had a CS and who have urinary symptoms should consider the possible diagnosis of:

- urinary tract infection
- stress incontinence (occurs in about 4% of women after CS)
- urinary tract injury (occurs in about 1 per 1000 CS).[D]

Healthcare professionals caring for women who have had a CS and who have irregular vaginal bleeding should consider that this is more likely to be due to endometritis than retained products of conception. [D]

Women who have had a CS are at increased risk of thromboembolic disease (both deep vein thrombosis and pulmonary embolism), so healthcare professionals need to pay particular attention to women who have chest symptoms (such as cough or shortness of breath) or leg symptoms (such as painful swollen calf). [D]

Women who have had a CS should resume activities such as driving a vehicle, carrying heavy items, formal exercise and sexual intercourse once they have fully recovered from the CS (including any physical restrictions or distracting effect due to pain). [GPP]

Healthcare professionals caring for women who have had a CS should inform women that after a CS they are not at increased risk of difficulties with breastfeeding, depression, post-traumatic stress symptoms, dyspareunia and faecal incontinence. [D]

Chapter 10 Pregnancy and childbirth after CS

The risks and benefits of vaginal birth after CS compared with repeat CS are uncertain. Therefore the decision about mode of birth after a previous CS should take into consideration:

- maternal preferences and priorities
- a general discussion of the overall risks and benefits of CS
- risk of uterine rupture
- risk of perinatal mortality and morbidity. [GPP]

Pregnant women who have a previous CS and who want to have a vaginal birth should be supported in this decision. They should be informed that:

- uterine rupture is a very rare complication, but is increased in women having a planned vaginal birth (35 per 10,000 women compared with 12 per 10,000 women having planned repeat CS)
- the risk of an intrapartum infant death is small for women who have planned vaginal birth (about 10 per 10,000); however, this is higher than for planned repeat CS (about 1 per 10,000)
- the effect of planned vaginal birth or planned repeat CS on cerebral palsy is uncertain. [B]

Women who have had a previous CS should be offered:

- electronic fetal monitoring during labour
- care during labour in a unit where there is immediate access to CS and on-site blood transfusion services. [GPP]

Women who have had a previous CS can be offered induction of labour, but both women and healthcare professionals should be aware that the likelihood of uterine rupture in these circumstances is increased to:

- 80 per 10,000 when labour is induced with non-prostaglandin agents •

240 per 10,000 when labour is induced using prostaglandins. [B]

During induction of labour, women who have had a previous CS should be monitored closely, with access to electronic fetal monitoring and with immediate access to CS, because they are at increased risk of uterine rupture. [GPP]

Pregnant women with both previous CS and a previous vaginal birth should be informed that they have an increased likelihood of a vaginal birth than women who have had a previous CS but no previous vaginal birth. [B

2.2 Future research recommendations

RCTs are needed of planned CS compared with planned vaginal delivery and should include evaluation of the short- and long-term health effects (benefits and harms) of CS. To facilitate pooling of results in meta-analysis these should be consistently measured and reported across trials.

Further evaluation is needed to determine the impact of demographic and clinical factors (such as ethnic group, increase in body mass index) and attitudinal factors on CS rates.

Further research is needed to determine the effect of CS compared with vaginal birth for women with:

- preterm breech
- a breech presentation that is diagnosed in the second stage of labour.

RCTs are needed to evaluate the benefits and risks to mothers and babies of CS for delivery of twin and triplet pregnancies.

RCTs are needed to evaluate the impact of CS on the benefits and risks to mothers and babies born preterm.

RCT evidence is needed to determine the effect of planned CS on neonatal mortality and morbidity for „small for gestational age" babies.

RCTs are needed to evaluate the effect on MTCT and maternal health of planned CS in pregnant women on highly active antiretroviral therapy (such as HAART) or who have low viral loads.

RCTs are needed to evaluate the effect of planned CS in addition to immunoglobulin and vaccination on MTCT of hepatitis B.

RCT‟s are needed to determine whether planned CS should be offered to prevent MTCT of HSV to women with recurrence of HSV at birth and in women in whom the primary HSV infection occurs in the first trimester of pregnancy.

Qualitative and quantitative research should be carried out to look at the reasons that lead to pregnant women‟s request for CS.

The effect of counselling and other interventions such as second opinion and provision of support on the likelihood of CS for women who express a preference for CS need further evaluation.

RCTs comparing planned birth in a „stand alone‟ birthing centre to birth in conventional maternity facilities or midwifery-led units.

Qualitative research is needed to explore women‟s opinions on place of birth and the impact of place of birth on their birth experiences.

Further RCTs are needed to determine the effect of „delayed admission in labour‟ on the likelihood of CS.

RCT evidence is needed to determine the impact of partograms based on different curves of labour on CS rates and morbidity outcomes.

RCT evidence is required to evaluate the effect of parenteral analgesia (intramuscular and intravenous morphine based analgesia) used during childbirth on the likelihood of CS.

RCTs are needed to establish the safety and efficacy of complementary therapies used during labour.

More RCTs are required to determine the effect of oxytocin augmentation as single interventions or as part of a package of interventions (such as “active management of labour”) on the likelihood of CS and other outcomes including women‟s satisfaction with care.

Further research on the short and longer term health impacts of CS during the second stage compared to operative vaginal delivery are needed.

RCTs that evaluate the effects of eating during labour compared with restricting intakes on labour outcomes are needed. Cohort or case-control studies on the risk factors for aspiration and other morbidities for women having CS are needed.

RCTs are required to determine the effectiveness of adhesive drapes at CS in reducing blood spillage and cross infection and improving safety for staff in the operating room.

RCTs are needed to evaluate the effectiveness of incisions made with diathermy compared with surgical knife in terms of operating time, wound infection, wound tensile strength, cosmetic appearance and women‟s satisfaction with the experience.

RCTs are needed to determine the effect of delayed cord clamping on neonatal outcomes including transient tachypnoea of the newborn and risk of maternal fetal transfusion in rhesus negative women for term and preterm births.

RCTs are required to determine the effectiveness of mass closure compared to layered closure of the abdominal wall incision at CS particularly for transverse abdominal incisions.

Research is required to assess the effect of the various surgical techniques for CS on future surgery such as repeat CS and the incidence of complications during future surgery such as hysterectomy and urogynaecological procedures.

More RCTs are needed to determine the effect of wound drainage of postoperative morbidity especially in women more at risk of this outcome such as obese women.

More RCTs are needed to determine the effect of staples compared with subcuticular sutures for skin closure at CS on postoperative pain, cosmetic appearance and removal of sutures and staples.

RCTs are needed to determine the effect of the timing of administering antibiotics in relation to cord clamping on neonatal outcomes.

More evaluation of interventions such as seeing baby born via a lowered screen; music playing in theatre; silence in theatre so mother‟s voice is the first baby hears and lowering the lights in theatre during CS are needed.

Further evaluation of the long and short term risks and benefits of CS compared with vaginal birth for babies is required.

Research is required to establish the thermal care requirements for babies born by CS.

Further research is needed to determine the effect of wound infiltration with local anaesthetic at CS on the need for post-CS analgesia .

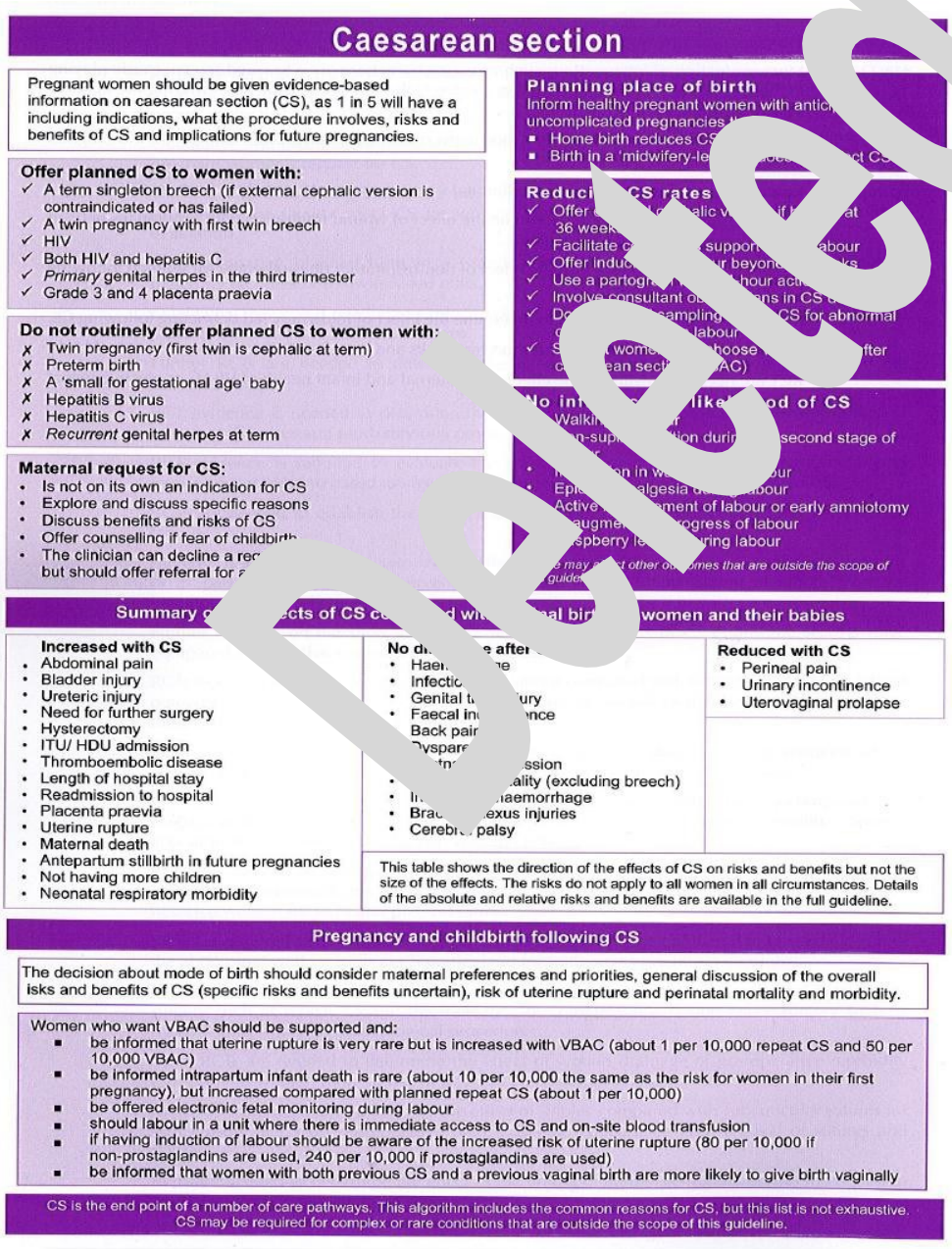
Research is needed to establish the effect of non-respiratory physiotherapy for women following CS on post-CS recovery.

