National Institute for Health and Care Excellence

Draft for consultation

Intrapartum care for women with existing medical conditions or obstetric complications and their babies

[M] Evidence reviews for sepsis

NICE guideline <TBC at publication>

Evidence reviews for women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons

September 2018

Draft for consultation

Developed by the National Guideline Alliance hosted by the Royal College of Obstetricians and Gynaecologists

Disclaimer

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the Welsh Government, Scottish Government, and Northern Ireland Executive. All NICE guidance is subject to regular review and may be updated or withdrawn.

ISBN:

Contents

Intrapartum care for women with sepsis

This evidence report contains information on 6 reviews relating to intrapartum care for women with sepsis.

- What is the optimal mode of birth for women with sepsis?
- What are the most effective and safe methods of anaesthesia for women with sepsis in labour?
- What are the most effective and safe methods of analgesia for women with sepsis in labour?
- How should fetal monitoring be managed for women with sepsis who present in labour?
- What is the most clinical and cost effective antimicrobial therapy for women with sepsis in labour?
- What is the most appropriate management for women with sepsis in the first 24 hours after the birth?

Intrapartum care for women with sepsis – mode of birth

Review question

What is the optimal mode of birth for women with sepsis?

Introduction

The aim of this review is to determine the optimal mode of birth for women with suspected or confirmed (diagnosed) sepsis. In developing recommendations related to intrapartum care for women with sepsis, the committee was aware that the NICE guideline on sepsis (NG51) covers the recognition, diagnosis and early management of sepsis for all populations, including pregnant women.

Summary of the protocol

See Table 1 for a summary of the population, intervention, comparison and outcome (PICO) characteristics of this review.

Table 1: Summary of the protocol (PICO table)

Population	Pregnant women (planning birth with a woman who presents with sepsis) and women in labour with suspected or confirmed (diagnosed) sepsis
Intervention	Pregnant women: Intervention 1: • early birth (induction of labour or emergency caesarean section) Intervention 2: • emergency caesarean section (but not induction of labour) Women in labour: Intervention 3: • emergency caesarean section or assisted birth
Comparison	Pregnant women: Comparison 1: • expectant management (planned vaginal birth or elective caesarean section) Comparison 2: • induction of labour Women in labour: Comparison 3: • continuation of labour
Outcomes	For the woman: • mortality • admission to HDU or ITU and duration of hospital stay • major morbidities (DIC, renal failure, or septic shock)

	• woman's experience of labour and birth, including experience of the birth companion For the baby: • mortality • major morbidities (prematurity complications, respiratory infection, or septicaemia) • admission to NICU and duration of hospital stay

DIC: disseminated intravascular coagulation; HDU: high dependency unit; ITU: intensive therapy unit; NICU: neonatal intensive care unit

For further details see the full review protocol in Appendix A – Review protocols. The search strategies are presented in Appendix B – Literature search strategies.

Clinical evidence

Included studies

No clinical evidence was identified for this review.

See the study selection flow chart in Appendix C – Clinical evidence study selection.

Excluded studies

Studies not included in this review with reasons for their exclusion are listed in Appendix D – Excluded studies.

Summary of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so there are no evidence tables in Appendix E – Clinical evidence tables). No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix F – Forest plots).

Quality assessment of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so no quality assessment was undertaken and there are no GRADE tables in Appendix G – GRADE tables).

Economic evidence

Included studies

No economic evidence was identified for this review.

See the study selection flow chart in Supplement 2 (Health economics).

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list (see Supplement 2 (Health economics)).

Summary of studies included in the economic evidence review

No economic evidence was identified for this review (and so there are no economic evidence tables in Supplement 2 (Health economics)).

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation (see Supplement 2 (Health economics)).

Evidence statements

No clinical evidence was identified for this review.

Recommendations

M1. Follow the NICE guideline on sepsis for the recognition of sepsis in pregnant women.

M2. Take into account the normal physiological changes in labour when thinking about the possibility of sepsis, for example, increased maternal pulse rate.

M3. Recognise that women in labour with sepsis (see the NICE guideline on sepsis) are at higher risk of severe illness or death.

M4. For women in labour with suspected sepsis, ensure ongoing multidisciplinary review from a team with a named lead, including:

- a senior obstetrician
- a senior obstetric anaesthetist
- a senior midwife
- a labour ward coordinator.

M5. For women in labour with sepsis, ensure ongoing multidisciplinary review from a team with a named lead, including:

- a senior obstetrician
- a senior obstetric anaesthetist
- a senior neonatologist
- a senior microbiologist
- a senior midwife
- a labour ward coordinator.

M6. Include a senior intensivist (critical care specialist), if a woman in labour with sepsis has any of the following signs of organ dysfunction:

- altered consciousness
- hypotension (systolic blood pressure less than 90 mmHg)
- reduced urine output (less than 0.5 ml/kg per hour)
- need for 40% oxygen to maintain oxygen saturation above 92%
- tympanic temperature of less than 36°C.

M7. For women with sepsis or suspected sepsis in the intrapartum period, document a clear multidisciplinary management plan and review it regularly, taking account of the whole clinical picture including the response to treatment.

M8. Involve the woman with sepsis or suspected sepsis and her birth companion(s) in shared decision-making about management, including the following options:

- induction of labour

- continuing labour
- augmenting labour
- instrumental birth
- caesarean section.

M9. When deciding on timing and mode of birth, take into account the whole clinical picture including:

- the woman's preferences, concerns and expectations
- the source and severity of sepsis, if known
- weeks of pregnancy
- fetal wellbeing
- stage and progress of labour
- parity
- response to treatment.

M10. If the source of sepsis is thought to be the genital tract, expedite the birth.

Rationale and impact

Why the committee made the recommendations

No evidence was found on mode of birth for women in labour with sepsis or suspected sepsis so the committee made recommendations based on their expertise and knowledge of good practice. They recognised that sepsis is an important cause of maternal mortality and that physiological changes during labour may mask the early signs of sepsis. There is no agreed definition of normal physiological adjustments occurring during pregnancy and labour and these can vary as labour progresses.

The committee agreed that the NICE guideline on sepsis should be followed for the recognition of sepsis in pregnant women and that normal physiological changes in labour (such as increased maternal pulse rate) should also be taken into account.

The committee agreed that there should be ongoing multidisciplinary review by a senior team with a named lead. Ongoing review means the team is prepared to react to a changing situation, which may alter very quickly. The committee agreed that inadequate or delayed maternal resuscitation may worsen organ dysfunction and have an impact on the safety of anaesthesia, so they recommended that a senior obstetric anaesthetist should be included in the team.

When a woman in labour has sepsis (rather than suspected sepsis), the team should be expanded to include a neonatologist and microbiologist, and for women with sepsis and manifestations of organ dysfunction the team should be further expanded to include a senior intensivist (critical care specialist).

The committee noted that a clear management plan should be documented and reviewed on a regular basis because it is important not only for the multidisciplinary team but also for the woman to know what is happening.

The committee emphasised that the woman and her birth companion(s) should be involved in shared decision-making about management because they need to be involved in decisions and choices about how to proceed.

All options for timing and mode of birth should be considered in discussion with the woman and it should not be assumed that caesarean section is the only option for women with sepsis or suspected sepsis. The committee agreed that when the source of sepsis is thought to be the genital tract healthcare professionals should expedite the birth because there is an increased risk of adverse outcomes for the baby.

Impact of the recommendations on practice

The committee agreed that the recommendations reflect current best practice. This may result in changing practice in some units.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee prioritised maternal mortality and mortality in the baby as critical outcomes because these are the most serious potential outcomes. Admission of the woman to a high dependency unit (HDU) or intensive therapy unit (ITU) and duration of hospital stay were prioritised as critical outcomes because they are surrogate outcomes for serious maternal morbidity. Major maternal morbidities (disseminated intravascular coagulation, renal failure and septic shock) were rated as important outcomes because the committee felt that having co-existing sepsis might increase the risk of various morbidities with different modes of birth (for example, bleeding is more common in women with sepsis). The committee rated the woman's experience of labour and birth, including experience of her birth companion(s), as an important outcome because women with sepsis in labour might experience increased levels of anxiety. Major morbidities in the baby such as prematurity complications, respiratory infection, and septicaemia were prioritised as important outcomes because timing and mode of birth will have an impact on them.

The quality of the evidence

No clinical evidence was identified for this review.

Benefits and harms

The committee agreed that it can be very difficult to anticipate the clinical trajectory of women in labour with sepsis or suspected sepsis. Each situation is rare and individualised and depending on the response to first-line antibiotics, sepsis can develop or resolve rapidly or over a period of days. The committee discussed several clinical scenarios to explore the spectrum of their experience and the range of clinical variables that would contribute to management decisions.

The committee agreed that management decisions regarding timing and mode of birth should be discussed in a multidisciplinary team. It was their experience that although there might be multidisciplinary involvement in a woman's care, there were often issues with the multidisciplinary composition and implementation of care plans if senior healthcare professionals were not included in discussions and care planning.

The committee agreed that because these decisions can carry a particularly difficult burden due to the uncertainty of prognosis, there should be adequate specialist expertise available for care plan development and that senior experience and ongoing review is essential. This approach is consistent with a key message in the MBRRACE-UK report for 2014 (which focused on maternal sepsis) for prompt

involvement of expertise for sepsis management, including planning for adequate provision of appropriate critical care to be available on obstetric units if this is the most appropriate setting for a woman with sepsis to receive care.

The committee recognised that current practice was to develop an individualised plan but that this might be communicated verbally, have no clear owner and not include future decision points and actions. Therefore recommendations were developed to reflect the need for a named lead to take responsibility for documenting, updating and disseminating the care plan. Time frames and triggers for further decision making, review or intervention need to be documented to allow cohesive, responsive action to be taken in the context of a changing clinical picture of the woman and baby. The committee distinguished between the senior expertise needed to provide care for women with suspected sepsis (a senior obstetrician, a senior obstetric anaesthetist, a senior midwife and a labour ward coordinator (by definition this is a senior role) and those needed to care for women with sepsis (all of the above plus a senior neonatologist and a senior microbiologist). For women with sepsis and signs of organ dysfunction (which the committee defined using their knowledge and experience), a senior intensivist (critical care specialist) should also be included in the team.

The woman's illness and need for care can be sudden and distressing not only for her, but also for her birth companion(s); all these individuals will have concerns for the baby's welfare. The committee recognised that women may have very strongly held preferences regarding their pregnancy and for the timing and mode of the baby's birth, for example, whether or not to expedite the birth in the second trimester of pregnancy. Unexplained or undiscussed deviations from birth plans are likely to impact negatively on the experience of birth. Unnecessary alarm can be avoided by involving the woman and her birth companion(s) in the developing team's plan and next decision point and by discussing management options fully.

When the decision is made to expedite the birth, the assumption is that worse outcomes are more likely if an emergency caesarean section is required following induction of labour or attempted instrumental birth. Despite the lack of evidence, the committee believed that both vaginal birth and caesarean section might be possible and both should be presented as options.

The committee agreed that it was unclear whether the risks of performing surgery in a woman with sepsis (the risks being cardiac arrest or spread of sepsis) would outweigh those of induction of labour, noting that caesarean section can be dangerous if significant haemorrhage or fluid shifts occur, and that these may be more likely in a woman with sepsis. The committee also noted that if the decision was for induction of labour for a vaginal birth that the benefits would need to outweigh the harms of an emergency caesarean section and that planning for a caesarean section would still be required, for example, a term pregnancy in a multiparous woman with mild sepsis whose preference is for vaginal birth.

Although generally the rule would be to stabilise or optimise the woman's condition before deciding whether, when and which obstetric intervention to perform, the committee considered that there may be exceptions for women requiring critical care.

Although strong specific recommendations could not be made based on clinical indicators, the committee agreed that a list of factors to consider when planning care would provide a framework to facilitate more transparent and consistent clinical decisions.

The committee discussed the comparative management of suspected sepsis, sepsis, sepsis with signs of organ dysfunction and severe genital tract sepsis which would carry greater risks for the baby and agreed that their decision making would be influenced by the severity and source of the sepsis. Further considerations that would influence clinical decisions on both the timing and mode of birth were the woman's response to antibiotics and supportive treatment, for example, to correct acidosis. A decision to continue with expectant management might be made if the sepsis and its systemic effects were judged to be manageable whilst preserving the baby's condition. The committee also discussed that decisions regarding the timing and mode of birth could be made differently in discussion with the woman and her birth companion when an intrauterine death had been confirmed, but they made no specific recommendation about this.

Cost effectiveness and resource use

No clinical evidence was identified for this review and therefore the committee made a qualitative assessment about the cost effectiveness of their recommendations. They noted that sepsis is an important cause of maternal mortality and that effective intervention can have a big impact in averting losses in health related quality of life.

The committee agreed that the clinical picture was complicated in sepsis and suspected sepsis and that the situation could change rapidly. Therefore, they recommended multidisciplinary involvement with ongoing review and that there should be adequate specialist expertise and senior experience. While the committee recognised that this could be expensive in terms of staff costs they considered that it would represent an efficient use of staff resource given the serious outcomes that can result from sepsis in labour.

The committee did not think that their recommendations would have a significant resource impact for the NHS as they largely reflect current practice and the number of women affected would be small.

Other factors the committee took into account

The committee was aware that the NICE guideline on sepsis (NG51) covers the recognition, diagnosis and early management of sepsis for all populations, including pregnant women. They recommended that the guideline should be followed for the recognition of sepsis in pregnant women, while allowing for normal physiological changes (such as increased maternal pulse rate) that occur in labour and which are also associated with sepsis. The committee also emphasised in their recommendations that women in labour with sepsis are at higher risk of severe illness or death.

The committee discussed recommending that women with cognitive impairment or physical disability would require additional support with decisions about their care options in the presence of sepsis, however, they decided not to make this recommendation as they felt there were no specific considerations for the context of sepsis.

Intrapartum care for women with sepsis – anaesthesia

Review question

What are the most effective and safe methods of anaesthesia for women with sepsis in labour?

Introduction

The aim of this review is to determine the most effective and safe methods of anaesthesia for women with sepsis in labour. As noted above, in developing recommendations related to intrapartum care for women with sepsis, the committee was aware that the NICE guideline on sepsis (NG51) covers the recognition, diagnosis and early management of sepsis for all populations, including pregnant women.

Summary of the protocol

See Table 2 for a summary of the population, intervention, comparison and outcome (PICO) characteristics of this review.

Table 2: Summary of the protocol (PICO table)

Population	Women requiring an obstetric operative procedure with suspected or confirmed (diagnosed) sepsis in labour: • women having planned or emergency caesarean section • women having an assisted vaginal birth
Intervention	Central neuraxial block (epidural, spinal or combined spinal-epidural)
Comparison	General anaesthesia or any combination of the central neuraxial blocks
Outcomes	For the woman: • mortality • incidence of epidural or haematoma abscess or meningitis • admission to HDU or ITU and level 2 or 3 care • woman's experience of labour and birth, especially separation of the woman and baby, including experience of the birth companion • peri-operative cardiovascular collapse For the baby: • admission to NICU and duration of hospital stay • major morbidities (prematurity complications, respiratory infection, or septicaemia)

HDU: high dependency unit; ITU: intensive therapy unit; NICU: neonatal intensive care unit

For further details see the full review protocol in Appendix A – Review protocols. The search strategies are presented in Appendix B – Literature search strategies.

Clinical evidence

Included studies

No clinical evidence was identified for this review.

See the study selection flow chart in Appendix C – Clinical evidence study selection.

Excluded studies

Studies not included in this review with reasons for their exclusion are listed in Appendix D – Excluded studies.

Summary of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so there are no evidence tables in Appendix E – Clinical evidence tables). No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix F – Forest plots).

Quality assessment of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so no quality assessment was undertaken and there are no GRADE tables in Appendix G – GRADE tables).

Economic evidence

Included studies

No economic evidence was identified for this review.

See the study selection flow chart in Supplement 2 (Health economics).

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list (see Supplement 2 (Health economics)).

Summary of studies included in the economic evidence review

No economic evidence was identified for this review (and so there are no economic evidence tables in Supplement 2 (Health economics)).

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation (see Supplement 2 (Health economics)).

Evidence statements

No clinical evidence was identified for this review.

Recommendations

M11. For women in labour with sepsis and any of the signs of organ dysfunction in recommendation M6, regional anaesthesia should be used with caution and with a consultant obstetric anaesthetist present.

Rationale and impact

Why the committee made the recommendations

No evidence was found on anaesthesia for women in labour with sepsis or suspected sepsis so the committee made recommendations based on their expertise and knowledge of good practice. They wanted to ensure that women in labour with sepsis and signs of organ dysfunction were offered anaesthesia appropriate to their clinical condition and noted that the default practice of using regional anaesthesia may not be appropriate for these women. The committee agreed that regional anaesthesia may be associated with cardiovascular instability when there is sepsis with signs of organ dysfunction. Other adverse outcomes may include epidural abscess and haematoma due to coagulopathy. This led the committee to recommend that regional anaesthesia should be used only with caution and in the presence of a consultant obstetric anaesthetist.

Impact of the recommendations on practice

The committee agreed that the recommendations reflect current best practice so there should be no change in practice.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee prioritised maternal mortality and incidence of epidural abscess, haematoma or meningitis as critical outcomes because appropriate and timely management should reduce the likelihood of maternal mortality and morbidity. Admission to NICU and duration of hospital stay for the baby were also chosen as critical outcomes because babies born to women with sepsis or suspected sepsis are more likely to be admitted to NICU and experience poor outcomes.

The committee considered maternal admission to HDU or ITU and level 2 or level 3 care, the woman's experience of labour and birth, especially separation of the woman and baby, and including experience of her birth companion(s), and major morbidities in the baby such as prematurity complications, respiratory infection, or septicaemia as important outcomes because appropriate and timely management should reduce the likelihood of adverse outcomes.

The quality of the evidence

No clinical evidence was identified for this review.

Benefits and harms

The committee recognised that sepsis is an important and potentially avoidable cause of maternal mortality and morbidity, and the physiological changes during labour may mask the early signs of the condition. For women in labour with sepsis

and signs of organ dysfunction there is a higher risk of coagulopathy which is a contraindication to neuraxial blockade and there is a theoretical risk of causing an epidural abscess or haematoma because, if the woman is coagulopathic, the insertion or attempted insertion might cause bleeding within the epidural space. The formation of an epidural haematoma could result in permanent neurological damage.

If the woman has sepsis-associated shock this might be exacerbated by the administration of central neuraxial blockade because septic shock is characterised by dangerously low blood pressure. The committee agreed that central neuraxial blockade in the presence of sepsis may be associated with cardiovascular instability (an abrupt loss of sympathetic tone which can cause severe refractory hypotension), and this risk would be considerably higher with septic shock. Therefore the combination of septic shock with central neuraxial blockade could lead to a fatal hypotension. Vasodilation and hypotension caused by an epidural might cause poor organ perfusion leading to organ failure and requiring the use of inotropic drugs and further organ support. The committee therefore recommended that for women in labour with sepsis and signs of organ dysfunction, regional anaesthesia should be used with caution and with a consultant obstetric anaesthetist present.

Cost effectiveness and resource use

No evidence was found on anaesthesia for women in labour with sepsis or suspected sepsis and so the committee made a qualitative assessment of their recommendation related to this review question.

A key issue for the committee was that the use of regional anaesthesia, the default practice, can be associated with cardiovascular instability when there is sepsis and signs of organ dysfunction. Therefore, to mitigate the risk of expensive adverse outcomes they emphasised that regional anaesthesia should only be used with caution and with a consultant obstetric anaesthetist present, who would be able to provide the necessary expertise.

The committee agreed that the recommendation largely reflected current practice and therefore they did not anticipate that it would have significant resource implications for the NHS.

Intrapartum care for women with sepsis – analgesia

Review question

What are the most effective and safe methods of analgesia for women with sepsis in labour?

Introduction

The aim of this review is to determine the most effective and safe methods of analgesia for women with sepsis in labour. As noted above, in developing recommendations related to intrapartum care for women with sepsis, the committee was aware that the NICE guideline on sepsis (NG51) covers the recognition, diagnosis and early management of sepsis for all populations, including pregnant women.

Summary of the protocol

See Table 1 for a summary of the population, intervention, comparison and outcome (PICO) characteristics of this review.

Table 3: Summary of the protocol (PICO table)

Population	Women with suspected or confirmed (diagnosed) sepsis in labour.
Intervention	Intervention 1 • No analgesia Intervention 2 • Pharmacological measures: ○ entonox ○ opioids (IM) ○ patient controlled IV analgesia Intervention 3 • Non-pharmacological measures: ○ acupuncture ○ water pool or hydrotherapy ○ sterile water injection in the back ○ TENS ○ hypnotherapy ○ relaxation techniques (massage, breathing, visualization, aromatherapy, and movement)
Comparison	Central neuraxial block (epidural, spinal or combined spinal-epidural)
Outcomes	For the woman: • incidence of epidural abscess or haematoma or meningitis • woman's experience of labour and birth, including experience of the birth companion • mode of birth

	• mortality • effectiveness of analgesia (pain score such as VAS, or request for further analgesia) For the baby: • major morbidities (prematurity complications, respiratory infection, or septicaemia) • admission to NICU and duration of hospital stay

IM: intramuscular; IV: intravenous; NICU: neonatal intensive care unit; TENS: transcutaneous electrical nerve stimulation; VAS: visual analogue scale

For further details see the full review protocol in Appendix A – Review protocols. The search strategies are presented in Appendix B – Literature search strategies.

Clinical evidence

Included studies

No clinical evidence was identified for this review.

See the study selection flow chart in Appendix C – Clinical evidence study selection.

Excluded studies

Studies not included in this review with reasons for their exclusion are listed in Appendix D – Excluded studies.

Summary of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so there are no evidence tables in Appendix E – Clinical evidence tables). No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix F – Forest plots).

Quality assessment of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so no quality assessment was undertaken and there are no GRADE tables in Appendix G – GRADE tables).

Economic evidence

Included studies

No economic evidence was identified for this review.

See the study selection flow chart in Supplement 2 (Health economics).

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list (see Supplement 2 (Health economics)).

Summary of studies included in the economic evidence review

No economic evidence was identified for this review (and so there are no economic evidence tables in Supplement 2 (Health economics)).

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation (see Supplement 2 (Health economics)).

Evidence statements

No clinical evidence was identified for this review.

Recommendations

M12. For women in labour with suspected sepsis where concern is insufficient for antibiotic treatment, consider the birthing pool only after discussion with a senior midwife and a senior obstetrician.

M13. For women in labour with sepsis and any of the signs of organ dysfunction in recommendation M6, regional analgesia should be used with caution and advice from a consultant obstetric anaesthetist.

M14. For women in labour who need antibiotics for suspected sepsis (see the NICE guideline on sepsis), start the antibiotics before inserting the needle for regional analgesia.

M15. For women in labour with suspected sepsis, carry out a multidisciplinary review of options for pain relief at least every 4 hours.

M16. If there are concerns about providing a woman's choice of regional analgesia, this should be discussed with the consultant obstetric anaesthetist.

Rationale and impact

Why the committee made the recommendations

No evidence was found to recommend one form of pain relief over another for women in labour with sepsis or suspected sepsis. Although there was also no evidence that the use of the birthing pool is contraindicated for women in labour with suspected sepsis where concern is insufficient for antibiotic treatment, the committee used their clinical experience and expertise to recommend that for these women the birthing pool should be considered only after discussion with a senior midwife and a senior obstetrician. The committee was aware that women with sepsis and signs of organ dysfunction may have bacteraemia and an increased risk of local infection or meningitis when a needle is inserted for regional analgesia. Therefore they recommended that this should only be used with caution and only with advice from a consultant obstetric anaesthetist. Advice rather than the presence of a consultant obstetric anaesthetist is needed because of the lower dose of local anaesthetic used for a woman who is not having surgery. The committee also made a recommendation that for women needing antibiotics for suspected sepsis the treatment should begin before inserting the needle for regional analgesia.

A multidisciplinary review of options for pain relief is recommended at least every 4 hours because usually the multidisciplinary team would not be involved this often.

Impact of the recommendations on practice

The committee was aware that currently the birthing pool would not be considered for some women with suspected sepsis where concern is insufficient for antibiotic treatment. The committee noted that there is variation in practice not only between units but also within obstetric units. Therefore the extent of change in practice will vary according to current practice.

The committee noted that use of prophylactic antibiotics in women with suspected sepsis before central neuraxial block is not currently universal practice in the UK. The committee's recommendation would reinforce current best practice.

Regular reviews with a minimum 4-hour frequency are a change to current practice. Currently reviews are performed as and when needed. The committee agreed that recommending a minimum review frequency was a more proactive approach to supporting women's ongoing needs.

The committee was aware that a discussion with a senior anaesthetist did not always happen in current practice, and their recommendations would reinforce current best practice.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee prioritised incidence of epidural abscess, haematoma or meningitis in the woman as critical outcomes because an epidural abscess or haematoma can cause permanent neurological damage. The committee also prioritised the woman's experience of labour and birth, including experience of her birth companion(s), as a critical outcome because women might be denied an epidural they would otherwise have chosen because of the possibility of sepsis; this could make labour more painful than it needs to be. The committee also prioritised mode of birth as a critical outcome because this can be influenced by the method of analgesia and if the woman is in pain she is more likely to request a caesarean section; caesarean section may also result in more complications for women in labour with sepsis. Maternal mortality was rated as an important outcome rather than a critical outcome because the choice of analgesia is unlikely to affect mortality rates. Another important outcome was effectiveness of analgesia (using pain scores such as the visual analogue scale or request for further analgesia) because it is important for women's experience and satisfaction; major morbidities in the baby (prematurity complications, respiratory infection or septicaemia) were also rated as important outcomes because certain forms of analgesia (for example, opioids) could mask signs of sepsis in the baby (for example, fetal heart rate variability).

The quality of the evidence

No clinical evidence was identified for this review.

Benefits and harms

No evidence was found to recommend one form of pain relief over another for women in labour with sepsis or suspected sepsis. Although there was also no evidence that use of the birthing pool is contraindicated for women in labour with suspected sepsis where concern is insufficient for antibiotic treatment, the committee

used their clinical experience and expertise to recommend that for these women the birthing pool should be considered only after discussion with a senior midwife and a senior obstetrician. The committee specifically mentioned that for women with suspected sepsis where concern is insufficient for antibiotic treatment, the birthing pool should be considered (only after discussion with a senior midwife and a senior obstetrician). because they were aware that in current practice some such women are denied the birthing pool despite a lack of evidence of harms. The committee noted that the NICE guideline on intrapartum care for healthy women and babies (CG190) recommends that women in labour with suspected sepsis should be advised to have continuous cardiotocography and that the provision in the guideline to offer telemetry to women having continuous cardiotocography during labour would enable the use of the birthing pool. Using water might have the advantage of reducing fever because the water's temperature (which should be 37.5°C or lower and should be comfortable for the woman) may be lower than the woman's body temperature. Moreover, the committee agreed that offering options to allow labour to be normalised as much as possible for women with suspected complications who are otherwise well was likely to impact positively on women's experience.

The committee was aware that women with sepsis and signs of organ dysfunction may have bacteraemia and an increased risk of local infection or meningitis when a needle is inserted for regional analgesia. Therefore they recommended that this should only be used with caution and only with advice from a consultant obstetric anaesthetist. Advice rather than the presence of a consultant obstetric anaesthetist is needed because of the lower dose of local anaesthetic used for a woman who is not having surgery.

The committee also made a recommendation that for women in labour needing antibiotics for suspected sepsis, as identified in the NICE guideline on sepsis (NG51), the antibiotic treatment should begin before inserting the needle for regional analgesia.

The committee noted that although some women with suspected sepsis may respond to usual treatment, which would include antibiotics and fluids, the condition of other women may continue to deteriorate. Due to the dynamic nature of sepsis and labour the committee agreed that all relevant healthcare professionals should be involved in a multidisciplinary review of options for pain relief at least every 4 hours (this is more frequent than would otherwise occur).The committee chose the minimum frequency to be every 4 hours based on their clinical knowledge and experience.

The committee was aware from their own experience of women being denied their choice of analgesia in the presence of suspected sepsis, and they recognised that this impacts negatively on women's experience. Discussion with the consultant obstetric anaesthetist was recommended to ensure that a suitably expert opinion would be sought in situations where there were concerns about providing a woman's choice of analgesia.

Cost effectiveness and resource use

No evidence was found on analgesia for women in labour with sepsis or suspected sepsis so the committee made a qualitative assessment of cost effectiveness when making their recommendations.

The committee noted that there was no evidence that would support one form of pain relief over another and that there was no evidence that birthing pools were contraindicated. Therefore, the committee considered it reasonable to consider the

birthing pool for some women with suspected sepsis as stated in the recommendations.

The committee believed that it would be cost effective to get advice from a consultant obstetric anaesthetist when a needle is inserted for analgesia in order to reduce the risk of a local infection or meningitis which would have 'downstream' cost implications as well as a negative effect on the woman's experience of labour and health related quality of life.

Sepsis may not respond to usual treatment and therefore the committee considered that multidisciplinary review at least every 4 hours would be cost effective because of the dynamic nature of this condition.

The committee accepted that there was variation in practice but that most of their recommendations reflected best current practice and that implementation would not result in a significant resource impact for the NHS. They recognised that the stipulation of a minimum 4-hour frequency for multidisciplinary review represented a change in practice which could have a resource impact on the NHS. However, they did not anticipate that the resource impact would be significant as the number of women affected would be relatively small and some multidisciplinary involvement occurs in current practice.

Intrapartum care for women with sepsis – fetal monitoring

Review question

How should fetal monitoring be managed for women with sepsis who present in labour?

Introduction

The aim of this review is to determine how to manage fetal monitoring for women with sepsis who present in labour. The review includes a sub-question that focuses on the value of fetal blood pH analysis and fetal blood lactate analysis for predicting outcomes for the woman and the baby. The NICE guideline on intrapartum care for healthy women and babies (CG190) includes a recommendation that healthcare professionals should be aware that for women with sepsis, fetal blood sample results may be falsely reassuring, and that there should always be a discussion with a consultant obstetrician about whether fetal blood sampling is appropriate and any results from the procedure if it is carried out. The recommendations arising from this review are made in the context of the existing recommendation.

Summary of the protocol

See Table 1 for a summary of the population, intervention, comparison and outcome (PICO) characteristics of this review.

Table 4: Summary of the protocol (PICO table)

Population	Women with diagnosed or suspected sepsis in labour
Intervention	Main review question Intervention 1: • CTG using FSE Intervention 2: • CTG plus digital FSS Intervention 3: • CTG using FSE plus FBS Intervention 4: • CTG plus FBS Sub-question • CTG plus pH (index test) • CTG plus lactate (index test)
Comparison	Main question • CTG alone Sub-question • CTG alone (reference standard)

Outcomes	Main question • For the woman: ○ mode of birth ○ admission to HDU or ITU and duration of hospital stay ○ woman's experience of labour and birth, including experience of the birth companion • For the baby: ○ mortality ○ major neonatal morbidities (cerebral palsy, hypoxic ischaemic encephalopathy, respiratory distress, or infection) ○ cord blood gas values at birth (arterial or venous pH<7.10) ○ admission to NICU and duration of hospital stay Sub-question • Sensitivity, specificity, positive and negative likelihood ratios for predicting the following outcomes in the baby: ○ neonatal mortality and morbidity (cerebral palsy, hypoxic ischaemic encephalopathy and infection)

CTG: cardiotocography; FBS: fetal blood sample; FSE: fetal scalp electrode; FSS: fetal scalp stimulation; HDU: high dependency unit; ITU: intensive therapy unit; NICU: neonatal intensive care unit

For further details see the full review protocol in Appendix A – Review protocols. The search strategies are presented in Appendix B – Literature search strategies.

Clinical evidence

Included studies

No clinical evidence was identified for this review.

See the study selection flow chart in Appendix C – Clinical evidence study selection.

Excluded studies

Studies not included in this review with reasons for their exclusion are listed in Appendix D – Excluded studies.

Summary of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so there are no evidence tables in Appendix E – Clinical evidence tables). No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix F – Forest plots).

Quality assessment of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so no quality assessment was undertaken and there are no GRADE tables in Appendix G – GRADE tables).

Economic evidence

Included studies

No economic evidence was identified for this review.

See the study selection flow chart in Supplement 2 (Health economics).

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list (see Supplement 2 (Health economics)).

Summary of studies included in the economic evidence review

No economic evidence was identified for this review (and so there are no economic evidence tables in Supplement 2 (Health economics)).

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation (see Supplement 2 (Health economics)).

Evidence statements

No clinical evidence was identified for this review.

Recommendations

M17. Follow recommendation 1.10.4 in the NICE guideline on intrapartum care for healthy women and babies regarding fetal monitoring during labour for women with sepsis or suspected sepsis.

M18. Be aware that for women in labour with sepsis or suspected sepsis, fetal blood sample results may be falsely reassuring, and always discuss with a consultant obstetrician:

- whether fetal blood sampling is needed
- the results of any fetal blood sampling carried out.

[This recommendation is adapted from the NICE guideline on intrapartum care for healthy women and babies.]

M19. For women in labour with sepsis or suspected sepsis and an abnormal cardiotocograph trace, think about the whole clinical picture and take account of the following before performing any fetal blood sampling and when interpreting the results:

- stage and progress of labour
- parity
- likelihood of chorioamnionitis
- the woman's preferences.

M20. Explain to the woman and her birth companion(s) what fetal blood sampling involves and the uncertainty of the significance of the results, and support her choice to accept or decline testing.

M21. If sepsis continues to be suspected, only repeat fetal blood sampling with caution and in discussion with a consultant obstetrician.

Research recommendations

What is the clinical and cost effectiveness of fetal blood sampling during labour using lactate or pH testing for women with sepsis or suspected sepsis?

Rationale and impact

Why the committee made the recommendations

No evidence was found on fetal monitoring for women in labour with sepsis or suspected sepsis so the committee made recommendations based on their expertise and knowledge of good practice. The committee agreed that fetal blood sampling can be falsely reassuring when a woman has sepsis. They wished to emphasise that the whole clinical picture should influence the decision to perform sampling and should be taken into account when interpreting the results. The committee also wanted healthcare professionals to explain to women with sepsis that there is uncertainty about the usefulness of fetal blood sampling so that women have more information when deciding whether to accept or decline testing.

There is no evidence to support repeat fetal blood sampling so the committee wanted to highlight the need for caution and consultant obstetric input to guide decision-making.

Impact of the recommendations on practice

The committee hoped the recommendations would harmonise practice, potentially increasing use of fetal blood sampling in areas where clinicians are overly cautious and decreasing use in places where multiple fetal blood samples are taken.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee prioritised mode of birth as a critical outcome because they believed that if fetal monitoring including fetal blood sampling was a reliable predictor of fetal wellbeing then unnecessary expedited births could be avoided.

Mortality and morbidities in the baby such as cerebral palsy, hypoxic ischaemic encephalopathy, respiratory distress, or infection were prioritised as critical outcomes because reducing stillbirth and neonatal brain injury are priorities for the NHS and one of the mandate objectives from central government (Saving babies' lives. A care bundle for reducing stillbirth).

Maternal admission to HDU or ITU, admission to NICU and duration of hospital stay in the baby were prioritised as important outcomes because they are surrogate outcomes for serious maternal morbidity and morbidity in the baby.

Cord blood gas values at birth (arterial or venous pH <7.10) were rated as an important outcome because this is a standard assessment of baby's wellbeing at birth if the results of cardiotocography are abnormal, therefore they are likely to be reported in the evidence and they are likely to occur more frequently if there is good care.

Sensitivity and specificity, and positive and negative likelihood ratios were chosen as diagnostic accuracy outcomes for predicting mortality and morbidity in the baby (cerebral palsy, hypoxic ischaemic encephalopathy and infection).

The quality of the evidence

No clinical evidence was identified for this review.

Benefits and harms

The NICE guideline on intrapartum care for healthy women and babies (CG190) includes a recommendation that healthcare professionals should be aware that for women with sepsis, fetal blood sample results may be falsely reassuring, and that there should always be a discussion with a consultant obstetrician about whether fetal blood sampling is appropriate and any results from the procedure if it is carried out. The committee sought to raise awareness of this in this guideline. The committee expressed their concern about using fetal blood sampling for women with sepsis or suspected sepsis, and acknowledged that it should be used cautiously in conjunction with considering the whole clinical picture including stage and progress of labour, parity, the likelihood of chorioamnionitis, and the woman's preferences. The committee agreed that fetal blood sampling is a screening tool, not a treatment, and they emphasised that the doubts regarding the accuracy of fetal blood sampling in situations when there is sepsis or suspected .sepsis should be discussed with the woman and her birth companion(s), and that the woman's choice to accept or decline testing should be supported.

The committee suggested that only 1 fetal blood sampling should be taken, and saw little advantage in repeated measurements. Extreme caution should be used if sepsis is suspected as fetal blood sampling may increase the risk of infection in the baby. The committee discussed that there is a synergistic effect in babies caused by infection, hypoxia, inflammation and fever, and that all of these can occur even in the absence of sepsis, and also when the pH appears normal. Hence the importance of considering the whole clinical picture. The committee acknowledged that it is difficult to provide clear guidance as individual cases differ and no evidence was found to support their clinical experience. The overall belief of the committee was that it was important not to rely solely on fetal blood sampling. The committee also agreed that if sepsis continue to be suspected then fetal blood sampling should be repeated only with caution and in discussion with a consultant obstetrician.

Cost effectiveness and resource use

No evidence was found on how fetal monitoring should be managed for women with sepsis in labour. The committee made a qualitative assessment of cost effectiveness when making their recommendations. The recommendations made on fetal monitoring for this group of women were largely about the importance of taking the whole clinical picture into account and the interpretation of fetal blood sample results in a context where they may be falsely reassuring. Therefore, the committee noted that the recommendations would not often entail additional resource use but would potentially improve clinical outcomes. In recommending a discussion with a consultant obstetrician the committee were reinforcing existing NICE guidance in intrapartum care for healthy women and babies (CG190).

The committee considered that there was no evidence to support repeat fetal blood sampling and therefore thought their recommendation to only undertake repeat blood sampling with caution and in discussion with a consultant obstetrician would help reduce unnecessary testing and thereby save NHS costs.

The committee did not consider that their recommendations would have a significant resource impact for the NHS but thought there might be some small savings by reducing multiple fetal samples in some places.

Other factors the committee took into account

The committee was aware that for healthy women and babies the NICE guideline on intrapartum care for healthy women and babies (CG190) recommends measuring either fetal blood pH or fetal blood lactate when performing fetal blood sampling. For women in labour with sepsis or suspected sepsis, there is an additional concern that serious medical problems in the baby may occur with a relatively normal fetal blood pH. No evidence was found on the comparative effectiveness of fetal blood sampling using lactate and pH, so the committee agreed to make a research recommendation to inform future guidance (see Appendix L – Research recommendations for further details).

Intrapartum care for women with sepsis – antimicrobial therapy

Review question

What is the most clinical and cost effective antimicrobial therapy for women with sepsis in labour?

Introduction

The aim of this review is to determine the most clinical and cost effective antimicrobial therapy for women with sepsis in labour. As noted above, in developing recommendations related to intrapartum care for women with sepsis, the committee was aware that the NICE guideline on sepsis (NG51) covers the recognition, diagnosis and early management of sepsis for all populations, including pregnant women.

Summary of the protocol

See Table 1 for a summary of the population, intervention, comparison and outcome (PICO) characteristics of this review.

Table 5: Summary of the protocol (PICO table)

Population	Women with suspected or confirmed (diagnosed) sepsis in labour
Intervention	Antimicrobials by class: • aminoglycosides (amikacin, gentamicin, tobramycin, or neomycin sulfate) • carbapenems (ertapenem, imipenem with cilastatin, or meropenem) • cephalosporins (cefaclor, cefadroxil, cefixime, cefotaxime, ceftaroline, ceftazidime, ceftobiprole, ceftriaxone, cefuroxime, cephalexin, cephalosporin, or cephradine) • glycopeptides (oritavancin, telavancin, or vancomycin) • macrolides (azithromycin, clarithromycin, clindamycin, erythromycin, or fidaxomicin) • nitroimidazoles (metronidazole or tinidazole) • penicillins (only in combination with another antibiotic) • anti-virals (oseltamivir, zanamivir, aciclovir)
Comparison	• Head-to-head comparison of drugs by class and within/across classes • Comparison of combinations of drugs with single drugs or different combinations • Antibiotic versus antibiotic plus anti-viral for respiratory • Sepsis
Outcomes	For the woman: • cause-specific mortality (that is, mortality due to sepsis) • admission to HDU or ITU and duration of hospital stay • major morbidities (DIC, renal failure, or septic shock) • breastfeeding

	• adverse side effects For the baby: • major morbidities (respiratory infection, septicaemia, or prematurity complications) • admission to NICU and duration of hospital stay

DIC: disseminated intravascular coagulation; HDU: high dependency unit; ITU: intensive therapy unit; NICU: neonatal intensive care unit

For further details see the full review protocol in Appendix A – Review protocols. The search strategies are presented in Appendix B – Literature search strategies.

Clinical evidence

Included studies

A systematic review on antibiotic regimens for management of intra-amniotic infection was identified. This systematic review (Chapman 2014) included 2 relevant randomised controlled trials (RCTs; see 'Summary of clinical studies included in the evidence review'). The systematic review was used to extract relevant information on the 2 trials, but the NGA technical team also referred to the original articles to extract additional information. One of the RCTs (Maberry 1991) compared dual-agent therapy (ampicillin and gentamicin) versus triple-agent therapy (ampicillin, gentamicin and clindamycin), while the other (Scalambrino 1989) compared sulbactam and ampicillin versus cefotetan.

Evidence from the studies included in the review is summarised below (see 'Quality assessment of clinical studies included in the evidence review').

Data was reported on the critical outcomes, duration of maternal hospital stay and major morbidities in the baby, the important outcomes, admission to NICU and duration of neonatal hospital stay, and the outcome of limited importance, maternal adverse side effects. There was no evidence identified for the following outcomes for the woman: cause-specific mortality (critical outcome), major morbidities (disseminated intravascular coagulation; DIC), renal failure, or septic shock; important outcomes), or breastfeeding (important outcome). Treatment failure was included in the guideline review as an outcome as a proxy for major maternal morbidities.

See also the study selection flow chart in Appendix C – Clinical evidence study selection.

Excluded studies

Studies not included in this review with reasons for their exclusion are listed in Appendix D – Excluded studies.

Summary of clinical studies included in the evidence review

Table 6 provides a brief summary of the included studies.

Table 6: Summary of included studies

Study	Population	Intervention/Comparison	Outcomes
Maberry 1991 RCT USA	N=133 women with diagnosis of intra-amniotic infection and gestational age greater than 24 weeks were included. Diagnosis of intra-amniotic infection was made on the basis of a temperature of 38°C or higher in the presence of labour and ruptured membranes. In addition, 1 or more of the following were present: maternal tachycardia, fetal tachycardia, uterine tenderness, or foul-smelling amniotic fluid. Other sources of fever were excluded before the diagnosis was made	• Intervention: ampicillin and gentamicin (dual-agent therapy; n = 69). • Comparator: ampicillin, gentamicin, and clindamycin (triple-agent therapy; n = 64)	For the woman: • maternal hospital stay (days) For the baby: • sepsis • death • intraventricular haemorrhage • respiratory distress syndrome • necrotising enterocolitis • seizures • admission to NICU • hospital stay (days)
Scalambrino 1989 RCT Italy	N=19 women with chorioamnionitis defined by body temperature ≥ 38°C in a single measurement before birth. All cases were infections represented by hyperpyrexia or malodorous amniotic fluid which appeared at the end of pregnancy, with birth within 24 hours from the appearance of symptoms and signs	• Intervention (n=11): ampicillin 2 g plus sulbactam 1 g IV every 8 hours for at least 96 hours (4 days), or until 24 hours after disappearance of all symptoms of infection • Comparator (n=8): cefotetan 2 g every 12 hours for at least 96 hours (4 days), or until 24 hours after disappearance of all symptoms of infection	For the woman: • treatment failure • adverse effects

NICU: neonatal intensive care unit

See also the study evidence tables in Appendix E – Clinical evidence tables. No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix F – Forest plots).

Quality assessment of clinical studies included in the evidence review

The clinical evidence profiles for this review question are presented in Appendix G – GRADE tables.

Economic evidence

Included studies

No economic evidence was identified for this review.

See the study selection flow chart in Supplement 2 (Health economics).

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list (see Supplement 2 (Health economics)).

Summary of studies included in the economic evidence review

No economic evidence was identified for this review (and so there are no economic evidence tables in Supplement 2 (Health economics)).

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation (see Supplement 2 (Health economics)).

Evidence statements

Dual-agent therapy versus triple-agent therapy

Outcomes for the woman

Duration of hospital stay

Low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found that the average duration of maternal hospital stay was 4 days in the group that received dual-agent therapy (ampicillin and gentamicin) and 4 days among those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin). Due to insufficient data no confidence interval for the difference between groups could be calculated.

Outcomes for the baby

Neonatal sepsis

Very low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found no clinically significant difference in the incidence of neonatal sepsis between the group that received dual-agent therapy (ampicillin and gentamicin) and those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin).

Neonatal death

Very low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found no clinically significant difference in the incidence of neonatal death between the group that received dual-agent therapy (ampicillin and gentamicin) and those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin).

Intraventricular haemorrhage

Very low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found no clinically significant difference in the incidence of intraventricular haemorrhage between the group that received dual-agent therapy (ampicillin and gentamicin) and those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin).

Respiratory distress syndrome

Very low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found no clinically significant difference in the incidence of respiratory distress syndrome between the group that received dual-agent therapy (ampicillin and gentamicin) and those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin).

Necrotising enterocolitis

Very low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) reported no events of necrotising enterocolitis in the group that received dual-agent therapy (ampicillin and gentamicin) and among those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin). Due to zero events in both groups no risk estimate could be calculated.

Neonatal seizures

Very low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found no clinically significant difference in the incidence of neonatal seizures between the group that received dual-agent therapy (ampicillin and gentamicin) and those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin).

Admission to NICU

Low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found that there was no difference in the incidence of admission to NICU between the group that received dual-agent therapy (ampicillin and gentamicin) and those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin). Due to insufficient data the clinical significance and imprecision of this finding could not be assessed.

Neonatal hospital stay

Low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=133) found that the average duration of neonatal hospital stay was 7.0 days in the group that received dual-agent therapy (ampicillin and gentamicin) and 8.0 days among those who received triple-agent therapy (ampicillin, gentamicin, and clindamycin). Due to insufficient data no confidence interval for the difference between groups could be calculated.

Sulbactam and ampicillin versus cefotetan

Outcomes for the woman

Treatment failure

Low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=19) reported no events of treatment failure in the group that received sulbactam (1 g) plus ampicillin (2 g) and those who received cefotetan (2 g). Due to zero events in both groups no risk estimate could be calculated.

Adverse side effects

Low quality evidence from 1 RCT in women with intra-amniotic infection in labour (N=19) reported no adverse effects in the group that received sulbactam (1 g) plus ampicillin (2 g) and those who received cefotetan (2 g). Due to zero events in both groups no risk estimate could be calculated.

Recommendations

M22. When thinking about antimicrobial treatment for women in labour with sepsis or suspected sepsis, take into account the whole clinical picture. Document the rationale for any decision to start antimicrobial treatment and the choice of antimicrobial.

M23. For women in labour with sepsis or suspected sepsis and a clear source of infection, use existing local antimicrobial guidance when offering an antimicrobial. [This recommendation is adapted from the NICE guideline on sepsis.]

M24. For women in labour with sepsis or suspected sepsis and an unclear source of infection, offer a broad-spectrum intravenous antimicrobial from the agreed local formulary and in line with local (where available) or national guidelines. [This recommendation is adapted from the NICE guideline on sepsis.]

M25. Explain to the woman and her birth companion(s) that there is no evidence to support the use of one broad-spectrum antimicrobial over another for women in labour with sepsis or suspected sepsis and that the choice will be guided by local antimicrobial guidelines.

Rationale and impact

Why the committee made the recommendations

No evidence was found on when to start antimicrobial treatment for women in labour with sepsis or suspected sepsis so the committee made recommendations based on their expertise and knowledge of good practice. The committee was aware that intrapartum sepsis presents unique diagnostic difficulties, including difficulties identifying the source of the infection, which can lead to under or over diagnosis of sepsis. The choice of antibiotics is influenced by concerns about safety for the baby.

No evidence was found to support the use of specific antimicrobials in labour when the source of infection is clear and therefore the committee decided to follow the NICE guideline on sepsis and recommend referring to local antimicrobial guidance.

When the source of infection is unclear, a broad-spectrum intravenous antimicrobial from the local formulary should be offered because intrauterine infection is the most likely source of the infection and is often due to multiple organisms (polymicrobial).

The committee was aware that local antimicrobial resistance patterns vary and that the choice of antimicrobial would be guided by this. The committee was keen to support shared decision-making and to ensure that the woman and her birth companion(s) understood the reasons for the choice of antimicrobial.

Impact of the recommendations on practice

The recommendations reflect current best practice.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee prioritised maternal mortality due to sepsis as a critical outcome. The committee also prioritised maternal admission to HDU or ITU and duration of hospital stay as critical outcomes. Major maternal morbidities (DIC, renal failure, or septic shock) were considered as important rather than critical outcomes because maternal admission to intensive care and hospital stay are more common. The committee prioritised major morbidities in the baby (respiratory infection, septicaemia or prematurity complications) as critical outcomes, whereas they did not include mortality in the baby as an outcome because this is not a common outcome in association with sepsis in labour. The committee rated admission to the neonatal intensive care unit (NICU) and duration of hospital stay for the baby as important outcomes because these are proxies for major morbidities in the baby. The committee prioritised breastfeeding as an important outcome because separation of the woman and the baby is more likely for women in labour with sepsis or suspected sepsis and this is likely to impact on breastfeeding.

The quality of the evidence

The evidence was of very low or low quality. One study evaluated antimicrobial regimens that are not commonly used in the UK. The risk of bias was very high for both included RCTs. Risk of selection bias was unclear for both RCTs. The first RCT (Maberry 1991) reported that random sequence generation had been achieved with a table of random numbers, while the second (Scalambrino 1989) did not report on this. Neither of the trials reported whether allocation concealment had been performed. The risk of performance bias was high for both RCTs. Blinding of personnel was not performed, which was the main concern in relation to performance bias, as this may have impacted on decisions around performing interventions during labour, and on decisions about whether to admit the woman or the baby to intensive care after the birth or to discharge them from hospital. Moreover, healthcare professionals would be expected to be familiar with different antibiotic regimens and so may have preconceived ideas about them. Participants were not blinded either, and this could also be a potential source of bias. For example, if participants had access to information about different antibiotic regimens and if shared decision making between the healthcare professionals and women was implemented in the context of the studies, lack of blinding of participants could also have impacted on care decisions. In both RCTs, blinding of outcome assessors was not performed either, and the risk of detection bias was rated as unclear or low, depending on the outcome. For neonatal death, the risk of detection bias was rated as low, as lack of blinding was unlikely to influence outcome assessment. For all other outcomes, risk of detection bias was rated as unclear, as it was not clear whether diagnoses or classifications of adverse outcomes may have been influenced by knowledge of treatment arm. . The risk of attrition bias due to incomplete data was low for the first RCT and unclear for the second. The risk of reporting bias due to selective reporting was unclear for both RCTs due to insufficient information being reported. Many outcomes were also downgraded due to imprecision. In some cases imprecision could not be assessed due to zero events in one or both arms, or due to insufficient data in the reporting of the studies.

Benefits and harms

In relation to the available outcomes, the evidence on treatment of intra-amniotic infection in women in labour found no clinically important differences between dual-agent therapy (ampicillin and gentamicin) and triple-agent therapy (ampicillin, gentamicin, and clindamycin) and no clinically important differences between sulbactam (1 g) plus ampicillin (2 g) and cefotetan (2 g). The committee noted that the evidence was very limited and of very low to low quality and so they made recommendations based on their expertise and knowledge of good practice.

Pregnant women, particularly those in labour, are at higher risk of developing infections and sepsis and subsequent morbidity and mortality. The committee was aware that intrapartum sepsis presents unique diagnostic difficulties because physiological parameters (for example, respiratory rate, blood pressure, pulse, and temperature) are altered in pregnancy and labour. This can lead to under- or over-diagnosis of sepsis in labour and the consequential risk of under- or over-use of antimicrobial treatment for the woman and the baby. The choice of antibiotic is influenced by concerns about safety for the baby. Good documentation should facilitate transfer of information between healthcare professionals and encourage clinical review to take account of the changing clinical picture. Therefore, the committee recommended taking into account the whole clinical picture when thinking about antimicrobial treatment for women in labour with sepsis or suspected sepsis, and to document the rationale for any decision to start antimicrobial treatment and the choice of antimicrobial.

No evidence was found to support the use of specific antimicrobials in labour when the source of infection is clear and therefore the committee decided to follow the NICE guideline on sepsis (NG51) and recommend referring to local antimicrobial guidance.

When the source of infection is unclear, a broad-spectrum intravenous antimicrobial should be offered from the local formulary and in line with local (where available) or national guidelines. This represents an adaptation of a recommendation in the NICE guideline on sepsis (NG51), which recommends, for people aged 18 years and over who need an empirical intravenous antimicrobial for a suspected infection but who have no confirmed diagnosis, use of an intravenous antimicrobial from the agreed local formulary and in line with local (where available) or national guidelines. The committee chose to recommend a broad-spectrum antimicrobial in this context because intrauterine infection is the most likely source of infection in labour and it is often caused by multiple organisms (that is, it is polymicrobial) meaning that empirical (broad- or narrow-spectrum) antimicrobial treatment based on clinical suspicion of the type of infection as recommended in the NICE guideline on sepsis (NG51) is less appropriate.

The committee was keen to support shared decision-making and to ensure that the woman and her birth companion(s) understand the reasons for the choice of antimicrobial. This is why they included a specific recommendation to explain to the woman and her birth companion(s) that there is no evidence to support the choice of one antimicrobial over another for women in labour with sepsis or suspected sepsis, and that because local antimicrobial resistance patterns vary the choice of antimicrobial will be influenced by local antimicrobial guidelines.

Cost effectiveness and resource use

No clinical or cost effectiveness evidence was found to support the use of a specific antimicrobial and the committee thought that cost effectiveness would often be

determined by local resistance patterns. For situations in which the source of infection was clear, the committee adhered closely to a corresponding recommendation in the NICE guideline on sepsis (NG51).

However, the committee considered that a broad-spectrum intravenous antimicrobial from the local formulary would be cost effective when the source of the infection was unclear because an intrauterine source is the most likely cause of sepsis during labour and birth and a number of different micro-organisms could be involved.

The committee considered that their recommendations reflected current practice and that there would be no resource impact to the NHS.

Intrapartum care for women with sepsis – management immediately after the birth

Review question

What is the most appropriate management for women with sepsis in the first 24 hours after the birth?

Introduction

The aim of this review is to determine the most appropriate management women with sepsis in the first 24 hours after birth. As noted above, in developing recommendations related to intrapartum care for women with sepsis, the committee was aware that the NICE guideline on sepsis (NG51) covers the recognition, diagnosis and early management of sepsis for all populations, including pregnant women.

Summary of the protocol

See Table 7for a summary of the population, intervention, comparison and outcome (PICO) characteristics of this review.

Table 7: Summary of the protocol (PICO table)

Population	Women with suspected or confirmed (diagnosed) sepsis up to 24 hours postpartum
Intervention	Intervention 1 • Place of care: ○ HDU ○ acute observational area Intervention 2 • Different staffing or care ratios (level of care required) or equipment plus staff expertise Intervention 3 • Additional investigations: ○ ultrasound ○ CT scan ○ laparotomy Intervention 4 • IV antibiotics Intervention 5 • More frequent maternal observations (temperature, pulse, blood pressure, respiratory rate, oxygen saturation, urine output that could be done hourly or quarter hourly)
Comparison	Comparison 1

	• Place of care: ○ postnatal ward <u>Comparison 2</u> • Usual staffing or care ratios (level of care required) or equipment plus staff expertise <u>Comparison 3</u> • Investigations: ○ full blood count ○ C reactive protein (CRP) ○ blood cultures Comparison 4 • Oral antibiotics Comparison 5 • 4-hourly observations
Outcomes	For the woman: • cause-specific mortality (that is, mortality due to sepsis) • major morbidities (DIC, renal failure, septic shock) • admission to HDU or ITU and duration of hospital stay • return to theatre or operative procedure • separation of the woman and baby • breastfeeding • woman's experience of labour and birth, including experience of the birth companion

CT: computed tomography; DIC: disseminated intravascular coagulation; IV: intravenous; HTU: high dependency unit; ITU: intensive therapy unit

For further details see the full review protocol in Appendix A – Review protocols. The search strategies are presented in Appendix B – Literature search strategies.

Clinical evidence

Included studies

No clinical evidence was identified for this review.

See the study selection flow chart in Appendix C – Clinical evidence study selection.

Excluded studies

Studies not included in this review with reasons for their exclusion are listed in Appendix D – Excluded studies

Summary of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so there are no evidence tables in Appendix E – Clinical evidence tables). No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix F – Forest plots).

Quality assessment of clinical studies included in the evidence review

No clinical evidence was identified for this review (and so no quality assessment was undertaken and there are no GRADE tables in Appendix G – GRADE tables).

Economic evidence

Included studies

No economic evidence was identified for this review.

See the study selection flow chart in Supplement 2 (Health economics).

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list (see Supplement 2 (Health economics)).

Summary of studies included in the economic evidence review

No economic evidence was identified for this review (and so there are no economic evidence tables in Supplement 2 (Health economics)).

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation (see Supplement 2 (Health economics)).

Evidence statements

No clinical evidence was identified for this review.

Recommendations

M26. For women with sepsis or suspected sepsis, ensure that there is ongoing multidisciplinary review (see recommendations M4, M5 and M6) in the first 24 hours after the birth. This should include a discussion about the need for:

- antimicrobial treatment
- increased frequency of monitoring
- an enhanced level of care
- further investigations such as imaging
- support to enable the woman to feed her baby as she chooses (including keeping the woman and baby together wherever possible and maintaining skin-to-skin contact)
- additional support for the woman and her family.

Rationale and impact

Why the committee made the recommendations

No evidence was found on management for women with sepsis or suspected sepsis in the first 24 hours after the birth so the committee made recommendations based

on their expertise and knowledge of good practice. They agreed that a team with a named lead should provide care. The committee felt that determining the need for antibiotics, frequency of monitoring and level of care were important both for the safety of the woman and avoiding separation from her baby. The committee was aware that the woman and baby are often separated if the woman is transferred to a general intensive care unit or high-dependency unit, and this can impact negatively on the developing relationship between the woman and her baby, and consequently on maternal emotional wellbeing and postnatal mental health.

Families expect women who have given birth to be discharged home in full health soon after the birth. If the woman develops intrapartum sepsis, additional practical and emotional support will be needed during the recovery from critical illness.

Impact of the recommendations on practice

The recommendations reflect current best practice and should improve practice in some areas, particularly around reducing separation of women and their babies.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

The committee prioritised maternal cause-specific mortality (that is, mortality due to sepsis), major maternal morbidities such as disseminated intravascular coagulation, renal failure or septic shock), admission to HDU or ITU and duration of hospital stay as critical outcomes. They agreed that maternal mortality and the major maternal morbidities listed above are critical outcomes because sepsis is one of the predominant causes of maternal mortality and morbidity in the UK. The committee considered admission to HDU or ITU as a critical outcome because of its high economic impact and also because it is a proxy measure for the woman's experience, including separation of the woman and the baby.

Important maternal outcomes were a return to theatre or operative procedure, separation of the woman and the baby, and breastfeeding. The committee agreed that a return to theatre is an important outcome because it is a proxy measure for the woman's experience (morbidity is increased by returning to theatre), it may impact on her future fertility, it is a proxy measure for separation of the woman and the baby, and for a potential negative impact on her birth companion(s). Separation of the woman and the baby was chosen as an important outcome because it reflects the woman's experience of labour and birth, including breastfeeding. The committee felt that breastfeeding should be selected as an important outcome because of the associated benefits for the woman and the baby.

The quality of the evidence

No clinical evidence was identified for this review.

Benefits and harms

The committee wanted to emphasise that for women in labour with sepsis or suspected sepsis there should be an ongoing (dynamic) multidisciplinary review in the first 24 hours after the birth and that this should involve the same senior healthcare professional roles as during labour and birth (with the composition of the

team depending on whether the woman has suspected sepsis, sepsis or sepsis with signs of organ dysfunction).

The committee agreed that ensuring an adequate frequency of maternal monitoring is crucial for rapid diagnosis of any deterioration in the presence of organ dysfunction. The committee wanted to emphasise that the multidisciplinary team should discuss the need for antimicrobial treatment, increased frequency of monitoring, an enhanced level of care, further investigations such as imaging, and support for the woman's choice of approach to feeding the baby. The committee was particularly aware that the woman and the baby are often separated during the first 24 hours after the birth, and this can affect the woman's emotional wellbeing and postnatal mental health as well as the likelihood of establishing breastfeeding. The committee was aware of and supported recommendations in the NICE guideline on postnatal care up to 8 weeks after birth (CG37), which include breastfeeding support being made available regardless of the location of care and facilitating an environment conducive to breastfeeding when postnatal care is provided in hospital. The committee was also aware that families expect women to be discharged home in full health soon after giving birth and so their recommendations emphasised the need for discussion about additional support for the woman and her family with the intention of facilitating the woman's recovery.

Cost effectiveness and resource use

No clinical evidence was identified for this review and therefore the committee made a qualitative assessment on the cost effectiveness of their recommendations for the management sepsis in the first 24 hours after the birth. The committee noted that sepsis is an important cause of maternal mortality and that effective intervention can have a big impact in averting losses in health related quality of life.

The committee agreed that continuity of care was important in averting adverse outcomes and therefore they recommended ongoing multidisciplinary review with the same senior healthcare professional roles as during labour or birth in the first 24 hours after birth. They believed that adequate maternal monitoring would be cost-effective as rapid deterioration can occur.

The committee believed that support to enable the woman to feed her baby as she chooses would minimise the risks to maternal emotional wellbeing and postnatal mental health and the costs arising from any adverse impact on these outcomes.

The committee thought that their recommendations largely reflected current practice and would not have a significant resource impact for the NHS.

Other factors the committee took into account

The committee was aware that different levels of care could be provided in different settings depending on the organisation and so the recommendations were worded to refer to levels of care rather than settings.

In recommending support for the woman's choice of approach to feeding the baby, the committee was aware that the initiation of breastfeeding may be more challenging for women with sepsis or suspected sepsis because of concerns about antimicrobial treatment being contraindicated when breastfeeding. The committee's understanding was that drugs contraindicated in lactating women would be unlikely to be used to treat intrapartum sepsis.

References

Chapman 2014

Chapman, E., Reveiz, L., Illanes, E., Bonfill Cosp, X., Antibiotic regimens for management of intra-amniotic infection, Cochrane Database of Systematic Reviews, 12, CD010976, 2014

Maberry 1991

Maberry, M. C., Gilstrap, L. C., 3rd, Bawdon, R., Little, B. B., Dax, J., Anaerobic coverage for intra-amnionic infection: maternal and perinatal impact, 8, 338-41, 1991

Scalambrino 1989

Scalambrino, S., Mangioni, C., Milani, R., Regallo, M., Norchi, S., Negri, L., Carrera, S., Vigano, E. F., Ruffilli, M. P., Canale, M. P., Sulbactam/ampicillin versus cefotetan in the treatment of obstetric and gynecologic infections, Suppl Int J Gynecol ObstetSupplement to International journal of gynecology and obstetrics, 2, 21-7, 1989

1 Appendices

2 Appendix A – Review protocols

3 Intrapartum care for women with sepsis – mode of birth

Item	Details	Working notes
Area in the scope	Women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons – intrapartum care for women with sepsis – mode of birth	
Review question in the scope	What is the optimal mode of birth for women with sepsis?	
Review question for the guideline	What is the optimal mode of birth for women with sepsis?	
Objective	The aim of this review is to determine the optimal mode of birth for women with suspected or confirmed (diagnosed) sepsis. This is an important topic because in the UK, the incidence of fatal maternal sepsis has increased; for example, in the late 1980s the sepsis-related maternal mortality rate was 0.4/100,000 maternities, while in the period 2006-2008 the rate increased to 1.13/100,000 maternities (Cantwell 2011). It is estimated that sepsis accounts for 10% of maternal deaths worldwide (Acosta 2013)	
Population and directness	Pregnant women (planning birth with a woman who presents with sepsis) and women in labour with suspected or confirmed (diagnosed) sepsis. Bacterial and viral causes of sepsis will be included. Studies in which up to 34% of the women have multiple pregnancy will be included. Evidence in which any of the women have multiple pregnancy should be downgraded for indirectness.	
Intervention	<u>Pregnant women</u> Intervention 1: • early birth (induction of labour or emergency caesarean section) Intervention 2: • emergency caesarean section (but not induction of labour) <u>Women in labour</u> Intervention 3: • emergency caesarean section or assisted birth	
Comparison	<u>Pregnant women</u> Comparison 1:	

Item	Details	Working notes
	• expectant management (planned vaginal birth or elective caesarean section) Comparison 2: • induction of labour <u>Women in labour</u> Comparison 3: • continuation of labour	

Outcomes	Critical outcomes:
	• for the woman:
	  ○ mortality
	  ○ admission to HDU/ITU and duration of hospital stay
	• for the baby:
	  ○ mortality
	
	Important outcomes:
	• for the woman:
	  ○ major morbidities (DIC, renal failure, or septic shock)
	  ○ woman's experience of labour and birth, including experience of the birth companion
	• for the baby:
	  ○ major morbidities (prematurity complications, respiratory infection, or septicaemia)
	
	Outcomes of limited importance:
	• for the baby:
	  ○ admission to NICU and duration of hospital stay	

Importance of outcomes	Preliminary classification of the outcomes for decision making: • critical (up to 3 outcomes) • important but not critical (up to 3 outcomes) • of limited importance (1 outcome)	
Setting	Obstetric units	
Stratified, subgroup and adjusted analyses	Groups that will be reviewed and analysed separately: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age In the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: • severity of sepsis (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age Potential confounders: • maternal age • socioeconomic status	

Item	Details	Working notes
	• race/ethnicity • smoking • body mass index • parity • history of pelvic infection • co-existing morbidities (for example, diabetes, immunosuppressant conditions and medications) • duration of ruptured membranes	
Language	English	
Study design	• Published full-text papers only • Systematic reviews • RCTs • Only if RCTs unavailable or there is limited data to inform decision making: ○ prospective or retrospective comparative observational studies (including cohort and case-control studies) • Prospective study designs will be prioritised over retrospective study designs • Conference abstracts will not be considered • Qualitative or cross-sectional studies for outcome of woman's experience of labour and birth	
Search strategy	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA and Embase. Limits (e.g. date, study design): All study designs. Apply standard animal/non-English language filters. No date limit. Supplementary search techniques: No supplementary search techniques were used. See Appendix B – Literature search strategies for full strategies	
Review strategy	Appraisal of methodological quality: • the methodological quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (for example, AMSTAR or ROBIS for systematic reviews, and Cochrane RoB tool for RCTs) and the quality of the evidence for each outcome (that is, across studies) will be assessed using GRADE • if studies report only p-values, this information will be recorded in GRADE tables without an assessment of imprecision Synthesis of data: • meta-analysis will be conducted where appropriate • default MIDs will be used; 0.8 and 1.25 for dichotomous outcomes; 0.5 times the SD of the measurement in the control arm (or median score across control arms if multiple studies are included) for continuous outcomes • for continuous data, change scores will be used in preference to final scores for data from non-RCT studies; final and change scores will not be pooled; if	Review questions selected as high priorities for health economic analysis (and those selected as medium priorities and where health economic analysis could influence recommendations) will be subject to dual weeding and study selection; any discrepancies will be resolved through discussion between the first and second reviewers or by reference to a third person. This review question was not prioritised for health

Item	Details	Working notes
	any study reports both, the method used in the majority of studies will be adopted	economic analysis and so no formal dual weeding, study selection (inclusion/exclusion) or data extraction into evidence tables will be undertaken. However, internal (NGA) quality assurance processes will include consideration of the outcomes of weeding, study selection and data extraction and the committee will review the results of study selection and data extraction
Equalities	Equalities considerations will be considered systematically in relation to the available evidence and draft recommendations. The guideline scope includes women with cognitive or physical disability as populations for whom there may be equalities issues. Women who have received no antenatal care will be considered as a subgroup for all systematic reviews performed within the medical conditions work stream and a specific question has been included in the obstetric complications work stream for this population	
Notes/additional information	• Acosta CD & Knight M. Sepsis and maternal mortality. Curr Opin Obstet Gynecol. 2013 Apr;25(2):109-16 (http://www.ncbi.nlm.nih.gov/pubmed/23385771) • Cantwell R et al. Saving mothers' lives: reviewing maternal deaths to make motherhood safer: The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011; 118 (Suppl 1):1–203 (http://www.ncbi.nlm.nih.gov/pubmed/21356004)	
Key papers	• MBRRACE-UK: Saving Lives, Improving Mothers' Care, 2014 (https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/Saving%20Lives%20Improving%20Mothers%20Care%20report%202014%20Full.pdf) • NICE guideline on sepsis (https://www.nice.org.uk/guidance/ng51?unlid=280104107201611917351) • Sepsis in Pregnancy, Bacterial (Green–top Guideline No. 64a, April 2012 (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64a/) • Sepsis following Pregnancy, Bacterial (Green-top Guideline No. 64b, April 2012	

Item	Details	Working notes
	(https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64b/)	

AMSTAR: Assessing the Methodological Quality of Systematic Reviews; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; DIC: disseminated intravascular coagulation; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HDU: high dependency unit; HTA: Health Technology Assessment; ITU: intensive therapy unit; MID: minimally important difference; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; NICU: neonatal intensive care unit; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation; ROBIS: Risk of Bias in Systematic Reviews

Intrapartum care for women with sepsis – anaesthesia

Item	Details	Working notes
Area in the scope	Women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons – intrapartum care for women with sepsis – anaesthesia and analgesia	
Review question in the scope	What are the most effective and safe methods of anaesthesia for women with sepsis in labour?	
Review question for the guideline	What are the most effective and safe methods of anaesthesia for women with sepsis in labour?	
Objective	The aim of this review is to determine the most effective and safe methods of anaesthesia for women with sepsis in labour. This is an important topic because in the UK, the incidence of fatal maternal sepsis has increased; for example, in the late 1980s the sepsis-related maternal mortality rate was 0.4/100,000 maternities, while in the period 2006-2008 the rate increased to 1.13/100,000 maternities (Cantwell 2011). It is estimated that sepsis accounts for 10% of maternal deaths worldwide (Acosta 2013)	
Population and directness	Women requiring an obstetric operative procedure with suspected or confirmed (diagnosed) sepsis in labour: • women having planned or emergency caesarean section • women having an assisted vaginal birth. Bacterial and viral causes of sepsis will be included. Studies in which up to 34% of the women have multiple pregnancy will be included. Evidence in which any of the women have multiple pregnancy should be downgraded for indirectness.	
Intervention	Central neuraxial block (epidural, spinal or combined spinal-epidural)	
Comparison	General anaesthesia or any combination of the central neuraxial blocks	
Outcomes	Critical outcomes: • for the woman: ○ mortality ○ incidence of epidural/haematoma abscess or meningitis	

Item	Details	Working notes

	• for the baby:
	  ○ admission to NICU and duration of hospital stay
	
	Important outcomes:
	• for the woman:
	  ○ admission to HDU/ITU and level 2 or 3 care
	  ○ woman's experience of labour and birth, especially separation of the woman and baby, including experience of the birth companion
	• for the baby:
	  ○ major morbidities (prematurity complications, respiratory infection, or septicaemia)
	
	Outcomes of limited importance:
	• for the woman:
	  ○ peri-operative cardiovascular collapse	

Importance of outcomes	• Preliminary classification of the outcomes for decision • making: • critical (up to 3 outcomes) • important but not critical (up to 3 outcomes) • of limited importance (1 outcome)	
Setting	Obstetric units	
Stratified, subgroup and adjusted analyses	Groups that will be reviewed and analysed separately: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age In the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: • severity of sepsis (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age Potential confounders: • maternal age • socioeconomic status • race/ethnicity • smoking • body mass index • parity • history of pelvic infection • co-existing morbidities (hypertension, diabetes, preeclampsia, anaemia, asthma, immunosuppressant conditions and medications) • urgency of operative procedure • duration of ruptured membranes	
Language	English	
Study design	• Published full-text papers only	

Item	Details	Working notes
	• Systematic reviews • RCTs • Only if RCTs unavailable or there is limited data to inform decision making: ○ prospective or retrospective comparative observational studies (including cohort and case-control studies) • Prospective study designs will be prioritised over retrospective study designs • Conference abstracts will not be considered	
Search strategy	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA and Embase. Limits (e.g. date, study design): All study designs. Apply standard animal/non-English language filters. No date limit. Supplementary search techniques: No supplementary search techniques were used. See appendix B for full strategies	
Review strategy	Appraisal of methodological quality: • the methodological quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (for example, AMSTAR or ROBIS for systematic reviews, and Cochrane RoB tool for RCTs) and the quality of the evidence for each outcome (that is, across studies) will be assessed using GRADE • if studies report only p-values, this information will be recorded in GRADE tables without an assessment of imprecision Synthesis of data: • meta-analysis will be conducted where appropriate • default MIDs will be used; 0.8 and 1.25 for dichotomous outcomes; 0.5 times the SD of the measurement in the control arm (or median score across control arms if multiple studies are included) for continuous outcomes • for continuous data, change scores will be used in preference to final scores for data from non-RCT studies; final and change scores will not be pooled; if any study reports both, the method used in the majority of studies will be adopted	Review questions selected as high priorities for health economic analysis (and those selected as medium priorities and where health economic analysis could influence recommendations) will be subject to dual weeding and study selection; any discrepancies will be resolved through discussion between the first and second reviewers or by reference to a third person. This review question was not prioritised for health economic analysis and so no formal dual weeding, study selection (inclusion/exclusion) or data extraction into evidence tables will be undertaken. However, internal (NGA) quality assurance processes will include consideration of the outcomes of weeding, study selection and data extraction and the committee will review