More RCT evidence is required to determine the effect of midwifery led debriefing following CS.

Further evaluation of the long and short term risks and benefits of CS compared to vaginal birth.

RCT are needed to evaluate the effects on maternal and infant health of VBAC or electiv e repeat CS for women who have had a previous CS.

2.3 Algorithm



Making the decision for CS

- ✓ Communication and information should be provided in a form that is accessible
- ✓ Consent for CS should be requested after providing pregnant women with evidence-based information
- ✓ A competent pregnant woman is entitled to refuse the offer of treatment such as CS, even when the treatment would clearly benefit her or her baby's health

Timing of planned CS: CS should be carried out after 39 weeks of gestation to decrease the risk of respiratory morbidity.

Emergency CS: In cases of suspected or confirmed acute fetal compromise, delivery should be accomplished as soon as possible. The accepted standard is within 30 minutes.

Document the urgency of CS using:
1) Immediate threat to the life of the woman or fetus
2) Maternal or fetal compromise which is not immediately life-threatening
3) No maternal [illegible]tal compromise but needs early delivery
4) Delivery time[illegible] woman or staff

Procedural aspects of CS

Preoperative assessment

- ✓ Check haemoglobin
- ✓ Prescribe antibiotics (one dose of first-generation cephalosporin or ampicillin)
- ✓ Assess risk for thromboembolic disease (offer graduated stockings, hydration, early mobilisation and low molecular weight heparin)
- ✓ Site an indwelling bladder catheter

For healthy women with an uncomplicated pregnancy don't offer:
- ✗ Grouping and saving of serum
- ✗ Cross matching of blood
- ✗ Clotting screen
- ✗ Preoperative ultrasound to localise the placenta

Anaesthetic c[illegible]

- ✓ Discuss post-C[illegible]lgesia opt[illegible]
- ✓ Offer antacids a[illegible]eceptor ana[illegible]
- ✓ Offer an[illegible]emetics
- ✓ Off[illegible]aest[illegible]
- ✓ Re[illegible]tensi[illegible]
  - [illegible]venous [illegible]ine or [illegible]ine infusion
  - [illegible] pre[illegible]ng with crystalloid or colloid
  - lat[illegible] degr[illegible]
- [illegible]eneral [illegible]esia for [illegible]gency CS should [illegible]ide pre[illegible]tion [illegible]pid sequence induction [illegible]ce the n[illegible]

Matern[illegible] should have a drill for failed intubation

Surgical techniques

(For pregnancies at term, where there is a lower uterine se[illegible]. These ma[illegible] modif[illegible] in situations s[illegible] repeat CS, placenta praevia)

Do
- ✓ Wear double gloves for CS for women who are HIV-pos[illegible]
- ✓ Use a transverse lower abdominal incision (Joel Cohen inci[illegible]
- ✓ Use blunt extension of the uterine incision
- ✓ Give oxytocin (5iu) by slow intravenous inject[illegible]
- ✓ Use controlled cord traction for removal of th[illegible]
- ✓ Close the uterine incision with two suture lay[illegible]
- ✓ Check umbilical artery [illegible]rmed for [illegible]comp[illegible]
- ✓ Consider women's pr[illegible] (such a[illegible]ng in theatre)
- ✓ Facilitate early s[illegible] contact for m[illegible]d ba[illegible]

[illegible]t
- ▪ Close su[illegible]neous space (unless > 2 cm fat)
- ▪ [illegible] wound drains
- ▪ [illegible] surgical knives for skin and deeper tissues
- ▪ Use routinely use forceps to deliver babies head
- ▪ Suture either the visceral or the parietal peritoneum
- ▪ [illegible]teriorise the uterus
- ▪ [illegible]nually remove the placenta

The effects of different suture material or methods of skin closure are uncertain

A practitioner skilled in the r[illegible]tion of the newb[illegible]uld be pres[illegible] at CS with a general anaesthetic or with presumed fetal compromise

Postoperative monitoring

- ✓ Recovery area – one-to-one observa[illegible] the w[illegible]s airway control, cardiorespiratory stability and can communicate
- ✓ In the ward – half-hourly observations (re[illegible] rate, blood pressure, pain and sedation) for 2 hours, then hourly if stable
- ✓ Intrathecal opioids – hourly observation of re[illegible] sedation and pain scores for 12 hours for diamorphine and 24 hours for morphine
- ✓ For epidural opioids and patient-controlled anal[illegible] opioids – hourly monitoring during the CS, plus 2 hours after discontinuation

Care of the woman and her baby after CS

- ✓ Provide additional support to help women to start breastfeeding as soon as possible
- ✓ Offer diamorphine (0.3–0.4 mg intrathecally) or epidural diamorphine (2.5–5 mg) to reduce the need for supplemental analgesia
- ✓ Offer non-steroidal anti-inflammatory analgesics to reduce the need for opioid analgesics
- ✓ Women who are feeling well and have no complications can eat or drink when they feel hungry or thirsty
- ✓ After regional anaesthesia remove catheter when woman is mobile (> 12 hours after top-up)
- ✓ Remove wound dressing after 24 hours, keep wound clean and dry
- ✓ Discuss the reasons for the CS and implications before discharge from hospital
- ✓ Offer earlier discharge (after 24 hours) to women who are recovering, apyrexial and have no complications

Recovery following CS

- ▪ Offer postnatal care, plus specific post-CS care, and management of pregnancy complications
- ▪ Prescribe regular analgesia
- ▪ Monitor wound healing
- ▪ Inform women they can resume activities (such as driving, exercise) when pain not distracting or restricting

Consider CS complications:
- ▪ Endometritis if excessive vaginal bleeding
- ▪ Thromboembolism if cough or swollen calf
- ▪ Urinary tract infection if urinary symptoms
- ▪ Urinary tract trauma (fistula) if leaking urine

This algorithm should, where necessary be interpreted with reference to the full guideline

3.2 Consent for CS

Summarising the risks and benefits of CS

Information summarising the estimated risk and benefits of planned CS compared to planned vaginal birth CS is given in Table 3a,b. Where possible these estimates are derived from intention to treat analysis of RCTs comparing planned CS to planned vaginal birth (3 systematic reviews[35–37] of 9 RCTs.[38–45,48] RCTs on CS for placental abruption[46] and women with HIV[47] are not included). All the RCTs include some measure of maternal morbidity although the measures used vary between studies. To estimate overall impact of CS on maternal health (such as any "ill effect" from CS) composite measures of morbidity are needed. However the same patient may have more than one morbidity (such as hysterectomy, and blood transfusion, PPH admission to ITU), so these measures should be derived from data on individual women rather than summation of event rates in trials to avoid spurious results. Individual patient data was available in 7 RCTs.[38–42,45,48] Using a random effects model to account for clinical heterogeneity of the populations in the studies no difference is detected in composite morbidity measure between women having planned CS or planned vaginal birth (random effects model: pooled RR 1.93 95% CI 0.91 to 4.07). If the trials are not assumed to be heterogeneous and a fixed effects model is used, the pooled RR suggest an increase in "any" morbidity in the CS group (fixed effects model pooled RR 1.58 95% CI 1.09 to 2.29)

Even though a vaginal birth is planned, a CS may become necessary for other reasons. The planned vaginal birth group includes women who had either vaginal birth or „emergency" CS. Likewise the planned CS group includes women who had a vaginal birth or emergency CS.

Data from observational studies is also considered because the RCT data is limited to specific obstetric populations. However, care needs to be taken in interpretation of data from observational studies as there is usually more than one explanation for any associations seen, and it is often not possible to disentangle the effect of CS from the reasons for CS.

This table gives an overview of the likely risks and benefits of CS compared to vaginal birth. There may be good reason why these estimates are not applicable to individual women and in using these estimates in specific clinical situations other factors (such as co-morbidity) which may influence these estimates of risk or benefit need to be taken into account.

Table 3.1a Summary effect on women"s health of CS compared with vaginal birth

	Absolute risk (%)		Relative Risk (95%CI)	
Effects around the time of birth	**CS**	**Vaginal birth**	**CS compared with vaginal birth**	**Evidence level**
Reduced after a planned CS				
Perineal pain	2	5	0.3 (0.2, 0.6)	1b
Inceased afer a planned CS				
Abdominal pain	9	5	1.9 (1.3, 2.8)	1b
Bladder injury[a]	0.1	0.003	36.6 (10.4, 128.4)	3
Ureteric injury[a]	0.03	0.001	25.2 (2.6, 243.5)	3
Need for further surgery such as a laparotomy or dilatation and curettage	0.5	0.03	17.5 (9.4, 32.1)	2b
Hysterectomy[a,b]	0.8	0.01	95.5 (67.7, 136.9)	2b
	0.7	0.02	44.0 (22.5, 85.8)	2b
Admission to Intensive Care Unit[a]	0.9	0.1	9.0 (7.2, 11.2)	3
Thromboembolic disease[b]	Overall risk 0.04-0.16		3.8 (2.0, 4.9)	3
Longer length of hospital stay[c]	3-4 days	1-2 days		2b

Readmission to hospital[a]	5.3	2.2	2.5 (1.1, 5.4)	1b
Maternal death[a]	82.3 per million	16.9 per million	4.9 (3.0, 8.0)	2b
Not different				
Haemorrhage[a] (blood loss in excess of 1000mls)	0.5	0.7	0.8 (0.4, 4.4)	1a
Infection[d] (wound infection or endometritis)	6.4	4.9	1.3 (1.0, 1.7)	1a
Genital tract injury (extension of uterine incision, cervical laceration)	0.6	0.8	1.2 (0.4, 3.4)	1a
Long term effects				
Reduced after a planned CS				
Urinary incontinence (at 3 months after birth)	4.5	7.3	0.6 (0.4, 0.9)	1b
Utero-vaginal prolapse[a]	Overall prevalence 5		0.6 (0.5, 0.9)	3
Not different (at 3 months after birth)				
Faecal incontinence	0.8	1.5	0.5 (0.2, 1.6)	1b
Back pain	11.3	12.2	0.9 (0.7, 1.2)	1b
Post natal depression	10.1	10.8	0.9 (0.7, 1.2)	1b
Dyspareunia	17.0	18.7	0.9 (0.7, 1.1)	1b
Implications for future pregnancies				
Increased after CS				
Having no more children[a]	42	29	1.5 (1.1, 2.0)	2b
Placenta praevia in a future pregnancy[b]	0.7	0.5	1.4 (1.1, 1.6)	2b
	0.8	0.5	1.6(1.3, 2.0)	2b
	0.4	0.2	1.3 (1.0, 1.7)	2b
Uterine rupture in a future pregnancy[a]	0.4	0.01	42.2 (31.1, 57.2)	2b
Antepartum Stillbirth in a future pregnancy[a]	0.4	0.2	1.6 (1.2, 2.3)	2b

[a] The data for these outcomes are from observational studies and reflect the absolute and relative risks for women who actuall had either a vaginal birth or CS. Care needs to be taken in interpretations of this data as there is usually more than one explanation for the associations seen and it is not possible to disentangle the effect of CS from reasons for CS.

[b] The 3 sets of numbers for placenta praevia are based on data from 3 separate observational studies

[c] The data provided are averages for length of hospital stay

[d] In these RCTs antibiotics and oxytocics were used as prophylaxis against infection and haemorrhage at CS

Table 3.1b Summary effect on baby"s health of CS compared with planned vaginal birth

	Absolute risk (%)		**Relative Risk (95%CI)**	

Effects around the time of birth	CS	Vaginal birth	CS compared with vaginal birth	Evidence level
Increased after a planned CS				
Respiratory morbidity	3.5	0.5	6.8 (5.2, 8.9)	3
Not different				
Neonatal mortality (excluding breech)	0.1	0.1	1.1 (0.1, 8.4)	2b
Intracranial haemorrhage[e]	0.04	0.03	1.4 (0.8, 2.6)	2b
	0.008	0.01	0.6 (0.1, 2.5)	2b
Brachial plexus injuries	Overall risk 0.05		0.5 (0.1, 1.9)	3
Cerebral palsy	Overall risk 0.2			3

[e] The 2 sets of numbers for Intracranial haemorrhage are based on data from 2 separate observational studies

Recommendation

When considering a CS there should be discussion on the benefits and risks of CS compared with vaginal birth specific to the woman and her pregnancy. [GPP]

Research recommendation

RCTs are needed of planned CS compared with planned vaginal delivery and should include evaluation of the short- and long-term health effects (benefits and harms) of CS. To facilitate pooling of results in meta-analysis these should be consistently measured and reported across trials.

4.2 Consent for CS

Risks and benefits of planned caesarean section compared with planned vaginal birth

Cost of CS

A systematic review of economic studies of CS and alternative modes of birth identified 49 studies containing primary costs and resource use data.[50] The review reported overall costs of birth from a range of sources; studies reporting primary economic data, data from one urban teaching hospital in the UK, and a survey of European maternity units of varying size. The range of costs reported for all types of birth was wide. The range for spontaneous vertex birth was £341–£886 (£629–1,350 including postnatal stay). The cost of instrumental birth was reported as £606–£968 (£242–1,794), and for CS £1,004–£1,486 (£1,238–£3,551). These values are similar to the NHS reference cost data for 1999 (the data submitted to the Department of Health by NHS providers) which includes postnatal stay. The review includes some studies of poor quality (as they met minimum standards for economic evaluation) and some studies that did not report resource use separately from costs, reducing the usefulness of the findings. The limitation of reporting the costs only for comparison is that it is assumed that women who have CS are similar to those who have vaginal birth, whereas there may be differences.[51] Not taking into account these differences may lead to overestimating the cost of CS.

Individual studies may provide more meaningful data, including more detail about how the data were collected. A UK study examined routine cost data from one UK health region and applied these costs to activity data collected as part of two observational studies on one NHS unit.[52] A detailed „bottom- up" costing study was undertaken. Data were reported on mean costs, with the 10th and 90th centile. The mean cost of all vaginal birth (spontaneous and instrumental) was £363 (£189–£773). Spontaneous vaginal birth costs were lower (£170) and instrumental higher (£644 for forceps. Ventouse, £485 for breech birth, 1989 prices). The mean cost of CS was around £1,100. The 90th centile costs reported for both planned and emergency CS did not exceed £1,600. The authors also examined the costs from published studies and found these to be systematically higher than UK values.

A costing study undertaken as part of a decision analysis of offering ECV presented data on the costs of planned and emergency CS, using the dataset collected for an earlier study[52] and validated by a regional finance directorate (a "top down" costing approach). Costs were reported at 1997 values.[53] Different values were reported depending on the grade of staff attending the birth but these values did not change the costs buy anything more than a £40. The baseline spontaneous vaginal birth cost was estimated to be around £450. Assisted vaginal birth cost an additional £425 (£875 in total), emergency CS cost an additional £1,955. Emergency CS would be more if it followed an attempt at assisted vaginal birth. The study reported that the cost of planned CS as £2,400 (no vaginal birth costs).

Cost analyses also need to take account of the longer term costs of alternative modes of birth. A systematic review identified 19 studies that reported data on postnatal length of stay, but these only focus on the first week of the postnatal period.[50] For CS, the data ranged from 1.8 days in the USA in 1991, to 8.3 days in 1994–95 in Australia. The data clustered around 4–5 days. For vaginal birth, the shortest postnatal stay was 1.2 days in the USA in 1994, and 5.1 days in Australia in 1994–95. In the UK in 1994–95, 89% of women were discharged within three days following spontaneous vaginal birth and 12% in the same period following CS. Nine studies reported a cost or charge for postnatal stay by mode of birth.

A UK based study examined the overall costs of care two months postpartum by alternative modes of birth.[54] The study reported mean total costs of £1698 (95% CI £1,674 to 1,721 for spontaneous vaginal birth, £2,262 (£2,304 to 2,320) for instrumental birth, and £3,200 (£3,148 to £3,253) for CS. These results were statistically significantly different. The confidence intervals did not cross and were narrow compared with the costs reported in previous studies. This value is closest to what could be described as social costs of modes of birth, taking into account wider costs of community care and social care as well as immediate hospital costs. Higher costs were associated with higher morbidity in the instrumental and CS groups in the two month postpartum period.

Cost data on their own provide few insights since they do not take account of the effectiveness of each mode of birth. However, these more inclusive costs of care are closer to the opportunity cost of birth and can be used as the cost values in the assessment of the overall cost effectiveness (taking into account the benefits and harm of each mode of birth). For singleton cephalic fetus at term, with no other complications, the benefits and risks of CS are uncertain. Since there is no added benefit from CS, and it is a more resource intensive intervention, it is straightforward to conclude that vaginal birth is the more cost-effective form of birth.

However, for specific maternal or fetal conditions, CS may have health benefits that will influence cost effectiveness.