Item	Details	Working notes
		the results of study selection and data extraction
Equalities	Equalities considerations will be considered systematically in relation to the available evidence and draft recommendations. The guideline scope includes women with cognitive or physical disability as populations for whom there may be equalities issues. Women who have received no antenatal care will be considered as a subgroup for all systematic reviews performed within the medical conditions work stream and a specific question has been included in the obstetric complications work stream for this population.	
Notes/additional information	• Acosta CD & Knight M. Sepsis and maternal mortality. Curr Opin Obstet Gynecol. 2013 Apr;25(2):109-16 (http://www.ncbi.nlm.nih.gov/pubmed/23385771) • Cantwell R et al. Saving mothers' lives: reviewing maternal deaths to make motherhood safer: The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011; 118 (Suppl 1):1–203 (http://www.ncbi.nlm.nih.gov/pubmed/21356004)	
Key papers	• MBRRACE-UK: Saving Lives, Improving Mothers' Care, 2014 • (file:///C:/Users/lkuznetsov/Downloads/MBRRACE-UK%20Maternal%20Report%202016%20-%20website.pdf) • NICE guideline on sepsis • (https://www.nice.org.uk/guidance/ng51?unlid=280104107201611917351) • Sepsis in Pregnancy, Bacterial (Green–top Guideline No. 64a, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64a/) • Sepsis following Pregnancy, Bacterial (Green-top Guideline No. 64b, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64b/)	

AMSTAR: Assessing the Methodological Quality of Systematic Reviews; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; DIC: disseminated intravascular coagulation; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HDU: high dependency unit; HTA: Health Technology Assessment; ITU: intensive therapy unit; MID: minimally important difference; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; NICU: neonatal intensive care unit; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation; ROBIS: Risk of Bias in Systematic Reviews

Intrapartum care for women with sepsis – analgesia

Item	Details	Working notes
Area in the scope	Women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons – intrapartum care for women with sepsis – anaesthesia and analgesia	

Item	Details	Working notes
Review question in the scope	What are the most effective and safe methods of analgesia for women with sepsis in labour?	
Review question for the guideline	What are the most effective and safe methods of analgesia for women with sepsis in labour?	
Objective	The aim of this review is to determine the most effective and safe methods of analgesia for women with sepsis in labour. This is an important topic because in the UK, the incidence of fatal maternal sepsis has increased; for example, in the late 1980s the sepsis-related maternal mortality rate was 0.4/100,000 maternities, while in the period 2006-2008 the rate increased to 1.13/100,000 maternities (Cantwell 2011). It is estimated that sepsis accounts for 10% of maternal deaths worldwide (Acosta 2013)	
Population and directness	Women with suspected or confirmed (diagnosed) sepsis in labour. Bacterial and viral causes of sepsis will be included. Studies in which up to 34% of the women have multiple pregnancy will be included. Evidence in which any of the women have multiple pregnancy should be downgraded for indirectness.	.
Intervention	<u>Intervention 1</u> • No analgesia <u>Intervention 2</u> • Pharmacological measures: ○ entonox ○ opioids (IM) ○ patient controlled IV analgesia <u>Intervention 3</u> • Non-pharmacological measures: ○ acupuncture ○ water pool/hydrotherapy ○ sterile water injection in the back ○ TENS ○ hypnotherapy ○ relaxation techniques (massage, breathing, visualisation, aromatherapy, and movement)	•
Comparison	• Central neuraxial block (epidural, spinal or combined spinal-epidural)	
Outcomes	Critical outcomes: • for the woman: ○ incidence of epidural haematoma/abscess or meningitis ○ woman's experience of labour and birth, including experience of the birth companion ○ mode of birth	

Item	Details	Working notes

	Important outcomes:
	• for the woman:
	  ○ mortality
	  ○ effectiveness of analgesia (pain score measured using validated scales such as VAS, or request for further analgesia)
	• for the baby:
	  ○ major morbidities (prematurity complications, respiratory infection, or septicaemia)
	
	Outcomes of limited importance:
	• for the baby:
	  ○ admission to NICU and duration of hospital stay	

Importance of outcomes	Preliminary classification of the outcomes for decision making: • critical (up to 3 outcomes) • important but not critical (up to 3 outcomes) • of limited importance (1 outcome)	
Setting	Obstetric units	
Stratified, subgroup and adjusted analyses	Groups that will be reviewed and analysed separately: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age In the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: • severity of sepsis (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age Potential confounders: • maternal age • socioeconomic status • race/ethnicity • smoking • body mass index • parity • history of pelvic infection • co-existing morbidities (hypertension, diabetes, preeclampsia, anaemia, asthma, immunosuppressant conditions and medications) • duration of ruptured membranes	
Language	English	
Study design	• Published full-text papers only • Systematic reviews • RCTs • Only if RCTs unavailable or there is limited data to inform decision making:	

Item	Details	Working notes
	○ prospective or retrospective comparative observational studies (including cohort and case-control studies) • Prospective study designs will be prioritised over retrospective study designs • Conference abstracts will not be considered	
Search strategy	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA and Embase. Limits (e.g. date, study design): All study designs. Apply standard animal/non-English language filters. No date limit. Supplementary search techniques: No supplementary search techniques were used. See appendix B for full strategies	
Review strategy	Appraisal of methodological quality: • the methodological quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (for example, AMSTAR or ROBIS for systematic reviews, and Cochrane RoB tool for RCTs) and the quality of the evidence for each outcome (that is, across studies) will be assessed using GRADE • if studies report only p-values, this information will be recorded in GRADE tables without an assessment of imprecision Synthesis of data: • meta-analysis will be conducted where appropriate • default MIDs will be used; 0.8 and 1.25 for dichotomous outcomes; 0.5 times the SD of the measurement in the control arm (or median score across control arms if multiple studies are included) for continuous outcomes • for continuous data, change scores will be used in preference to final scores for data from non-RCT studies; final and change scores will not be pooled; if any study reports both, the method used in the majority of studies will be adopted	Review questions selected as high priorities for health economic analysis (and those selected as medium priorities and where health economic analysis could influence recommendations) will be subject to dual weeding and study selection; any discrepancies will be resolved through discussion between the first and second reviewers or by reference to a third person. This review question was not prioritised for health economic analysis and so no formal dual weeding, study selection (inclusion/exclusion) or data extraction into evidence tables will be undertaken. However, internal (NGA) quality assurance processes will include consideration of the outcomes of weeding, study selection and data extraction and the committee will review the results of study selection and data extraction

Item	Details	Working notes
Equalities	Equalities considerations will be considered systematically in relation to the available evidence and draft recommendations. The guideline scope includes women with cognitive or physical disability as populations for whom there may be equalities issues. Women who have received no antenatal care will be considered as a subgroup for all systematic reviews performed within the medical conditions work stream and a specific question has been included in the obstetric complications work stream for this population.	
Notes/additional information	• Acosta CD & Knight M. Sepsis and maternal mortality. Curr Opin Obstet Gynecol. 2013 Apr;25(2):109-16 (http://www.ncbi.nlm.nih.gov/pubmed/23385771) • Cantwell R et al. Saving mothers' lives: reviewing maternal deaths to make motherhood safer: The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011; 118 (Suppl 1):1–203 (http://www.ncbi.nlm.nih.gov/pubmed/21356004)	
Key papers	• MBRRACE-UK: Saving Lives, Improving Mothers' Care, 2014 (https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/Saving%20Lives%20Improving%20Mothers%20Care%20report%202014%20Full.pdf) • NICE guideline on sepsis • (https://www.nice.org.uk/guidance/ng51?unlid=280104107201611917351) • Sepsis in Pregnancy, Bacterial (Green–top Guideline No. 64a, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64a/) • Sepsis following Pregnancy, Bacterial (Green-top Guideline No. 64b, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64b/)	

AMSTAR: Assessing the Methodological Quality of Systematic Reviews; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HDU: high dependency unit; HTA: Health Technology Assessment; IM: intramuscular; IV: intravenous; MID: minimally important difference; NICE: National Institute for Health and Care Excellence; NICU: neonatal intensive care unit; RCT: randomised controlled trial; RoB: risk of bias; ROBIS: Risk of Bias in Systematic Reviews; SD: standard deviation; TENS: transcutaneous electrical nerve stimulation; VAS: visual analogue scale

Intrapartum care for women with sepsis – fetal monitoring

Item	Details	Working notes
Area in the scope	Women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons – intrapartum care for women with sepsis – fetal monitoring	
Review question in the scope	How should fetal monitoring be managed for women with sepsis who present in labour?	

Item	Details	Working notes
Review question for the guideline	How should fetal monitoring be managed for women with sepsis who present in labour? Sub-question What is the value of the following measures for predicting outcomes for the woman and the baby: • fetal blood pH analysis • fetal blood lactate analysis?	
Objective	The aim of this review is to determine how to manage fetal monitoring for women with sepsis who present in labour. This is an important topic because in the UK, the incidence of fatal maternal sepsis has increased; for example, in the late 1980s the sepsis-related maternal mortality rate was 0.4/100,000 maternities, while in the period 2006-2008 the rate increased to 1.13/100,000 maternities (Cantwell 2011). It is estimated that sepsis accounts for 10% of maternal deaths worldwide (Acosta 2013)	
Population and directness	Women with diagnosed or suspected sepsis in labour. Bacterial and viral causes of sepsis will be included. Studies in which up to 34% of the women have multiple pregnancy will be included. Evidence in which any of the women have multiple pregnancy should be downgraded for indirectness.	
Intervention	Main review question Intervention 1: • CTG using FSE Intervention 2: • CTG plus digital FSS Intervention 3: • CTG using FSE plus FBS Intervention 4: • CTG plus FBS Sub-question • CTG plus pH (index test) • CTG plus lactate (index test)	
Comparison	Main question • CTG alone Sub-question • CTG alone (reference standard)	
Outcomes	Main question Critical outcomes: • for the woman: ○ mode of birth	

Item	Details	Working notes

	• for the baby:
	  ○ mortality
	  ○ major neonatal morbidities (cerebral palsy, hypoxic ischaemic encephalopathy, respiratory distress, or infection)
	
	Important outcomes:
	• for the woman:
	  ○ admission to HDU/ITU and duration of hospital stay
	• for the baby:
	  ○ cord blood gas values at birth (arterial or venous pH <7.10)
	  ○ admission to NICU and duration of hospital stay
	
	Outcomes of limited importance:
	• for the woman:
	  ○ woman's experience of labour and birth, including experience of the birth companion
	
	<u>Sub-question</u>
	• Sensitivity, specificity, positive and negative likelihood ratios for predicting the following outcomes in the baby:
	  ○ neonatal mortality and morbidity (cerebral palsy, hypoxic ischaemic encephalopathy and infection)	

Importance of outcomes	Preliminary classification of the outcomes for decision making: • critical (up to 3 outcomes) • important but not critical (up to 3 outcomes) • of limited importance (1 outcome)	
Setting	Obstetric units	
Stratified, subgroup and adjusted analyses	Groups that will be reviewed and analysed separately: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age In the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: • severity of sepsis (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age Potential confounders: • maternal age • socioeconomic status • race/ethnicity • smoking • body mass index • parity • history of pelvic infection	

Item	Details	Working notes
	• co-existing morbidities (hypertension, diabetes, preeclampsia, anaemia, asthma, immunosuppressant conditions and medications) • duration of ruptured membranes	
Language	English	

Study design	• Published full-text papers only
	• Systematic reviews
	• RCTs
	• Only if RCTs unavailable or there is limited data to inform decision making:
	  ○ prospective or retrospective comparative observational studies (including cohort and case-control studies)
	• Prospective study designs will be prioritised over retrospective study designs
	• For the sub-question (diagnostic study designs):
	  ○ studies will be included only if the data reported allows for a 2x2 table to be produced, or if specificity and sensitivity data are reported with confidence intervals
	  ○ conference abstracts will not be considered	

Search strategy	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA and Embase. Limits (e.g. date, study design): All study designs. Apply standard animal/non-English language filters. No date limit. Supplementary search techniques: No supplementary search techniques were used. See Appendix B – Literature search strategies for full strategies	
Review strategy	Appraisal of methodological quality: • for the main question, the methodological quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (for example, AMSTAR or ROBIS for systematic reviews, and Cochrane RoB tool for RCTs) and the quality of the evidence for each outcome (that is, across studies) will be assessed using GRADE • for the sub-question, the methodical quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (QUADAS-2) and the quality of the evidence for an outcome will be assessed using an adapted version of GRADE • if studies report only p-values, this information will be recorded in GRADE tables without an assessment of imprecision Synthesis of data: • meta-analysis will be conducted where appropriate • default MIDs will be used; 0.8 and 1.25 for dichotomous outcomes; 0.5 times the SD of the measurement in the control arm (or median score across control arms if multiple studies are included) for continuous outcomes • for continuous data, change scores will be used in preference to final scores for data from non-RCT	Review questions selected as high priorities for health economic analysis (and those selected as medium priorities and where health economic analysis could influence recommendations) will be subject to dual weeding and study selection; any discrepancies will be resolved through discussion between the first and second reviewers or by reference to a third person. This review question was not prioritised for health economic analysis and so no formal dual weeding, study

Item	Details	Working notes
	studies; final and change scores will not be pooled; if any study reports both, the method used in the majority of studies will be adopted	selection (inclusion/exclusion) or data extraction into evidence tables will be undertaken. However, internal (NGA) quality assurance processes will include consideration of the outcomes of weeding, study selection and data extraction and the committee will review the results of study selection and data extraction
Equalities	Equalities considerations will be considered systematically in relation to the available evidence and draft recommendations. The guideline scope includes women with cognitive or physical disability as populations for whom there may be equalities issues. Women who have received no antenatal care will be considered as a subgroup for all systematic reviews performed within the medical conditions work stream and a specific question has been included in the obstetric complications work stream for this population.	
Notes/additional information	• Acosta CD & Knight M. Sepsis and maternal mortality. Curr Opin Obstet Gynecol. 2013 Apr;25(2):109-16 (http://www.ncbi.nlm.nih.gov/pubmed/23385771) • Cantwell R et al. Saving mothers' lives: reviewing maternal deaths to make motherhood safer: The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011; 118 (Suppl 1):1–203 (http://www.ncbi.nlm.nih.gov/pubmed/21356004)	
Key papers	• MBRRACE-UK: Saving Lives, Improving Mothers' Care, 2014 (https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/Saving%20Lives%20Improving%20Mothers%20Care%20report%202014%20Full.pdf) • NICE guideline on sepsis • (https://www.nice.org.uk/guidance/ng51?unlid=280104107201611917351) • Sepsis in Pregnancy, Bacterial (Green–top Guideline No. 64a, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64a/) • Sepsis following Pregnancy, Bacterial (Green-top Guideline No. 64b, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64b/)	

1 *AMSTAR: Assessing the Methodological Quality of Systematic Reviews; CDSR: Cochrane Database of*
2 *Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; CTG:*
3 *cardiotocography; DARE: Database of Abstracts of Reviews of Effects; FBS: fetal blood sample; FSE:*

fetal scalp electrode; FSS: fetal scalp stimulation; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HDU: high dependency unit; HTA: Health Technology Assessment; ITU: intensive therapy unit; MID: minimally important difference; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; NICU: neonatal intensive care unit; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation; ROBIS: Risk of Bias in Systematic Reviews

Intrapartum care for women with sepsis – antimicrobial therapy

Item	Details	Working notes
Area in the scope	Women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons – intrapartum care for women with sepsis – antimicrobial therapy	
Review question in the scope	What is the most clinical and cost effective antimicrobial therapy for women with sepsis in labour?	
Review question for the guideline	What is the most clinical and cost effective antimicrobial therapy for women with sepsis in labour?	
Objective	The aim of this review is to determine the most clinical and cost effective antimicrobial therapy for women with sepsis in labour. This is an important topic because in the UK, the incidence of fatal maternal sepsis has increased; for example, in the late 1980s the sepsis-related maternal mortality rate was 0.4/100,000 maternities, while in the period 2006-2008 the rate increased to 1.13/100,000 maternities (Cantwell 2011). It is estimated that sepsis accounts for 10% of maternal deaths worldwide (Acosta 2013)	
Population and directness	Women with suspected or confirmed (diagnosed) sepsis in labour. Bacterial and viral causes of sepsis such as group A and group B streptococcus, *Escherichia coli* and *Streptococcus pneumonaie* and influenza will be included. Studies in which up to 34% of the women have multiple pregnancy will be included. Evidence in which any of the women have multiple pregnancy should be downgraded for indirectness.	
Intervention	Antimicrobials by class: • aminoglycosides (amikacin, gentamicin, tobramycin, or neomycin sulfate) • carbapenems (ertapenem, imipenem with cilastatin, or meropenem) • cephalosporins (cefaclor, cefadroxil, cefixime, cefotaxime, ceftaroline, ceftazidime, ceftobiprole, ceftriaxone, cefuroxime, cephalexin, cephalosporin, or cephradine) • glycopeptides (oritavancin, telavancin, or vancomycin) • macrolides (azithromycin, clarithromycin, clindamycin, erythromycin, or fidaxomicin) • nitroimidazoles (metronidazole or tinidazole) • penicillins (only in combination with another antibiotic) • anti-virals (oseltamivir, zanamivir, aciclovir)	

Item	Details	Working notes
Comparison	• Head-to-head comparison of drugs by class and within/across classes • Comparison of combinations of drugs with single drugs or different combinations • Antibiotic versus antibiotic plus anti-viral for respiratory sepsis	
Outcomes	Critical outcomes: • for the woman: ○ cause-specific mortality (that is, mortality due to sepsis) ○ admission to HDU/ITU and duration of hospital stay • for the baby: ○ major morbidities (respiratory infection, septicaemia, or prematurity complications) Important outcomes: • for the woman: ○ major morbidities (DIC, renal failure, or septic shock) ○ breastfeeding • for the baby: ○ admission to NICU and duration of hospital stay Outcomes of limited importance: • for the woman: ○ adverse side effects	
Importance of outcomes	Preliminary classification of the outcomes for decision making: • critical (up to 3 outcomes) • important but not critical (up to 3 outcomes) • of limited importance (1 outcome)	
Setting	Obstetric units	
Stratified, subgroup and adjusted analyses	Groups that will be reviewed and analysed separately: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age In the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis • gestational age Potential confounders: • maternal age • socioeconomic status • race/ethnicity • smoking • body mass index • parity • history of pelvic infection	

Item	Details	Working notes
	• co-existing morbidities (hypertension, diabetes, preeclampsia, anaemia, asthma, immunosuppressant conditions and medications) • duration of ruptured membranes	
Language	English	
Study design	• Published full-text papers only • Systematic reviews • RCTs • Only if RCTs unavailable or there is limited data to inform decision making: ○ prospective or retrospective comparative observational studies (including cohort and case-control studies) • Prospective study designs will be prioritised over retrospective study designs • Conference abstracts will not be considered	
Search strategy	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA and Embase. Limits (e.g. date, study design): Study design limited to systematic reviews, RCTs, cohort studies and observational studies. Apply standard animal/non-English language filters. No date limit. Supplementary search techniques: No supplementary search techniques were used. See Appendix B – Literature search strategies for full strategies	
Review strategy	Appraisal of methodological quality: • the methodological quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (for example, AMSTAR or ROBIS for systematic reviews, and Cochrane RoB tool for RCTs) and the quality of the evidence for each outcome (that is, across studies) will be assessed using GRADE • if studies report only p-values, this information will be recorded in GRADE tables without an assessment of imprecision Synthesis of data: • meta-analysis will be conducted where appropriate • default MIDs will be used; 0.8 and 1.25 for dichotomous outcomes; 0.5 times the SD of the measurement in the control arm (or median score across control arms if multiple studies are included) for continuous outcomes • for continuous data, change scores will be used in preference to final scores for data from non-RCT studies; final and change scores will not be pooled; if any study reports both, the method used in the majority of studies will be adopted	Review questions selected as high priorities for health economic analysis (and those selected as medium priorities and where health economic analysis could influence recommendations) will be subject to dual weeding and study selection; any discrepancies will be resolved through discussion between the first and second reviewers or by reference to a third person. This review question was prioritised for health economic analysis and so formal dual weeding and study selection (inclusion/exclusion) will be undertaken. Additionally, internal

Item	Details	Working notes
		(NGA) quality assurance processes will include consideration of the outcomes of weeding, study selection and data extraction and the committee will review the results of study selection and data extraction
Equalities	Equalities considerations will be considered systematically in relation to the available evidence and draft recommendations. The guideline scope includes women with cognitive or physical disability as populations for whom there may be equalities issues. Women who have received no antenatal care will be considered as a subgroup for all systematic reviews performed within the medical conditions work stream and a specific question has been included in the obstetric complications work stream for this population	
Notes/additional information	• Acosta CD & Knight M. Sepsis and maternal mortality. Curr Opin Obstet Gynecol. 2013; 25(2):109-16 • Cantwell R et al. Saving mothers' lives: reviewing maternal deaths to make motherhood safer: The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011; 118 (Suppl 1):1–203	
Key papers	• MBRRACE-UK: Saving Lives, Improving Mothers' Care, 2014 • (https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/Saving%20Lives%20Improving%20Mothers%20Care%20report%202014%20Full.pdf) • NICE guideline on sepsis • (https://www.nice.org.uk/guidance/ng51?unlid=280104107201611917351) • Sepsis in Pregnancy, Bacterial (Green–top Guideline No. 64a, April 2012 • (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64a/) • Sepsis following Pregnancy, Bacterial (Green-top Guideline No. 64b, April 2012 (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64b/)	

AMSTAR: Assessing the Methodological Quality of Systematic Reviews; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; DARE: Database of Abstracts of Reviews of Effects; DIC: disseminated intravascular coagulation; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HDU: high dependency unit; HTA: Health Technology Assessment; ITU: intensive therapy unit; MID: minimally important difference; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; NICU: neonatal intensive care unit; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation; ROBIS: Risk of Bias in Systematic Reviews

Intrapartum care for women with sepsis – management immediately after the birth 2

Item	Details	Working notes
Area in the scope	Women at high risk of adverse outcomes for themselves and/or their baby because of obstetric complications or other reasons – intrapartum care for women with sepsis – management for the woman immediately after the birth	
Review question in the scope	What is the most appropriate management for women with sepsis in the first 24 hours after the birth?	
Review question for the guideline	What is the most appropriate management for women with sepsis in the first 24 hours after the birth?	
Objective	The aim of this review is to determine the most appropriate management for women with sepsis in the first 24 hours after the birth. This is an important topic because in the UK, the incidence of fatal maternal sepsis has increased; for example, in the late 1980s the sepsis-related maternal mortality rate was 0.4/100,000 maternities, while in the period 2006-2008 the rate increased to 1.13/100,000 maternities (Cantwell 2011). It is estimated that sepsis accounts for 10% of maternal deaths worldwide (Acosta 2013)	
Population and directness	Women with suspected or confirmed (diagnosed) sepsis up to 24 hours postpartum. Bacterial and viral causes of sepsis will be included. Studies in which up to 34% of the women have multiple pregnancy will be included. Evidence in which any of the women have multiple pregnancy should be downgraded for indirectness.	
Intervention	<u>Intervention 1</u> Place of care: • HDU • acute observational area <u>Intervention 2</u> Different staffing or care ratios (level of care required) or equipment plus staff expertise <u>Intervention 3</u> Additional investigations: • ultrasound • CT scan • laparotomy <u>Intervention 4</u> • IV antibiotics <u>Intervention 5</u>	

Item	Details	Working notes
	More frequent maternal observations (temperature, pulse, blood pressure, respiratory rate, oxygen saturation, urine output that could be done hourly or quarter hourly)	
Comparison	Comparison 1 Place of care: • postnatal ward Comparison 2 Usual staffing or care ratios (level of care required) or equipment plus staff expertise Comparison 3 Investigations: • full blood count • C reactive protein (CRP) • blood cultures Comparison 4 • Oral antibiotics Comparison 5 • 4-hourly observations	
Outcomes	Critical outcomes: • for the woman: ○ cause-specific mortality (that is, mortality due to sepsis) ○ major morbidities (DIC, renal failure, septic shock) ○ admission to HDU/ITU and length of hospital stay Important outcomes: • for the woman: ○ return to theatre/operative procedure ○ separation of the woman and baby ○ breastfeeding Outcomes of limited importance: • for the woman: ○ woman's experience of labour and birth, including experience of the birth companion	
Importance of outcomes	Preliminary classification of the outcomes for decision making: • critical (up to 3 outcomes) • important but not critical (up to 3 outcomes) • of limited importance (1 outcome)	
Setting	Obstetric units	
Stratified, subgroup and adjusted analyses	Groups that will be reviewed and analysed separately: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis	

Item	Details	Working notes
	In the presence of heterogeneity, the following subgroups will be considered for sensitivity analysis: • severity (sepsis, severe sepsis, or septic shock) • genital tract sepsis versus other sepsis Potential confounders: • maternal age • socioeconomic status • race/ethnicity • smoking • body mass index • parity • history of pelvic infection • co-existing morbidities (hypertension, diabetes, preeclampsia, anaemia, asthma, immunosuppressant conditions and medications) • duration of ruptured membranes • unit (level of care)	
Language	English	
Study design	• Published full-text papers only • Systematic reviews • RCTs • Only if RCTs unavailable or there is limited data to inform decision making: ○ prospective or retrospective comparative observational studies (including cohort and case-control studies) • Prospective study designs will be prioritised over retrospective study designs • Conference abstracts will not be considered	
Search strategy	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA and Embase. Limits (e.g. date, study design): All study designs. Apply standard animal/non-English language filters. No date limit. Supplementary search techniques: No supplementary search techniques were used. See Appendix B – Literature search strategies for full strategies	
Review strategy	Appraisal of methodological quality: • the methodological quality of each study will be assessed using checklists recommended in the NICE guidelines manual 2014 (for example, AMSTAR or ROBIS for systematic reviews, and Cochrane RoB tool for RCTs) and the quality of the evidence for each outcome (that is, across studies) will be assessed using GRADE • if studies report only p-values, this information will be recorded in GRADE tables without an assessment of imprecision Synthesis of data:	Review questions selected as high priorities for health economic analysis (and those selected as medium priorities and where health economic analysis could influence recommendations) will be subject to dual weeding and study selection; any

Item	Details	Working notes
	• meta-analysis will be conducted where appropriate • default MIDs will be used; 0.8 and 1.25 for dichotomous outcomes; 0.5 times the SD of the measurement in the control arm (or median score across control arms if multiple studies are included) for continuous outcomes • for continuous data, change scores will be used in preference to final scores for data from non-RCT studies; final and change scores will not be pooled; if any study reports both, the method used in the majority of studies will be adopted	discrepancies will be resolved through discussion between the first and second reviewers or by reference to a third person. This review question was not prioritised for health economic analysis and so no formal dual weeding, study selection (inclusion/exclusion) or data extraction into evidence tables will be undertaken. However, internal (NGA) quality assurance processes will include consideration of the outcomes of weeding, study selection and data extraction and the committee will review the results of study selection and data extraction
Equalities	Equalities considerations will be considered systematically in relation to the available evidence and draft recommendations. The guideline scope includes women with cognitive or physical disability as populations for whom there may be equalities issues. Women who have received no antenatal care will be considered as a subgroup for all systematic reviews performed within the medical conditions work stream and a specific question has been included in the obstetric complications work stream for this population	
Notes/additional information	• Acosta CD & Knight M. Sepsis and maternal mortality. Curr Opin Obstet Gynecol. 2013; 25(2):109-16 • Cantwell R et al. Saving mothers' lives: reviewing maternal deaths to make motherhood safer: The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011; 118 (Suppl 1):1–203	
Key papers	• MBRRACE-UK: Saving Lives, Improving Mothers' Care, 2014 (https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/Saving%20Lives%20Improving%20Mothers%20Care%20report%202014%20Full.pdf) • NICE guideline on sepsis (https://www.nice.org.uk/guidance/ng51?unlid=280104107201611917351) • Sepsis in Pregnancy, Bacterial (Green–top Guideline No. 64a, April 2012	

Item	Details	Working notes
	(https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64a/) • Sepsis following Pregnancy, Bacterial (Green-top Guideline No. 64b, April 2012 (https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg64b/)	

AMSTAR: Assessing the Methodological Quality of Systematic Reviews; CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; CT: computed tomography; DARE: Database of Abstracts of Reviews of Effects; DIC: disseminated intravascular coagulation; IV: intravenous; GRADE: Grading of Recommendations Assessment, Development and Evaluation; HDU: high dependency unit; HTA: Health Technology Assessment; ITU: intensive therapy unit; IV: intravenous; MID: minimally important difference; NGA: National Guideline Alliance; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial; RoB: risk of bias; SD: standard deviation; ROBIS: Risk of Bias in Systematic Reviews

Appendix B – Literature search strategies

Intrapartum care for women with sepsis – mode of birth

Database: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

#	Searches
1	exp SEPSIS/
2	sepsis.ti,ab.
3	BLOOD-BORNE PATHOGENS/
4	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
5	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
6	"systemic inflammatory response syndrome".ti,ab.
7	SIRS.ti,ab.
8	septic?emi$.ti,ab.
9	((septic or endotoxic or toxic) adj3 shock).ti,ab.
10	(py?emi$ or pyohemi$).ti,ab.
11	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
12	or/1-11
13	exp CESAREAN SECTION/ and emergenc$.ti,ab.
14	(emergenc$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
15	or/13-14
16	exp CESAREAN SECTION/ and elect$.ti,ab.
17	(elect$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
18	or/16-17
19	LABOR, OBSTETRIC/
20	((vagina$ or spontaneous$) adj1 (birth$ or born or deliver$)).ti,ab.
21	((expect$ or continu$) adj3 labo?r$).ti,ab.
22	or/19-21
23	LABOR, INDUCED/
24	(induc$ adj3 (labo?r$ or birth$ or born or deliver$)).ti,ab.
25	or/23-24
26	exp EXTRACTION, OBSTETRICAL/
27	((extract$ or vacuum$) adj3 (birth$ or born or deliver$ or obstetric$)).ti,ab.
28	(vacuum$ adj3 extract$).ti,ab.
29	ventouse?.ti,ab.
30	OBSTETRICAL FORCEPS/
31	forcep?.ti,ab.
32	((assist$ or instrument$) adj3 (birth$ or born or deliver$)).ti,ab.
33	or/26-32

#	Searches
34	"TRIAL OF LABOR"/
35	(trial adj3 labo?r$).ti,ab.
36	or/34-35
37	*DELIVERY, OBSTETRIC/mt [Methods]
38	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (mode? adj3 birth?)).ti,ab.
39	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (route? or mode?) adj3 deliver$).ti,ab.
40	UK Obstetric Surveillance System.ti,ab.
41	UKOSS.ti,ab.
42	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
43	MBRRACE.ti,ab.
44	Scottish confidential audit of severe maternal morbidity.ti,ab.
45	SCASMM.ti,ab.
46	"Confidential Enquiry into Maternal and Child Health".ti,ab.
47	CEMACH.ti,ab.
48	or/40-47
49	12 and (25 or 15) and (22 or 18)
50	12 and 15 and 25
51	12 and (15 or 33) and 22
52	12 and 36
53	12 and 37
54	12 and 48
55	38 or 39 or 49 or 50 or 51 or 52 or 53 or 54
56	limit 55 to english language
57	LETTER/
58	EDITORIAL/
59	NEWS/
60	exp HISTORICAL ARTICLE/
61	ANECDOTES AS TOPIC/
62	COMMENT/
63	CASE REPORT/
64	(letter or comment*).ti.
65	or/57-64
66	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
67	65 not 66
68	ANIMALS/ not HUMANS/
69	exp ANIMALS, LABORATORY/

#	Searches
70	exp ANIMAL EXPERIMENTATION/
71	exp MODELS, ANIMAL/
72	exp RODENTIA/
73	(rat or rats or mouse or mice).ti.
74	or/67-73
75	56 not 74

Database: Cochrane Central Register of Controlled Trials

#	Searches
1	exp SEPSIS/
2	sepsis.ti,ab,kw.
3	BLOOD-BORNE PATHOGENS/
4	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
5	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
6	"systemic inflammatory response syndrome".ti,ab,kw.
7	SIRS.ti,ab.
8	septic?emi$.ti,ab,kw.
9	((septic or endotoxic or toxic) adj3 shock).ti,ab.
10	(py?emi$ or pyohemi$).ti,ab.
11	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
12	or/1-11
13	exp CESAREAN SECTION/ and emergenc$.ti,ab.
14	(emergenc$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
15	or/13-14
16	exp CESAREAN SECTION/ and elect$.ti,ab.
17	(elect$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
18	or/16-17
19	LABOR, OBSTETRIC/
20	((vagina$ or spontaneous$) adj1 (birth$ or born or deliver$)).ti,ab.
21	((expect$ or continu$) adj3 labo?r$).ti,ab.
22	or/19-21
23	LABOR, INDUCED/
24	(induc$ adj3 (labo?r$ or birth$ or born or deliver$)).ti,ab.
25	or/23-24
26	exp EXTRACTION, OBSTETRICAL/
27	((extract$ or vacuum$) adj3 (birth$ or born or deliver$ or obstetric$)).ti,ab.
28	(vacuum$ adj3 extract$).ti,ab.
29	ventouse?.ti,ab,kw.
30	OBSTETRICAL FORCEPS/
31	forcep?.ti,ab,kw.

#	Searches
32	((assist$ or instrument$) adj3 (birth$ or born or deliver$)).ti,ab.
33	or/26-32
34	"TRIAL OF LABOR"/
35	(trial adj3 labo?r$).ti,ab.
36	or/34-35
37	*DELIVERY, OBSTETRIC/mt [Methods]
38	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (mode? adj3 birth?)).ti,ab.
39	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (route? or mode?) adj3 deliver$).ti,ab.
40	UK Obstetric Surveillance System.ti,ab.
41	UKOSS.ti,ab.
42	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
43	MBRRACE.ti,ab.
44	Scottish confidential audit of severe maternal morbidity.ti,ab.
45	SCASMM.ti,ab.
46	"Confidential Enquiry into Maternal and Child Health".ti,ab.
47	CEMACH.ti,ab.
48	or/40-47
49	12 and (25 or 15) and (22 or 18)
50	12 and 15 and 25
51	12 and (15 or 33) and 22
52	12 and 36
53	12 and 37
54	12 and 48
55	38 or 39 or 49 or 50 or 51 or 52 or 53 or 54

Database: Cochrane Database of Systematic Reviews

#	Searches
1	SEPSIS.kw.
2	sepsis.ti,ab.
3	BLOOD-BORNE PATHOGENS.kw.
4	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
5	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
6	"systemic inflammatory response syndrome".ti,ab.
7	SIRS.ti,ab.
8	septic?emi$.ti,ab.
9	((septic or endotoxic or toxic) adj3 shock).ti,ab.

#	Searches
10	(py?emi$ or pyohemi$).ti,ab.
11	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
12	or/1-11
13	CESAREAN SECTION.kw. and emergenc$.ti,ab.
14	(emergenc$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
15	or/13-14
16	CESAREAN SECTION.kw. and elect$.ti,ab.
17	(elect$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
18	or/16-17
19	LABOR, OBSTETRIC.kw.
20	((vagina$ or spontaneous$) adj1 (birth$ or born or deliver$)).ti,ab.
21	((expect$ or continu$) adj3 labo?r$).ti,ab.
22	or/19-21
23	LABOR, INDUCED.kw.
24	(induc$ adj3 (labo?r$ or birth$ or born or deliver$)).ti,ab.
25	or/23-24
26	EXTRACTION, OBSTETRICAL.kw.
27	((extract$ or vacuum$) adj3 (birth$ or born or deliver$ or obstetric$)).ti,ab.
28	(vacuum$ adj3 extract$).ti,ab.
29	ventouse?.ti,ab.
30	OBSTETRICAL FORCEPS.kw.
31	forcep?.ti,ab.
32	((assist$ or instrument$) adj3 (birth$ or born or deliver$)).ti,ab.
33	or/26-32
34	"TRIAL OF LABOR".kw.
35	(trial adj3 labo?r$).ti,ab.
36	or/34-35
37	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (mode? adj3 birth?)).ti,ab.
38	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (route? or mode?) adj3 deliver$).ti,ab.
39	UK Obstetric Surveillance System.ti,ab.
40	UKOSS.ti,ab.
41	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
42	MBRRACE.ti,ab.
43	Scottish confidential audit of severe maternal morbidity.ti,ab.
44	SCASMM.ti,ab.
45	"Confidential Enquiry into Maternal and Child Health".ti,ab.

#	Searches
46	CEMACH.ti,ab.
47	or/39-46
48	12 and (25 or 15) and (22 or 18)
49	12 and 15 and 25
50	12 and (15 or 33) and 22
51	12 and 36
52	12 and 47
53	37 or 38 or 48 or 49 or 50 or 51 or 52

Database: Database of Abstracts of Reviews of Effects

#	Searches
1	SEPSIS.kw.
2	sepsis.tw,tx.
3	BLOOD-BORNE PATHOGENS.kw.
4	(blood$ adj3 (pathogen$ or poison$)).tw,tx.
5	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
6	"systemic inflammatory response syndrome".tw,tx.
7	SIRS.tw,tx.
8	septic?emi$.tw,tx.
9	((septic or endotoxic or toxic) adj3 shock).tw,tx.
10	(py?emi$ or pyohemi$).tw,tx.
11	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw,tx.
12	or/1-11
13	CESAREAN SECTION.kw. and emergenc$.tw,tx.
14	(emergenc$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).tw,tx.
15	or/13-14
16	CESAREAN SECTION.kw. and elect$.tw,tx.
17	(elect$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).tw,tx.
18	or/16-17
19	LABOR, OBSTETRIC.kw.
20	((vagina$ or spontaneous$) adj1 (birth$ or born or deliver$)).tw,tx.
21	((expect$ or continu$) adj3 labo?r$).tw,tx.
22	or/19-21
23	LABOR, INDUCED.kw.
24	(induc$ adj3 (labo?r$ or birth$ or born or deliver$)).tw,tx.
25	or/23-24
26	EXTRACTION, OBSTETRICAL.kw.
27	((extract$ or vacuum$) adj3 (birth$ or born or deliver$ or obstetric$)).tw,tx.
28	(vacuum$ adj3 extract$).tw,tx.

#	Searches
29	ventouse?.tw,tx.
30	OBSTETRICAL FORCEPS.kw.
31	forcep?.tw,tx.
32	((assist$ or instrument$) adj3 (birth$ or born or deliver$)).tw,tx.
33	or/26-32
34	"TRIAL OF LABOR".kw.
35	(trial adj3 labo?r$).tw,tx.
36	or/34-35
37	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (mode? adj3 birth?)).tw,tx.
38	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (route? or mode?) adj3 deliver$).tw,tx.
39	UK Obstetric Surveillance System.tw,tx.
40	UKOSS.tw,tx.
41	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw,tx.
42	MBRRACE.tw,tx.
43	Scottish confidential audit of severe maternal morbidity.tw,tx.
44	SCASMM.tw,tx.
45	"Confidential Enquiry into Maternal and Child Health".tw,tx.
46	CEMACH.tw,tx.
47	or/39-46
48	12 and (25 or 15) and (22 or 18)
49	12 and 15 and 25
50	12 and (15 or 33) and 22
51	12 and 36
52	12 and 47
53	37 or 38 or 48 or 49 or 50 or 51 or 52

Database: Health Technology Assessment

#	Searches
1	exp SEPSIS/
2	sepsis.tw.
3	BLOOD-BORNE PATHOGENS/
4	(blood$ adj3 (pathogen$ or poison$)).tw.
5	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
6	"systemic inflammatory response syndrome".tw.
7	SIRS.tw.
8	septic?emi$.tw.

#	Searches
9	((septic or endotoxic or toxic) adj3 shock).tw.
10	(py?emi$ or pyohemi$).tw.
11	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw.
12	or/1-11
13	exp CESAREAN SECTION/ and emergenc$.tw.
14	(emergenc$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).tw.
15	or/13-14
16	exp CESAREAN SECTION/ and elect$.tw.
17	(elect$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).tw.
18	or/16-17
19	LABOR, OBSTETRIC/
20	((vagina$ or spontaneous$) adj1 (birth$ or born or deliver$)).tw.
21	((expect$ or continu$) adj3 labo?r$).tw.
22	or/19-21
23	LABOR, INDUCED/
24	(induc$ adj3 (labo?r$ or birth$ or born or deliver$)).tw.
25	or/23-24
26	exp EXTRACTION, OBSTETRICAL/
27	((extract$ or vacuum$) adj3 (birth$ or born or deliver$ or obstetric$)).tw.
28	(vacuum$ adj3 extract$).tw.
29	ventouse?.tw.
30	OBSTETRICAL FORCEPS/
31	forcep?.tw.
32	((assist$ or instrument$) adj3 (birth$ or born or deliver$)).tw.
33	or/26-32
34	"TRIAL OF LABOR"/
35	(trial adj3 labo?r$).tw.
36	or/34-35
37	*DELIVERY, OBSTETRIC/mt [Methods]
38	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (mode? adj3 birth?)).tw.
39	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (route? or mode?) adj3 deliver$).tw.
40	UK Obstetric Surveillance System.tw.
41	UKOSS.tw.
42	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw.
43	MBRRACE.tw.
44	Scottish confidential audit of severe maternal morbidity.tw.

#	Searches
45	SCASMM.tw.
46	"Confidential Enquiry into Maternal and Child Health".tw.
47	CEMACH.tw.
48	or/40-47
49	12 and (25 or 15) and (22 or 18)
50	12 and 15 and 25
51	12 and (15 or 33) and 22
52	12 and 36
53	12 and 37
54	12 and 48
55	38 or 39 or 49 or 50 or 51 or 52 or 53 or 54

Database: Embase

#	Searches
1	exp *SEPSIS/
2	sepsis.ti,ab.
3	*BLOODBORNE BACTERIUM/
4	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
5	*SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
6	"systemic inflammatory response syndrome".ti,ab.
7	SIRS.ti,ab.
8	septic?emi$.ti,ab.
9	((septic or endotoxic or toxic) adj3 shock).ti,ab.
10	(py?emi$ or pyohemi$).ti,ab.
11	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
12	or/1-11
13	exp *CESAREAN SECTION/ and emergenc$.ti,ab.
14	(emergenc$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
15	or/13-14
16	exp *CESAREAN SECTION/ and elect$.ti,ab.
17	(elect$ adj5 (c?esar#an$ or c section$ or csection$ or (deliver$ adj3 abdom$))).ti,ab.
18	or/16-17
19	*LABOR/
20	*VAGINAL DELIVERY/
21	((vagina$ or spontaneous$) adj1 (birth$ or born or deliver$)).ti,ab.
22	((expect$ or continu$) adj3 labo?r$).ti,ab.
23	or/19-22
24	*LABOR INDUCTION/
25	(induc$ adj3 (labo?r$ or birth$ or born or deliver$)).ti,ab.
26	or/24-25

#	Searches
27	*VACUUM EXTRACTION/
28	((extract$ or vacuum$) adj3 (birth$ or born or deliver$ or obstetric$)).ti,ab.
29	(vacuum$ adj3 extract$).ti,ab.
30	ventouse?.ti,ab.
31	*FORCEPS DELIVERY/
32	*OBSTETRICAL FORCEPS/
33	forcep?.ti,ab.
34	((assist$ or instrument$) adj3 (birth$ or born or deliver$)).ti,ab.
35	or/27-34
36	"TRIAL OF LABOR"/
37	(trial adj3 labo?r$).ti,ab.
38	or/36-37
39	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (mode? adj3 birth?)).ti,ab.
40	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj10 (route? or mode?) adj3 deliver$).ti,ab.
41	UK Obstetric Surveillance System.ti,ab.
42	UKOSS.ti,ab.
43	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
44	MBRRACE.ti,ab.
45	Scottish confidential audit of severe maternal morbidity.ti,ab.
46	SCASMM.ti,ab.
47	"Confidential Enquiry into Maternal and Child Health".ti,ab.
48	CEMACH.ti,ab.
49	or/41-48
50	12 and (26 or 15) and (23 or 18)
51	12 and 15 and 26
52	12 and (15 or 35) and 23
53	12 and 38
54	12 and 49
55	39 or 40 or 50 or 51 or 52 or 53 or 54
56	limit 55 to english language
57	letter.pt. or LETTER/
58	note.pt.
59	editorial.pt.
60	CASE REPORT/ or CASE STUDY/
61	(letter or comment*).ti.
62	or/57-61

#	Searches
63	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
64	62 not 63
65	ANIMAL/ not HUMAN/
66	NONHUMAN/
67	exp ANIMAL EXPERIMENT/
68	exp EXPERIMENTAL ANIMAL/
69	ANIMAL MODEL/
70	exp RODENT/
71	(rat or rats or mouse or mice).ti.
72	or/64-71
73	56 not 72

Intrapartum care for women with sepsis – anaesthesia

Database: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.ti,ab.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	exp OBSTETRIC SURGICAL PROCEDURES/
14	(obstetric$ adj5 (surgery or surgical or operati$)).ti,ab.
15	(Abortion? or Cerclage or Colposcop$ or Colpotom$ or Culdoscop$ or C?esarean? or c-section? or Episiotom$ or (fetal adj3 version?) or Fetoscop$ or Hysteroscop$ or Hysterotom$).ti,ab.
16	((extract$ or induc$ or assist$) adj5 (labo?r$ or birth?)).ti,ab.
17	or/13-16
18	exp SEPSIS/
19	sepsis.ti,ab.
20	BLOOD-BORNE PATHOGENS/
21	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
22	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/

#	Searches
23	"systemic inflammatory response syndrome".ti,ab.
24	SIRS.ti,ab.
25	septic?emi$.ti,ab.
26	((septic or endotoxic or toxic) adj3 shock).ti,ab.
27	(py?emi$ or pyohemi$).ti,ab.
28	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
29	or/18-28
30	exp ANESTHESIA, CONDUCTION/
31	((nerve or ganglion or plexus) adj3 block$).ti,ab.
32	(an?esthe$ adj5 (conduction or region$ or caudal$ or local$ or spinal$)).ti,ab.
33	epidural$.ti,ab.
34	CSE.ti,ab.
35	((nerve or ganglion or plexus or neuraxial$) adj5 block$).ti,ab.
36	(neuraxial$ adj5 an?esthe$).ti,ab.
37	or/30-36
38	exp ANESTHESIA, GENERAL/
39	(an?esthe$ adj5 (general$ or inhal$ or closed circuit or rebreath$ or re-breath$ or rectal$ or balanced)).ti,ab.
40	or/38-39
41	ANESTHESIA, OBSTETRICAL/
42	(an?esthe$ adj5 (obstetric$ or gyn?ecolog$)).ti,ab.
43	(paracervical$ adj5 block$).ti,ab.
44	or/41-43
45	exp ANESTHESIA/
46	an?esthe$.ti,ab.
47	or/45-46
48	RISK/
49	RISK ASSESSMENT/
50	risk?.ti,ab.
51	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS"/
52	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
53	harm$.ti,ab.
54	THERAPEUTIC USES/
55	(therapeutic$ adj3 (effect? or use?)).ti,ab.
56	benefi$.ti,ab.
57	effective$.ti,ab.
58	efficacy.ti,ab.
59	or/48-58
60	COMPARATIVE EFFECTIVENESS RESEARCH/

#	Searches
61	Comparative Study.pt.
62	(compar$ adj3 (study or studies or research$)).ti,ab.
63	or/60-62
64	exp ANESTHESIA/ae [Adverse Effects]
65	exp ANESTHESIA/de [Drug Effects]
66	exp ANESTHESIA/tu [Therapeutic Use]
67	exp ANESTHESIA/th [Therapy]
68	or/64-67
69	FETAL DEATH/
70	STILLBIRTH/
71	PERINATAL DEATH/
72	((fetal or fetus) adj3 death?).ti,ab.
73	(stillbirths? or stillborn?).ti,ab.
74	(intrauterine adj3 death?).ti,ab.
75	(perinatal adj3 death?).ti,ab.
76	or/69-75
77	(sepsis adj5 manag$).ti.
78	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
79	UK Obstetric Surveillance System.ti,ab.
80	UKOSS.ti,ab.
81	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
82	MBRRACE.ti,ab.
83	Scottish confidential audit of severe maternal morbidity.ti,ab.
84	SCASMM.ti,ab.
85	"Confidential Enquiry into Maternal and Child Health".ti,ab.
86	CEMACH.ti,ab.
87	or/79-86
88	12 and 29 and 37
89	12 and 29 and 40
90	29 and 44
91	12 and 29 and 47 and 59
92	12 and 29 and 47 and 63
93	12 and 29 and 68
94	17 and 29 and (37 or 40 or 44 or 47)
95	29 and (37 or 40 or 44 or 47) and 76
96	12 and 77
97	29 and 87
98	or/88-97
99	78 or 98

#	Searches
100	limit 99 to english language
101	LETTER/
102	EDITORIAL/
103	NEWS/
104	exp HISTORICAL ARTICLE/
105	ANECDOTES AS TOPIC/
106	COMMENT/
107	CASE REPORT/
108	(letter or comment*).ti.
109	or/101-108
110	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
111	109 not 110
112	ANIMALS/ not HUMANS/
113	exp ANIMALS, LABORATORY/
114	exp ANIMAL EXPERIMENTATION/
115	exp MODELS, ANIMAL/
116	exp RODENTIA/
117	(rat or rats or mouse or mice).ti.
118	or/111-117
119	100 not 118

Database: Cochrane Central Register of Controlled Trials

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.ti,ab,kw.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab,kw.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	exp OBSTETRIC SURGICAL PROCEDURES/
14	(obstetric$ adj5 (surgery or surgical or operati$)).ti,ab.
15	(Abortion? or Cerclage or Colposcop$ or Colpotom$ or Culdoscop$ or C?esarean? or c-section? or Episiotom$ or (fetal adj3 version?) or Fetoscop$ or Hysteroscop$ or Hysterotom$).ti,ab,kw.

#	Searches
16	((extract$ or induc$ or assist$) adj5 (labo?r$ or birth?)).ti,ab.
17	or/13-16
18	exp SEPSIS/
19	sepsis.ti,ab,kw.
20	BLOOD-BORNE PATHOGENS/
21	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
22	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
23	"systemic inflammatory response syndrome".ti,ab,kw.
24	SIRS.ti,ab.
25	septic?emi$.ti,ab,kw.
26	((septic or endotoxic or toxic) adj3 shock).ti,ab.
27	(py?emi$ or pyohemi$).ti,ab,kw.
28	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab,kw.
29	or/18-28
30	exp ANESTHESIA, CONDUCTION/
31	((nerve or ganglion or plexus) adj3 block$).ti,ab.
32	(an?esthe$ adj5 (conduction or region$ or caudal$ or local$ or spinal$)).ti,ab.
33	epidural$.ti,ab,kw.
34	CSE.ti,ab.
35	((nerve or ganglion or plexus or neuraxial$) adj5 block$).ti,ab.
36	(neuraxial$ adj5 an?esthe$).ti,ab.
37	or/30-36
38	exp ANESTHESIA, GENERAL/
39	(an?esthe$ adj5 (general$ or inhal$ or closed circuit or rebreath$ or re-breath$ or rectal$ or balanced)).ti,ab.
40	or/38-39
41	ANESTHESIA, OBSTETRICAL/
42	(an?esthe$ adj5 (obstetric$ or gyn?ecolog$)).ti,ab.
43	(paracervical$ adj5 block$).ti,ab.
44	or/41-43
45	exp ANESTHESIA/
46	an?esthe$.ti,ab,kw.
47	or/45-46
48	RISK/
49	RISK ASSESSMENT/
50	risk?.ti,ab.
51	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS"/
52	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
53	harm$.ti,ab.

#	Searches
54	THERAPEUTIC USES/
55	(therapeutic$ adj3 (effect? or use?)).ti,ab.
56	benefi$.ti,ab.
57	effective$.ti,ab.
58	efficacy.ti,ab.
59	or/48-58
60	COMPARATIVE EFFECTIVENESS RESEARCH/
61	Comparative Study.pt.
62	(compar$ adj3 (study or studies or research$)).ti,ab.
63	or/60-62
64	exp ANESTHESIA/ae [Adverse Effects]
65	exp ANESTHESIA/de [Drug Effects]
66	exp ANESTHESIA/tu [Therapeutic Use]
67	exp ANESTHESIA/th [Therapy]
68	or/64-67
69	FETAL DEATH/
70	STILLBIRTH/
71	PERINATAL DEATH/
72	((fetal or fetus) adj3 death?).ti,ab.
73	(stillbirths? or stillborn?).ti,ab,kw.
74	(intrauterine adj3 death?).ti,ab.
75	(perinatal adj3 death?).ti,ab.
76	or/69-75
77	(sepsis adj5 manag$).ti.
78	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
79	UK Obstetric Surveillance System.ti,ab.
80	UKOSS.ti,ab.
81	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
82	MBRRACE.ti,ab.
83	Scottish confidential audit of severe maternal morbidity.ti,ab.
84	SCASMM.ti,ab.
85	"Confidential Enquiry into Maternal and Child Health".ti,ab.
86	CEMACH.ti,ab.
87	or/79-86
88	12 and 29 and 37
89	12 and 29 and 40
90	29 and 44
91	12 and 29 and 47 and 59
92	12 and 29 and 47 and 63

#	Searches
93	12 and 29 and 68
94	17 and 29 and (37 or 40 or 44 or 47)
95	29 and (37 or 40 or 44 or 47) and 76
96	12 and 77
97	29 and 87
98	or/88-97
99	78 or 98

Database: Cochrane Database of Systematic Reviews

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PREGNANCY, MULTIPLE.kw.
4	PERIPARTUM PERIOD.kw.
5	PARTURITION.kw.
6	LABOR, OBSTETRIC.kw.
7	OBSTETRIC LABOR, PREMATURE.kw.
8	DELIVERY, OBSTETRIC.kw.
9	pregnan$.ti,ab.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	OBSTETRIC SURGICAL PROCEDURES.kw.
14	(obstetric$ adj5 (surgery or surgical or operati$)).ti,ab.
15	(Abortion? or Cerclage or Colposcop$ or Colpotom$ or Culdoscop$ or C?esarean? or c-section? or Episiotom$ or (fetal adj3 version?) or Fetoscop$ or Hysteroscop$ or Hysterotom$).ti,ab.
16	((extract$ or induc$ or assist$) adj5 (labo?r$ or birth?)).ti,ab.
17	or/13-16
18	SEPSIS.kw.
19	sepsis.ti,ab.
20	BLOOD-BORNE PATHOGENS.kw.
21	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
22	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
23	"systemic inflammatory response syndrome".ti,ab.
24	SIRS.ti,ab.
25	septic?emi$.ti,ab.
26	((septic or endotoxic or toxic) adj3 shock).ti,ab.
27	(py?emi$ or pyohemi$).ti,ab.
28	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.

#	Searches
29	or/18-28
30	ANESTHESIA, CONDUCTION.kw.
31	((nerve or ganglion or plexus) adj3 block$).ti,ab.
32	(an?esthe$ adj5 (conduction or region$ or caudal$ or local$ or spinal$)).ti,ab.
33	epidural$.ti,ab.
34	CSE.ti,ab.
35	((nerve or ganglion or plexus or neuraxial$) adj5 block$).ti,ab.
36	(neuraxial$ adj5 an?esthe$).ti,ab.
37	or/30-36
38	ANESTHESIA, GENERAL.kw.
39	(an?esthe$ adj5 (general$ or inhal$ or closed circuit or rebreath$ or re-breath$ or rectal$ or balanced)).ti,ab.
40	or/38-39
41	ANESTHESIA, OBSTETRICAL.kw.
42	(an?esthe$ adj5 (obstetric$ or gyn?ecolog$)).ti,ab.
43	(paracervical$ adj5 block$).ti,ab.
44	or/41-43
45	ANESTHESIA.kw.
46	an?esthe$.ti,ab.
47	or/45-46
48	RISK.kw.
49	RISK ASSESSMENT.kw.
50	risk?.ti,ab.
51	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS".kw.
52	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
53	harm$.ti,ab.
54	THERAPEUTIC USES.kw.
55	(therapeutic$ adj3 (effect? or use?)).ti,ab.
56	benefi$.ti,ab.
57	effective$.ti,ab.
58	efficacy.ti,ab.
59	or/48-58
60	COMPARATIVE EFFECTIVENESS RESEARCH.kw.
61	Comparative Study.pt.
62	(compar$ adj3 (study or studies or research$)).ti,ab.
63	or/60-62
64	FETAL DEATH.kw.
65	STILLBIRTH.kw.
66	PERINATAL DEATH.kw.
67	((fetal or fetus) adj3 death?).ti,ab.

#	Searches
68	(stillbirths? or stillborn?).ti,ab.
69	(intrauterine adj3 death?).ti,ab.
70	(perinatal adj3 death?).ti,ab.
71	or/64-70
72	(sepsis adj5 manag$).ti.
73	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
74	UK Obstetric Surveillance System.ti,ab.
75	UKOSS.ti,ab.
76	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
77	MBRRACE.ti,ab.
78	Scottish confidential audit of severe maternal morbidity.ti,ab.
79	SCASMM.ti,ab.
80	"Confidential Enquiry into Maternal and Child Health".ti,ab.
81	CEMACH.ti,ab.
82	or/74-81
83	12 and 29 and 37
84	12 and 29 and 40
85	29 and 44
86	12 and 29 and 47 and 59
87	12 and 29 and 47 and 63
88	17 and 29 and (37 or 40 or 44 or 47)
89	29 and (37 or 40 or 44 or 47) and 71
90	12 and 72
91	29 and 82
92	or/83-91
93	73 or 92

Database: Database of Abstracts of Reviews of Effects

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PREGNANCY, MULTIPLE.kw.
4	PERIPARTUM PERIOD.kw.
5	PARTURITION.kw.
6	LABOR, OBSTETRIC.kw.
7	OBSTETRIC LABOR, PREMATURE.kw.
8	DELIVERY, OBSTETRIC.kw.
9	pregnan$.tw,tx.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw,tx.

#	Searches
11	((during or giving or give) adj3 birth?).tw,tx.
12	or/1-11
13	OBSTETRIC SURGICAL PROCEDURES.kw.
14	(obstetric$ adj5 (surgery or surgical or operati$)).tw,tx.
15	(Abortion? or Cerclage or Colposcop$ or Colpotom$ or Culdoscop$ or C?esarean? or c-section? or Episiotom$ or (fetal adj3 version?) or Fetoscop$ or Hysteroscop$ or Hysterotom$).tw,tx.
16	((extract$ or induc$ or assist$) adj5 (labo?r$ or birth?)).tw,tx.
17	or/13-16
18	SEPSIS.kw.
19	sepsis.tw,tx.
20	BLOOD-BORNE PATHOGENS.kw.
21	(blood$ adj3 (pathogen$ or poison$)).tw,tx.
22	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
23	"systemic inflammatory response syndrome".tw,tx.
24	SIRS.tw,tx.
25	septic?emi$.tw,tx.
26	((septic or endotoxic or toxic) adj3 shock).tw,tx.
27	(py?emi$ or pyohemi$).tw,tx.
28	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw,tx.
29	or/18-28
30	ANESTHESIA, CONDUCTION.kw.
31	((nerve or ganglion or plexus) adj3 block$).tw,tx.
32	(an?esthe$ adj5 (conduction or region$ or caudal$ or local$ or spinal$)).tw,tx.
33	epidural$.tw,tx.
34	CSE.tw,tx.
35	((nerve or ganglion or plexus or neuraxial$) adj5 block$).tw,tx.
36	(neuraxial$ adj5 an?esthe$).tw,tx.
37	or/30-36
38	ANESTHESIA, GENERAL.kw.
39	(an?esthe$ adj5 (general$ or inhal$ or closed circuit or rebreath$ or re-breath$ or rectal$ or balanced)).tw,tx.
40	or/38-39
41	ANESTHESIA, OBSTETRICAL.kw.
42	(an?esthe$ adj5 (obstetric$ or gyn?ecolog$)).tw,tx.
43	(paracervical$ adj5 block$).tw,tx.
44	or/41-43
45	ANESTHESIA.kw.
46	an?esthe$.tw,tx.
47	or/45-46

#	Searches
48	RISK.kw.
49	RISK ASSESSMENT.kw.
50	risk?.tw,tx.
51	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS".kw.
52	(adverse$ adj3 (effect? or event? or reaction?)).tw,tx.
53	harm$.tw,tx.
54	THERAPEUTIC USES.kw.
55	(therapeutic$ adj3 (effect? or use?)).tw,tx.
56	benefi$.tw,tx.
57	effective$.tw,tx.
58	efficacy.tw,tx.
59	or/48-58
60	COMPARATIVE EFFECTIVENESS RESEARCH.kw.
61	Comparative Study.pt.
62	(compar$ adj3 (study or studies or research$)).tw,tx.
63	or/60-62
64	FETAL DEATH.kw.
65	STILLBIRTH.kw.
66	PERINATAL DEATH.kw.
67	((fetal or fetus) adj3 death?).tw,tx.
68	(stillbirths? or stillborn?).tw,tx.
69	(intrauterine adj3 death?).tw,tx.
70	(perinatal adj3 death?).tw,tx.
71	or/64-70
72	(sepsis adj5 manag$).ti.
73	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
74	UK Obstetric Surveillance System.tw,tx.
75	UKOSS.tw,tx.
76	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw,tx.
77	MBRRACE.tw,tx.
78	Scottish confidential audit of severe maternal morbidity.tw,tx.
79	SCASMM.tw,tx.
80	"Confidential Enquiry into Maternal and Child Health".tw,tx.
81	CEMACH.tw,tx.
82	or/74-81
83	12 and 29 and 37
84	12 and 29 and 40
85	29 and 44
86	12 and 29 and 47 and 59

#	Searches
87	12 and 29 and 47 and 63
88	17 and 29 and (37 or 40 or 44 or 47)
89	29 and (37 or 40 or 44 or 47) and 71
90	12 and 72
91	29 and 82
92	or/83-91
93	73 or 92

Database: Health Technology Assessment

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.tw.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw.
11	((during or giving or give) adj3 birth?).tw.
12	or/1-11
13	exp OBSTETRIC SURGICAL PROCEDURES/
14	(obstetric$ adj5 (surgery or surgical or operati$)).tw.
15	(Abortion? or Cerclage or Colposcop$ or Colpotom$ or Culdoscop$ or C?esarean? or c-section? or Episiotom$ or (fetal adj3 version?) or Fetoscop$ or Hysteroscop$ or Hysterotom$).tw.
16	((extract$ or induc$ or assist$) adj5 (labo?r$ or birth?)).tw.
17	or/13-16
18	exp SEPSIS/
19	sepsis.tw.
20	BLOOD-BORNE PATHOGENS/
21	(blood$ adj3 (pathogen$ or poison$)).tw.
22	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
23	"systemic inflammatory response syndrome".tw.
24	SIRS.tw.
25	septic?emi$.tw.
26	((septic or endotoxic or toxic) adj3 shock).tw.
27	(py?emi$ or pyohemi$).tw.
28	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw.

#	Searches
29	or/18-28
30	exp ANESTHESIA, CONDUCTION/
31	((nerve or ganglion or plexus) adj3 block$).tw.
32	(an?esthe$ adj5 (conduction or region$ or caudal$ or local$ or spinal$)).tw.
33	epidural$.tw.
34	CSE.tw.
35	((nerve or ganglion or plexus or neuraxial$) adj5 block$).tw.
36	(neuraxial$ adj5 an?esthe$).tw.
37	or/30-36
38	exp ANESTHESIA, GENERAL/
39	(an?esthe$ adj5 (general$ or inhal$ or closed circuit or rebreath$ or re-breath$ or rectal$ or balanced)).tw.
40	or/38-39
41	ANESTHESIA, OBSTETRICAL/
42	(an?esthe$ adj5 (obstetric$ or gyn?ecolog$)).tw.
43	(paracervical$ adj5 block$).tw.
44	or/41-43
45	exp ANESTHESIA/
46	an?esthe$.tw.
47	or/45-46
48	RISK/
49	RISK ASSESSMENT/
50	risk?.tw.
51	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS"/
52	(adverse$ adj3 (effect? or event? or reaction?)).tw.
53	harm$.tw.
54	THERAPEUTIC USES/
55	(therapeutic$ adj3 (effect? or use?)).tw.
56	benefi$.tw.
57	effective$.tw.
58	efficacy.tw.
59	or/48-58
60	COMPARATIVE EFFECTIVENESS RESEARCH/
61	Comparative Study.pt.
62	(compar$ adj3 (study or studies or research$)).tw.
63	or/60-62
64	exp ANESTHESIA/ae [Adverse Effects]
65	exp ANESTHESIA/de [Drug Effects]
66	exp ANESTHESIA/tu [Therapeutic Use]
67	exp ANESTHESIA/th [Therapy]

#	Searches
68	or/64-67
69	FETAL DEATH/
70	STILLBIRTH/
71	PERINATAL DEATH/
72	((fetal or fetus) adj3 death?).tw.
73	(stillbirths? or stillborn?).tw.
74	(intrauterine adj3 death?).tw.
75	(perinatal adj3 death?).tw.
76	or/69-75
77	(sepsis adj5 manag$).tw.
78	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).tw.
79	UK Obstetric Surveillance System.tw.
80	UKOSS.tw.
81	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw.
82	MBRRACE.tw.
83	Scottish confidential audit of severe maternal morbidity.tw.
84	SCASMM.tw.
85	"Confidential Enquiry into Maternal and Child Health".tw.
86	CEMACH.tw.
87	or/79-86
88	12 and 29 and 37
89	12 and 29 and 40
90	29 and 44
91	12 and 29 and 47 and 59
92	12 and 29 and 47 and 63
93	12 and 29 and 68
94	17 and 29 and (37 or 40 or 44 or 47)
95	29 and (37 or 40 or 44 or 47) and 76
96	12 and 77
97	29 and 87
98	or/88-97
99	78 or 98

Database: Embase

#	Searches
1	*PREGNANCY/
2	*HIGH RISK PREGNANCY/
3	exp *MULTIPLE PREGNANCY/
4	*PERINATAL PERIOD/

#	Searches
5	*BIRTH/
6	exp *LABOR/
7	*PREMATURE LABOR/
8	*OBSTETRIC DELIVERY/
9	*INTRAPARTUM CARE/
10	pregnan$.ti,ab.
11	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
12	((during or giving or give) adj3 birth?).ti,ab.
13	or/1-12
14	exp *OBSTETRIC OPERATION/
15	(obstetric$ adj5 (surgery or surgical or operati$)).ti,ab.
16	(Abortion? or Cerclage or Colposcop$ or Colpotom$ or Culdoscop$ or C?esarean? or c-section? or Episiotom$ or (fetal adj3 version?) or Fetoscop$ or Hysteroscop$ or Hysterotom$).ti,ab.
17	((extract$ or induc$ or assist$) adj5 (labo?r$ or birth?)).ti,ab.
18	or/14-17
19	exp SEPSIS/
20	sepsis.ti,ab.
21	BLOODBORNE BACTERIUM/
22	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
23	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
24	"systemic inflammatory response syndrome".ti,ab.
25	SIRS.ti,ab.
26	septic?emi$.ti,ab.
27	((septic or endotoxic or toxic) adj3 shock).ti,ab.
28	(py?emi$ or pyohemi$).ti,ab.
29	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
30	or/19-29
31	exp EPIDURAL ANESTHESIA/
32	exp LOCAL ANESTHESIA/
33	exp REGIONAL ANESTHESIA/
34	exp SPINAL ANESTHESIA/
35	((nerve or ganglion or plexus) adj3 block$).ti,ab.
36	(an?esthe$ adj5 (conduction or region$ or caudal$ or local$ or spinal$)).ti,ab.
37	epidural$.ti,ab.
38	CSE.ti,ab.
39	((nerve or ganglion or plexus or neuraxial$) adj5 block$).ti,ab.
40	(neuraxial$ adj5 an?esthe$).ti,ab.
41	or/31-40
42	exp GENERAL ANESTHESIA/

#	Searches
43	(an?esthe$ adj5 (general$ or inhal$ or closed circuit or rebreath$ or re-breath$ or rectal$ or balanced)).ti,ab.
44	or/42-43
45	OBSTETRIC ANESTHESIA/
46	(an?esthe$ adj5 (obstetric$ or gyn?ecolog$)).ti,ab.
47	(paracervical$ adj5 block$).ti,ab.
48	or/45-47
49	exp ANESTHESIA/
50	an?esthe$.ti,ab.
51	or/49-50
52	*RISK/
53	*RISK ASSESSMENT/
54	risk?.ti,ab.
55	*SIDE EFFECT/
56	*ADVERSE DRUG REACTION/
57	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
58	harm$.ti,ab.
59	*THERAPY EFFECT/
60	*DRUG EFFICACY/
61	(therapeutic$ adj3 (effect? or use?)).ti,ab.
62	benefi$.ti,ab.
63	effective$.ti,ab.
64	efficacy.ti,ab.
65	or/52-64
66	COMPARATIVE EFFECTIVENESS/
67	COMPARATIVE STUDY/
68	(compar$ adj3 (study or studies or research$)).ti,ab.
69	or/66-68
70	exp ANESTHESIA/ae [Adverse Drug Reaction]
71	FETUS DEATH/
72	STILLBIRTH/
73	PERINATAL DEATH/
74	((fetal or fetus) adj3 death?).ti,ab.
75	(stillbirths? or stillborn?).ti,ab.
76	(intrauterine adj3 death?).ti,ab.
77	(perinatal adj3 death?).ti,ab.
78	or/71-77
79	(sepsis adj5 manag$).ti.
80	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
81	UK Obstetric Surveillance System.ti,ab.

#	Searches
82	UKOSS.ti,ab.
83	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
84	MBRRACE.ti,ab.
85	Scottish confidential audit of severe maternal morbidity.ti,ab.
86	SCASMM.ti,ab.
87	"Confidential Enquiry into Maternal and Child Health".ti,ab.
88	CEMACH.ti,ab.
89	or/81-88
90	13 and 30 and 41
91	13 and 30 and 44
92	30 and 48
93	13 and 30 and 51 and 65
94	13 and 30 and 51 and 69
95	13 and 30 and 70
96	18 and 30 and (41 or 44 or 48 or 51)
97	30 and (41 or 44 or 48 or 51) and 78
98	13 and 79
99	30 and 89
100	or/90-99
101	80 or 100
102	limit 101 to english language
103	letter.pt. or LETTER/
104	note.pt.
105	editorial.pt.
106	CASE REPORT/ or CASE STUDY/
107	(letter or comment*).ti.
108	or/103-107
109	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
110	108 not 109
111	ANIMAL/ not HUMAN/
112	NONHUMAN/
113	exp ANIMAL EXPERIMENT/
114	exp EXPERIMENTAL ANIMAL/
115	ANIMAL MODEL/
116	exp RODENT/
117	(rat or rats or mouse or mice).ti.
118	or/110-117
119	102 not 118

Intrapartum care for women with sepsis – analgesia

Database: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	PERIPARTUM PERIOD/
4	PARTURITION/
5	exp LABOR, OBSTETRIC/
6	OBSTETRIC LABOR, PREMATURE/
7	DELIVERY, OBSTETRIC/
8	pregnan$.ti,ab.
9	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
10	((during or giving or give) adj3 birth?).ti,ab.
11	or/1-10
12	exp SEPSIS/
13	sepsis.ti,ab.
14	BLOOD-BORNE PATHOGENS/
15	(blood adj2 (pathogen* or poison*)).ti,ab.
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".ti,ab.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
24	or/12-23
25	((no or avoid$) adj3 analges$).ti,ab.
26	(systemic$ adj3 analgesi$).ti,ab.
27	exp ANALGESICS, OPIOID/
28	(Opioid? or Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid? or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or diamorphine).mp.
29	remifentanil.mp.
30	KETAMINE/
31	ketamine.mp.

#	Searches
32	(inhal$ adj3 analgesi$).ti,ab.
33	exp NITROUS OXIDE/
34	(nitrous oxide or N2O).mp.
35	laughing gas.ti,ab.
36	(gas adj2 air).ti,ab.
37	Entonox.mp.
38	Nitronox.mp.
39	sevoflurane.mp.
40	desflurane.mp.
41	((Non-pharma$ or Nonpharma$) adj3 analgesi$).ti,ab.
42	ACUPUNCTURE THERAPY/
43	ACUPUNCTURE ANALGESIA/
44	acupuncture.ti,ab.
45	HYDROTHERAPY/
46	hydrotherap$.ti,ab.
47	BATHS/
48	((birth$ or water) adj3 pool?).ti,ab.
49	(steril$ adj3 water adj3 inject$).ti,ab.
50	water papule?.ti,ab.
51	exp TRANSCUTANEOUS ELECTRIC NERVE STIMULATION/
52	((transcutaneous or percutaneous) adj3 (electric$ or nerve?) adj3 stimulat$).ti,ab.
53	TENS.ti,ab.
54	electroanalgesi$.ti,ab.
55	electroacupuncture.ti,ab.
56	HYPNOSIS/
57	hypnosis.ti,ab.
58	hypnotherap$.ti,ab.
59	hypnobirth$.ti,ab.
60	RELAXATION THERAPY/
61	(relax$ adj3 (therap$ or technique?)).ti,ab.
62	MASSAGE/
63	massag$.ti,ab.
64	reflexolog$.ti,ab.
65	BREATHING EXERCISES/
66	(breath$ adj3 (exercis$ or technique? or therap$)).ti,ab.
67	qigong.ti,ab.
68	"IMAGERY (PSYCHOTHERAPY)"/
69	(visuali$ adj3 (exercis$ or technique? or therap$)).ti,ab.
70	AROMATHERAPY/
71	aromatherap$.ti,ab.