5.2 Multiple pregnancy

Timing of planned CS for twin pregnancy

Recommendation

Planned CS for uncomplicated twin pregnancy should not be carried out before 38 weeks because this increases the risk of respiratory problems in these babies. [B]

5.7 Mother-to child transmission of maternal infections

HIV

Since 1999 it has been recommended that pregnant women are offered antenatal screening for HIV (human immunodeficiency virus) because there are effective interventions to reduce MTCT.[1] A system of clear referral paths should be established in maternity units so that women who are diagnosed with HIV can be managed and treated by appropriate specialist teams.[1] The prevalence of HIV infection in pregnant women in London in 2002 was 0.38%, compared 0.06% elsewhere in England.[113] [evidence level 3] In the absence of intervention, mother-to-child transmission (MTCT) is reported to occur in 25.5% of deliveries and was reduced to 8% with antiretroviral treatment with zidovudine.[114] [evidence level 1b] The combination of interventions (antiretroviral therapy, caesarean section, and avoidance of breastfeeding) can further reduce the risk of transmission to 1%.[115] In the

UK, MTCT rates were 19.6% (95% CI 8.0% to 32%) in 1993 and declined to 2.2% (95% CI 0% to 7.8%) in 1998.[116]

A systematic review of interventions to reduce MTCT of HIV includes an international multi-centre RCT of planned CS at 38 weeks compared to planned vaginal birth. This shows a significant reduction in the MTCT of HIV with planned CS (RR 0.17, 95% CI 0.05 to 0.55).[117,118] [evidence level 1b] Similar proportions of women were on antiretroviral treatment between the groups, and none of the women breastfed their infants. Secondary non-ITT analysis by actual mode of birth revealed a 70% reduction in infection of the infant with HIV with elective CS (OR 0.3, 95% CI 0.1 to 0.8) but no reduction with emergency CS (OR 1.0, 95% CI 0.3 to 3.7).[47] [evidence level 1b] These findings are supported by observational studies with MTCT of less than 1% in women taking zidovudine who were delivered by CS (a five-fold reduction) and in women on antenatal anti-retroviral treatment, who have low viral loads (less than 400 copies/ml).[115] [evidence level 2b]

The management of HIV has rapidly advanced and new treatments are now available (such as HAART (Highly active antiretroviral therapy using three or more antiretroviral drugs)). These regimes are more effective in reducing viral load especially in women who have advanced disease than single agents such as zidovudine.[113,119] This is important because high viral loads are associated with an increased risk of vertical transmission. However, there is no threshold below which lack of transmission can be assured. The effect of CS for women taking HAART who have low viral loads has not been evaluated and therefore is not known. Current guidelines therefore recommend that women are offered CS.[113,120] [evidence level 2b]

In the RCT comparing planned CS to planned vaginal birth there were no serious complications in either group[47] [evidence level 1b]. However infective morbidity after CS may have more serious implications for women with HIV. The evidence from cohort and cross sectional studies data is inconclusive. Some studies report increased morbidity after CS in HIV-positive women compared to women who don‟t have HIV (OR 3.7 for major complications, 95% CI 1.4 to 9.6 and OR 1.3 for minor complications, 95% CI 0.3 to 4.9)[121 122] [evidence level 2b]. However it has been suggested this may relate to CD4 counts as HIV positive women with normal CD4 counts did not differ from HIV-negative women.[123] [evidence level 2b] Other studies have not detected a difference in incidence of morbidity nor in severity of morbidity.[122,124] [evidence level 2b]

Cost effectiveness of CS In the prevention of vertical HIV transmission

We identified four economic studies that addressed this question, one of which was a UK based study. This study estimated that offering CS to HIV-positive women represented a cost of £27,836 per case of neonatal HIV case averted. The study pre-dated the European Collaborative study on mode of birth and HIV transmission and the authors concluded that there was some uncertainty around the cost-effectiveness of CS where the take-up of zidovudine therapy was high. The study did not include the long-term health and social care costs of the transmission of HIV from mother to infant.[125]

A later study undertaken in the USA used effectiveness data from the European collaborative study on modes of birth and HIV transmission. If future medical costs were included, elective CS was found to be both more effective and less costly than vaginal birth (a total saving of US$3,900 less per birth for CS). This result did not change over a wide range of assumptions explored by the authors, making the results applicable to many scenarios.[126]

Another US study considered US data only and the lifetime costs (and life years saved) of preventing mother-to-child-transmission for women receiving zidovudine and concurrent antiretroviral therapy and women who were not. The study found a cost saving for HIV-positive women delivering without antiretroviral therapy. However, for women receiving therapy, the data showed that CS was cost-effective but no longer cost saving. They estimated CS would cost US$17 per life year saved based on the projection of a life of an adult of 85.8 years and the life expectancy of a child born with HIV infection of 9.4 years.[127]

In another USA study CS was found to be a cost-effective and clinically effective option for the prevention of vertical transmission of HIV when no other therapy is offered.[126] The study undertaken in 2001 considered the lifetime costs and savings (in terms of perinatal transmission avoided) of a CS for HIV- positive women who were receiving zidovudine therapy, compared with standard care (the method of birth consistent with „obstetric indications‟ regardless of HIV status). The authors estimated a cost saving of US$37,284 per case of perinatal HIV infection prevented when CS was planned.

Threshold analysis indicated that CS was not cost-saving if perinatal transmission rates were decreased by 43.3% for all methods, the cost of uncomplicated vaginal birth was less than US$556, the cost of uncomplicated CS was less than US$5907, and the discounted lifetime costs for paediatric HIV infection was less than US$49,000.[128] These thresholds (for CS to no longer be the preferred option) are unlikely to be crossed in the UK context given the costs of CS in the UK.

The authors conclude that elective CS in HIV-infected women receiving zidovudine is one treatment strategy for the prevention of perinatal HIV transmission, which can be cost-saving. However, if other strategies, such as the use of combination anti-retroviral therapy and/or measurement of viral load, result in at least a 50% reduction of the baseline perinatal HIV transmission rates, elective CS will no longer be cost-saving.[128]

Recommendation

HIV-positive women who are pregnant should be offered a planned CS as it reduces the risk of mother-to-child transmission of HIV. [A]

Research recommendation

RCTs are needed to evaluate the effect on MTCT and maternal health of planned CS in pregnant women on highly active antiretroviral therapy (such as HAART) /or who have low viral loads.

5.8 Maternal request for CS

Responding to requests for CS

The International Federation of Gynecology and Obstetrics" (FIGO) Committee for the Ethical Aspects of Human Reproduction states that it is unethical to perform a CS without a medical reason because of inadequate evidence to support a net benefit.170 An obstetrician who feels that in good conscience they cannot carry out a CS at the request of a woman and no identifiable clinical reason should refer her for a second opinion. This is good practice and is kindly care even if not acquiescence. Importantly it means that dialogue is maintained between the woman and her obstetrician.34,169 [evidence level 4]

Cost of maternal request for CS

An economic model showing the consequences of changing the rate of maternal request for CS in England and Wales is presented in Appendix B. This shows that encouraging women who request a CS to choose planned trial of labour instead leads to a crude cost saving cost of around £1257 per birth.

Comparing two extreme scenarios a 1% reduction in the rate of maternal requests agreed to could result in cost savings £374,000 per year. However at the other extreme if all requests for CS were refused, this could lead to savings of about £10 million per year in England and Wales (refer to Appendix B).

Recommendations

Maternal request is not on its own an indication for CS and specific reasons for the request should be explored, discussed and recorded. [GPP]

When a woman requests a CS in the absence of an identifiable reason, the overall benefits and risks of CS compared with vaginal birth should be discussed and recorded [GPP]

When a woman requests a CS because she has a fear of childbirth, she should be offered counselling (such as cognitive behavioural therapy) to help her to address her fears in a supportive manner, because this results in reduced fear of pain in labour and shorter labour. [A]

An individual clinician has the right to decline a request for CS in the absence of an identifiable reason. However the woman"s decision should be respected and she should be offered referral for a second opinion. [GPP]

7.2 Decision to delivery interval for emergency CS

Guidelines on electronic fetal monitoring recommend that where acute fetal compromise is suspected or confirmed, delivery should occur as soon as possible, ideally within 30 minutes, taking into account fetal heart rate and maternal factors.[2] The ability of hospitals to meet this standard was assessed in the NSCSA.[4] [evidence level 3]

There is limited research to underpin this standard.[283–286] [evidence level 3] and 30 minutes is a somewhat arbitrary cut-off. In the US, the recommendation is that delivery should be expedited within 20–30 minutes.[287] [evidence level 4] It has been suggested that rapid delivery may be dangerous in itself for the fetus.[288] [evidence level 3] However, the most compromised babies are most predisposed to a poorer outcome and are also often delivered with the least delay and this needs to be taken into account when assessing the effects of a rapid delivery.[289] Rapid delivery may also increase the risk of maternal mortality, as a result of factors such as general anaesthesia.[95] [evidence level 3]

The association between decision to delivery interval and, baby and maternal outcomes was examined using data from NSCSA.[290] [evidence level 3] Of the babies born by emergency caesarean, 3.4% (n = 586) had a five-minute Apgar score of less than 7 and 1.0% (n = 175) had a five-minute Apgar score of less than 4. Compared with babies delivered within 15 minutes, the adjusted odds ratio for five-minute Apgar scores of less than 7 were not different for babies delivered between 16 and 75 minutes. Babies delivered after 75 minutes, however, had higher odds of five-minute Apgar scores of less than 7 (OR 1.7, 95% CI 1.2 to 2.4). Similar trends were seen for five-minute Apgar scores of less than 4 and stillbirth, but these did not reach statistical significance.

We repeated this analysis with cases delivered within 30 minutes as the reference group. We found no significant difference in the odds of a poor outcome for babies delivered in less than 30 minutes compared with those delivered between 31 and 75 minutes (OR 1.1, 95% CI 0.9 to 1.4 for five-minute Apgar score of less than 7). Babies delivered after 75 minutes, however, had an 80% increased odds of a five-minute Apgar score of less than 7 (OR 1.8, 95% CI 1.3 to 2.4).

Women who were delivered with short (< 30 minutes) or long (> 75 minutes) decision to delivery intervals were more likely to require special care. Women who were delivered after 75 minutes had a 50% increase in adjusted odds of requiring special care after delivery compared with women delivered within 15 minutes (OR 1.5, 95% CI 1.2 to 1.8). We found no difference between the odds of this outcome between a delivery interval of 15 minutes and intervals up to 75 minutes. Women who were delivered after 75 minutes had a 60% increase in odds of requirement for special care compared with women delivered within 30 minutes (OR 1.6, 95% CI 1.4 to 1.9). We found no difference in maternal outcome in women delivered between 31 and 75 minutes (OR 1.1, 95% CI 0.9 to 1.2).