#	Searches
72	HOMEOPATHY/
73	hom?eopath$.ti,ab.
74	EXERCISE THERAPY/
75	((exercis$ or movement or moving) adj3 therap$).ti,ab.
76	or/25-75
77	ANALGESIA, EPIDURAL/
78	INJECTIONS, EPIDURAL/
79	((Spinal$ or spinous$) adj5 analges$).ti,ab.
80	epidural$.ti,ab.
81	CSE.ti,ab.
82	((central$ or regional$) adj5 neuraxial$ adj5 block$).ti,ab.
83	(neuraxial$ adj5 analges$).ti,ab.
84	or/77-83
85	RISK/
86	RISK ASSESSMENT/
87	risk?.ti,ab.
88	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS"/
89	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
90	harm$.ti,ab.
91	THERAPEUTIC USES/
92	(therapeutic$ adj3 (effect? or use?)).ti,ab.
93	benefi$.ti,ab.
94	effective$.ti,ab.
95	efficacy.ti,ab.
96	or/85-95
97	COMPARATIVE EFFECTIVENESS RESEARCH/
98	Comparative Study.pt.
99	(compar$ adj3 (study or studies or research$)).ti,ab.
100	or/97-99
101	PAIN MANAGEMENT/
102	ANALGESIA, PATIENT-CONTROLLED/
103	(patient? adj3 control$ adj3 analges$).ti,ab.
104	ANALGESIA, OBSTETRICAL/
105	(obstetric$ adj3 analges$).ti,ab.
106	or/101-105
107	exp ANALGESICS, OPIOID/ae [Adverse Effects]
108	exp ANALGESICS, OPIOID/tu [Therapeutic Use]
109	KETAMINE/ae [Adverse Effects]
110	KETAMINE/tu [Therapeutic Use]
111	exp NITROUS OXIDE/ae [Adverse Effects]

#	Searches
112	exp NITROUS OXIDE/tu [Therapeutic Use]
113	ACUPUNCTURE THERAPY/ae [Adverse Effects]
114	ACUPUNCTURE ANALGESIA/ae [Adverse Effects]
115	HYDROTHERAPY/ae [Adverse Effects]
116	BATHS/ae [Adverse Effects]
117	BATHS/th [Therapy]
118	exp TRANSCUTANEOUS ELECTRIC NERVE STIMULATION/ae [Adverse Effects]
119	HYPNOSIS/ae [Adverse Effects]
120	HYPNOSIS/tu [Therapeutic Use]
121	HYPNOSIS/th [Therapy]
122	RELAXATION THERAPY/ae [Adverse Effects]
123	MASSAGE/ae [Adverse Effects]
124	MASSAGE/tu [Therapeutic Use]
125	MASSAGE/th [Therapy]
126	BREATHING EXERCISES/ae [Adverse Effects]
127	AROMATHERAPY/ae [Adverse Effects]
128	HOMEOPATHY/ae [Adverse Effects]
129	HOMEOPATHY/th [Therapy]
130	EXERCISE THERAPY/ae [Adverse Effects]
131	EXERCISE THERAPY/th [Therapy]
132	ANALGESIA, EPIDURAL/ae [Adverse Effects]
133	INJECTIONS, EPIDURAL/ae [Adverse Effects]
134	PAIN MANAGEMENT/ae [Adverse Effects]
135	ANALGESIA, PATIENT-CONTROLLED/ae [Adverse Effects]
136	ANALGESIA, OBSTETRICAL/ae [Adverse Effects]
137	or/107-136
138	(sepsis adj5 manag$).ti.
139	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
140	UK Obstetric Surveillance System.ti,ab.
141	UKOSS.ti,ab.
142	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
143	MBRRACE.ti,ab.
144	Scottish confidential audit of severe maternal morbidity.ti,ab.
145	SCASMM.ti,ab.
146	"Confidential Enquiry into Maternal and Child Health".ti,ab.
147	CEMACH.ti,ab.
148	or/140-147
149	11 and 24 and 76 and 84
150	11 and 24 and (76 or 84) and 96

#	Searches
151	11 and 24 and (76 or 84) and 100
152	11 and 24 and 106
153	11 and 24 and 137
154	11 and 138
155	24 and 148
156	or/149-155
157	139 or 156
158	limit 157 to english language
159	LETTER/
160	EDITORIAL/
161	NEWS/
162	exp HISTORICAL ARTICLE/
163	ANECDOTES AS TOPIC/
164	COMMENT/
165	CASE REPORT/
166	(letter or comment*).ti.
167	or/159-166
168	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
169	167 not 168
170	ANIMALS/ not HUMANS/
171	exp ANIMALS, LABORATORY/
172	exp ANIMAL EXPERIMENTATION/
173	exp MODELS, ANIMAL/
174	exp RODENTIA/
175	(rat or rats or mouse or mice).ti.
176	or/169-175
177	158 not 176

Database: Cochrane Central Register of Controlled Trials

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	PERIPARTUM PERIOD/
4	PARTURITION/
5	exp LABOR, OBSTETRIC/
6	OBSTETRIC LABOR, PREMATURE/
7	DELIVERY, OBSTETRIC/
8	pregnan$.ti,ab,kw.
9	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab,kw.
10	((during or giving or give) adj3 birth?).ti,ab.

#	Searches
11	or/1-10
12	exp SEPSIS/
13	sepsis.ti,ab,kw.
14	BLOOD-BORNE PATHOGENS/
15	(blood adj2 (pathogen* or poison*)).ti,ab.
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".ti,ab,kw.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab,kw.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab,kw.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab,kw.
24	or/12-23
25	((no or avoid$) adj3 analges$).ti,ab.
26	(systemic$ adj3 analgesi$).ti,ab.
27	exp ANALGESICS, OPIOID/
28	(Opioid? or Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid? or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or diamorphine).mp.
29	remifentanil.mp.
30	KETAMINE/
31	ketamine.mp.
32	(inhal$ adj3 analgesi$).ti,ab.
33	exp NITROUS OXIDE/
34	(nitrous oxide or N2O).mp.
35	laughing gas.ti,ab,kw.
36	(gas adj2 air).ti,ab.
37	Entonox.mp.
38	Nitronox.mp.
39	sevoflurane.mp.
40	desflurane.mp.
41	((Non-pharma$ or Nonpharma$) adj3 analgesi$).ti,ab.
42	ACUPUNCTURE THERAPY/
43	ACUPUNCTURE ANALGESIA/
44	acupuncture.ti,ab,kw.
45	HYDROTHERAPY/

#	Searches
46	hydrotherap$.ti,ab,kw.
47	BATHS/
48	((birth$ or water) adj3 pool?).ti,ab.
49	(steril$ adj3 water adj3 inject$).ti,ab.
50	water papule?.ti,ab,kw.
51	exp TRANSCUTANEOUS ELECTRIC NERVE STIMULATION/
52	((transcutaneous or percutaneous) adj3 (electric$ or nerve?) adj3 stimulat$).ti,ab.
53	TENS.ti,ab.
54	electroanalgesi$.ti,ab,kw.
55	electroacupuncture.ti,ab,kw.
56	HYPNOSIS/
57	hypnosis.ti,ab,kw.
58	hypnotherap$.ti,ab,kw.
59	hypnobirth$.ti,ab,kw.
60	RELAXATION THERAPY/
61	(relax$ adj3 (therap$ or technique?)).ti,ab.
62	MASSAGE/
63	massag$.ti,ab,kw.
64	reflexolog$.ti,ab,kw.
65	BREATHING EXERCISES/
66	(breath$ adj3 (exercis$ or technique? or therap$)).ti,ab.
67	qigong.ti,ab,kw.
68	"IMAGERY (PSYCHOTHERAPY)"/
69	(visuali$ adj3 (exercis$ or technique? or therap$)).ti,ab.
70	AROMATHERAPY/
71	aromatherap$.ti,ab,kw.
72	HOMEOPATHY/
73	hom?eopath$.ti,ab,kw.
74	EXERCISE THERAPY/
75	((exercis$ or movement or moving) adj3 therap$).ti,ab.
76	or/25-75
77	ANALGESIA, EPIDURAL/
78	INJECTIONS, EPIDURAL/
79	((Spinal$ or spinous$) adj5 analges$).ti,ab.
80	epidural$.ti,ab,kw.
81	CSE.ti,ab.
82	((central$ or regional$) adj5 neuraxial$ adj5 block$).ti,ab.
83	(neuraxial$ adj5 analges$).ti,ab.
84	or/77-83
85	RISK/

#	Searches
86	RISK ASSESSMENT/
87	risk?.ti,ab.
88	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS"/
89	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
90	harm$.ti,ab.
91	THERAPEUTIC USES/
92	(therapeutic$ adj3 (effect? or use?)).ti,ab.
93	benefi$.ti,ab.
94	effective$.ti,ab.
95	efficacy.ti,ab.
96	or/85-95
97	COMPARATIVE EFFECTIVENESS RESEARCH/
98	Comparative Study.pt.
99	(compar$ adj3 (study or studies or research$)).ti,ab.
100	or/97-99
101	PAIN MANAGEMENT/
102	ANALGESIA, PATIENT-CONTROLLED/
103	(patient? adj3 control$ adj3 analges$).ti,ab.
104	ANALGESIA, OBSTETRICAL/
105	(obstetric$ adj3 analges$).ti,ab.
106	or/101-105
107	exp ANALGESICS, OPIOID/ae [Adverse Effects]
108	exp ANALGESICS, OPIOID/tu [Therapeutic Use]
109	KETAMINE/ae [Adverse Effects]
110	KETAMINE/tu [Therapeutic Use]
111	exp NITROUS OXIDE/ae [Adverse Effects]
112	exp NITROUS OXIDE/tu [Therapeutic Use]
113	ACUPUNCTURE THERAPY/ae [Adverse Effects]
114	ACUPUNCTURE ANALGESIA/ae [Adverse Effects]
115	HYDROTHERAPY/ae [Adverse Effects]
116	BATHS/ae [Adverse Effects]
117	BATHS/th [Therapy]
118	exp TRANSCUTANEOUS ELECTRIC NERVE STIMULATION/ae [Adverse Effects]
119	HYPNOSIS/ae [Adverse Effects]
120	HYPNOSIS/tu [Therapeutic Use]
121	HYPNOSIS/th [Therapy]
122	RELAXATION THERAPY/ae [Adverse Effects]
123	MASSAGE/ae [Adverse Effects]
124	MASSAGE/tu [Therapeutic Use]
125	MASSAGE/th [Therapy]

#	Searches
126	BREATHING EXERCISES/ae [Adverse Effects]
127	AROMATHERAPY/ae [Adverse Effects]
128	HOMEOPATHY/ae [Adverse Effects]
129	HOMEOPATHY/th [Therapy]
130	EXERCISE THERAPY/ae [Adverse Effects]
131	EXERCISE THERAPY/th [Therapy]
132	ANALGESIA, EPIDURAL/ae [Adverse Effects]
133	INJECTIONS, EPIDURAL/ae [Adverse Effects]
134	PAIN MANAGEMENT/ae [Adverse Effects]
135	ANALGESIA, PATIENT-CONTROLLED/ae [Adverse Effects]
136	ANALGESIA, OBSTETRICAL/ae [Adverse Effects]
137	or/107-136
138	(sepsis adj5 manag$).ti.
139	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
140	UK Obstetric Surveillance System.ti,ab.
141	UKOSS.ti,ab.
142	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
143	MBRRACE.ti,ab.
144	Scottish confidential audit of severe maternal morbidity.ti,ab.
145	SCASMM.ti,ab.
146	"Confidential Enquiry into Maternal and Child Health".ti,ab.
147	CEMACH.ti,ab.
148	or/140-147
149	11 and 24 and 76 and 84
150	11 and 24 and (76 or 84) and 96
151	11 and 24 and (76 or 84) and 100
152	11 and 24 and 106
153	11 and 24 and 137
154	11 and 138
155	24 and 148
156	or/149-155
157	139 or 156

Database: Cochrane Database of Systematic Reviews

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PERIPARTUM PERIOD.kw.
4	PARTURITION.kw.

#	Searches
5	LABOR, OBSTETRIC.kw.
6	OBSTETRIC LABOR, PREMATURE.kw.
7	DELIVERY, OBSTETRIC.kw.
8	pregnan$.ti,ab.
9	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
10	((during or giving or give) adj3 birth?).ti,ab.
11	or/1-10
12	SEPSIS.kw.
13	sepsis.ti,ab.
14	BLOOD-BORNE PATHOGENS.kw.
15	(blood adj2 (pathogen* or poison*)).ti,ab.
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
18	"systemic inflammatory response syndrome".ti,ab.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
24	or/12-23
25	((no or avoid$) adj3 analges$).ti,ab.
26	(systemic$ adj3 analgesi$).ti,ab.
27	ANALGESICS, OPIOID.kw.
28	(Opioid? or Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid? or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or diamorphine).mp.
29	remifentanil.mp.
30	KETAMINE.kw.
31	ketamine.mp.
32	(inhal$ adj3 analgesi$).ti,ab.
33	NITROUS OXIDE.kw.
34	(nitrous oxide or N2O).mp.
35	laughing gas.ti,ab.
36	(gas adj2 air).ti,ab.
37	Entonox.mp.
38	Nitronox.mp.
39	sevoflurane.mp.

#	Searches
40	desflurane.mp.
41	((Non-pharma$ or Nonpharma$) adj3 analgesi$).ti,ab.
42	ACUPUNCTURE THERAPY.kw.
43	ACUPUNCTURE ANALGESIA.kw.
44	acupuncture.ti,ab.
45	HYDROTHERAPY.kw.
46	hydrotherap$.ti,ab.
47	BATHS.kw.
48	((birth$ or water) adj3 pool?).ti,ab.
49	(steril$ adj3 water adj3 inject$).ti,ab.
50	water papule?.ti,ab.
51	TRANSCUTANEOUS ELECTRIC NERVE STIMULATION.kw.
52	((transcutaneous or percutaneous) adj3 (electric$ or nerve?) adj3 stimulat$).ti,ab.
53	TENS.ti,ab.
54	electroanalgesi$.ti,ab.
55	electroacupuncture.ti,ab.
56	HYPNOSIS.kw.
57	hypnosis.ti,ab.
58	hypnotherap$.ti,ab.
59	hypnobirth$.ti,ab.
60	RELAXATION THERAPY.kw.
61	(relax$ adj3 (therap$ or technique?)).ti,ab.
62	MASSAGE.kw.
63	massag$.ti,ab.
64	reflexolog$.ti,ab.
65	BREATHING EXERCISES.kw.
66	(breath$ adj3 (exercis$ or technique? or therap$)).ti,ab.
67	qigong.ti,ab.
68	"IMAGERY (PSYCHOTHERAPY)".kw.
69	(visuali$ adj3 (exercis$ or technique? or therap$)).ti,ab.
70	AROMATHERAPY.kw.
71	aromatherap$.ti,ab.
72	HOMEOPATHY.kw.
73	hom?eopath$.ti,ab.
74	EXERCISE THERAPY.kw.
75	((exercis$ or movement or moving) adj3 therap$).ti,ab.
76	or/25-75
77	ANALGESIA, EPIDURAL.kw.
78	INJECTIONS, EPIDURAL.kw.
79	((Spinal$ or spinous$) adj5 analges$).ti,ab.

#	Searches
80	epidural$.ti,ab.
81	CSE.ti,ab.
82	((central$ or regional$) adj5 neuraxial$ adj5 block$).ti,ab.
83	(neuraxial$ adj5 analges$).ti,ab.
84	or/77-83
85	RISK.kw.
86	RISK ASSESSMENT.kw.
87	risk?.ti,ab.
88	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS".kw.
89	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
90	harm$.ti,ab.
91	THERAPEUTIC USES.kw.
92	(therapeutic$ adj3 (effect? or use?)).ti,ab.
93	benefi$.ti,ab.
94	effective$.ti,ab.
95	efficacy.ti,ab.
96	or/85-95
97	COMPARATIVE EFFECTIVENESS RESEARCH.kw.
98	Comparative Study.pt.
99	(compar$ adj3 (study or studies or research$)).ti,ab.
100	or/97-99
101	PAIN MANAGEMENT.kw.
102	ANALGESIA, PATIENT-CONTROLLED.kw.
103	(patient? adj3 control$ adj3 analges$).ti,ab.
104	ANALGESIA, OBSTETRICAL.kw.
105	(obstetric$ adj3 analges$).ti,ab.
106	or/101-105
107	(sepsis adj5 manag$).ti.
108	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
109	UK Obstetric Surveillance System.ti,ab.
110	UKOSS.ti,ab.
111	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
112	MBRRACE.ti,ab.
113	Scottish confidential audit of severe maternal morbidity.ti,ab.
114	SCASMM.ti,ab.
115	"Confidential Enquiry into Maternal and Child Health".ti,ab.
116	CEMACH.ti,ab.
117	or/109-116
118	11 and 24 and 76 and 84

#	Searches
119	11 and 24 and (76 or 84) and 96
120	11 and 24 and (76 or 84) and 100
121	11 and 24 and 106
122	11 and 107
123	24 and 117
124	or/118-123
125	108 or 124

Database: Database of Abstracts of Reviews of Effects

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PERIPARTUM PERIOD.kw.
4	PARTURITION.kw.
5	LABOR, OBSTETRIC.kw.
6	OBSTETRIC LABOR, PREMATURE.kw.
7	DELIVERY, OBSTETRIC.kw.
8	pregnan$.tw,tx.
9	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw,tx.
10	((during or giving or give) adj3 birth?).tw,tx.
11	or/1-10
12	SEPSIS.kw.
13	sepsis.tw,tx.
14	BLOOD-BORNE PATHOGENS.kw.
15	(blood adj2 (pathogen* or poison*)).tw,tx.
16	(blood$ adj3 (pathogen$ or poison$)).tw,tx.
17	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
18	"systemic inflammatory response syndrome".tw,tx.
19	SIRS.tw,tx.
20	septic?emi$.tw,tx.
21	((septic or endotoxic or toxic) adj3 shock).tw,tx.
22	(py?emi$ or pyohemi$).tw,tx.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw,tx.
24	or/12-23
25	((no or avoid$) adj3 analges$).tw,tx.
26	(systemic$ adj3 analgesi$).tw,tx.
27	ANALGESICS, OPIOID.kw.
28	(Opioid? or Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone

#	Searches
	or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid? or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or diamorphine).mp.
29	remifentanil.mp.
30	KETAMINE.kw.
31	ketamine.mp.
32	(inhal$ adj3 analgesi$).tw,tx.
33	NITROUS OXIDE.kw.
34	(nitrous oxide or N2O).mp.
35	laughing gas.tw,tx.
36	(gas adj2 air).tw,tx.
37	Entonox.mp.
38	Nitronox.mp.
39	sevoflurane.mp.
40	desflurane.mp.
41	((Non-pharma$ or Nonpharma$) adj3 analgesi$).tw,tx.
42	ACUPUNCTURE THERAPY.kw.
43	ACUPUNCTURE ANALGESIA.kw.
44	acupuncture.tw,tx.
45	HYDROTHERAPY.kw.
46	hydrotherap$.tw,tx.
47	BATHS.kw.
48	((birth$ or water) adj3 pool?).tw,tx.
49	(steril$ adj3 water adj3 inject$).tw,tx.
50	water papule?.tw,tx.
51	TRANSCUTANEOUS ELECTRIC NERVE STIMULATION.kw.
52	((transcutaneous or percutaneous) adj3 (electric$ or nerve?) adj3 stimulat$).tw,tx.
53	TENS.tw,tx.
54	electroanalgesi$.tw,tx.
55	electroacupuncture.tw,tx.
56	HYPNOSIS.kw.
57	hypnosis.tw,tx.
58	hypnotherap$.tw,tx.
59	hypnobirth$.tw,tx.
60	RELAXATION THERAPY.kw.
61	(relax$ adj3 (therap$ or technique?)).tw,tx.
62	MASSAGE.kw.
63	massag$.tw,tx.
64	reflexolog$.tw,tx.
65	BREATHING EXERCISES.kw.

#	Searches
66	(breath$ adj3 (exercis$ or technique? or therap$)).tw,tx.
67	qigong.tw,tx.
68	"IMAGERY (PSYCHOTHERAPY)".kw.
69	(visuali$ adj3 (exercis$ or technique? or therap$)).tw,tx.
70	AROMATHERAPY.kw.
71	aromatherap$.tw,tx.
72	HOMEOPATHY.kw.
73	hom?eopath$.tw,tx.
74	EXERCISE THERAPY.kw.
75	((exercis$ or movement or moving) adj3 therap$).tw,tx.
76	or/25-75
77	ANALGESIA, EPIDURAL.kw.
78	INJECTIONS, EPIDURAL.kw.
79	((Spinal$ or spinous$) adj5 analges$).tw,tx.
80	epidural$.tw,tx.
81	CSE.tw,tx.
82	((central$ or regional$) adj5 neuraxial$ adj5 block$).tw,tx.
83	(neuraxial$ adj5 analges$).tw,tx.
84	or/77-83
85	RISK.kw.
86	RISK ASSESSMENT.kw.
87	risk?.tw,tx.
88	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS".kw.
89	(adverse$ adj3 (effect? or event? or reaction?)).tw,tx.
90	harm$.tw,tx.
91	THERAPEUTIC USES.kw.
92	(therapeutic$ adj3 (effect? or use?)).tw,tx.
93	benefi$.tw,tx.
94	effective$.tw,tx.
95	efficacy.tw,tx.
96	or/85-95
97	COMPARATIVE EFFECTIVENESS RESEARCH.kw.
98	Comparative Study.pt.
99	(compar$ adj3 (study or studies or research$)).tw,tx.
100	or/97-99
101	PAIN MANAGEMENT.kw.
102	ANALGESIA, PATIENT-CONTROLLED.kw.
103	(patient? adj3 control$ adj3 analges$).tw,tx.
104	ANALGESIA, OBSTETRICAL.kw.
105	(obstetric$ adj3 analges$).tw,tx.

#	Searches
106	or/101-105
107	(sepsis adj5 manag$).ti.
108	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
109	UK Obstetric Surveillance System.tw,tx.
110	UKOSS.tw,tx.
111	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw,tx.
112	MBRRACE.tw,tx.
113	Scottish confidential audit of severe maternal morbidity.tw,tx.
114	SCASMM.tw,tx.
115	"Confidential Enquiry into Maternal and Child Health".tw,tx.
116	CEMACH.tw,tx.
117	or/109-116
118	11 and 24 and 76 and 84
119	11 and 24 and (76 or 84) and 96
120	11 and 24 and (76 or 84) and 100
121	11 and 24 and 106
122	11 and 107
123	24 and 117
124	or/118-123
125	108 or 124

Database: Health Technology Assessment

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	PERIPARTUM PERIOD/
4	PARTURITION/
5	exp LABOR, OBSTETRIC/
6	OBSTETRIC LABOR, PREMATURE/
7	DELIVERY, OBSTETRIC/
8	pregnan$.tw.
9	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw.
10	((during or giving or give) adj3 birth?).tw.
11	or/1-10
12	exp SEPSIS/
13	sepsis.tw.
14	BLOOD-BORNE PATHOGENS/
15	(blood adj2 (pathogen* or poison*)).tw.
16	(blood$ adj3 (pathogen$ or poison$)).tw.

#	Searches
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".tw.
19	SIRS.tw.
20	septic?emi$.tw.
21	((septic or endotoxic or toxic) adj3 shock).tw.
22	(py?emi$ or pyohemi$).tw.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw.
24	or/12-23
25	((no or avoid$) adj3 analges$).tw.
26	(systemic$ adj3 analgesi$).tw.
27	exp ANALGESICS, OPIOID/
28	(Opioid? or Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid? or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or diamorphine).mp.
29	remifentanil.mp.
30	KETAMINE/
31	ketamine.mp.
32	(inhal$ adj3 analgesi$).tw.
33	exp NITROUS OXIDE/
34	(nitrous oxide or N2O).mp.
35	laughing gas.tw.
36	(gas adj2 air).tw.
37	Entonox.mp.
38	Nitronox.mp.
39	sevoflurane.mp.
40	desflurane.mp.
41	((Non-pharma$ or Nonpharma$) adj3 analgesi$).tw.
42	ACUPUNCTURE THERAPY/
43	ACUPUNCTURE ANALGESIA/
44	acupuncture.tw.
45	HYDROTHERAPY/
46	hydrotherap$.tw.
47	BATHS/
48	((birth$ or water) adj3 pool?).tw.
49	(steril$ adj3 water adj3 inject$).tw.
50	water papule?.tw.
51	exp TRANSCUTANEOUS ELECTRIC NERVE STIMULATION/

#	Searches
52	((transcutaneous or percutaneous) adj3 (electric$ or nerve?) adj3 stimulat$).tw.
53	TENS.tw.
54	electroanalgesi$.tw.
55	electroacupuncture.tw.
56	HYPNOSIS/
57	hypnosis.tw.
58	hypnotherap$.tw.
59	hypnobirth$.tw.
60	RELAXATION THERAPY/
61	(relax$ adj3 (therap$ or technique?)).tw.
62	MASSAGE/
63	massag$.tw.
64	reflexolog$.tw.
65	BREATHING EXERCISES/
66	(breath$ adj3 (exercis$ or technique? or therap$)).tw.
67	qigong.tw.
68	"IMAGERY (PSYCHOTHERAPY)"/
69	(visuali$ adj3 (exercis$ or technique? or therap$)).tw.
70	AROMATHERAPY/
71	aromatherap$.tw.
72	HOMEOPATHY/
73	hom?eopath$.tw.
74	EXERCISE THERAPY/
75	((exercis$ or movement or moving) adj3 therap$).tw.
76	or/25-75
77	ANALGESIA, EPIDURAL/
78	INJECTIONS, EPIDURAL/
79	((Spinal$ or spinous$) adj5 analges$).tw.
80	epidural$.tw.
81	CSE.tw.
82	((central$ or regional$) adj5 neuraxial$ adj5 block$).tw.
83	(neuraxial$ adj5 analges$).tw.
84	or/77-83
85	RISK/
86	RISK ASSESSMENT/
87	risk?.tw.
88	"DRUG-RELATED SIDE EFFECTS AND ADVERSE REACTIONS"/
89	(adverse$ adj3 (effect? or event? or reaction?)).tw.
90	harm$.tw.
91	THERAPEUTIC USES/

#	Searches
92	(therapeutic$ adj3 (effect? or use?)).tw.
93	benefi$.tw.
94	effective$.tw.
95	efficacy.tw.
96	or/85-95
97	COMPARATIVE EFFECTIVENESS RESEARCH/
98	Comparative Study.pt.
99	(compar$ adj3 (study or studies or research$)).tw.
100	or/97-99
101	PAIN MANAGEMENT/
102	ANALGESIA, PATIENT-CONTROLLED/
103	(patient? adj3 control$ adj3 analges$).tw.
104	ANALGESIA, OBSTETRICAL/
105	(obstetric$ adj3 analges$).tw.
106	or/101-105
107	exp ANALGESICS, OPIOID/ae [Adverse Effects]
108	exp ANALGESICS, OPIOID/tu [Therapeutic Use]
109	KETAMINE/ae [Adverse Effects]
110	KETAMINE/tu [Therapeutic Use]
111	exp NITROUS OXIDE/ae [Adverse Effects]
112	exp NITROUS OXIDE/tu [Therapeutic Use]
113	ACUPUNCTURE THERAPY/ae [Adverse Effects]
114	ACUPUNCTURE ANALGESIA/ae [Adverse Effects]
115	HYDROTHERAPY/ae [Adverse Effects]
116	BATHS/ae [Adverse Effects]
117	BATHS/th [Therapy]
118	exp TRANSCUTANEOUS ELECTRIC NERVE STIMULATION/ae [Adverse Effects]
119	HYPNOSIS/ae [Adverse Effects]
120	HYPNOSIS/tu [Therapeutic Use]
121	HYPNOSIS/th [Therapy]
122	RELAXATION THERAPY/ae [Adverse Effects]
123	MASSAGE/ae [Adverse Effects]
124	MASSAGE/tu [Therapeutic Use]
125	MASSAGE/th [Therapy]
126	BREATHING EXERCISES/ae [Adverse Effects]
127	AROMATHERAPY/ae [Adverse Effects]
128	HOMEOPATHY/ae [Adverse Effects]
129	HOMEOPATHY/th [Therapy]
130	EXERCISE THERAPY/ae [Adverse Effects]
131	EXERCISE THERAPY/th [Therapy]

#	Searches
132	ANALGESIA, EPIDURAL/ae [Adverse Effects]
133	INJECTIONS, EPIDURAL/ae [Adverse Effects]
134	PAIN MANAGEMENT/ae [Adverse Effects]
135	ANALGESIA, PATIENT-CONTROLLED/ae [Adverse Effects]
136	ANALGESIA, OBSTETRICAL/ae [Adverse Effects]
137	or/107-136
138	(sepsis adj5 manag$).ti.
139	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
140	UK Obstetric Surveillance System.tw.
141	UKOSS.tw.
142	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw.
143	MBRRACE.tw.
144	Scottish confidential audit of severe maternal morbidity.tw.
145	SCASMM.tw.
146	"Confidential Enquiry into Maternal and Child Health".tw.
147	CEMACH.tw.
148	or/140-147
149	11 and 24 and 76 and 84
150	11 and 24 and (76 or 84) and 96
151	11 and 24 and (76 or 84) and 100
152	11 and 24 and 106
153	11 and 24 and 137
154	11 and 138
155	24 and 148
156	or/149-155
157	139 or 156

Database: Embase

#	Searches
1	*PREGNANCY/
2	*HIGH RISK PREGNANCY/
3	*PERINATAL PERIOD/
4	*BIRTH/
5	exp *LABOR/
6	*PREMATURE LABOR/
7	*OBSTETRIC DELIVERY/
8	*INTRAPARTUM CARE/
9	pregnan$.ti,ab.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.

#	Searches
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	exp SEPSIS/
14	sepsis.ti,ab.
15	BLOODBORNE BACTERIUM/
16	(blood adj2 (pathogen* or poison*)).ti,ab.
17	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
18	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
19	"systemic inflammatory response syndrome".ti,ab.
20	SIRS.ti,ab.
21	septic?emi$.ti,ab.
22	((septic or endotoxic or toxic) adj3 shock).ti,ab.
23	(py?emi$ or pyohemi$).ti,ab.
24	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
25	or/13-24
26	((no or avoid$) adj3 analges$).ti,ab.
27	(systemic$ adj3 analgesi$).ti,ab.
28	exp NARCOTIC ANALGESIC AGENT/
29	(Opioid? or Alfentanil or Alphaprodine or Buprenorphine or Butorphanol or Codeine or Dextromoramide or Dextropropoxyphene or Dihydromorphine or Diphenoxylate or Enkephalin or Ethylketocyclazocine or Ethylmorphine or Etorphine or Fentanyl or Heroin or Hydrocodone or Hydromorphone or Levorphanol or Meperidine or Meptazinol or Methadone or Methadyl Acetate or Morphine or Nalbuphine or Opiate Alkaloid? or Opium or Oxycodone or Oxymorphone or Pentazocine or Phenazocine or Phenoperidine or Pirinitramide or Promedol or Sufentanil or Tilidine or Tramadol or pethidine or diamorphine).mp.
30	remifentanil.mp.
31	KETAMINE/
32	ketamine.mp.
33	(inhal$ adj3 analgesi$).ti,ab.
34	NITROUS OXIDE/
35	NITROUS OXIDE PLUS OXYGEN/
36	SEVOFLURANE/
37	DESFLURANE/
38	(nitrous oxide or N2O).mp.
39	laughing gas.ti,ab.
40	(gas adj2 air).ti,ab.
41	Entonox.mp.
42	Nitronox.mp.
43	sevoflurane.mp.
44	desflurane.mp.
45	((Non-pharma$ or Nonpharma$) adj3 analgesi$).ti,ab.

#	Searches
46	ACUPUNCTURE/
47	ACUPUNCTURE ANALGESIA/
48	acupuncture.ti,ab.
49	HYDROTHERAPY/
50	hydrotherap$.ti,ab.
51	BATH/
52	((birth$ or water) adj3 pool?).ti,ab.
53	(steril$ adj3 water adj3 inject$).ti,ab.
54	water papule?.ti,ab.
55	TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION/
56	((transcutaneous or percutaneous) adj3 (electric$ or nerve?) adj3 stimulat$).ti,ab.
57	TENS.ti,ab.
58	electroanalgesi$.ti,ab.
59	electroacupuncture.ti,ab.
60	HYPNOSIS/
61	hypnosis.ti,ab.
62	hypnotherap$.ti,ab.
63	hypnobirth$.ti,ab.
64	RELAXATION TRAINING/
65	(relax$ adj3 (therap$ or technique?)).ti,ab.
66	MASSAGE/
67	massag$.ti,ab.
68	REFLEXOLOGY/
69	reflexolog$.ti,ab.
70	BREATHING EXERCISE/
71	(breath$ adj3 (exercis$ or technique? or therap$)).ti,ab.
72	qigong.ti,ab.
73	GUIDED IMAGERY/
74	(visuali$ adj3 (exercis$ or technique? or therap$)).ti,ab.
75	AROMATHERAPY/
76	aromatherap$.ti,ab.
77	HOMEOPATHY/
78	hom?eopath$.ti,ab.
79	KINESIOTHERAPY/
80	((exercis$ or movement or moving) adj3 therap$).ti,ab.
81	or/26-80
82	EPIDURAL ANALGESIA/
83	EPIDURAL DRUG ADMINISTRATION/
84	((Spinal$ or spinous$) adj5 analges$).ti,ab.
85	epidural$.ti,ab.

#	Searches
86	CSE.ti,ab.
87	((central$ or regional$) adj5 neuraxial$ adj5 block$).ti,ab.
88	(neuraxial$ adj5 analges$).ti,ab.
89	or/82-88
90	*RISK/
91	*RISK ASSESSMENT/
92	risk?.ti,ab.
93	*SIDE EFFECT/
94	*ADVERSE DRUG REACTION/
95	(adverse$ adj3 (effect? or event? or reaction?)).ti,ab.
96	harm$.ti,ab.
97	*THERAPY EFFECT/
98	*DRUG EFFICACY/
99	(therapeutic$ adj3 (effect? or use?)).ti,ab.
100	benefi$.ti,ab.
101	effective$.ti,ab.
102	efficacy.ti,ab.
103	or/90-102
104	COMPARATIVE EFFECTIVENESS/
105	COMPARATIVE STUDY/
106	(compar$ adj3 (study or studies or research$)).ti,ab.
107	or/104-106
108	PATIENT CONTROLLED ANALGESIA/
109	(patient? adj3 control$ adj3 analges$).ti,ab.
110	OBSTETRIC ANALGESIA/
111	(obstetric$ adj3 analges$).ti,ab.
112	or/108-111
113	exp NARCOTIC ANALGESIC AGENT/ae [Adverse Drug Reaction]
114	exp NARCOTIC ANALGESIC AGENT/dt [Drug Therapy]
115	KETAMINE/ae [Adverse Drug Reaction]
116	KETAMINE/dt [Drug Therapy]
117	NITROUS OXIDE/ae [Adverse Drug Reaction]
118	NITROUS OXIDE/dt [Drug Therapy]
119	NITROUS OXIDE PLUS OXYGEN/ae [Adverse Drug Reaction]
120	NITROUS OXIDE PLUS OXYGEN/dt [Drug Therapy]
121	SEVOFLURANE/ae [Adverse Drug Reaction]
122	SEVOFLURANE/dt [Drug Therapy]
123	DESFLURANE/ae [Adverse Drug Reaction]
124	DESFLURANE/dt [Drug Therapy]
125	ACUPUNCTURE/ae [Adverse Drug Reaction]

#	Searches
126	ACUPUNCTURE/th [Therapy]
127	ACUPUNCTURE ANALGESIA/ae [Adverse Drug Reaction]
128	HYDROTHERAPY/ae [Adverse Drug Reaction]
129	BATH/ae [Adverse Drug Reaction]
130	BATHS/th [Therapy]
131	HYPNOSIS/ae [Adverse Drug Reaction]
132	HYPNOSIS/dt [Drug Therapy]
133	HYPNOSIS/th [Therapy]
134	RELAXATION TRAINING/ae [Adverse Drug Reaction]
135	MASSAGE/ae [Adverse Drug Reaction]
136	BREATHING EXERCISE/ae [Adverse Drug Reaction]
137	AROMATHERAPY/ae [Adverse Drug Reaction]
138	HOMEOPATHY/ae [Adverse Drug Reaction]
139	KINESIOTHERAPY/ae [Adverse Drug Reaction]
140	KINESIOTHERAPY/th [Therapy]
141	EPIDURAL DRUG ADMINISTRATION/ae [Adverse Drug Reaction]
142	PATIENT CONTROLLED ANALGESIA/ae [Adverse Drug Reaction]
143	OBSTETRIC ANALGESIA/ae [Adverse Drug Reaction]
144	or/113-143
145	(sepsis adj5 manag$).ti.
146	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
147	UK Obstetric Surveillance System.ti,ab.
148	UKOSS.ti,ab.
149	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
150	MBRRACE.ti,ab.
151	Scottish confidential audit of severe maternal morbidity.ti,ab.
152	SCASMM.ti,ab.
153	"Confidential Enquiry into Maternal and Child Health".ti,ab.
154	CEMACH.ti,ab.
155	or/147-154
156	12 and 25 and 81 and 89
157	12 and 25 and (81 or 89) and 103
158	12 and 25 and (81 or 89) and 107
159	12 and 25 and 112
160	12 and 25 and 144
161	12 and 145
162	25 and 155
163	or/156-162
164	146 or 163

#	Searches
165	limit 164 to english language
166	letter.pt. or LETTER/
167	note.pt.
168	editorial.pt.
169	CASE REPORT/ or CASE STUDY/
170	(letter or comment*).ti.
171	or/166-170
172	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
173	171 not 172
174	ANIMAL/ not HUMAN/
175	NONHUMAN/
176	exp ANIMAL EXPERIMENT/
177	exp EXPERIMENTAL ANIMAL/
178	ANIMAL MODEL/
179	exp RODENT/
180	(rat or rats or mouse or mice).ti.
181	or/173-180
182	165 not 181

Intrapartum care for women with sepsis – fetal monitoring

Database: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.ti,ab.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	exp SEPSIS/
14	sepsis.ti,ab.
15	BLOOD-BORNE PATHOGENS/
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.

#	Searches
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".ti,ab.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
24	or/13-23
25	FETAL MONITORING/
26	UTERINE MONITORING/
27	HEART RATE, FETAL/ and (monitor$ or assess$).ti,ab.
28	exp FETAL HEART/ and (monitor$ or assess$).ti,ab.
29	FETAL DISTRESS/ and (monitor$ or assess$).ti,ab.
30	((f?etal or f?etus$ or uter$) adj5 (heart$ or monitor$ or assess$)).ti,ab.
31	EFM.ti,ab.
32	FHR.ti,ab.
33	CARDIOTOCOGRAPHY/
34	ELECTROCARDIOGRAPHY/
35	cardiotocogra$.ti,ab.
36	CTG.ti,ab.
37	electrocardiogra$.ti,ab.
38	ECG.ti,ab.
39	EKG.ti,ab.
40	or/25-39
41	SCALP/ and ELECTRODES/
42	((f?etal or f?etus$) adj5 scalp? adj5 electrode?).ti,ab.
43	FSE.ti,ab.
44	or/41-43
45	BLOOD SPECIMEN COLLECTION/
46	FETAL BLOOD/ and (samp$ or analys$ or gas$).ti,ab.
47	((f?etal or f?etus) adj5 (lactate? or pH or scalp? or base$ or acid$ or alk#l$)).ti,ab.
48	((f?etal or f?etus) adj5 blood adj5 (gas$ or sampl$ or analys$)).ti,ab.
49	FBS.ti,ab.
50	exp BLOOD GAS ANALYSIS/
51	exp ACID-BASE IMBALANCE/
52	(blood adj5 (gas$ or oxygen or carbon dioxide or CO2) adj5 analys$).ti,ab.
53	((acidbase or acid base) adj5 (imbalanc$ or equ?l$)).ti,ab.
54	or/45-53
55	(exp PHYSICAL STIMULATION/ or VIBRATION/) and SCALP/

#	Searches
56	((f?etal or f?etus$) adj5 (stimulat$ or stimuli or stimulus)).ti,ab.
57	((scalp? or digit$ or acoustic$ or vibroacoustic$) adj5 (stimulat$ or stimuli or stimulus or punctur$)).ti,ab.
58	((acoustic or artificial) adj laryn$).ti,ab.
59	FSS.ti,ab.
60	or/55-59
61	FETAL DEATH/
62	STILLBIRTH/
63	PERINATAL DEATH/
64	((fetal or fetus) adj3 death?).ti,ab.
65	(stillbirths? or stillborn?).ti,ab.
66	(intrauterine adj3 death?).ti,ab.
67	(perinatal adj3 death?).ti,ab.
68	or/61-67
69	(sepsis adj5 manag$).ti.
70	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
71	or/69-70
72	UK Obstetric Surveillance System.ti,ab.
73	UKOSS.ti,ab.
74	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
75	MBRRACE.ti,ab.
76	Scottish confidential audit of severe maternal morbidity.ti,ab.
77	SCASMM.ti,ab.
78	"Confidential Enquiry into Maternal and Child Health".ti,ab.
79	CEMACH.ti,ab.
80	or/72-79
81	12 and 24 and 40
82	12 and 24 and 44
83	12 and 24 and 54
84	12 and 24 and 60
85	24 and (40 or 44 or 54 or 60) and 68
86	(40 or 44 or 54 or 60) and 71
87	24 and 80
88	or/81-87
89	limit 88 to english language
90	LETTER/
91	EDITORIAL/
92	NEWS/
93	exp HISTORICAL ARTICLE/

#	Searches
94	ANECDOTES AS TOPIC/
95	COMMENT/
96	CASE REPORT/
97	(letter or comment*).ti.
98	or/90-97
99	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
100	98 not 99
101	ANIMALS/ not HUMANS/
102	exp ANIMALS, LABORATORY/
103	exp ANIMAL EXPERIMENTATION/
104	exp MODELS, ANIMAL/
105	exp RODENTIA/
106	(rat or rats or mouse or mice).ti.
107	or/100-106
108	89 not 107

Database: Cochrane Central Register of Controlled Trials

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.ti,ab,kw.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab,kw.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	exp SEPSIS/
14	sepsis.ti,ab,kw.
15	BLOOD-BORNE PATHOGENS/
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".ti,ab,kw.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab,kw.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab,kw.

#	Searches
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab,kw.
24	or/13-23
25	FETAL MONITORING/
26	UTERINE MONITORING/
27	HEART RATE, FETAL/ and (monitor$ or assess$).ti,ab.
28	exp FETAL HEART/ and (monitor$ or assess$).ti,ab.
29	FETAL DISTRESS/ and (monitor$ or assess$).ti,ab.
30	((f?etal or f?etus$ or uter$) adj5 (heart$ or monitor$ or assess$)).ti,ab.
31	EFM.ti,ab.
32	FHR.ti,ab.
33	CARDIOTOCOGRAPHY/
34	ELECTROCARDIOGRAPHY/
35	cardiotocogra$.ti,ab,kw.
36	CTG.ti,ab.
37	electrocardiogra$.ti,ab,kw.
38	ECG.ti,ab.
39	EKG.ti,ab.
40	or/25-39
41	SCALP/ and ELECTRODES/
42	((f?etal or f?etus$) adj5 scalp? adj5 electrode?).ti,ab.
43	FSE.ti,ab.
44	or/41-43
45	BLOOD SPECIMEN COLLECTION/
46	FETAL BLOOD/ and (samp$ or analys$ or gas$).ti,ab.
47	((f?etal or f?etus) adj5 (lactate? or pH or scalp? or base$ or acid$ or alk#l$)).ti,ab.
48	((f?etal or f?etus) adj5 blood adj5 (gas$ or sampl$ or analys$)).ti,ab.
49	FBS.ti,ab.
50	exp BLOOD GAS ANALYSIS/
51	exp ACID-BASE IMBALANCE/
52	(blood adj5 (gas$ or oxygen or carbon dioxide or CO2) adj5 analys$).ti,ab.
53	((acidbase or acid base) adj5 (imbalanc$ or equ?l$)).ti,ab.
54	or/45-53
55	(exp PHYSICAL STIMULATION/ or VIBRATION/) and SCALP/
56	((f?etal or f?etus$) adj5 (stimulat$ or stimuli or stimulus)).ti,ab.
57	((scalp? or digit$ or acoustic$ or vibroacoustic$) adj5 (stimulat$ or stimuli or stimulus or punctur$)).ti,ab.
58	((acoustic or artificial) adj laryn$).ti,ab.
59	FSS.ti,ab.
60	or/55-59

#	Searches
61	FETAL DEATH/
62	STILLBIRTH/
63	PERINATAL DEATH/
64	((fetal or fetus) adj3 death?).ti,ab.
65	(stillbirths? or stillborn?).ti,ab,kw.
66	(intrauterine adj3 death?).ti,ab.
67	(perinatal adj3 death?).ti,ab.
68	or/61-67
69	(sepsis adj5 manag$).ti.
70	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
71	or/69-70
72	UK Obstetric Surveillance System.ti,ab.
73	UKOSS.ti,ab.
74	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
75	MBRRACE.ti,ab.
76	Scottish confidential audit of severe maternal morbidity.ti,ab.
77	SCASMM.ti,ab.
78	"Confidential Enquiry into Maternal and Child Health".ti,ab.
79	CEMACH.ti,ab.
80	or/72-79
81	12 and 24 and 40
82	12 and 24 and 44
83	12 and 24 and 54
84	12 and 24 and 60
85	24 and (40 or 44 or 54 or 60) and 68
86	(40 or 44 or 54 or 60) and 71
87	24 and 80
88	or/81-87

Database: Cochrane Database of Systematic Reviews

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PREGNANCY, MULTIPLE.kw.
4	PERIPARTUM PERIOD.kw.
5	PARTURITION.kw.
6	LABOR, OBSTETRIC.kw.
7	OBSTETRIC LABOR, PREMATURE.kw.
8	DELIVERY, OBSTETRIC.kw.

#	Searches
9	pregnan$.ti,ab.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	SEPSIS.kw.
14	sepsis.ti,ab.
15	BLOOD-BORNE PATHOGENS.kw.
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
18	"systemic inflammatory response syndrome".ti,ab.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
24	or/13-23
25	FETAL MONITORING.kw.
26	UTERINE MONITORING.kw.
27	HEART RATE, FETAL.kw. and (monitor$ or assess$).ti,ab.
28	FETAL HEART.kw. and (monitor$ or assess$).ti,ab.
29	FETAL DISTRESS.kw. and (monitor$ or assess$).ti,ab.
30	((f?etal or f?etus$ or uter$) adj5 (heart$ or monitor$ or assess$)).ti,ab.
31	EFM.ti,ab.
32	FHR.ti,ab.
33	CARDIOTOCOGRAPHY.kw.
34	ELECTROCARDIOGRAPHY.kw.
35	cardiotocogra$.ti,ab.
36	CTG.ti,ab.
37	electrocardiogra$.ti,ab.
38	ECG.ti,ab.
39	EKG.ti,ab.
40	or/25-39
41	(SCALP and ELECTRODES).kw.
42	((f?etal or f?etus$) adj5 scalp? adj5 electrode?).ti,ab.
43	FSE.ti,ab.
44	or/41-43
45	BLOOD SPECIMEN COLLECTION.kw.
46	FETAL BLOOD.kw. and (samp$ or analys$ or gas$).ti,ab.
47	((f?etal or f?etus) adj5 (lactate? or pH or scalp? or base$ or acid$ or alk#l$)).ti,ab.
48	((f?etal or f?etus) adj5 blood adj5 (gas$ or sampl$ or analys$)).ti,ab.

#	Searches
49	FBS.ti,ab.
50	BLOOD GAS ANALYSIS.kw.
51	ACID-BASE IMBALANCE.kw.
52	(blood adj5 (gas$ or oxygen or carbon dioxide or CO2) adj5 analys$).ti,ab.
53	((acidbase or acid base) adj5 (imbalanc$ or equ?l$)).ti,ab.
54	or/45-53
55	((PHYSICAL STIMULATION or VIBRATION) and SCALP).kw.
56	((f?etal or f?etus$) adj5 (stimulat$ or stimuli or stimulus)).ti,ab.
57	((scalp? or digit$ or acoustic$ or vibroacoustic$) adj5 (stimulat$ or stimuli or stimulus or punctur$)).ti,ab.
58	((acoustic or artificial) adj laryn$).ti,ab.
59	FSS.ti,ab.
60	or/55-59
61	FETAL DEATH.kw.
62	STILLBIRTH.kw.
63	PERINATAL DEATH.kw.
64	((fetal or fetus) adj3 death?).ti,ab.
65	(stillbirths? or stillborn?).ti,ab.
66	(intrauterine adj3 death?).ti,ab.
67	(perinatal adj3 death?).ti,ab.
68	or/61-67
69	(sepsis adj5 manag$).ti.
70	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
71	or/69-70
72	UK Obstetric Surveillance System.ti,ab.
73	UKOSS.ti,ab.
74	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
75	MBRRACE.ti,ab.
76	Scottish confidential audit of severe maternal morbidity.ti,ab.
77	SCASMM.ti,ab.
78	"Confidential Enquiry into Maternal and Child Health".ti,ab.
79	CEMACH.ti,ab.
80	or/72-79
81	12 and 24 and 40
82	12 and 24 and 44
83	12 and 24 and 54
84	12 and 24 and 60
85	24 and (40 or 44 or 54 or 60) and 68
86	(40 or 44 or 54 or 60) and 71

#	Searches
87	24 and 80
88	or/81-87

Database: Database of Abstracts of Reviews of Effects

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PREGNANCY, MULTIPLE.kw.
4	PERIPARTUM PERIOD.kw.
5	PARTURITION.kw.
6	LABOR, OBSTETRIC.kw.
7	OBSTETRIC LABOR, PREMATURE.kw.
8	DELIVERY, OBSTETRIC.kw.
9	pregnan$.tw,tx.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw,tx.
11	((during or giving or give) adj3 birth?).tw,tx.
12	or/1-11
13	SEPSIS.kw.
14	sepsis.tw,tx.
15	BLOOD-BORNE PATHOGENS.kw.
16	(blood$ adj3 (pathogen$ or poison$)).tw,tx.
17	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
18	"systemic inflammatory response syndrome".tw,tx.
19	SIRS.tw,tx.
20	septic?emi$.tw,tx.
21	((septic or endotoxic or toxic) adj3 shock).tw,tx.
22	(py?emi$ or pyohemi$).tw,tx.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw,tx.
24	or/13-23
25	FETAL MONITORING.kw.
26	UTERINE MONITORING.kw.
27	HEART RATE, FETAL.kw. and (monitor$ or assess$).tw,tx.
28	FETAL HEART.kw. and (monitor$ or assess$).tw,tx.
29	FETAL DISTRESS.kw. and (monitor$ or assess$).tw,tx.
30	((f?etal or f?etus$ or uter$) adj5 (heart$ or monitor$ or assess$)).tw,tx.
31	EFM.tw,tx.
32	FHR.tw,tx.
33	CARDIOTOCOGRAPHY.kw.
34	ELECTROCARDIOGRAPHY.kw.

#	Searches
35	cardiotocogra$.tw,tx.
36	CTG.tw,tx.
37	electrocardiogra$.tw,tx.
38	ECG.tw,tx.
39	EKG.tw,tx.
40	or/25-39
41	(SCALP and ELECTRODES).kw.
42	((f?etal or f?etus$) adj5 scalp? adj5 electrode?).tw,tx.
43	FSE.tw,tx.
44	or/41-43
45	BLOOD SPECIMEN COLLECTION.kw.
46	FETAL BLOOD.kw. and (samp$ or analys$ or gas$).tw,tx.
47	((f?etal or f?etus) adj5 (lactate? or pH or scalp? or base$ or acid$ or alk#l$)).tw,tx.
48	((f?etal or f?etus) adj5 blood adj5 (gas$ or sampl$ or analys$)).tw,tx.
49	FBS.tw,tx.
50	BLOOD GAS ANALYSIS.kw.
51	ACID-BASE IMBALANCE.kw.
52	(blood adj5 (gas$ or oxygen or carbon dioxide or CO2) adj5 analys$).tw,tx.
53	((acidbase or acid base) adj5 (imbalanc$ or equ?l$)).tw,tx.
54	or/45-53
55	((PHYSICAL STIMULATION or VIBRATION) and SCALP).kw.
56	((f?etal or f?etus$) adj5 (stimulat$ or stimuli or stimulus)).tw,tx.
57	((scalp? or digit$ or acoustic$ or vibroacoustic$) adj5 (stimulat$ or stimuli or stimulus or punctur$)).tw,tx.
58	((acoustic or artificial) adj laryn$).tw,tx.
59	FSS.tw,tx.
60	or/55-59
61	FETAL DEATH.kw.
62	STILLBIRTH.kw.
63	PERINATAL DEATH.kw.
64	((fetal or fetus) adj3 death?).tw,tx.
65	(stillbirths? or stillborn?).tw,tx.
66	(intrauterine adj3 death?).tw,tx.
67	(perinatal adj3 death?).tw,tx.
68	or/61-67
69	(sepsis adj5 manag$).ti.
70	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
71	or/69-70
72	UK Obstetric Surveillance System.tw,tx.
73	UKOSS.tw,tx.

#	Searches
74	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw,tx.
75	MBRRACE.tw,tx.
76	Scottish confidential audit of severe maternal morbidity.tw,tx.
77	SCASMM.tw,tx.
78	"Confidential Enquiry into Maternal and Child Health".tw,tx.
79	CEMACH.tw,tx.
80	or/72-79
81	12 and 24 and 40
82	12 and 24 and 44
83	12 and 24 and 54
84	12 and 24 and 60
85	24 and (40 or 44 or 54 or 60) and 68
86	(40 or 44 or 54 or 60) and 71
87	24 and 80
88	or/81-87

Database: Health Technology Assessment

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.tw.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw.
11	((during or giving or give) adj3 birth?).tw.
12	or/1-11
13	exp SEPSIS/
14	sepsis.tw.
15	BLOOD-BORNE PATHOGENS/
16	(blood$ adj3 (pathogen$ or poison$)).tw.
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".tw.
19	SIRS.tw.
20	septic?emi$.tw.
21	((septic or endotoxic or toxic) adj3 shock).tw.

#	Searches
22	(py?emi$ or pyohemi$).tw.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw.
24	or/13-23
25	FETAL MONITORING/
26	UTERINE MONITORING/
27	HEART RATE, FETAL/ and (monitor$ or assess$).tw.
28	exp FETAL HEART/ and (monitor$ or assess$).tw.
29	FETAL DISTRESS/ and (monitor$ or assess$).tw.
30	((f?etal or f?etus$ or uter$) adj5 (heart$ or monitor$ or assess$)).tw.
31	EFM.tw.
32	FHR.tw.
33	CARDIOTOCOGRAPHY/
34	ELECTROCARDIOGRAPHY/
35	cardiotocogra$.tw.
36	CTG.tw.
37	electrocardiogra$.tw.
38	ECG.tw.
39	EKG.tw.
40	or/25-39
41	SCALP/ and ELECTRODES/
42	((f?etal or f?etus$) adj5 scalp? adj5 electrode?).tw.
43	FSE.tw.
44	or/41-43
45	BLOOD SPECIMEN COLLECTION/
46	FETAL BLOOD/ and (samp$ or analys$ or gas$).tw.
47	((f?etal or f?etus) adj5 (lactate? or pH or scalp? or base$ or acid$ or alk#l$)).tw.
48	((f?etal or f?etus) adj5 blood adj5 (gas$ or sampl$ or analys$)).tw.
49	FBS.tw.
50	exp BLOOD GAS ANALYSIS/
51	exp ACID-BASE IMBALANCE/
52	(blood adj5 (gas$ or oxygen or carbon dioxide or CO2) adj5 analys$).tw.
53	((acidbase or acid base) adj5 (imbalanc$ or equ?l$)).tw.
54	or/45-53
55	(exp PHYSICAL STIMULATION/ or VIBRATION/) and SCALP/
56	((f?etal or f?etus$) adj5 (stimulat$ or stimuli or stimulus)).tw.
57	((scalp? or digit$ or acoustic$ or vibroacoustic$) adj5 (stimulat$ or stimuli or stimulus or punctur$)).tw.
58	((acoustic or artificial) adj laryn$).tw.
59	FSS.tw.
60	or/55-59

#	Searches
61	FETAL DEATH/
62	STILLBIRTH/
63	PERINATAL DEATH/
64	((fetal or fetus) adj3 death?).tw.
65	(stillbirths? or stillborn?).tw.
66	(intrauterine adj3 death?).tw.
67	(perinatal adj3 death?).tw.
68	or/61-67
69	(sepsis adj5 manag$).ti.
70	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
71	or/69-70
72	UK Obstetric Surveillance System.tw.
73	UKOSS.tw.
74	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw.
75	MBRRACE.tw.
76	Scottish confidential audit of severe maternal morbidity.tw.
77	SCASMM.tw.
78	"Confidential Enquiry into Maternal and Child Health".tw.
79	CEMACH.tw.
80	or/72-79
81	12 and 24 and 40
82	12 and 24 and 44
83	12 and 24 and 54
84	12 and 24 and 60
85	24 and (40 or 44 or 54 or 60) and 68
86	(40 or 44 or 54 or 60) and 71
87	24 and 80
88	or/81-87

Database: Embase

#	Searches
1	*PREGNANCY/
2	*HIGH RISK PREGNANCY/
3	exp *MULTIPLE PREGNANCY/
4	*PERINATAL PERIOD/
5	*BIRTH/
6	exp *LABOR/
7	*PREMATURE LABOR/
8	*OBSTETRIC DELIVERY/

#	Searches
9	*INTRAPARTUM CARE/
10	pregnan$.ti,ab.
11	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
12	((during or giving or give) adj3 birth?).ti,ab.
13	or/1-12
14	exp SEPSIS/
15	sepsis.ti,ab.
16	BLOODBORNE BACTERIUM/
17	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
18	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
19	"systemic inflammatory response syndrome".ti,ab.
20	SIRS.ti,ab.
21	septic?emi$.ti,ab.
22	((septic or endotoxic or toxic) adj3 shock).ti,ab.
23	(py?emi$ or pyohemi$).ti,ab.
24	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
25	or/14-24
26	FETUS MONITORING/
27	UTERINE ACTIVITY MONITORING/
28	FETUS HEART RATE/ and (monitor$ or assess$).ti,ab.
29	FETUS HEART/ and (monitor$ or assess$).ti,ab.
30	FETUS DISTRESS/ and (monitor$ or assess$).ti,ab.
31	((f?etal or f?etus$ or uter$) adj5 (heart$ or monitor$ or assess$)).ti,ab.
32	EFM.ti,ab.
33	FHR.ti,ab.
34	CARDIOTOCOGRAPHY/
35	FETUS ELECTROCARDIOGRAPHY/
36	cardiotocogra$.ti,ab.
37	CTG.ti,ab.
38	electrocardiogra$.ti,ab.
39	ECG.ti,ab.
40	EKG.ti,ab.
41	or/26-40
42	SCALP/ and ELECTRODE/
43	((f?etal or f?etus$) adj5 scalp? adj5 electrode?).ti,ab.
44	FSE.ti,ab.
45	or/42-44
46	FETUS BLOOD SAMPLING/
47	((f?etal or f?etus) adj5 (lactate? or pH or scalp? or base$ or acid$ or alk#l$)).ti,ab.

#	Searches
48	((f?etal or f?etus) adj5 blood adj5 (gas$ or sampl$ or analys$)).ti,ab.
49	FBS.ti,ab.
50	exp BLOOD GAS ANALYSIS/
51	exp "DISORDERS OF ACID BASE BALANCE"/
52	(blood adj5 (gas$ or oxygen or carbon dioxide or CO2) adj5 analys$).ti,ab.
53	((acidbase or acid base) adj5 (imbalanc$ or equ?l$)).ti,ab.
54	or/46-53
55	(STIMULATION/ or VIBRATION/) and SCALP/
56	((f?etal or f?etus$) adj5 (stimulat$ or stimuli or stimulus)).ti,ab.
57	((scalp? or digit$ or acoustic$ or vibroacoustic$) adj5 (stimulat$ or stimuli or stimulus or punctur$)).ti,ab.
58	((acoustic or artificial) adj laryn$).ti,ab.
59	FSS.ti,ab.
60	or/55-59
61	FETUS DEATH/
62	STILLBIRTH/
63	PERINATAL DEATH/
64	((fetal or fetus) adj3 death?).ti,ab.
65	(stillbirths? or stillborn?).ti,ab.
66	(intrauterine adj3 death?).ti,ab.
67	(perinatal adj3 death?).ti,ab.
68	or/61-67
69	(sepsis adj5 manag$).ti.
70	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
71	or/69-70
72	UK Obstetric Surveillance System.ti,ab.
73	UKOSS.ti,ab.
74	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
75	MBRRACE.ti,ab.
76	Scottish confidential audit of severe maternal morbidity.ti,ab.
77	SCASMM.ti,ab.
78	"Confidential Enquiry into Maternal and Child Health".ti,ab.
79	CEMACH.ti,ab.
80	or/72-79
81	13 and 25 and 41
82	13 and 25 and 45
83	13 and 25 and 54
84	13 and 25 and 60
85	25 and (41 or 45 or 54 or 60) and 68

#	Searches
86	(41 or 45 or 54 or 60) and 71
87	25 and 80
88	or/81-87
89	limit 88 to english language
90	letter.pt. or LETTER/
91	note.pt.
92	editorial.pt.
93	CASE REPORT/ or CASE STUDY/
94	(letter or comment*).ti.
95	or/90-94
96	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
97	95 not 96
98	ANIMAL/ not HUMAN/
99	NONHUMAN/
100	exp ANIMAL EXPERIMENT/
101	exp EXPERIMENTAL ANIMAL/
102	ANIMAL MODEL/
103	exp RODENT/
104	(rat or rats or mouse or mice).ti.
105	or/97-104
106	89 not 105

Intrapartum care for women with sepsis – antimicrobial therapy

Database: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations 3

#	Searches
1	META-ANALYSIS/
2	META-ANALYSIS AS TOPIC/
3	(meta analy* or metanaly* or metaanaly*).ti,ab.
4	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
5	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7	(search* adj4 literature).ab.
8	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9	cochrane.jw.
10	or/1-9
11	randomized controlled trial.pt.
12	controlled clinical trial.pt.

#	Searches
13	pragmatic clinical trial.pt.
14	randomi#ed.ab.
15	placebo.ab.
16	randomly.ab.
17	CLINICAL TRIALS AS TOPIC/
18	trial.ti.
19	or/11-18
20	COHORT STUDIES/
21	(cohort adj3 (study or studies)).ti,ab.
22	(Cohort adj3 analy$).ti,ab.
23	FOLLOW-UP STUDIES/
24	(Follow$ up adj3 (study or studies)).ti,ab.
25	LONGITUDINAL STUDIES/
26	longitudinal$.ti,ab.
27	PROSPECTIVE STUDIES/
28	prospective$.ti,ab.
29	RETROSPECTIVE STUDIES/
30	retrospective$.ti,ab.
31	OBSERVATIONAL STUDY/
32	observational$.ti,ab.
33	or/20-32
34	COMPARATIVE EFFECTIVENESS RESEARCH/
35	Comparative Study.pt.
36	(compar$ adj3 (study or studies or research$)).ti,ab.
37	or/34-36
38	PREGNANCY/
39	PREGNANCY, HIGH-RISK/
40	exp PREGNANCY, MULTIPLE/
41	PERIPARTUM PERIOD/
42	PARTURITION/
43	exp LABOR, OBSTETRIC/
44	OBSTETRIC LABOR, PREMATURE/
45	DELIVERY, OBSTETRIC/
46	pregnan$.ti,ab.
47	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
48	((during or giving or give) adj3 birth?).ti,ab.
49	or/38-48
50	exp SEPSIS/
51	sepsis.ti,ab.
52	BLOOD-BORNE PATHOGENS/

#	Searches
53	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
54	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
55	"systemic inflammatory response syndrome".ti,ab.
56	SIRS.ti,ab.
57	septic?emi$.ti,ab.
58	((septic or endotoxic or toxic) adj3 shock).ti,ab.
59	(py?emi$ or pyohemi$).ti,ab.
60	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
61	or/50-60
62	STREPTOCOCCAL INFECTIONS/
63	group A strep$.ti,ab.
64	group B strep$.ti,ab.
65	exp ESCHERICHIA COLI INFECTIONS/
66	Escherichia coli.ti,ab.
67	e-coli.ti,ab.
68	exp PNEUMOCOCCAL INFECTIONS/
69	(streptococ$ adj3 pneumon$).ti,ab.
70	INFLUENZA, HUMAN/
71	flu.ti,ab.
72	influenza.ti,ab.
73	or/62-72
74	61 or 73
75	ANTI-BACTERIAL AGENTS/
76	(Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?).ti,ab.
77	(Alamethicin or Amoxicillin or Anisomycin or Aurodox or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Calcimycin or Capreomycin or Carfecillin or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clavulanic Acid? or Colistin or Dactinomycin or Daptomycin or Demeclocycline or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Fluoroquinolone? or Fosfomycin or Fusidic Acid or Gramicidin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lymecycline or Methacycline or Mezlocillin or Mikamycin or Minocycline or Moxalactam or Mupirocin or Mycobacillin or Nalidixic Acid or Nigericin or Nisin or Norfloxacin or Novobiocin or Ofloxacin or Oxolinic Acid or Oxytetracycline or Pefloxacin or Penicillic Acid or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Rifabutin or Rifamycin? or Rolitetracycline or Roxarsone or Streptogramin? or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Tetracycline or Thiamphenicol or Thiostrepton or Trimethoprim or Tyrocidine or Tyrothricin or Valinomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?).mp.
78	or/75-77
79	exp CEPHALOSPORINS/
80	(Cephalosporin? or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cefixime or Cefmenoxime or Cefotiam or Ceftizoxime or

#	Searches
	Ceftriaxone or Cefuroxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cefatrizine or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycin? or Cefmetazole or Cefotetan or Cefoxitin or Ceftaroline or Ceftobiprole).mp.
81	or/79-80
82	exp AMINOGLYCOSIDES/
83	(Aminoglycoside? or Anthracycline? or Aclarubicin or Daunorubicin or Carubicin or Doxorubicin or Epirubicin or Idarubicin or Nogalamycin or Menogaril or Plicamycin or Butirosin Sulfate or Gentamicin? or Sisomicin or Netilmicin or Hygromycin or Kanamycin or Amikacin or Dibekacin or Nebramycin or Tobramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricin? or Streptozocin).mp.
84	or/82-83
85	exp PENICILLINS/
86	(Penicillin? or Amdinocillin or Cyclacillin or Methicillin or Nafcillin or Oxacillin or Cloxacillin or Dicloxacillin or Floxacillin or Penicillanic Acid or Ampicillin or Carbenicillin or Sulbenicillin or Sulbactam or Ticarcillin).mp.
87	or/85-86
88	exp GLYCOPEPTIDES/
89	(Glycopeptide? or Bleomycin or Peplomycin or Phleomycin? or Peptidoglycan or Ristocetin or Teicoplanin or Vancomycin or Oritavancin or Telavancin).mp.
90	or/88-89
91	exp MACROLIDES/
92	(Macrolide? or Lucensomycin or Maytansine or Mepartricin or Miocamycin or Natamycin or Nystatin or Oleandomycin or Troleandomycin or Oligomycin? or Rutamycin or Sirolimus or Everolimus or Tacrolimus or Tylosin or Amphotericin B or Antimycin A or Brefeldin A or Bryostatin? or Candicidin or Epothilone? or Erythromycin or Azithromycin or Clarithromycin or Ketolide? or Roxithromycin or Filipin or Ivermectin or Josamycin or Leucomycins or Kitasamycin or Spiramycin or Fidaxomicin).mp.
93	CLINDAMYCIN/
94	Clindamycin.mp.
95	or/91-94
96	exp CARBAPENEMS/
97	(Carbapenem? or Thienamycin? or Imipenem or Meropenem or Ertapenem).mp.
98	CILASTATIN/
99	Cilastatin.mp.
100	or/96-99
101	exp NITROIMIDAZOLES/
102	(Nitroimidazole? or Dimetridazole or Etanidazole or Ipronidazole or Metronidazole or Misonidazole or Nimorazole or Ornidazole or Ronidazole or Tinidazole).mp.
103	or/101-102
104	exp ANTIVIRAL AGENTS/ not (exp ANTI-RETROVIRAL AGENTS/ or exp VIRAL FUSION PROTEIN INHIBITORS/)
105	(Antiviral? or anti-viral?).ti,ab.

#	Searches
106	(1-Deoxynojirimycin or Acetylcysteine or Ac?clovir or Amantadine or Aphidicolin or Brefeldin or Bromodeoxyuridine or Cytarabine or Deoxyglucose or Dideoxyadenosine or Dideoxynucleoside? or Ditiocarb or Emtricitabine or Filipin or Foscarnet or Ganc?clovir or Idoxuridine or Inosine Pranobex or Interferon? or Methisazone or Netropsin or Oseltamivir or Palivizumab or Phosphonoacetic Acid or Poly A-U or Poly I-C or Pyran Copolymer or Ribavirin or Rimantadine or Simeprevir or Sofosbuvir or Streptovaricin or Tenofovir or Tenuazonic Acid or Tilorone or Trifluridine or Tunicamycin or Vidarabine or Zanamivir).mp.
107	or/104-106
108	DRUG EVALUATION/
109	(drug? and (evaluat$ or effective$ or efficacy)).ti,ab.
110	or/108-109
111	exp ANTI-BACTERIAL AGENTS/pd [Pharmacology]
112	49 and 74 and 81 and (84 or 87 or 90 or 95 or 100 or 103)
113	49 and 74 and 84 and (81 or 87 or 90 or 95 or 100 or 103)
114	49 and 74 and 87 and (81 or 84 or 90 or 95 or 100 or 103)
115	49 and 74 and 90 and (81 or 84 or 87 or 95 or 100 or 103)
116	49 and 74 and 95 and (81 or 84 or 87 or 90 or 100 or 103)
117	49 and 74 and 100 and (81 or 84 or 87 or 90 or 95 or 103)
118	49 and 74 and 103 and (81 or 84 or 87 or 90 or 95 or 100)
119	49 and 74 and (78 or 81 or 84 or 87 or 90 or 95 or 100 or 103) and 107
120	49 and 74 and (78 or 81 or 84 or 87 or 90 or 95 or 100 or 103 or 107) and 110
121	49 and 74 and 111
122	or/112-121
123	limit 122 to english language
124	LETTER/
125	EDITORIAL/
126	NEWS/
127	exp HISTORICAL ARTICLE/
128	ANECDOTES AS TOPIC/
129	COMMENT/
130	CASE REPORT/
131	(letter or comment*).ti.
132	or/124-131
133	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
134	132 not 133
135	ANIMALS/ not HUMANS/
136	exp ANIMALS, LABORATORY/
137	exp ANIMAL EXPERIMENTATION/
138	exp MODELS, ANIMAL/
139	exp RODENTIA/
140	(rat or rats or mouse or mice).ti.

#	Searches
141	or/134-140
142	123 not 141
143	10 and 142
144	19 and 142
145	33 and 142
146	37 and 142
147	or/143-146
148	exp DECISION SUPPORT TECHNIQUES/
149	(decision? adj5 (aid? or analys$ or model$ or support$ or model$ or techni$)).ti,ab.
150	(Clinical$ adj3 predict$ adj3 rule?).ti,ab.
151	(data adj5 (interpret$ or analys$)).ti,ab.
152	or/148-151
153	FETAL DEATH/
154	STILLBIRTH/
155	PERINATAL DEATH/
156	((fetal or fetus) adj3 death?).ti,ab.
157	(stillbirths? or stillborn?).ti,ab.
158	(intrauterine adj3 death?).ti,ab.
159	(perinatal adj3 death?).ti,ab.
160	or/153-159
161	((sepsis adj5 manag$) and (maternal or mother?)).ti,ab.
162	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
163	or/161-162
164	UK Obstetric Surveillance System.ti,ab.
165	UKOSS.ti,ab.
166	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
167	MBRRACE.ti,ab.
168	Scottish confidential audit of severe maternal morbidity.ti,ab.
169	SCASMM.ti,ab.
170	"Confidential Enquiry into Maternal and Child Health".ti,ab.
171	CEMACH.ti,ab.
172	or/164-171
173	49 and 74 and (78 or 81 or 84 or 87 or 90 or 95 or 100 or 103 or 107) and 152
174	74 and (78 or 81 or 84 or 87 or 90 or 95 or 100 or 103 or 107) and 160
175	(78 or 81 or 84 or 87 or 90 or 95 or 100 or 103 or 107) and 163
176	74 and 172
177	or/173-176
178	limit 177 to english language
179	178 not 141

#	Searches
180	147 or 179

Database: Cochrane Central Register of Controlled Trials

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.ti,ab,kw.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab,kw.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	exp SEPSIS/
14	sepsis.ti,ab,kw.
15	BLOOD-BORNE PATHOGENS/
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".ti,ab,kw.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab,kw.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab,kw.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab,kw.
24	or/13-23
25	STREPTOCOCCAL INFECTIONS/
26	group A strep$.ti,ab,kw.
27	group B strep$.ti,ab,kw.
28	exp ESCHERICHIA COLI INFECTIONS/
29	Escherichia coli.ti,ab,kw.
30	e-coli.ti,ab,kw.
31	exp PNEUMOCOCCAL INFECTIONS/
32	(streptococ$ adj3 pneumon$).ti,ab.
33	INFLUENZA, HUMAN/
34	flu.ti,ab,kw.
35	influenza.ti,ab,kw.