These findings are consistent with previous studies.[283–286] In univariate analysis shorter decision to delivery intervals are associated with poorer baby outcomes. After adjusting for other clinical factors, however, decision to delivery intervals of less than 30 minutes did not improve or worsen maternal or baby outcomes. Outcomes do not change for decision to delivery intervals of up to 75 minutes. For all emergency caesareans, however, delays in delivery of more than 75 minutes are associated with poorer outcomes; this effect is greater with prior maternal or fetal compromise.[290] [evidence level 3] Maternity services need to ensure that they can respond rapidly to obstetric emergencies and expedite delivery within a limited time frame. Monitoring decision to delivery intervals remains important in evaluating quality of maternity care and a reference time frame is needed. The 30-minute decision to delivery interval should remain as the benchmark for service provision for caesarean sections of grade 1 and grade 2 urgency. The 75 minute decision to delivery interval should be added as a clinically important audit standard, and all deliveries by emergency caesarean should occur within this time.

Recommendation

Delivery at emergency CS for maternal or fetal compromise should be accomplished as quickly as possible, taking into account that rapid delivery has the potential to do harm. A decision-to-delivery interval of less than 30 minutes is not in itself critical in influencing baby outcome, but remains an audit standard for response to emergencies within maternity services. [C]

7.6 Surgical techniques for CS

Use of antibiotics

Research recommendation

RCTs are needed to determine the effect of the timing of administering antibiotics in relation to cord clamping on neonatal outcomes.

9.6 Debriefing for women after CS

Recommendation

Women who have had a CS should be offered the opportunity to discuss with their healthcare providers the reasons for the CS and implications for the child or future pregnancies. [GPP]

10 Recovery following CS

Research recommendation

Further evaluation of the long and short term risks and benefits of CS compared to vaginal birth.

11.2 Childbirth following CS

Nine percent of women giving birth in England and Wales have had a previous CS.4 The CS rate was 67% for women who had had at least one previous CS. Repeat CS contributed 14% to the overall CS rate. An increase in the percentage of women who have had a previous CS in a population will result in a disproportionate increase in the overall CS rate.

VBAC rates

Vaginal birth after CS (VBAC) has been advocated as a means of reducing the CS rate, in the USA, a target VBAC rate of 40% and then more recently 37%[612] has been set. The VBAC rate in England and Wales was 33%.[4] VBAC with parity and birth history. Rates were highest in women who had one previous CS and at least one previous vaginal birth CS (51%). VBAC rates were lower in women who have not had a previous vaginal birth (1 previous CS and no vaginal birth VBAC 30%, 2 CS and no vaginal birth 4%) and in women who have had more than 1 CS (women who had two previous CS and a vaginal birth 8%).

A systematic review of observational studies evaluating indicators of success for VBAC identified 29 cohort studies. VBAC rates were higher in women who had previous vaginal birth, previous CS for breech. VABC rates were lower in women who had previous CS for cephalopelvic disproportion, who had more than 1 previous CS or when oxytocin was used.[613] [evidence level 2b]

Outcomes following VBAC

41 cohort studies. that compare maternal and baby outcomes for women with previous CS, according to planned mode of birth were identified. 35 of these studies were included in two systematic review articles.[614,615] Overall, the planned VBAC rate reported in these studies ranges from 21%[616] and 86%.[617] It was not always possible in the retrospective studies to determine the proportion of women who were offered but declined VBAC. In all of these studies, the selection criteria for either VBAC or elective repeat CS are unclear (e.g. women have self selected to have either VBAC or repeat elective CS). This could lead to systematic differences between the groups. The outcome measures of interest were uterine rupture, maternal morbidity and mortality, and perinatal morbidity and mortality.

Uterine rupture and VBAC

Uterine rupture was defined as symptomatic rupture of the uterus, requiring surgical repair or extrusion of fetal parts.

Uterine rupture was evaluated in 39 studies. The incidence of uterine rupture ranges from 0/1000 to 28/1000 for women who underwent a planned vaginal birth and 0/1000 to 15/1000 for women who had elective repeat CS [evidence level 2b]. 28 studies report no difference in the relative risk of

uterine rupture between planned vaginal birth and elective repeat CS. In six studies,[607,618–621] the risk for uterine rupture was higher with planned vaginal birth relative risks ranged from 1.88[619] to 24.11.[620,618] The relative risks from three larger well-conducted studies were also increased but the effect was smaller (RR 2.07, 95% CI 1.28 to 3.33,[607] RR 1.88, 95% CI 1.45 to 2.43,[619] and RR 3.87, 2.06 to 7.26).[621] In England and Wales (NSCSA), the relative risk of uterine rupture for women undergoing planned vaginal birth compared with women undergoing elective CS was 2.76 (95% CI 1.24 to 6.13) [evidence level 3]

These results are crude relative risks as there was not enough information reported to enable adjustment for other factors that may also be associated with uterine rupture such as maternal age and parity. Based on these results, the number of elective CS to prevent 1 uterine rupture ranged from 63620 to 488607 [evidence level 3].

One study reports a higher risk of uterine rupture for women who had induction of labour compared to those who had spontaneous onset of labour (RR 2.15, 95% CI 1.35 to 3.42). this increase was higher for women who received prostaglandins (RR 4.74, 95% CI 2.36 to 9.50). Further information about the risks and benefits of induction of labour can be found in the guideline on induction of labour.[3]

Maternal morbidity and VBAC

The maternal morbidity measures were haemorrhage, need for hysterectomy, and infection.

Six cohort studies evaluated rates of haemorrhage between the elective CS and planned vaginal birth groups. Five of these detected no difference in haemorrhage more than 1000 ml,[620,622–625] and one[626] reported that fewer women in the planned vaginal birth group had blood loss greater than 1000 ml.

Eight cohort studies evaluated rates of hysterectomy between the elective CS and planned vaginal birth. Six studies did not detect a difference between the two groups.[618,624,626–629] Two reported lower rates of hysterectomy for women in the planned vaginal birth group (RR 0.2, 95% CI 0.1 to 0.5[630]; RR 0.4, 95% CI 0.2 to 0.6).[607]

Five cohort studies evaluated rates of infection between the elective CS and planned vaginal birth. Three studies did not detect any difference between the two groups[622,631,632]. One study reported a higher rate of chorioamnionitis in the planned vaginal birth group (RR 3.0, 95% CI 1.9 to 4.9),[626] another study reported lower rates of infection in the planned vaginal birth group (RR 0.7, 95% CI 0.6 to 0.9).[633]

Maternal mortality

Maternal mortality was included as an outcome measure in 18 studies. There was no maternal mortality reported among women who had an elective repeat CS. In three studies maternal deaths were reported in the planned vaginal birth group.[607,629,634] The maternal mortality rate among women who had a planned vaginal birth ranged from less than 1/10,000.[607,634] These latter 3 studies did not detect a difference in maternal mortality between the groups (RR 3.51, 95% CI 0.14 to 86.07),[629] (RR 1.95, 95% CI 0.08 to 47.80)[607] and (RR 1.09, 95% CI 0.04 to 26.75)[634] respectively. [evidence level 3]

Perinatal mortality and VBAC

Perinatal mortality was included as an outcome measure in 26 studies. In 8 studies, there was no perinatal mortality. The incidence of perinatal mortality ranged from 0/1000 to 28/1000 for women having planned vaginal birth and 0 to 25 per 1000 for those having elective repeat CS. In 13 studies, there was no difference in the risk of perinatal mortality according to elective repeat CS or planned vaginal birth. In two studies,[617,634] the relative risk of perinatal mortality favours planned vaginal birth (RR 0.22, 95% CI 0.05 to 0.91;[634] RR 0.22, 95% CI 0.08 to 0.64).[617] In three others studies, the relative risk of perinatal mortality favours elective repeat CS (RR 2.14, 95% CI 1.04 to 4.34;[607] RR 11.62, 95% CI 1.56 to 86.56).[635] Perinatal mortality in the NSCSA also favoured elective repeat CS (RR 2.91, 95% CI 1.66 to 5.12). [evidence level 3]

The number of elective repeat CS to prevent 1 perinatal death ranged from 2254 to 1001.[607] [evidence level 3]

Perinatal morbidity and VBAC

Perinatal morbidity was measured using Apgar score, neonatal seizures, umbilical artery pH and transient tachypnoea of the newborn.

Two studies reported on umbilical artery pH as an outcome measure. In one study of 249 babies in Netherlands,[622] there was a significantly higher proportion of babies with umbilical artery pH less than 7.2 in the group that had planned vaginal birth compared to those delivered by elective CS (RR 3.87, 95% CI 1.46 to 10.24). [evidence level 3] In another study carried out in the USA involving 295 babies,[636] there was no difference in this outcome measure between the two groups. [evidence level 3]

Fifteen studies reported on 5-minute Apgar scores, the majority reported on proportion of babies with 5-minute Apgar score less than 7, however two studies used a cut off of 5[616] and 6.[632] In 10 of these studies, there was no difference in the proportion of babies with a 5-minute Apgar score less than 7 between the planned vaginal birth and elective CS groups. In three studies, there was a higher proportion of babies with 5 minute Apgar scores less than 7 in the planned vaginal birth group (RR 4.71, 95% CI 1.36 to 16.30,[637] RR 2.17, 95% CI 1.25 to 3.77,[627] RR 12.57, 95% CI 1.56 to 101.52).[632] [evidence level 3] Two studies reported on the incidence of neonatal seizures,[620,638] there was no difference in this outcome measure between the two groups. [evidence level 3]

Two studies[620,639] reported on incidence of transient tachypnoea of the newborn, there was no difference in this outcome between the groups. [evidence level 3]

11.3 Cost of VBAC compared with repeat CS

An early US study undertaken in 1981 suggested that if routine elective CS could be avoided this might represent a cost saving of around US$5 million.[640] The key economic question is whether a policy VBAC leads to a higher enough proportion of successful vaginal deliveries for this policy to be adopted routinely. There are concerns that attempted planned vaginal birth that leads to emergency CS both increases the overall costs of birth since the costs are higher for emergency CS than planned repeat CS. If the VBAC rate is high, then a policy of a routine VBAC may reduce the number of unnecessary caesarean sections and reduce the overall cost of birth.

Five studies evaluating the cost-effectiveness of repeat CS versus VBAC were identified in the published literature. The first two studies produced overall cost estimates for VBAC and repeat CS. An Australian study examined the medical records of 198 women with previous CS[641] and reported that VBAC was less than half the cost of an emergency delivery following planned vaginal birth (A$2,524 versus, A$5,319), and emergency CS after TOL was more expensive than planned CS (A$4,424). This difference in mean cost was mainly due to the cost of special care baby units which were, on average, almost three times higher for emergency CS following TOL than for VBAC (A$914 versus A$393). No statistical analysis was undertaken to explore the robustness of this cost data (how much variation there was in the data or the significance of the cost this difference). However, some of the additional expenditure associated with repeat CS may have been explained by the local policy of routine monitoring of infants in this group rather than costs associated with additional morbidity.

A US study undertaken in the same year examined hospital charges for 50 women who elected to have VBAC, 50 who elected to have a repeat CS and 50 women who had no history of CS in a previous birth.[642] The cost of planned vaginal birth appeared to be similar (although no confidence intervals were reported) regardless of the actual mode of birth (US$5,820 for those who successfully delivered vaginally and US$5,289 for the group who delivered by CS). However the cost of repeat CS was US$6,785, a significantly higher cost than the TOL group ($p < 0.0001$). Like the previous study, the cost of planned CS was lower than the costs of emergency CS after TOL.

These two studies considered the benefits to the mother or infant of TOL versus planned CS, and the analysis beyond a descriptive comparison of costs is limited. More recent studies have used modelling techniques to assess the costs alongside positive and adverse outcomes associated with different modes of birth after CS.

A US study used a decision analysis model to compare the costs of VBAC and elective repeat CS.[643] Data from 26,000 births were used in the model. The main outcome in the model was successful vaginal birth. The authors explored the costs of different modes of birth at various levels of success of VBAC. At a 70% success rate, the cost per successful birth was US$2,611 for vaginal birth and US$3,042 for planned CS, with a difference of US$431. This difference in costs per successful birth was reduced to US$280 at 60% successful VBAC and US$127 at a rate of 50%. No statistical

analysis of this difference was presented. However the inclusion of the cost of severe birth outcomes (uterine rupture leading to birth asphyxia and cerebral palsy) affected the relative cost effectiveness of the different modes of birth depending on rate of asphyxia and incidence of CP used in the model.

Another decision analytic model included specific adverse events (both maternal and neonatal) as well as the costs of managing those events.[644] The model considered the costs and consequences of TOL versus repeat CS for a hypothetical cohort of 100,000 women. It analysed the expected excess morbidity and mortality associated with repeat CS over and above either VBAC or emergency CS following TOL. On the cost side, the model estimated that a policy of repeat CS after previous CS would cost in excess of US$179 million. In the synthesis of costs and benefits, the model estimated that the cost per averted neurological injury (cerebral palsy) was US$4.8 million, and the same for the cost per neonatal death averted. The cost per maternal morbidity avoided was US$32,500 and the cost per maternal death averted was more than US$25 million.

Another US model has been published that considered the threshold cost values and threshold effectiveness values necessary for VBAC to be a cost-effective option.[645] Cost effectiveness was defined as being under US$50,000 per quality adjusted life year (QALY). The model was most sensitive to the probability of a successful VBAC. It estimated that planned CS would be the more cost effective option only if the VBAC rate was at least 65%.

The threshold analysis considered a hypothetical cohort of women. A small study using a real cohort of women in one US institution was undertaken to explore the validity of these findings.[646] The study compared two groups of women who were eligible for TOL after CS, one group of whom planned to have a CS (n = 65), the other planned to have TOL (n = 139). There was no mortality or serious morbidity in either group. The mean overall cost of care in the TOL group was US$4411 compared with US$6272 in the repeat CS group. Costs were only significantly different between successful VBAC and repeat CS and the study found only a small insignificant difference in costs between successful and failed VBAC groups. The authors concluded that TOL is more cost-effective above a threshold for VBAC following TOL of 18%, but it was not clear how they arrived at this threshold, except that the number of successful deliveries in their cohort is 35/204, which was around 17%. The small study did not indicate the costs of major adverse events since there were no maternal or neonatal deaths or major incidences of morbidity. The magnitude of the costs of even one of these events could have changed this result considerably.

The structure of the model developed in the threshold analysis study[168] was used to explore the cost effectiveness of TOL after CS in England and Wales using the data on VBAC rates and adverse outcomes associated with planned vaginal birth and planned CS presented in this guideline. Costs were calculated from published literature and from NHS reference cost values. Data on highest and lowest rates for each outcome were used in the model and different estimates of cost were also explored (Appendix A). The range of estimates in the literature for adverse outcomes was wide. Therefore the effect of using highest and lowest estimates in the model was explored, as well as the estimates published in the threshold analysis which fall some way between the highest and lowest values.[168] Based on the NSCSA data (VBAC rate of 64%), this model showed that TOL was the more cost effective option (based on cost per birth), with planned vaginal birth costing between £136 and £986 less per birth depending on the rates of adverse events included in the model. Using the data on the rate of adverse events presented in the original US model and using UK cost data, the difference in cost per live birth was £592.

A threshold analysis was also performed using the same model parameters. In the scenario favouring planned vaginal birth (that is, inputting minimum rates of adverse outcomes for VBAC and maximum values for planned CS), the success rate of VBAC had to be at least 19% for TOL to be as cost- effective as planned CS. In the scenario favouring planned CS, the successful VBAC rate had to reach at least 58%.for TOL to be as cost-effective. This is less than the estimated VBAC rate in England and Wales based on the NCSCA data. Further analyses using other cost data are reported in appendix A. It showed that the favourability of VBAC was sensitive to the values used for estimating the cost of birth by model. Using adverse event rates favouring planned CS and a higher cost of vaginal birth as reported in the NHS reference costs for 2001, VBAC was no longer the favourable option, making the findings less robust.

The structure of the model was published in the USA. It included the cost of birth and adverse events only and none of the longer term consequences of a poor birth outcome. We did not find any articles

that reported the long term costs of infant morbidity such as birth asphyxia, even though the costs of these could be extremely high. In 2001 an English health authority awarded £2.8 million in damages for a child with brain damage following birth asphyxia to cover the cost of past and future care and lost earnings. If this were to be considered as part of the "cost" of birth asphyxia, then this could have a substantial impact on the relative cost-effectiveness of VBAC versus planned CS. However, since the evidence of the consequences of these alternatives is not robust, as described above, the economic model has focussed on the cost of birth and adverse maternal outcomes only. This represents only a partial economic analysis in this context. Other factors should be taken into account that are not included in the model.

Recommendations

The risks and benefits of vaginal birth after CS compared with repeat CS are uncertain. Therefore the decision about mode of birth after a previous CS should take into consideration:

- maternal preferences and priorities
- a general discussion of the overall risks and benefits of CS
- risk of uterine rupture
- risk of perinatal mortality and morbidity. [GPP]

Pregnant women who have a previous CS and who want to have a vaginal birth should be supported in this decision. They should be informed that:

- uterine rupture is a very rare complication, but is increased in women having a planned vaginal birth (35 per 10,000 women compared with 12 per 10,000 women having planned repeat CS)
- the risk of an intrapartum infant death is small for women who have planned vaginal birth (about 10 per 10,000); however, this is higher than for planned repeat CS (about 1 per 10,000)
- the effect of planned vaginal birth or planned repeat CS on cerebral palsy is uncertain. [B]

Women who have had a previous CS can be offered induction of labour, but both women and healthcare professionals should be aware that the likelihood of uterine rupture in these circumstances is increased to:

- 80 per 10,000 when labour is induced with non-prostaglandin agents
- 240 per 10,000 when labour is induced using prostaglandins. [B]

Research recommendation

RCTs are needed to evaluate the effects on maternal and infant health of VBAC or elective repeat CS for women who have had a previous CS.