#	Searches
36	or/25-35
37	24 or 36
38	ANTI-BACTERIAL AGENTS/
39	(Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?).ti,ab,kw.
40	(Alamethicin or Amoxicillin or Anisomycin or Aurodox or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Calcimycin or Capreomycin or Carfecillin or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clavulanic Acid? or Colistin or Dactinomycin or Daptomycin or Demeclocycline or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Fluoroquinolone? or Fosfomycin or Fusidic Acid or Gramicidin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lymecycline or Methacycline or Mezlocillin or Mikamycin or Minocycline or Moxalactam or Mupirocin or Mycobacillin or Nalidixic Acid or Nigericin or Nisin or Norfloxacin or Novobiocin or Ofloxacin or Oxolinic Acid or Oxytetracycline or Pefloxacin or Penicillic Acid or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Rifabutin or Rifamycin? or Rolitetracycline or Roxarsone or Streptogramin? or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Tetracycline or Thiamphenicol or Thiostrepton or Trimethoprim or Tyrocidine or Tyrothricin or Valinomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?).mp.
41	or/38-40
42	exp CEPHALOSPORINS/
43	(Cephalosporin? or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cefixime or Cefmenoxime or Cefotiam or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cefatrizine or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycin? or Cefmetazole or Cefotetan or Cefoxitin or Ceftaroline or Ceftobiprole).mp.
44	or/42-43
45	exp AMINOGLYCOSIDES/
46	(Aminoglycoside? or Anthracycline? or Aclarubicin or Daunorubicin or Carubicin or Doxorubicin or Epirubicin or Idarubicin or Nogalamycin or Menogaril or Plicamycin or Butirosin Sulfate or Gentamicin? or Sisomicin or Netilmicin or Hygromycin or Kanamycin or Amikacin or Dibekacin or Nebramycin or Tobramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricin? or Streptozocin).mp.
47	or/45-46
48	exp PENICILLINS/
49	(Penicillin? or Amdinocillin or Cyclacillin or Methicillin or Nafcillin or Oxacillin or Cloxacillin or Dicloxacillin or Floxacillin or Penicillanic Acid or Ampicillin or Carbenicillin or Sulbenicillin or Sulbactam or Ticarcillin).mp.
50	or/48-49
51	exp GLYCOPEPTIDES/
52	(Glycopeptide? or Bleomycin or Peplomycin or Phleomycin? or Peptidoglycan or Ristocetin or Teicoplanin or Vancomycin or Oritavancin or Telavancin).mp.
53	or/51-52
54	exp MACROLIDES/
55	(Macrolide? or Lucensomycin or Maytansine or Mepartricin or Miocamycin or Natamycin or Nystatin or Oleandomycin or Troleandomycin or Oligomycin? or Rutamycin or Sirolimus or

#	Searches
	Everolimus or Tacrolimus or Tylosin or Amphotericin B or Antimycin A or Brefeldin A or Bryostatin? or Candicidin or Epothilone? or Erythromycin or Azithromycin or Clarithromycin or Ketolide? or Roxithromycin or Filipin or Ivermectin or Josamycin or Leucomycins or Kitasamycin or Spiramycin or Fidaxomicin).mp.
56	CLINDAMYCIN/
57	Clindamycin.mp.
58	or/54-57
59	exp CARBAPENEMS/
60	(Carbapenem? or Thienamycin? or Imipenem or Meropenem or Ertapenem).mp.
61	CILASTATIN/
62	Cilastatin.mp.
63	or/59-62
64	exp NITROIMIDAZOLES/
65	(Nitroimidazole? or Dimetridazole or Etanidazole or Ipronidazole or Metronidazole or Misonidazole or Nimorazole or Ornidazole or Ronidazole or Tinidazole).mp.
66	or/64-65
67	exp ANTIVIRAL AGENTS/ not exp ANTI-RETROVIRAL AGENTS/
68	(Antiviral? or anti-viral?).ti,ab,kw.
69	(1-Deoxynojirimycin or Acetylcysteine or Ac?clovir or Amantadine or Aphidicolin or Brefeldin or Bromodeoxyuridine or Cytarabine or Deoxyglucose or Dideoxyadenosine or Dideoxynucleoside? or Ditiocarb or Emtricitabine or Filipin or Foscarnet or Ganc?clovir or Idoxuridine or Inosine Pranobex or Interferon? or Methisazone or Netropsin or Oseltamivir or Palivizumab or Phosphonoacetic Acid or Poly A-U or Poly I-C or Pyran Copolymer or Ribavirin or Rimantadine or Simeprevir or Sofosbuvir or Streptovaricin or Tenofovir or Tenuazonic Acid or Tilorone or Trifluridine or Tunicamycin or Vidarabine or Zanamivir).mp.
70	or/67-69
71	DRUG EVALUATION/
72	(drug? and (evaluat$ or effective$ or efficacy)).ti,ab.
73	or/71-72
74	exp ANTI-BACTERIAL AGENTS/pd [Pharmacology]
75	exp DECISION SUPPORT TECHNIQUES/
76	(decision? adj5 (aid? or analys$ or model$ or support$ or model$ or techni$)).ti,ab.
77	(Clinical$ adj3 predict$ adj3 rule?).ti,ab.
78	(data adj5 (interpret$ or analys$)).ti,ab.
79	or/75-78
80	FETAL DEATH/
81	STILLBIRTH/
82	PERINATAL DEATH/
83	((fetal or fetus) adj3 death?).ti,ab.
84	(stillbirths? or stillborn?).ti,ab,kw.
85	(intrauterine adj3 death?).ti,ab.
86	(perinatal adj3 death?).ti,ab.

#	Searches
87	or/80-86
88	((sepsis adj5 manag$) and (maternal or mother?)).ti,ab.
89	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
90	or/88-89
91	UK Obstetric Surveillance System.ti,ab.
92	UKOSS.ti,ab.
93	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
94	MBRRACE.ti,ab.
95	Scottish confidential audit of severe maternal morbidity.ti,ab.
96	SCASMM.ti,ab.
97	"Confidential Enquiry into Maternal and Child Health".ti,ab.
98	CEMACH.ti,ab.
99	or/91-98
100	12 and 37 and 44 and (47 or 50 or 53 or 58 or 63 or 66)
101	12 and 37 and 47 and (44 or 50 or 53 or 58 or 63 or 66)
102	12 and 37 and 50 and (44 or 47 or 53 or 58 or 63 or 66)
103	12 and 37 and 53 and (44 or 47 or 50 or 58 or 63 or 66)
104	12 and 37 and 58 and (44 or 47 or 50 or 53 or 63 or 66)
105	12 and 37 and 63 and (44 or 47 or 50 or 53 or 58 or 66)
106	12 and 37 and 66 and (44 or 47 or 50 or 53 or 58 or 63)
107	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66) and 70
108	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 73
109	12 and 37 and 74
110	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 79
111	37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 87
112	(41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 90
113	37 and 99
114	or/100-113

Database: Cochrane Database of Systematic Reviews

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PREGNANCY, MULTIPLE.kw.
4	PERIPARTUM PERIOD.kw.
5	PARTURITION.kw.
6	LABOR, OBSTETRIC.kw.
7	OBSTETRIC LABOR, PREMATURE.kw.
8	DELIVERY, OBSTETRIC.kw.

#	Searches
9	pregnan$.ti,ab.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
11	((during or giving or give) adj3 birth?).ti,ab.
12	or/1-11
13	SEPSIS.kw.
14	sepsis.ti,ab.
15	BLOOD-BORNE PATHOGENS.kw.
16	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
17	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
18	"systemic inflammatory response syndrome".ti,ab.
19	SIRS.ti,ab.
20	septic?emi$.ti,ab.
21	((septic or endotoxic or toxic) adj3 shock).ti,ab.
22	(py?emi$ or pyohemi$).ti,ab.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
24	or/13-23
25	STREPTOCOCCAL INFECTIONS.kw.
26	group A strep$.ti,ab.
27	group B strep$.ti,ab.
28	ESCHERICHIA COLI INFECTIONS.kw.
29	Escherichia coli.ti,ab.
30	e-coli.ti,ab.
31	PNEUMOCOCCAL INFECTIONS.kw.
32	(streptococ$ adj3 pneumon$).ti,ab.
33	INFLUENZA, HUMAN.kw.
34	flu.ti,ab.
35	influenza.ti,ab.
36	or/25-35
37	24 or 36
38	ANTI-BACTERIAL AGENTS.kw.
39	(Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?).ti,ab.
40	(Alamethicin or Amoxicillin or Anisomycin or Aurodox or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Calcimycin or Capreomycin or Carfecillin or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clavulanic Acid? or Colistin or Dactinomycin or Daptomycin or Demeclocycline or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Fluoroquinolone? or Fosfomycin or Fusidic Acid or Gramicidin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lymecycline or Methacycline or Mezlocillin or Mikamycin or Minocycline or Moxalactam or Mupirocin or Mycobacillin or Nalidixic Acid or Nigericin or Nisin or Norfloxacin or Novobiocin or Ofloxacin or Oxolinic Acid or Oxytetracycline or Pefloxacin or Penicillic Acid or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or

#	Searches
	Rifabutin or Rifamycin? or Rolitetracycline or Roxarsone or Streptogramin? or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Tetracycline or Thiamphenicol or Thiostrepton or Trimethoprim or Tyrocidine or Tyrothricin or Valinomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?).mp.
41	or/38-40
42	CEPHALOSPORINS.kw.
43	(Cephalosporin? or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cefixime or Cefmenoxime or Cefotiam or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cefatrizine or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycin? or Cefmetazole or Cefotetan or Cefoxitin or Ceftaroline or Ceftobiprole).mp.
44	or/42-43
45	AMINOGLYCOSIDES.kw.
46	(Aminoglycoside? or Anthracycline? or Aclarubicin or Daunorubicin or Carubicin or Doxorubicin or Epirubicin or Idarubicin or Nogalamycin or Menogaril or Plicamycin or Butirosin Sulfate or Gentamicin? or Sisomicin or Netilmicin or Hygromycin or Kanamycin or Amikacin or Dibekacin or Nebramycin or Tobramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricin? or Streptozocin).mp.
47	or/45-46
48	PENICILLINS.kw.
49	(Penicillin? or Amdinocillin or Cyclacillin or Methicillin or Nafcillin or Oxacillin or Cloxacillin or Dicloxacillin or Floxacillin or Penicillanic Acid or Ampicillin or Carbenicillin or Sulbenicillin or Sulbactam or Ticarcillin).mp.
50	or/48-49
51	GLYCOPEPTIDES.kw.
52	(Glycopeptide? or Bleomycin or Peplomycin or Phleomycin? or Peptidoglycan or Ristocetin or Teicoplanin or Vancomycin or Oritavancin or Telavancin).mp.
53	or/51-52
54	MACROLIDES.kw.
55	(Macrolide? or Lucensomycin or Maytansine or Mepartricin or Miocamycin or Natamycin or Nystatin or Oleandomycin or Troleandomycin or Oligomycin? or Rutamycin or Sirolimus or Everolimus or Tacrolimus or Tylosin or Amphotericin B or Antimycin A or Brefeldin A or Bryostatin? or Candicidin or Epothilone? or Erythromycin or Azithromycin or Clarithromycin or Ketolide? or Roxithromycin or Filipin or Ivermectin or Josamycin or Leucomycins or Kitasamycin or Spiramycin or Fidaxomicin).mp.
56	CLINDAMYCIN.kw.
57	Clindamycin.mp.
58	or/54-57
59	CARBAPENEMS.kw.
60	(Carbapenem? or Thienamycin? or Imipenem or Meropenem or Ertapenem).mp.
61	CILASTATIN.kw.
62	Cilastatin.mp.
63	or/59-62
64	NITROIMIDAZOLES.kw.

#	Searches
65	(Nitroimidazole? or Dimetridazole or Etanidazole or Ipronidazole or Metronidazole or Misonidazole or Nimorazole or Ornidazole or Ronidazole or Tinidazole).mp.
66	or/64-65
67	ANTIVIRAL AGENTS.kw.
68	(Antiviral? or anti-viral?).ti,ab.
69	(1-Deoxynojirimycin or Acetylcysteine or Ac?clovir or Amantadine or Aphidicolin or Brefeldin or Bromodeoxyuridine or Cytarabine or Deoxyglucose or Dideoxyadenosine or Dideoxynucleoside? or Ditiocarb or Emtricitabine or Filipin or Foscarnet or Ganc?clovir or Idoxuridine or Inosine Pranobex or Interferon? or Methisazone or Netropsin or Oseltamivir or Palivizumab or Phosphonoacetic Acid or Poly A-U or Poly I-C or Pyran Copolymer or Ribavirin or Rimantadine or Simeprevir or Sofosbuvir or Streptovaricin or Tenofovir or Tenuazonic Acid or Tilorone or Trifluridine or Tunicamycin or Vidarabine or Zanamivir).mp.
70	or/67-69
71	DRUG EVALUATION.kw.
72	(drug? and (evaluat$ or effective$ or efficacy)).ti,ab.
73	or/71-72
74	DECISION SUPPORT TECHNIQUES.kw.
75	(decision? adj5 (aid? or analys$ or model$ or support$ or model$ or techni$)).ti,ab.
76	(Clinical$ adj3 predict$ adj3 rule?).ti,ab.
77	(data adj5 (interpret$ or analys$)).ti,ab.
78	or/74-77
79	FETAL DEATH.kw.
80	STILLBIRTH.kw.
81	PERINATAL DEATH.kw.
82	((fetal or fetus) adj3 death?).ti,ab.
83	(stillbirths? or stillborn?).ti,ab.
84	(intrauterine adj3 death?).ti,ab.
85	(perinatal adj3 death?).ti,ab.
86	or/79-85
87	((sepsis adj5 manag$) and (maternal or mother?)).ti,ab.
88	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
89	or/87-88
90	UK Obstetric Surveillance System.ti,ab.
91	UKOSS.ti,ab.
92	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
93	MBRRACE.ti,ab.
94	Scottish confidential audit of severe maternal morbidity.ti,ab.
95	SCASMM.ti,ab.
96	"Confidential Enquiry into Maternal and Child Health".ti,ab.
97	CEMACH.ti,ab.
98	or/90-97

#	Searches
99	12 and 37 and 44 and (47 or 50 or 53 or 58 or 63 or 66)
100	12 and 37 and 47 and (44 or 50 or 53 or 58 or 63 or 66)
101	12 and 37 and 50 and (44 or 47 or 53 or 58 or 63 or 66)
102	12 and 37 and 53 and (44 or 47 or 50 or 58 or 63 or 66)
103	12 and 37 and 58 and (44 or 47 or 50 or 53 or 63 or 66)
104	12 and 37 and 63 and (44 or 47 or 50 or 53 or 58 or 66)
105	12 and 37 and 66 and (44 or 47 or 50 or 53 or 58 or 63)
106	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66) and 70
107	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 73
108	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 78
109	37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 86
110	(41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 89
111	37 and 98
112	or/99-111

Database: Database of Abstracts of Reviews of Effects

#	Searches
1	PREGNANCY.kw.
2	PREGNANCY, HIGH-RISK.kw.
3	PREGNANCY, MULTIPLE.kw.
4	PERIPARTUM PERIOD.kw.
5	PARTURITION.kw.
6	LABOR, OBSTETRIC.kw.
7	OBSTETRIC LABOR, PREMATURE.kw.
8	DELIVERY, OBSTETRIC.kw.
9	pregnan$.tw,tx.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw,tx.
11	((during or giving or give) adj3 birth?).tw,tx.
12	or/1-11
13	SEPSIS.kw.
14	sepsis.tw,tx.
15	BLOOD-BORNE PATHOGENS.kw.
16	(blood$ adj3 (pathogen$ or poison$)).tw,tx.
17	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
18	"systemic inflammatory response syndrome".tw,tx.
19	SIRS.tw,tx.
20	septic?emi$.tw,tx.
21	((septic or endotoxic or toxic) adj3 shock).tw,tx.
22	(py?emi$ or pyohemi$).tw,tx.

#	Searches
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw,tx.
24	or/13-23
25	STREPTOCOCCAL INFECTIONS.kw.
26	group A strep$.tw,tx.
27	group B strep$.tw,tx.
28	ESCHERICHIA COLI INFECTIONS.kw.
29	Escherichia coli.tw,tx.
30	e-coli.tw,tx.
31	PNEUMOCOCCAL INFECTIONS.kw.
32	(streptococ$ adj3 pneumon$).tw,tx.
33	INFLUENZA, HUMAN.kw.
34	flu.tw,tx.
35	influenza.tw,tx.
36	or/25-35
37	24 or 36
38	ANTI-BACTERIAL AGENTS.kw.
39	(Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?).tw,tx.
40	(Alamethicin or Amoxicillin or Anisomycin or Aurodox or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Calcimycin or Capreomycin or Carfecillin or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clavulanic Acid? or Colistin or Dactinomycin or Daptomycin or Demeclocycline or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Fluoroquinolone? or Fosfomycin or Fusidic Acid or Gramicidin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lymecycline or Methacycline or Mezlocillin or Mikamycin or Minocycline or Moxalactam or Mupirocin or Mycobacillin or Nalidixic Acid or Nigericin or Nisin or Norfloxacin or Novobiocin or Ofloxacin or Oxolinic Acid or Oxytetracycline or Pefloxacin or Penicillic Acid or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Rifabutin or Rifamycin? or Rolitetracycline or Roxarsone or Streptogramin? or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Tetracycline or Thiamphenicol or Thiostrepton or Trimethoprim or Tyrocidine or Tyrothricin or Valinomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?).mp.
41	or/38-40
42	CEPHALOSPORINS.kw.
43	(Cephalosporin? or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cefixime or Cefmenoxime or Cefotiam or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cefatrizine or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycin? or Cefmetazole or Cefotetan or Cefoxitin or Ceftaroline or Ceftobiprole).mp.
44	or/42-43
45	AMINOGLYCOSIDES.kw.
46	(Aminoglycoside? or Anthracycline? or Aclarubicin or Daunorubicin or Carubicin or Doxorubicin or Epirubicin or Idarubicin or Nogalamycin or Menogaril or Plicamycin or Butirosin Sulfate or Gentamicin? or Sisomicin or Netilmicin or Hygromycin or Kanamycin or Amikacin or

#	Searches
	Dibekacin or Nebramycin or Tobramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricin? or Streptozocin).mp.
47	or/45-46
48	PENICILLINS.kw.
49	(Penicillin? or Amdinocillin or Cyclacillin or Methicillin or Nafcillin or Oxacillin or Cloxacillin or Dicloxacillin or Floxacillin or Penicillanic Acid or Ampicillin or Carbenicillin or Sulbenicillin or Sulbactam or Ticarcillin).mp.
50	or/48-49
51	GLYCOPEPTIDES.kw.
52	(Glycopeptide? or Bleomycin or Peplomycin or Phleomycin? or Peptidoglycan or Ristocetin or Teicoplanin or Vancomycin or Oritavancin or Telavancin).mp.
53	or/51-52
54	MACROLIDES.kw.
55	(Macrolide? or Lucensomycin or Maytansine or Mepartricin or Miocamycin or Natamycin or Nystatin or Oleandomycin or Troleandomycin or Oligomycin? or Rutamycin or Sirolimus or Everolimus or Tacrolimus or Tylosin or Amphotericin B or Antimycin A or Brefeldin A or Bryostatin? or Candicidin or Epothilone? or Erythromycin or Azithromycin or Clarithromycin or Ketolide? or Roxithromycin or Filipin or Ivermectin or Josamycin or Leucomycins or Kitasamycin or Spiramycin or Fidaxomicin).mp.
56	CLINDAMYCIN.kw.
57	Clindamycin.mp.
58	or/54-57
59	CARBAPENEMS.kw.
60	(Carbapenem? or Thienamycin? or Imipenem or Meropenem or Ertapenem).mp.
61	CILASTATIN.kw.
62	Cilastatin.mp.
63	or/59-62
64	NITROIMIDAZOLES.kw.
65	(Nitroimidazole? or Dimetridazole or Etanidazole or Ipronidazole or Metronidazole or Misonidazole or Nimorazole or Ornidazole or Ronidazole or Tinidazole).mp.
66	or/64-65
67	ANTIVIRAL AGENTS.kw.
68	(Antiviral? or anti-viral?).tw,tx.
69	(1-Deoxynojirimycin or Acetylcysteine or Ac?clovir or Amantadine or Aphidicolin or Brefeldin or Bromodeoxyuridine or Cytarabine or Deoxyglucose or Dideoxyadenosine or Dideoxynucleoside? or Ditiocarb or Emtricitabine or Filipin or Foscarnet or Ganc?clovir or Idoxuridine or Inosine Pranobex or Interferon? or Methisazone or Netropsin or Oseltamivir or Palivizumab or Phosphonoacetic Acid or Poly A-U or Poly I-C or Pyran Copolymer or Ribavirin or Rimantadine or Simeprevir or Sofosbuvir or Streptovaricin or Tenofovir or Tenuazonic Acid or Tilorone or Trifluridine or Tunicamycin or Vidarabine or Zanamivir).mp.
70	or/67-69
71	DRUG EVALUATION.kw.
72	(drug? and (evaluat$ or effective$ or efficacy)).tw,tx.

#	Searches
73	or/71-72
74	DECISION SUPPORT TECHNIQUES.kw.
75	(decision? adj5 (aid? or analys$ or model$ or support$ or model$ or techni$)).tw,tx.
76	(Clinical$ adj3 predict$ adj3 rule?).tw,tx.
77	(data adj5 (interpret$ or analys$)).tw,tx.
78	or/74-77
79	FETAL DEATH.kw.
80	STILLBIRTH.kw.
81	PERINATAL DEATH.kw.
82	((fetal or fetus) adj3 death?).tw,tx.
83	(stillbirths? or stillborn?).tw,tx.
84	(intrauterine adj3 death?).tw,tx.
85	(perinatal adj3 death?).tw,tx.
86	or/79-85
87	((sepsis adj5 manag$) and (maternal or mother?)).tw,tx.
88	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
89	or/87-88
90	UK Obstetric Surveillance System.tw,tx.
91	UKOSS.tw,tx.
92	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw,tx.
93	MBRRACE.tw,tx.
94	Scottish confidential audit of severe maternal morbidity.tw,tx.
95	SCASMM.tw,tx.
96	"Confidential Enquiry into Maternal and Child Health".tw,tx.
97	CEMACH.tw,tx.
98	or/90-97
99	12 and 37 and 44 and (47 or 50 or 53 or 58 or 63 or 66)
100	12 and 37 and 47 and (44 or 50 or 53 or 58 or 63 or 66)
101	12 and 37 and 50 and (44 or 47 or 53 or 58 or 63 or 66)
102	12 and 37 and 53 and (44 or 47 or 50 or 58 or 63 or 66)
103	12 and 37 and 58 and (44 or 47 or 50 or 53 or 63 or 66)
104	12 and 37 and 63 and (44 or 47 or 50 or 53 or 58 or 66)
105	12 and 37 and 66 and (44 or 47 or 50 or 53 or 58 or 63)
106	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66) and 70
107	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 73
108	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 78
109	37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 86
110	(41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 89
111	37 and 98

#	Searches
112	or/99-111

Database: Health Technology Assessment

#	Searches
1	PREGNANCY/
2	PREGNANCY, HIGH-RISK/
3	exp PREGNANCY, MULTIPLE/
4	PERIPARTUM PERIOD/
5	PARTURITION/
6	exp LABOR, OBSTETRIC/
7	OBSTETRIC LABOR, PREMATURE/
8	DELIVERY, OBSTETRIC/
9	pregnan$.tw.
10	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).tw.
11	((during or giving or give) adj3 birth?).tw.
12	or/1-11
13	exp SEPSIS/
14	sepsis.tw.
15	BLOOD-BORNE PATHOGENS/
16	(blood$ adj3 (pathogen$ or poison$)).tw.
17	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
18	"systemic inflammatory response syndrome".tw.
19	SIRS.tw.
20	septic?emi$.tw.
21	((septic or endotoxic or toxic) adj3 shock).tw.
22	(py?emi$ or pyohemi$).tw.
23	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw.
24	or/13-23
25	STREPTOCOCCAL INFECTIONS/
26	group A strep$.tw.
27	group B strep$.tw.
28	exp ESCHERICHIA COLI INFECTIONS/
29	Escherichia coli.tw.
30	e-coli.tw.
31	exp PNEUMOCOCCAL INFECTIONS/
32	(streptococ$ adj3 pneumon$).tw.
33	INFLUENZA, HUMAN/
34	flu.tw.
35	influenza.tw.
36	or/25-35

#	Searches
37	24 or 36
38	ANTI-BACTERIAL AGENTS/
39	(Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?).tw.
40	(Alamethicin or Amoxicillin or Anisomycin or Aurodox or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Calcimycin or Capreomycin or Carfecillin or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clavulanic Acid? or Colistin or Dactinomycin or Daptomycin or Demeclocycline or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Fluoroquinolone? or Fosfomycin or Fusidic Acid or Gramicidin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lymecycline or Methacycline or Mezlocillin or Mikamycin or Minocycline or Moxalactam or Mupirocin or Mycobacillin or Nalidixic Acid or Nigericin or Nisin or Norfloxacin or Novobiocin or Ofloxacin or Oxolinic Acid or Oxytetracycline or Pefloxacin or Penicillic Acid or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Rifabutin or Rifamycin? or Rolitetracycline or Roxarsone or Streptogramin? or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Tetracycline or Thiamphenicol or Thiostrepton or Trimethoprim or Tyrocidine or Tyrothricin or Valinomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?).mp.
41	or/38-40
42	exp CEPHALOSPORINS/
43	(Cephalosporin? or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cefixime or Cefmenoxime or Cefotiam or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cefatrizine or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycin? or Cefmetazole or Cefotetan or Cefoxitin or Ceftaroline or Ceftobiprole).mp.
44	or/42-43
45	exp AMINOGLYCOSIDES/
46	(Aminoglycoside? or Anthracycline? or Aclarubicin or Daunorubicin or Carubicin or Doxorubicin or Epirubicin or Idarubicin or Nogalamycin or Menogaril or Plicamycin or Butirosin Sulfate or Gentamicin? or Sisomicin or Netilmicin or Hygromycin or Kanamycin or Amikacin or Dibekacin or Nebramycin or Tobramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricin? or Streptozocin).mp.
47	or/45-46
48	exp PENICILLINS/
49	(Penicillin? or Amdinocillin or Cyclacillin or Methicillin or Nafcillin or Oxacillin or Cloxacillin or Dicloxacillin or Floxacillin or Penicillanic Acid or Ampicillin or Carbenicillin or Sulbenicillin or Sulbactam or Ticarcillin).mp.
50	or/48-49
51	exp GLYCOPEPTIDES/
52	(Glycopeptide? or Bleomycin or Peplomycin or Phleomycin? or Peptidoglycan or Ristocetin or Teicoplanin or Vancomycin or Oritavancin or Telavancin).mp.
53	or/51-52
54	exp MACROLIDES/
55	(Macrolide? or Lucensomycin or Maytansine or Mepartricin or Miocamycin or Natamycin or Nystatin or Oleandomycin or Troleandomycin or Oligomycin? or Rutamycin or Sirolimus or Everolimus or Tacrolimus or Tylosin or Amphotericin B or Antimycin A or Brefeldin A or

#	Searches
	Bryostatin? or Candicidin or Epothilone? or Erythromycin or Azithromycin or Clarithromycin or Ketolide? or Roxithromycin or Filipin or Ivermectin or Josamycin or Leucomycins or Kitasamycin or Spiramycin or Fidaxomicin).mp.
56	CLINDAMYCIN/
57	Clindamycin.mp.
58	or/54-57
59	exp CARBAPENEMS/
60	(Carbapenem? or Thienamycin? or Imipenem or Meropenem or Ertapenem).mp.
61	CILASTATIN/
62	Cilastatin.mp.
63	or/59-62
64	exp NITROIMIDAZOLES/
65	(Nitroimidazole? or Dimetridazole or Etanidazole or Ipronidazole or Metronidazole or Misonidazole or Nimorazole or Ornidazole or Ronidazole or Tinidazole).mp.
66	or/64-65
67	exp ANTIVIRAL AGENTS/ not exp ANTI-RETROVIRAL AGENTS/
68	(Antiviral? or anti-viral?).tw.
69	(1-Deoxynojirimycin or Acetylcysteine or Ac?clovir or Amantadine or Aphidicolin or Brefeldin or Bromodeoxyuridine or Cytarabine or Deoxyglucose or Dideoxyadenosine or Dideoxynucleoside? or Ditiocarb or Emtricitabine or Filipin or Foscarnet or Ganc?clovir or Idoxuridine or Inosine Pranobex or Interferon? or Methisazone or Netropsin or Oseltamivir or Palivizumab or Phosphonoacetic Acid or Poly A-U or Poly I-C or Pyran Copolymer or Ribavirin or Rimantadine or Simeprevir or Sofosbuvir or Streptovaricin or Tenofovir or Tenuazonic Acid or Tilorone or Trifluridine or Tunicamycin or Vidarabine or Zanamivir).mp.
70	or/67-69
71	DRUG EVALUATION/
72	(drug? and (evaluat$ or effective$ or efficacy)).tw.
73	or/71-72
74	exp ANTI-BACTERIAL AGENTS/pd [Pharmacology]
75	exp DECISION SUPPORT TECHNIQUES/
76	(decision? adj5 (aid? or analys$ or model$ or support$ or model$ or techni$)).tw.
77	(Clinical$ adj3 predict$ adj3 rule?).tw.
78	(data adj5 (interpret$ or analys$)).tw.
79	or/75-78
80	FETAL DEATH/
81	STILLBIRTH/
82	PERINATAL DEATH/
83	((fetal or fetus) adj3 death?).tw.
84	(stillbirths? or stillborn?).tw.
85	(intrauterine adj3 death?).tw.
86	(perinatal adj3 death?).tw.
87	or/80-86

#	Searches
88	((sepsis adj5 manag$) and (maternal or mother?)).tw.
89	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).tw.
90	or/88-89
91	UK Obstetric Surveillance System.tw.
92	UKOSS.tw.
93	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw.
94	MBRRACE.tw.
95	Scottish confidential audit of severe maternal morbidity.tw.
96	SCASMM.tw.
97	"Confidential Enquiry into Maternal and Child Health".tw.
98	CEMACH.tw.
99	or/91-98
100	12 and 37 and 44 and (47 or 50 or 53 or 58 or 63 or 66)
101	12 and 37 and 47 and (44 or 50 or 53 or 58 or 63 or 66)
102	12 and 37 and 50 and (44 or 47 or 53 or 58 or 63 or 66)
103	12 and 37 and 53 and (44 or 47 or 50 or 58 or 63 or 66)
104	12 and 37 and 58 and (44 or 47 or 50 or 53 or 63 or 66)
105	12 and 37 and 63 and (44 or 47 or 50 or 53 or 58 or 66)
106	12 and 37 and 66 and (44 or 47 or 50 or 53 or 58 or 63)
107	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66) and 70
108	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 73
109	12 and 37 and 74
110	12 and 37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 79
111	37 and (41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 87
112	(41 or 44 or 47 or 50 or 53 or 58 or 63 or 66 or 70) and 90
113	37 and 99
114	or/100-113

Database: Embase

#	Searches
1	SYSTEMATIC REVIEW/
2	META-ANALYSIS/
3	(meta analy* or metanaly* or metaanaly*).ti,ab.
4	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
5	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7	(search* adj4 literature).ab.
8	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.

#	Searches
9	((pool* or combined) adj2 (data or trials or studies or results)).ab.
10	cochrane.jw.
11	or/1-10
12	random*.ti,ab.
13	factorial*.ti,ab.
14	(crossover* or cross over*).ti,ab.
15	((doubl* or singl*) adj blind*).ti,ab.
16	(assign* or allocat* or volunteer* or placebo*).ti,ab.
17	CROSSOVER PROCEDURE/
18	SINGLE BLIND PROCEDURE/
19	RANDOMIZED CONTROLLED TRIAL/
20	DOUBLE BLIND PROCEDURE/
21	or/12-20
22	COHORT ANALYSIS/
23	(cohort adj3 (study or studies)).ti,ab.
24	(Cohort adj3 analy$).ti,ab.
25	FOLLOW UP/
26	(Follow$ up adj3 (study or studies)).ti,ab.
27	LONGITUDINAL STUDY/
28	longitudinal$.ti,ab.
29	PROSPECTIVE STUDY/
30	prospective$.ti,ab.
31	RETROSPECTIVE STUDY/
32	retrospective$.ti,ab.
33	OBSERVATIONAL STUDY/
34	observational$.ti,ab.
35	or/22-34
36	COMPARATIVE EFFECTIVENESS/
37	COMPARATIVE STUDY/
38	(compar$ adj3 (study or studies or research$)).ti,ab.
39	or/36-38
40	*PREGNANCY/
41	*HIGH RISK PREGNANCY/
42	exp *MULTIPLE PREGNANCY/
43	*PERINATAL PERIOD/
44	*BIRTH/
45	exp *LABOR/
46	*PREMATURE LABOR/
47	*OBSTETRIC DELIVERY/
48	*INTRAPARTUM CARE/

#	Searches
49	pregnan$.ti,ab.
50	(labo?r or childbirth or partu$ or intra?part$ or peri?part$).ti,ab.
51	((during or giving or give) adj3 birth?).ti,ab.
52	or/40-51
53	exp *SEPSIS/
54	sepsis.ti,ab.
55	*BLOODBORNE BACTERIUM/
56	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
57	*SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
58	"systemic inflammatory response syndrome".ti,ab.
59	SIRS.ti,ab.
60	septic?emi$.ti,ab.
61	((septic or endotoxic or toxic) adj3 shock).ti,ab.
62	(py?emi$ or pyohemi$).ti,ab.
63	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
64	or/53-63
65	exp *GROUP A STREPTOCOCCAL INFECTION/
66	exp *GROUP B STREPTOCOCCAL INFECTION/
67	group A strep$.ti,ab.
68	group B strep$.ti,ab.
69	*ESCHERICHIA COLI INFECTION/
70	Escherichia coli.ti,ab.
71	e-coli.ti,ab.
72	exp *PNEUMOCOCCAL INFECTION/
73	(streptococ$ adj3 pneumon$).ti,ab.
74	exp *INFLUENZA/ not SWINE INFLUENZA/
75	flu.ti,ab.
76	influenza.ti,ab.
77	or/65-76
78	64 or 77
79	ANTIINFECTIVE AGENT/
80	(Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?).ti,ab.
81	(Alamethicin or Amoxicillin or Anisomycin or Aurodox or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Calcimycin or Capreomycin or Carfecillin or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clavulanic Acid? or Colistin or Dactinomycin or Daptomycin or Demeclocycline or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Fluoroquinolone? or Fosfomycin or Fusidic Acid or Gramicidin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lymecycline or Methacycline or Mezlocillin or Mikamycin or Minocycline or Moxalactam or Mupirocin or Mycobacillin or Nalidixic Acid or Nigericin or Nisin or Norfloxacin or Novobiocin or Ofloxacin or

#	Searches
	Oxolinic Acid or Oxytetracycline or Pefloxacin or Penicillic Acid or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Rifabutin or Rifamycin? or Rolitetracycline or Roxarsone or Streptogramin? or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Tetracycline or Thiamphenicol or Thiostrepton or Trimethoprim or Tyrocidine or Tyrothricin or Valinomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?).mp.
82	or/79-81
83	exp CEPHALOSPORIN DERIVATIVE/
84	(Cephalosporin? or Cefamandole or Cefoperazone or Cefazolin or Cefonicid or Cefsulodin or Cephacetrile or Cefotaxime or Cefixime or Cefmenoxime or Cefotiam or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephalothin or Cephapirin or Cephalexin or Cefaclor or Cefadroxil or Cefatrizine or Cephaloglycin or Cephradine or Cephaloridine or Ceftazidime or Cephamycin? or Cefmetazole or Cefotetan or Cefoxitin or Ceftaroline or Ceftobiprole).mp.
85	or/83-84
86	exp AMINOGLYCOSIDE ANTIBIOTIC AGENT/
87	(Aminoglycoside? or Anthracycline? or Aclarubicin or Daunorubicin or Carubicin or Doxorubicin or Epirubicin or Idarubicin or Nogalamycin or Menogaril or Plicamycin or Butirosin Sulfate or Gentamicin? or Sisomicin or Netilmicin or Hygromycin or Kanamycin or Amikacin or Dibekacin or Nebramycin or Tobramycin or Metrizamide or Neomycin or Framycetin or Paromomycin or Ribostamycin or Puromycin or Spectinomycin or Streptomycin or Dihydrostreptomycin Sulfate or Streptothricin? or Streptozocin).mp.
88	or/86-87
89	exp PENICILLIN DERIVATIVE/
90	(Penicillin? or Amdinocillin or Cyclacillin or Methicillin or Nafcillin or Oxacillin or Cloxacillin or Dicloxacillin or Floxacillin or Penicillanic Acid or Ampicillin or Carbenicillin or Sulbenicillin or Sulbactam or Ticarcillin).mp.
91	or/89-90
92	GLYCOPEPTIDE/
93	VANCOMYCIN/
94	VANCOMYCIN DERIVATIVE/
95	ORITAVANCIN/
96	TELAVANCIN/
97	(Glycopeptide? or Bleomycin or Peplomycin or Phleomycin? or Peptidoglycan or Ristocetin or Teicoplanin or Vancomycin or Oritavancin or Telavancin).mp.
98	or/92-97
99	exp MACROLIDE/
100	(Macrolide? or Lucensomycin or Maytansine or Mepartricin or Miocamycin or Natamycin or Nystatin or Oleandomycin or Troleandomycin or Oligomycin? or Rutamycin or Sirolimus or Everolimus or Tacrolimus or Tylosin or Amphotericin B or Antimycin A or Brefeldin A or Bryostatin? or Candicidin or Epothilone? or Erythromycin or Azithromycin or Clarithromycin or Ketolide? or Roxithromycin or Filipin or Ivermectin or Josamycin or Leucomycins or Kitasamycin or Spiramycin or Fidaxomicin).mp.
101	CLINDAMYCIN/
102	Clindamycin.mp.
103	or/99-102

#	Searches
104	CARBAPENEM DERIVATIVE/
105	MEROPENEM/
106	ERTAPENEM/
107	(Carbapenem? or Thienamycin? or Imipenem or Meropenem or Ertapenem).mp.
108	CILASTATIN/
109	Cilastatin.mp.
110	or/104-109
111	exp NITROIMIDAZOLE DERIVATIVE/
112	(Nitroimidazole? or Dimetridazole or Etanidazole or Ipronidazole or Metronidazole or Misonidazole or Nimorazole or Ornidazole or Ronidazole or Tinidazole).mp.
113	or/111-112
114	exp ANTIVIRUS AGENT/ not (exp ANTIRETROVIRUS AGENT/ or exp VIRUS FUSION INHIBITOR/)
115	(Antiviral? or anti-viral?).ti,ab.
116	(1-Deoxynojirimycin or Acetylcysteine or Ac?clovir or Amantadine or Aphidicolin or Brefeldin or Bromodeoxyuridine or Cytarabine or Deoxyglucose or Dideoxyadenosine or Dideoxynucleoside? or Ditiocarb or Emtricitabine or Filipin or Foscarnet or Ganc?clovir or Idoxuridine or Inosine Pranobex or Interferon? or Methisazone or Netropsin or Oseltamivir or Palivizumab or Phosphonoacetic Acid or Poly A-U or Poly I-C or Pyran Copolymer or Ribavirin or Rimantadine or Simeprevir or Sofosbuvir or Streptovaricin or Tenofovir or Tenuazonic Acid or Tilorone or Trifluridine or Tunicamycin or Vidarabine or Zanamivir).mp.
117	or/114-116
118	DRUG EFFICACY/
119	(drug? and (evaluat$ or effective$ or efficacy)).ti,ab.
120	or/118-119
121	exp ANTIINFECTIVE AGENT/pd [Pharmacology]
122	exp ANTIINFECTIVE AGENT/cm [Drug Comparison]
123	52 and 78 and 85 and (88 or 91 or 98 or 103 or 110 or 113)
124	52 and 78 and 88 and (85 or 91 or 98 or 103 or 110 or 113)
125	52 and 78 and 91 and (85 or 88 or 98 or 103 or 110 or 113)
126	52 and 78 and 98 and (85 or 88 or 91 or 103 or 110 or 113)
127	52 and 78 and 103 and (85 or 88 or 91 or 98 or 110 or 113)
128	52 and 78 and 110 and (85 or 88 or 91 or 98 or 103 or 113)
129	52 and 78 and 113 and (85 or 88 or 91 or 98 or 103 or 110)
130	52 and 78 and (82 or 85 or 88 or 91 or 98 or 103 or 110 or 113) and 117
131	52 and 78 and (82 or 85 or 88 or 91 or 98 or 103 or 110 or 113 or 117) and 120
132	52 and 78 and 121
133	52 and 78 and 122
134	or/123-133
135	limit 134 to english language
136	letter.pt. or LETTER/
137	note.pt.