Appendix J Changes to original recommendations

Recommendation	Replaced with	Reason for change/deletion
Provision of information		
Pregnant women should be given evidence-based information about CS during the antenatal period, because about 1 in 5 women will have a CS. This should include information about CS, such as: • indications for CS (such as presumed fetal compromise, „failure to progress" in labour, breech presentation) • what the procedure involves • associated risks and benefits • implications for future pregnancies and birth after CS. [GPP]	Give pregnant women evidence-based information about CS during the antenatal period, because about 1 in 4 women will have a CS. Include information about CS, such as: • indications for CS (such as presumed fetal compromise, „failure to progress" in labour, breech presentation) • what the procedure involves • associated risks and benefits • implications for future pregnancies and birth after CS. [GPP]	Newer data available about the number of women who have a CS. Minor wording changes to make active statement
Consent for CS		
When considering a CS there should be discussion on the benefits and risks of CS compared with vaginal birth specific to the woman and her pregnancy. [GPP]	Discuss the risks and benefits of CS compared with vaginal birth with women. (see tables 4.5 and 4.6, and also recommendation 118), taking into account their circumstances, concerns, priorities and plans for future pregnancies (including the risks of placental problems with multiple CS).	
A competent pregnant woman is entitled to refuse the offer of treatment such as CS, even when the treatment would clearly benefit her or her baby"s health. Refusal of treatment needs to be one of the patient"s options. [D]	A pregnant woman is entitled to decline the offer of treatment such as CS, even when the treatment would clearly benefit her or her baby"s health. Refusal of treatment needs to be one of the woman"s options. [D]	Stylistic changes
When the decision is made to perform a CS, a record should be made of all the factors that influence the decision, and which of these is the most influential. [GPP]	When a decision is made to perform a CS, a record should be made of all the factors that influence the decision, and which of these is the most influential.	Stylistic change

[GPP]

Placenta praevia

Women with a placenta that partly or completely covers the internal cervical os (grade 3 or 4 placenta praevia) should be offered CS. [D]	Women with a placenta that partly or completely covers the internal cervical os (minor or major placenta praevia) should be offered CS. [D]	Terminology change

Mother-to-child transmission of maternal infections

HIV-positive women who are pregnant should be offered a planned CS because it reduces the risk of mother- to-child transmission of HIV. [A]	As early as possible give women with HIV information about the risks and benefits for them and their child of the HIV treatment options and mode of birth so that they can make an informed decision. Do not offer a CS on the grounds of HIV status to prevent mother-to-child transmission of HIV to: • women on highly active anti-retroviral therapy (HAART) with a viral load of less than 400 copies per ml or • women on any anti-retroviral therapy with a viral load of less than 50 copies per ml. Inform women that in these circumstances the risk of HIV transmission is the same for a CS and a vaginal birth. Consider either a vaginal birth or a CS for women on anti-retroviral therapy (ART) with a viral load 50-400 copies per ml because there is insufficient evidence that a CS prevents mother-to-child transmission of HIV. Offer a CS to women with HIV who: • are not receiving any anti-retroviral therapy or • are receiving any anti-retroviral therapy and have a viral load of 400 copies per ml or more. Researchers and national bodies responsible for the collection of UK population data should continue to collect data about HIV diagnoses in pregnant women, including treatment, mode of birth, and mother-to-child	

	transmission rates.	
Maternal request		
Maternal request is not on its own an indication for CS and specific reasons for the request should be explored, discussed and recorded. [GPP]	When a woman requests a CS explore, discuss and record the specific reasons for the request.	
When a woman requests a CS in the absence of an identifiable reason, the overall benefits and risks of CS compared with vaginal birth should be discussed and recorded [GPP]	If a woman requests a CS when there is no other indication, discuss the overall risks and benefits of CS compared with vaginal birth (see tables 4.5 and 4.6) and record that this discussion has taken place. Include a discussion with other members of the obstetric team (including the obstetrician, midwife and anaesthetist) if necessary to explore the reasons for the request, and to ensure the woman has accurate information.	
When a woman requests a CS because she has a fear of childbirth, she should be offered counselling (such as cognitive behavioural therapy) to help her to address her fears in a supportive manner, because this results in reduced fear of pain in labour and shorter labour. [A]	When a woman requests a CS because she has anxiety about childbirth, offer referral to a healthcare professional with expertise in providing perinatal mental health support to help her address her anxiety in a supportive manner.	
An individual clinician has the right to decline a request for CS in the absence of an identifiable reason. However the woman"s decision should be respected and she should be offered referral for a second opinion. [GPP]	For women requesting a CS, if after discussion and offer of support (including perinatal mental health support for women with anxiety about childbirth), a vaginal birth is still not an acceptable option, offer a planned CS. An obstetrician unwilling to perform a CS should refer the woman to an obstetrician who will carry out the CS.	
Planned CS for uncomplicated twin pregnancy should not be carried out before 38 weeks because this increases the risk of respiratory problems in these babies. [B]		Deleted as timing of birth for multiple pregnancies will be covered in the forthcoming guideline on multiple pregnancy
Place of birth		
During their discussions about options for birth, healthy pregnant women with anticipated uncomplicated pregnancies should be informed that delivering at home	During their discussions about options for birth, healthy pregnant women with anticipated uncomplicated pregnancies should be informed that planning	Amended for clarity

reduces the likelihood of CS. [B]	a home birth reduces the likelihood of CS. [B]	
Decision to delivery interval		
Delivery at emergency CS for maternal or fetal compromise should be accomplished as quickly as possible, taking into account that rapid delivery has the potential to do harm. A decision-to-delivery interval of less than 30 minutes is not in itself critical in influencing baby outcome, but remains an audit standard for response to emergencies within maternity services. [C]	Perform category 1 and 2 CS (see recommendation 53) as quickly as possible after making the decision, particularly for category 1. Perform category 2 CS in most situations within 75 minutes of making the decision. Take into account the condition of the woman and the unborn baby when making decisions about rapid delivery. Remember that rapid delivery may be harmful in certain circumstances. Use the following decision to delivery intervals to measure the overall performance of an obstetric unit: • 30 minutes for category 1 CS • both 30 and 75 minutes for category 2 CS. Use these as audit standards only and not to judge multidisciplinary team performance for any individual CS.	
Anaesthesia for CS		
Women who are having induction of regional anaesthesia for CS should be cared for in theatre because this does not increase patient anxiety. [B]	Women who are having induction of regional anaesthesia for CS should be cared for in theatre because this does not increase women‟s anxiety.	Stylistic changes
General anaesthesia for emergency CS should include preoxygenation, cricoid pressure and rapid sequence induction to reduce the risk of aspiration. [GPP]	General anaesthesia for unplanned CS should include preoxygenation, cricoid pressure and rapid sequence induction to reduce the risk of aspiration. [GPP]	Terminology change
Surgical techniques for CS		
Women who are having a CS birth should be informed that the risk of fetal lacerations is about 2%. [C]	Women who are having a CS should be informed that the risk of fetal lacerations is about 2%. [C]	„birth" deleted for terminological consistency
Women having a CS should be offered prophylactic antibiotics, such as a first generation cephalosporin or ampicillin to reduce the risk of postoperative	Women having a CS should be offered prophylactic antibiotics, to reduce the risk of postoperative infections. The antibiotics chosen should be effective against	The GDG was aware that first generation cephalosporins are no longer available in the UK in an intravenous form.

infections (such as endometritis, urinary tract and wound infection), which occur in about 8% of women who have had a CS. [A]	endometritis, urinary tract and wound infections which occur in about 8% of women who have had a CS. [A]	
Recovery following CS		
Healthcare professionals caring for women who have had a CS and who have irregular vaginal bleeding should consider that this is more likely to be due to endometritis than retained products of conception. [D]	Healthcare professionals caring for women who have had a CS and who have heavy and/or irregular vaginal bleeding should consider that this is more likely to be due to endometritis than retained products of conception. [D]	Amended for consistency
Pregnancy and childbirth after CS		
The risks and benefits of vaginal birth after CS compared with repeat CS are uncertain. Therefore the decision about mode of birth after a previous CS should take into consideration: • maternal preferences and priorities • a general discussion of the overall risks and benefits of CS • risk of uterine rupture • risk of perinatal mortality and morbidity. [GPP]	When advising about the mode of birth after a previous CS consider: • maternal preferences and priorities • the risks and benefits of repeat CS • the risks and benefits of planned vaginal birth after CS, including the risk of unplanned CS	
Pregnant women who have a previous CS and who want to have a vaginal birth should be supported in this decision. They should be informed that: • uterine rupture is a very rare complication, but is increased in women having a planned vaginal birth (35 per 10,000 women compared with 12 per 10,000 women having planned repeat CS) • the risk of an intrapartum infant death is small for women who have planned vaginal birth (about 10 per 10,000); however, this is higher than for planned repeat CS (about 1 per 10,000) • the effect of planned vaginal birth or planned repeat CS on cerebral palsy is uncertain. [B]	deleted	The GDG felt it was inappropriate to focus on these particular adverse events given that their overall risk is very low. In addition, it was felt that it could be misleading to talk about these general risks and that it was more appropriate for the healthcare professional to counsel the woman based on her own clinical and obstetric needs. Instead there should be a discussion of the risks and benefits of CS
Women who have had a previous CS	Offer women planning a vaginal birth who have had a previous	The GDG felt that it was important to clarify that

should be offered: • electronic fetal monitoring during labour • care during labour in a unit where there is immediate access to CS and on-site blood transfusion services. [GPP]	CS: • electronic fetal monitoring during labour • care during labour in a unit where there is immediate access to CS and on-site blood transfusion services.	this recommendation only applies to women planning a vaginal birth after a previous CS. Stylistic changes have also been made.
Women who have had a previous CS can be offered induction of labour, but both women and healthcare professionals should be aware that the likelihood of uterine rupture in these circumstances is increased to: • 80 per 10,000 when labour is induced with non-prostaglandin agents • 240 per 10,000 when labour is induced using prostaglandins. [B]	deleted	There is a more updated recommendation on this topic in the „Induction of labour" guideline (NICE, 2008). This has been signposted in the text
Debriefing for women after CS		
Women who have had a CS should be offered the opportunity to discuss with their healthcare providers the reasons for the CS and implications for the child or future pregnancies. [GPP]	While women are in hospital after having a CS, give them the opportunity to discuss with healthcare professionals the reasons for the CS and provide both verbal and printed information about birth options for any future pregnancies. If the woman prefers, provide this at a later date.	

Appendix K Explaining the original risk summary table (now deleted)

The table below reproduces the risks and benefits reported in the original CS guideline with additional notes describing the study population from which each set of data were derived and the study design (where possible). For some table entries it has not been possible to determine these details nor the source of the data. Where the study design is an RCT the figures reported represent an intention to treat analysis (i.e. outcomes reported for planned CS compared with planned vaginal birth). For all other studies the figures reported are for actual mode of birth (not planned mode of birth).

Table K.1 Summary effect on women"s health of CS compared with vaginal birth (annotated table from original CS guideline)

		Absolute risk (%)		**Relative risk (95% CS)**		
Effects around the time of birth	**Study population and design**	**CS**	**Vaginal Birth**	**CS compared with vaginal birth**	**Reference**	**Evidence Level**
Reduced after a planned CS						
Perineal pain at 3 months	Term breech RCT	2	5	0.3 (0.2, 0.6)	Hannah 2000	1b
Increased after a planned CS						
Abdominal pain	Term breech RCT	9	5	1.9 (1.3, 2.8)	Hannah 2000	1b
Bladder injury[a]	Total population Retrospective case control study	0.1	0.003	36.6 (10.4, 128.4)	Rajasekar and Hall 1997, 2000	3
Ureteric injury[a]	Total population Retrospective case control study	0.03	0.001	25.2 (2.6, 243.5)	Rajasekar and Hall 1997, 2000	3
Need for further surgery such as laparotomy or dilatation and	Total population Retrospective case control	0.5	0.03	17.5 (9.4, 32.1)	Ashton et al 1985	2b

curettage	study					
Hysterectomy[a,b]	Total population Retrospective case control study	0.8	0.01	95.5 (67.6, 136.9)	Stanco et al 1993	2b
	Not determined	0.7	0.02	44.0 (22.5, 85.8)	Not determined	2b
Admission to intensive care unit[a]	Total population case-control study. Cases included large proportion with risk factors inc. pre-eclampsia, placenta praevia, gestational diabetes etc. N=1023	0.9	0.1	9.0 (7.2, 11.2)	Panchal et al 2000	3
Thromboembolic disease[b]	Population-based case control study. The relative risk reported is for pulmonary embolism. Absolute risk calculated for no. of women, not number of births, over an 8 year period.	Overall risk 0.04 – 0.16		3.8 (2.0, 4.9)	Ros et al 2002	2b
Longer length of hospital stay[c]	Not determined	3-4 days	1-2 days		Not determined	1b
Readmission to hospital[a]	SVD only. Population-based cohort study. N=1193	5.3	2.2	Unadjusted OR=2.5 (1.1, 5.4)	Thompson et al 2002	2b
Maternal death[a]	National statistics – estimate	82.3 per million	16.9 per million	4.9 (3.0, 8.0)	Confidential Enquiries 1997-1999	3
Not different						
Haemorrhage[d] (blood loss in excess of		0.5	0.7	0.8 (0.4, 4.4)	Not determined	1a

1000mls)						
Infection[d] (wound infection of endometritis)		6.4	4.9	1.3 (1.0, 1.7)	Not determined	1a
Genital tract injury (extension of uterine incision, cervical laceration)		0.6	0.8	1.2 (0.4, 3.4)	Not determined	1a
Long term effects						
Reduced after a planned CS						
Urinary incontinence (at 3 months after birth)	Term breech	4.5	7.3	0.6 (0.4, 0.9)	Hannah 2002	1b
Utero-vaginal prolapse[a]	Retrospective population-based cross-sectional survey.	Overall prevalence 5		Adjusted OR=0.6 (0.5, 0.9)	Parazzini 2000	3
Not different (at 3 months after birth)						
Faecal incontinence	Term breech	0.8	1.5	0.5 (0.2, 1.6)	Hannah 2002	1b
Back pain	Term breech	11.3	12.2	0.9 (0.7, 1.2)	Hannah 2002	1b
Post natal depression	Term breech	10.1	10.8	0.9 (0.7, 1.2)	Hannah 2002	1b
Dyspareunia	Term breech	17.0	18.7	0.9 (0.7, 1.1)	Hannah 2002	1b
Implications for future pregnancies						
Increased after CS						
Having no more children[a]	SVD only. Nulliparous women. Case control study (cases=CS). Includes breech, pre-term births and medical complications.	42	29	1.5 (1.1, 2.0)	Jolly 1999	2b

	82% CS recorded as emergency, 80% CS under GA.					
Placenta praevia in a future pregnancy[b]	Population-based retrospective cohort study. Nulliparous women only.	0.7	0.5	Adjusted OR=1.4 (1.1, 1.6)	Lydon-Rochelle 2001	2b
	Retrospective study of women having trial of labour. Number of previous CS varied.	0.8	0.5	1.6 (1.3, 2.0) Study reports "bleeding due to placenta praevia" RR=2.06 (1.70, 2.49)	Rageth et al 1999	2b
	Population-based cohort study. Primiparous women.	0.4	0.2	Adjusted OR=1.3 (1.0, 1.7)	Rasmussen 2000	2b
Uterine rupture in a future pregnancy[a]		0.4	0.01	42.2 (31.1, 57.2)	Not determined	2b
Antepartum stillbirth in a future pregnancy[a]		0.4	0.2	1.6 (1.2, 2.3)	Smith 2003	2b

a The data for these outcomes are from observational studies and reflect the absolute and relative risks for women who actually had either a vaginal birth or CS. Care needs to be taken in interpretation of this data as there is usually more than one explanation for the associations seen and it is not possible to disentangle the effect of CS from reasons for CS.

b The 3 sets of numbers for placenta praevia are based on data from 3 separate observational studies

c The data provided are averages for length of hospital stay

d In these RCTs antibiotics and oxytocics were used as prophylaxis against infection and haemorrhage at CS

Notes

None of these studies was carried out with low risk populations.

Where the evidence level is 1a or 1b – this is an RCT.

All RCTs reported here are carried out in specific high risk populations e.g. breech pregnancies.

RCT figures are the only figures based on an intention to treat analysis (planned vaginal birth vs planned CS) and where confounding variables have been controlled for. In these studies data for emergency/unplanned CS are included in the planned vaginal birth group.

All other studies are observational studies. In these studies the vaginal birth groups contain actual vaginal birth and the CS groups actual CS i.e. all urgent/intrapartum CS are included in the CS group.

The populations for the observational studies are a mixture of high and low risk women, but in case-control studies this usually means a larger proportion of high risk women than would be the case for the pupation as a whole. In some cases the relative risk figures reported are in fact adjusted odds ratios (adjusted for identified confounding variables).

Intention to treat analysis

To show how the lack of an intention to treat analysis affects the reporting of findings, the following table has been constructed. This table contains three of the included observational studies from above but with data for unplanned CS moved from the planned CS group to the planned vaginal birth group to illustrate how the same data would look if reported as an intention to treat analysis. It can be seen that, due to the very small numbers for these rare events, and the fact they are most often associated with emergency procedures, this reverses the relative effect.

Table K.2 Comparison of reported findings for actual mode of birth and planned mode of birth (examples from observational studies in table above)

		Absolute risk (%)		**Relative risk (95% CI)**		
Effects around the time of birth	**Analysis**	**CS**	**Vaginal Birth**	**CS compared with vaginal birth**	**Reference**	**Evidence Level**
Increased after a planned CS						
Bladder injury	Actual mode of birth	16/11,284 (0.14%)	3/117,847 (0.003%) (Keillands forceps)	36.6 (10.4, 128.4)	Rajasekar and Hall 1997, 2000	3
	Planned mode of birth	1/11284 (0.009%)	18/117847 (0.015%)	0.59 (0.078 to 4.346)		
Ureteric injury	Actual mode of birth	3/11284 (0.03%)	1/117847 (0.001%)	25.2 (2.6, 243.5)	Rajasekar and Hall 1997,2000	3
	Planned mode of birth	0/11284 (0%)	4/117847 (0.003%)	NC		
Need for further surgery such as laparotomy or dilatation and curettage	Actual mode of birth	30/6145 (0.5%)	15/51576 (0.03%)	17.5 (9.4, 32.1)	Ashton et al 1985	2b
	Planned mode of birth	14/6145 (0.23%)	31/51576 (0.06%)	3.80 (2.018 to 7.121)		

Table K.3 Summary effect on babies" health of CS compared with vaginal birth (annotated table from original CS guideline)

		Absolute risk (%)		**Relative risk (95% CI)**		
Effects around the	**Study population**	**CS**	**Vaginal Birth**	**CS compared with vaginal**	**Reference**	**Evidence Level**

time of birth	and design			birth		
Increased after a planned CS	Population study Prospective case series	3.5 (planned CS)	0.5 (actual vaginal birth)	6.8 (5.2, 8.9)*	Morrison et al, 1995	3
Not different						
Neonatal mortality	Term, cephalic presentation Retrospective observational study	0.1**	0.1	1.1 (0.1, 8.4)	Anniable et al, 1995	2b
Intracranial haemorrhagee	Term, cephalic presentation Retrospective observational study (audit)	0.04	0.03	1.4 (0.8, 2.6)	Towner et al, 1999	2b***
	Not determined	0.008	0.01	0.6 (0.1, 2.5)	Not determined	2b
Brachial plexus injuries	Includes pre-term and breech babies. Case control study	Overall risk 0.05		0.5 (0.1, 1.9)****	MacFarland et al, 1986	3
Cerebral palsy	Not determined	Overall risk 0.2			Not determined	3

e The 2 sets of numbers for Intracranial haemorrhage are based on data from 2 separate observational studies

*Relative effect here is an OR. Figures are for planned CS vs actual vaginal birth. Data for unplanned CS not included.

** Includes planned and unplanned CS

*** Not clear how figures reported here were calculated. Study should be graded as EL 3

**** Relative effect here is an OR. After controlling for birth weight and birth presentation no differences observed between the groups.