#	Searches
138	editorial.pt.
139	CASE REPORT/ or CASE STUDY/
140	(letter or comment*).ti.
141	or/136-140
142	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
143	141 not 142
144	ANIMAL/ not HUMAN/
145	NONHUMAN/
146	exp ANIMAL EXPERIMENT/
147	exp EXPERIMENTAL ANIMAL/
148	ANIMAL MODEL/
149	exp RODENT/
150	(rat or rats or mouse or mice).ti.
151	or/143-150
152	135 not 151
153	11 and 152
154	21 and 152
155	35 and 152
156	39 and 152
157	or/153-156
158	exp DECISION SUPPORT SYSTEM/
159	(decision? adj5 (aid? or analys$ or model$ or support$ or model$ or techni$)).ti,ab.
160	(Clinical$ adj3 predict$ adj3 rule?).ti,ab.
161	(data adj5 (interpret$ or analys$)).ti,ab.
162	or/158-161
163	*FETUS DEATH/
164	*STILLBIRTH/
165	*PERINATAL DEATH/
166	((fetal or fetus) adj3 death?).ti,ab.
167	(stillbirths? or stillborn?).ti,ab.
168	(intrauterine adj3 death?).ti,ab.
169	(perinatal adj3 death?).ti,ab.
170	or/163-169
171	((sepsis adj5 manag$) and (maternal or mother?)).ti,ab.
172	(sepsis adj5 (pregnan$ or partu$ or intra?part$ or peri?part$)).ti.
173	or/171-172
174	UK Obstetric Surveillance System.ti,ab.
175	UKOSS.ti,ab.
176	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.

#	Searches
177	MBRRACE.ti,ab.
178	Scottish confidential audit of severe maternal morbidity.ti,ab.
179	SCASMM.ti,ab.
180	"Confidential Enquiry into Maternal and Child Health".ti,ab.
181	CEMACH.ti,ab.
182	or/174-181
183	52 and 78 and (82 or 85 or 88 or 91 or 98 or 103 or 110 or 113 or 117) and 162
184	78 and (82 or 85 or 88 or 91 or 98 or 103 or 110 or 113 or 117) and 170
185	(82 or 85 or 88 or 91 or 98 or 103 or 110 or 113 or 117) and 173
186	78 and 182
187	or/183-186
188	limit 187 to english language
189	188 not 151
190	157 or 189

A search tailored specifically to the review question about clinical and cost effectiveness of antimicrobial therapy for women in labour with sepsis was also conducted to identifiy any published economic evidence. See Supplement 2 (Health economics) for further details.

Intrapartum care for women with sepsis – management immediately after the birth

Database: Medline; Medline EPub Ahead of Print; and Medline In-Process & Other Non-Indexed Citations

#	Searches
1	PERIPARTUM PERIOD/
2	POSTPARTUM PERIOD/
3	Peripartum?.ti,ab.
4	(Postpartum? or Post-partum?).ti,ab.
5	(Postnatal$ or Post-natal$).ti,ab.
6	Puerperium?.ti,ab.
7	Puerperal?.ti,ab.
8	((twenty four hour? or twentyfour hour? or 24 hour? or 24 h? or 24h?) adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
9	(follow$ adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
10	or/1-9
11	MOTHERS/
12	WOMEN/
13	FEMALE/
14	(maternal or mother? or wom?n or female?).ti,ab.
15	or/11-14
16	exp SEPSIS/

#	Searches
17	sepsis.ti,ab.
18	BLOOD-BORNE PATHOGENS/
19	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
20	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
21	"systemic inflammatory response syndrome".ti,ab.
22	SIRS.ti,ab.
23	septic?emi$.ti,ab.
24	((septic or endotoxic or toxic) adj3 shock).ti,ab.
25	(py?emi$ or pyohemi$).ti,ab.
26	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
27	or/16-26
28	CRITICAL CARE/
29	INTENSIVE CARE UNITS/
30	INTENSIVE CARE UNITS, PEDIATRIC/
31	INTENSIVE CARE UNITS, NEONATAL/
32	critical care unit?.ti,ab.
33	CCU.ti,ab.
34	intensive care unit?.ti,ab.
35	(ICU or PICU or NICU).ti,ab.
36	(intensive adj1 (therapy or treatment) adj1 unit?).ti,ab.
37	ITU.ti,ab.
38	(high dependency adj1 (unit? or care)).ti,ab.
39	HDU.ti,ab.
40	(observ$ adj3 (area? or unit?)).ti,ab.
41	or/28-40
42	(care adj3 level?).ti,ab.
43	"Level 0".ti,ab.
44	(Level 1 or Level I).ti,ab.
45	(Level 2 or Level II).ti,ab.
46	(Level 3 or Level III).ti,ab.
47	(staff$ adj3 (level? or ratio?)).ti,ab.
48	"EQUIPMENT AND SUPPLIES, HOSPITAL"/
49	equipment.ti,ab.
50	CLINICAL COMPETENCE/
51	competen$.ti,ab.
52	expert$.ti,ab.
53	or/42-52
54	((add$ or extra or further) adj3 investigat$).ti,ab.
55	exp ULTRASONOGRAPHY/

#	Searches
56	ultrasonograph$.ti,ab.
57	sonograph$.ti,ab.
58	ultrasound.ti,ab.
59	sonogram?.ti,ab.
60	TOMOGRAPHY, X-RAY COMPUTED/
61	(computer$ adj3 tomograph$).ti,ab.
62	((CT or CAT) adj3 scan$).ti,ab.
63	LAPAROTOMY/
64	laparotom$.ti,ab.
65	or/54-64
66	exp ANTI-BACTERIAL AGENTS/ and exp ADMINISTRATION, INTRAVENOUS/
67	((intravenous$ or IV) adj3 (Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?)).ti,ab.
68	((intravenous$ or IV) adj3 (Alamethicin or Amdinocillin or Amikacin or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalexin or Cephaloglycin or Cephaloridine or Cephalosporin? or Cephalothin or Cephamycin? or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid? or Clindamycin or Cloxacillin or Colistin or Cyclacillin or Dactinomycin or Daptomycin or Demeclocycline or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Erythromycin or Filipin or Floxacillin or Fluoroquinolone? or Fosfomycin or Framycetin or Fusidic Acid or Gentamicin? or Gramicidin or Hygromycin B or Imipenem or Josamycin or Kanamycin or Kitasamycin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lucensomycin or Lymecycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycin? or Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin? or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Ribostamycin or Rifabutin or Rifamycin? or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin? or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thiamphenicol or Thienamycin? or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim or Sulfamethoxazole or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?)).mp.
69	or/66-68
70	(frequen$ adj3 observ$).ti,ab.
71	(hour$ adj3 observ$).ti,ab.
72	exp VITAL SIGNS/

#	Searches
73	PULSE/
74	Vital Sign?.ti,ab.
75	((Blood or systolic or diastolic) adj3 pressure?).ti,ab.
76	Temperature?.ti,ab.
77	(Respirat$ adj3 rate?).ti,ab.
78	Heart Rate?.ti,ab.
79	Pulse?.ti,ab.
80	OXIMETRY/
81	oximetr$.ti,ab.
82	(oxygen adj3 saturat$).ti,ab.
83	URINARY CATHETERS/
84	URINARY CATHETERIZATION/
85	((urin$ or urethra$ or bladder) adj3 catheter$).ti,ab.
86	(urin$ adj3 output?).ti,ab.
87	or/70-86
88	MONITORING, PHYSIOLOGIC/
89	((maternal or mother? or wom?n or female?) adj7 (monitor$ or observ$ or surveillance)).ti,ab.
90	early warning scor$.ti,ab.
91	(matern$ adj3 scor$).ti,ab.
92	or/88-91
93	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj15 (manag$ or guideline?)).ti,ab.
94	UK Obstetric Surveillance System.ti,ab.
95	UKOSS.ti,ab.
96	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
97	MBRRACE.ti,ab.
98	Scottish confidential audit of severe maternal morbidity.ti,ab.
99	SCASMM.ti,ab.
100	"Confidential Enquiry into Maternal and Child Health".ti,ab.
101	CEMACH.ti,ab.
102	or/94-101
103	((obstetric$ or pregnan$ or labo?r or birth or childbirth or partu$ or intra?part$ or peri?part$ or Postpartum? or Post-partum? or Postnatal$ or Post-natal$ or Puerperium? or Puerperal?) and ((sepsis or septic$) adj10 bundle?)).ti,ab.
104	10 and 15 and 27 and 41
105	10 and 15 and 27 and 53
106	10 and 15 and 27 and 65
107	10 and 15 and 27 and 69
108	10 and 15 and 27 and 87

#	Searches
109	10 and 27 and 92
110	10 and 15 and 93
111	27 and 102
112	or/103-111
113	limit 112 to english language
114	LETTER/
115	EDITORIAL/
116	NEWS/
117	exp HISTORICAL ARTICLE/
118	ANECDOTES AS TOPIC/
119	COMMENT/
120	CASE REPORT/
121	(letter or comment*).ti.
122	or/114-121
123	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.
124	122 not 123
125	ANIMALS/ not HUMANS/
126	exp ANIMALS, LABORATORY/
127	exp ANIMAL EXPERIMENTATION/
128	exp MODELS, ANIMAL/
129	exp RODENTIA/
130	(rat or rats or mouse or mice).ti.
131	or/124-130
132	113 not 131

Database: Cochrane Central Register of Controlled Trials

#	Searches
1	PERIPARTUM PERIOD/
2	POSTPARTUM PERIOD/
3	Peripartum?.ti,ab,kw.
4	(Postpartum? or Post-partum?).ti,ab,kw.
5	(Postnatal$ or Post-natal$).ti,ab,kw.
6	Puerperium?.ti,ab,kw.
7	Puerperal?.ti,ab,kw.
8	((twenty four hour? or twentyfour hour? or 24 hour? or 24 h? or 24h?) adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
9	(follow$ adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
10	or/1-9
11	MOTHERS/
12	WOMEN/

#	Searches
13	FEMALE/
14	(maternal or mother? or wom?n or female?).ti,ab.
15	or/11-14
16	exp SEPSIS/
17	sepsis.ti,ab,kw.
18	BLOOD-BORNE PATHOGENS/
19	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
20	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
21	"systemic inflammatory response syndrome".ti,ab,kw.
22	SIRS.ti,ab.
23	septic?emi$.ti,ab,kw.
24	((septic or endotoxic or toxic) adj3 shock).ti,ab.
25	(py?emi$ or pyohemi$).ti,ab,kw.
26	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab,kw.
27	or/16-26
28	CRITICAL CARE/
29	INTENSIVE CARE UNITS/
30	INTENSIVE CARE UNITS, PEDIATRIC/
31	INTENSIVE CARE UNITS, NEONATAL/
32	critical care unit?.ti,ab,kw.
33	CCU.ti,ab.
34	intensive care unit?.ti,ab,kw.
35	(ICU or PICU or NICU).ti,ab.
36	(intensive adj1 (therapy or treatment) adj1 unit?).ti,ab.
37	ITU.ti,ab.
38	(high dependency adj1 (unit? or care)).ti,ab.
39	HDU.ti,ab.
40	(observ$ adj3 (area? or unit?)).ti,ab.
41	or/28-40
42	(care adj3 level?).ti,ab.
43	"Level 0".ti,ab.
44	(Level 1 or Level I).ti,ab.
45	(Level 2 or Level II).ti,ab.
46	(Level 3 or Level III).ti,ab.
47	(staff$ adj3 (level? or ratio?)).ti,ab.
48	"EQUIPMENT AND SUPPLIES, HOSPITAL"/
49	equipment.ti,ab.
50	CLINICAL COMPETENCE/
51	competen$.ti,ab.

#	Searches
52	expert$.ti,ab.
53	or/42-52
54	((add$ or extra or further) adj3 investigat$).ti,ab.
55	exp ULTRASONOGRAPHY/
56	ultrasonograph$.ti,ab,kw.
57	sonograph$.ti,ab,kw.
58	ultrasound.ti,ab,kw.
59	sonogram?.ti,ab,kw.
60	TOMOGRAPHY, X-RAY COMPUTED/
61	(computer$ adj3 tomograph$).ti,ab.
62	((CT or CAT) adj3 scan$).ti,ab.
63	LAPAROTOMY/
64	laparotom$.ti,ab,kw.
65	or/54-64
66	exp ANTI-BACTERIAL AGENTS/ and exp ADMINISTRATION, INTRAVENOUS/
67	((intravenous$ or IV) adj3 (Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?)).ti,ab.
68	((intravenous$ or IV) adj3 (Alamethicin or Amdinocillin or Amikacin or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalexin or Cephaloglycin or Cephaloridine or Cephalosporin? or Cephalothin or Cephamycin? or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid? or Clindamycin or Cloxacillin or Colistin or Cyclacillin or Dactinomycin or Daptomycin or Demeclocycline or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Erythromycin or Filipin or Floxacillin or Fluoroquinolone? or Fosfomycin or Framycetin or Fusidic Acid or Gentamicin? or Gramicidin or Hygromycin B or Imipenem or Josamycin or Kanamycin or Kitasamycin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lucensomycin or Lymecycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycin? or Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin? or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Ribostamycin or Rifabutin or Rifamycin? or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin? or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thiamphenicol or Thienamycin? or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim or Sulfamethoxazole or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?)).mp.

#	Searches
69	or/66-68
70	(frequen$ adj3 observ$).ti,ab.
71	(hour$ adj3 observ$).ti,ab.
72	exp VITAL SIGNS/
73	PULSE/
74	Vital Sign?.ti,ab,kw.
75	((Blood or systolic or diastolic) adj3 pressure?).ti,ab.
76	Temperature?.ti,ab.
77	(Respirat$ adj3 rate?).ti,ab.
78	Heart Rate?.ti,ab,kw.
79	Pulse?.ti,ab.
80	OXIMETRY/
81	oximetr$.ti,ab,kw.
82	(oxygen adj3 saturat$).ti,ab.
83	URINARY CATHETERS/
84	URINARY CATHETERIZATION/
85	((urin$ or urethra$ or bladder) adj3 catheter$).ti,ab.
86	(urin$ adj3 output?).ti,ab.
87	or/70-86
88	MONITORING, PHYSIOLOGIC/
89	((maternal or mother? or wom?n or female?) adj7 (monitor$ or observ$ or surveillance)).ti,ab.
90	early warning scor$.ti,ab.
91	(matern$ adj3 scor$).ti,ab.
92	or/88-91
93	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj15 (manag$ or guideline?)).ti,ab.
94	UK Obstetric Surveillance System.ti,ab.
95	UKOSS.ti,ab.
96	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
97	MBRRACE.ti,ab.
98	Scottish confidential audit of severe maternal morbidity.ti,ab.
99	SCASMM.ti,ab.
100	"Confidential Enquiry into Maternal and Child Health".ti,ab.
101	CEMACH.ti,ab.
102	or/94-101
103	((obstetric$ or pregnan$ or labo?r or birth or childbirth or partu$ or intra?part$ or peri?part$ or Postpartum? or Post-partum? or Postnatal$ or Post-natal$ or Puerperium? or Puerperal?) and ((sepsis or septic$) adj10 bundle?)).ti,ab.
104	10 and 15 and 27 and 41

#	Searches
105	10 and 15 and 27 and 53
106	10 and 15 and 27 and 65
107	10 and 15 and 27 and 69
108	10 and 15 and 27 and 87
109	10 and 27 and 92
110	10 and 15 and 93
111	27 and 102
112	or/103-111

Database: Cochrane Database of Systematic Reviews

#	Searches
1	PERIPARTUM PERIOD.kw.
2	POSTPARTUM PERIOD.kw.
3	Peripartum?.ti,ab.
4	(Postpartum? or Post-partum?).ti,ab.
5	(Postnatal$ or Post-natal$).ti,ab.
6	Puerperium?.ti,ab.
7	Puerperal?.ti,ab.
8	((twenty four hour? or twentyfour hour? or 24 hour? or 24 h? or 24h?) adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
9	(follow$ adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
10	or/1-9
11	MOTHERS.kw.
12	WOMEN.kw.
13	FEMALE.kw.
14	(maternal or mother? or wom?n or female?).ti,ab.
15	or/11-14
16	SEPSIS.kw.
17	sepsis.ti,ab.
18	BLOOD-BORNE PATHOGENS.kw.
19	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
20	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
21	"systemic inflammatory response syndrome".ti,ab.
22	SIRS.ti,ab.
23	septic?emi$.ti,ab.
24	((septic or endotoxic or toxic) adj3 shock).ti,ab.
25	(py?emi$ or pyohemi$).ti,ab.
26	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
27	or/16-26

#	Searches
28	CRITICAL CARE.kw.
29	INTENSIVE CARE UNITS.kw.
30	INTENSIVE CARE UNITS, PEDIATRIC.kw.
31	INTENSIVE CARE UNITS, NEONATAL.kw.
32	critical care unit?.ti,ab.
33	CCU.ti,ab.
34	intensive care unit?.ti,ab.
35	(ICU or PICU or NICU).ti,ab.
36	(intensive adj1 (therapy or treatment) adj1 unit?).ti,ab.
37	ITU.ti,ab.
38	(high dependency adj1 (unit? or care)).ti,ab.
39	HDU.ti,ab.
40	(observ$ adj3 (area? or unit?)).ti,ab.
41	or/28-40
42	(care adj3 level?).ti,ab.
43	"Level 0".ti,ab.
44	(Level 1 or Level I).ti,ab.
45	(Level 2 or Level II).ti,ab.
46	(Level 3 or Level III).ti,ab.
47	(staff$ adj3 (level? or ratio?)).ti,ab.
48	"EQUIPMENT AND SUPPLIES, HOSPITAL".kw.
49	equipment.ti,ab.
50	CLINICAL COMPETENCE.kw.
51	competen$.ti,ab.
52	expert$.ti,ab.
53	or/42-52
54	((add$ or extra or further) adj3 investigat$).ti,ab.
55	ULTRASONOGRAPHY.kw.
56	ultrasonograph$.ti,ab.
57	sonograph$.ti,ab.
58	ultrasound.ti,ab.
59	sonogram?.ti,ab.
60	TOMOGRAPHY, X-RAY COMPUTED.kw.
61	(computer$ adj3 tomograph$).ti,ab.
62	((CT or CAT) adj3 scan$).ti,ab.
63	LAPAROTOMY.kw.
64	laparotom$.ti,ab.
65	or/54-64
66	(ANTI-BACTERIAL AGENTS and ADMINISTRATION, INTRAVENOUS).kw.
67	((intravenous$ or IV) adj3 (Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?)).ti,ab.

#	Searches
68	((intravenous$ or IV) adj3 (Alamethicin or Amdinocillin or Amikacin or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalexin or Cephaloglycin or Cephaloridine or Cephalosporin? or Cephalothin or Cephamycin? or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid? or Clindamycin or Cloxacillin or Colistin or Cyclacillin or Dactinomycin or Daptomycin or Demeclocycline or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Erythromycin or Filipin or Floxacillin or Fluoroquinolone? or Fosfomycin or Framycetin or Fusidic Acid or Gentamicin? or Gramicidin or Hygromycin B or Imipenem or Josamycin or Kanamycin or Kitasamycin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lucensomycin or Lymecycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycin? or Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin? or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Ribostamycin or Rifabutin or Rifamycin? or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin? or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thiamphenicol or Thienamycin? or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim or Sulfamethoxazole or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?)).mp.
69	or/66-68
70	(frequen$ adj3 observ$).ti,ab.
71	(hour$ adj3 observ$).ti,ab.
72	VITAL SIGNS.kw.
73	PULSE.kw.
74	Vital Sign?.ti,ab.
75	((Blood or systolic or diastolic) adj3 pressure?).ti,ab.
76	Temperature?.ti,ab.
77	(Respirat$ adj3 rate?).ti,ab.
78	Heart Rate?.ti,ab.
79	Pulse?.ti,ab.
80	OXIMETRY.kw.
81	oximetr$.ti,ab.
82	(oxygen adj3 saturat$).ti,ab.
83	URINARY CATHETERS.kw.
84	URINARY CATHETERIZATION.kw.

#	Searches
85	((urin$ or urethra$ or bladder) adj3 catheter$).ti,ab.
86	(urin$ adj3 output?).ti,ab.
87	or/70-86
88	MONITORING, PHYSIOLOGIC.kw.
89	((maternal or mother? or wom?n or female?) adj7 (monitor$ or observ$ or surveillance)).ti,ab.
90	early warning scor$.ti,ab.
91	(matern$ adj3 scor$).ti,ab.
92	or/88-91
93	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj15 (manag$ or guideline?)).ti,ab.
94	UK Obstetric Surveillance System.ti,ab.
95	UKOSS.ti,ab.
96	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
97	MBRRACE.ti,ab.
98	Scottish confidential audit of severe maternal morbidity.ti,ab.
99	SCASMM.ti,ab.
100	"Confidential Enquiry into Maternal and Child Health".ti,ab.
101	CEMACH.ti,ab.
102	or/94-101
103	((obstetric$ or pregnan$ or labo?r or birth or childbirth or partu$ or intra?part$ or peri?part$ or Postpartum? or Post-partum? or Postnatal$ or Post-natal$ or Puerperium? or Puerperal?) and ((sepsis or septic$) adj10 bundle?)).ti,ab.
104	10 and 15 and 27 and 41
105	10 and 15 and 27 and 53
106	10 and 15 and 27 and 65
107	10 and 15 and 27 and 69
108	10 and 15 and 27 and 87
109	10 and 27 and 92
110	10 and 15 and 93
111	27 and 102
112	or/103-111

Database: Database of Abstracts of Reviews of Effects

#	Searches
1	PERIPARTUM PERIOD.kw.
2	POSTPARTUM PERIOD.kw.
3	Peripartum?.tw,tx.
4	(Postpartum? or Post-partum?).tw,tx.
5	(Postnatal$ or Post-natal$).tw,tx.

#	Searches
6	Puerperium?.tw,tx.
7	Puerperal?.tw,tx.
8	((twenty four hour? or twentyfour hour? or 24 hour? or 24 h? or 24h?) adj3 (birth$ or childbirth$ or parturition?)).tw,tx.
9	(follow$ adj3 (birth$ or childbirth$ or parturition?)).tw,tx.
10	or/1-9
11	MOTHERS.kw.
12	WOMEN.kw.
13	FEMALE.kw.
14	(maternal or mother? or wom?n or female?).tw,tx.
15	or/11-14
16	SEPSIS.kw.
17	sepsis.tw,tx.
18	BLOOD-BORNE PATHOGENS.kw.
19	(blood$ adj3 (pathogen$ or poison$)).tw,tx.
20	SYSTEMIC INFLAMMATORY RESPONSE SYNDROME.kw.
21	"systemic inflammatory response syndrome".tw,tx.
22	SIRS.tw,tx.
23	septic?emi$.tw,tx.
24	((septic or endotoxic or toxic) adj3 shock).tw,tx.
25	(py?emi$ or pyohemi$).tw,tx.
26	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw,tx.
27	or/16-26
28	CRITICAL CARE.kw.
29	INTENSIVE CARE UNITS.kw.
30	INTENSIVE CARE UNITS, PEDIATRIC.kw.
31	INTENSIVE CARE UNITS, NEONATAL.kw.
32	critical care unit?.tw,tx.
33	CCU.tw,tx.
34	intensive care unit?.tw,tx.
35	(ICU or PICU or NICU).tw,tx.
36	(intensive adj1 (therapy or treatment) adj1 unit?).tw,tx.
37	ITU.tw,tx.
38	(high dependency adj1 (unit? or care)).tw,tx.
39	HDU.tw,tx.
40	(observ$ adj3 (area? or unit?)).tw,tx.
41	or/28-40
42	(care adj3 level?).tw,tx.
43	"Level 0".tw,tx.

#	Searches
44	(Level 1 or Level I).tw,tx.
45	(Level 2 or Level II).tw,tx.
46	(Level 3 or Level III).tw,tx.
47	(staff$ adj3 (level? or ratio?)).tw,tx.
48	"EQUIPMENT AND SUPPLIES, HOSPITAL".kw.
49	equipment.tw,tx.
50	CLINICAL COMPETENCE.kw.
51	competen$.tw,tx.
52	expert$.tw,tx.
53	or/42-52
54	((add$ or extra or further) adj3 investigat$).tw,tx.
55	ULTRASONOGRAPHY.kw.
56	ultrasonograph$.tw,tx.
57	sonograph$.tw,tx.
58	ultrasound.tw,tx.
59	sonogram?.tw,tx.
60	TOMOGRAPHY, X-RAY COMPUTED.kw.
61	(computer$ adj3 tomograph$).tw,tx.
62	((CT or CAT) adj3 scan$).tw,tx.
63	LAPAROTOMY.kw.
64	laparotom$.tw,tx.
65	or/54-64
66	(ANTI-BACTERIAL AGENTS and ADMINISTRATION, INTRAVENOUS).kw.
67	((intravenous$ or IV) adj3 (Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?)).tw,tx.
68	((intravenous$ or IV) adj3 (Alamethicin or Amdinocillin or Amikacin or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalexin or Cephaloglycin or Cephaloridine or Cephalosporin? or Cephalothin or Cephamycin? or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid? or Clindamycin or Cloxacillin or Colistin or Cyclacillin or Dactinomycin or Daptomycin or Demeclocycline or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Erythromycin or Filipin or Floxacillin or Fluoroquinolone? or Fosfomycin or Framycetin or Fusidic Acid or Gentamicin? or Gramicidin or Hygromycin B or Imipenem or Josamycin or Kanamycin or Kitasamycin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lucensomycin or Lymecycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycin? or

#	Searches
	Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin? or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Ribostamycin or Rifabutin or Rifamycin? or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin? or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thiamphenicol or Thienamycin? or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim or Sulfamethoxazole or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?)).mp.
69	or/66-68
70	(frequen$ adj3 observ$).tw,tx.
71	(hour$ adj3 observ$).tw,tx.
72	VITAL SIGNS.kw.
73	PULSE.kw.
74	Vital Sign?.tw,tx.
75	((Blood or systolic or diastolic) adj3 pressure?).tw,tx.
76	Temperature?.tw,tx.
77	(Respirat$ adj3 rate?).tw,tx.
78	Heart Rate?.tw,tx.
79	Pulse?.tw,tx.
80	OXIMETRY.kw.
81	oximetr$.tw,tx.
82	(oxygen adj3 saturat$).tw,tx.
83	URINARY CATHETERS.kw.
84	URINARY CATHETERIZATION.kw.
85	((urin$ or urethra$ or bladder) adj3 catheter$).tw,tx.
86	(urin$ adj3 output?).tw,tx.
87	or/70-86
88	MONITORING, PHYSIOLOGIC.kw.
89	((maternal or mother? or wom?n or female?) adj7 (monitor$ or observ$ or surveillance)).tw,tx.
90	early warning scor$.tw,tx.
91	(matern$ adj3 scor$).tw,tx.
92	or/88-91
93	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj15 (manag$ or guideline?)).tw,tx.
94	UK Obstetric Surveillance System.tw,tx.
95	UKOSS.tw,tx.
96	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw,tx.
97	MBRRACE.tw,tx.
98	Scottish confidential audit of severe maternal morbidity.tw,tx.

#	Searches
99	SCASMM.tw,tx.
100	"Confidential Enquiry into Maternal and Child Health".tw,tx.
101	CEMACH.tw,tx.
102	or/94-101
103	((obstetric$ or pregnan$ or labo?r or birth or childbirth or partu$ or intra?part$ or peri?part$ or Postpartum? or Post-partum? or Postnatal$ or Post-natal$ or Puerperium? or Puerperal?) and ((sepsis or septic$) adj10 bundle?)).tw,tx.
104	10 and 15 and 27 and 41
105	10 and 15 and 27 and 53
106	10 and 15 and 27 and 65
107	10 and 15 and 27 and 69
108	10 and 15 and 27 and 87
109	10 and 27 and 92
110	10 and 15 and 93
111	27 and 102
112	or/103-111

Database: Health Technology Assessment

#	Searches
1	PERIPARTUM PERIOD/
2	POSTPARTUM PERIOD/
3	Peripartum?.tw.
4	(Postpartum? or Post-partum?).tw.
5	(Postnatal$ or Post-natal$).tw.
6	Puerperium?.tw.
7	Puerperal?.tw.
8	((twenty four hour? or twentyfour hour? or 24 hour? or 24 h? or 24h?) adj3 (birth$ or childbirth$ or parturition?)).tw.
9	(follow$ adj3 (birth$ or childbirth$ or parturition?)).tw.
10	or/1-9
11	MOTHERS/
12	WOMEN/
13	FEMALE/
14	(maternal or mother? or wom?n or female?).tw.
15	or/11-14
16	exp SEPSIS/
17	sepsis.tw.
18	BLOOD-BORNE PATHOGENS/
19	(blood$ adj3 (pathogen$ or poison$)).tw.
20	exp SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
21	"systemic inflammatory response syndrome".tw.

#	Searches
22	SIRS.tw.
23	septic?emi$.tw.
24	((septic or endotoxic or toxic) adj3 shock).tw.
25	(py?emi$ or pyohemi$).tw.
26	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).tw.
27	or/16-26
28	CRITICAL CARE/
29	INTENSIVE CARE UNITS/
30	INTENSIVE CARE UNITS, PEDIATRIC/
31	INTENSIVE CARE UNITS, NEONATAL/
32	critical care unit?.tw.
33	CCU.tw.
34	intensive care unit?.tw.
35	(ICU or PICU or NICU).tw.
36	(intensive adj1 (therapy or treatment) adj1 unit?).tw.
37	ITU.tw.
38	(high dependency adj1 (unit? or care)).tw.
39	HDU.tw.
40	(observ$ adj3 (area? or unit?)).tw.
41	or/28-40
42	(care adj3 level?).tw.
43	"Level 0".tw.
44	(Level 1 or Level I).tw.
45	(Level 2 or Level II).tw.
46	(Level 3 or Level III).tw.
47	(staff$ adj3 (level? or ratio?)).tw.
48	"EQUIPMENT AND SUPPLIES, HOSPITAL"/
49	equipment.tw.
50	CLINICAL COMPETENCE/
51	competen$.tw.
52	expert$.tw.
53	or/42-52
54	((add$ or extra or further) adj3 investigat$).tw.
55	exp ULTRASONOGRAPHY/
56	ultrasonograph$.tw.
57	sonograph$.tw.
58	ultrasound.tw.
59	sonogram?.tw.
60	TOMOGRAPHY, X-RAY COMPUTED/
61	(computer$ adj3 tomograph$).tw.

#	Searches
62	((CT or CAT) adj3 scan$).tw.
63	LAPAROTOMY/
64	laparotom$.tw.
65	or/54-64
66	exp ANTI-BACTERIAL AGENTS/ and (INFUSIONS, INTRAVENOUS/ or INJECTIONS, INTRAVENOUS.mp.) [mp=title, text, subject heading word]
67	((intravenous$ or IV) adj3 (Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?)).tw.
68	((intravenous$ or IV) adj3 (Alamethicin or Amdinocillin or Amikacin or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalexin or Cephaloglycin or Cephaloridine or Cephalosporin? or Cephalothin or Cephamycin? or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid? or Clindamycin or Cloxacillin or Colistin or Cyclacillin or Dactinomycin or Daptomycin or Demeclocycline or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Erythromycin or Filipin or Floxacillin or Fluoroquinolone? or Fosfomycin or Framycetin or Fusidic Acid or Gentamicin? or Gramicidin or Hygromycin B or Imipenem or Josamycin or Kanamycin or Kitasamycin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lucensomycin or Lymecycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycin? or Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin? or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Ribostamycin or Rifabutin or Rifamycin? or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin? or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thiamphenicol or Thienamycin? or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim or Sulfamethoxazole or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?)).mp.
69	or/66-68
70	(frequen$ adj3 observ$).tw.
71	(hour$ adj3 observ$).tw.
72	BLOOD PRESSURE/ or BODY TEMPERATURE/ or RESPIRATION/ or HEART RATE/
73	PULSE/
74	Vital Sign?.tw.
75	((Blood or systolic or diastolic) adj3 pressure?).tw.
76	Temperature?.tw.
77	(Respirat$ adj3 rate?).tw.

#	Searches
78	Heart Rate?.tw.
79	Pulse?.tw.
80	OXIMETRY/
81	oximetr$.tw.
82	(oxygen adj3 saturat$).tw.
83	URINARY CATHETERS/
84	URINARY CATHETERIZATION/
85	((urin$ or urethra$ or bladder) adj3 catheter$).tw.
86	(urin$ adj3 output?).tw.
87	or/70-86
88	MONITORING, PHYSIOLOGIC/
89	((maternal or mother? or wom?n or female?) adj7 (monitor$ or observ$ or surveillance)).tw.
90	early warning scor$.tw.
91	(matern$ adj3 scor$).tw.
92	or/88-91
93	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj15 (manag$ or guideline?)).tw.
94	UK Obstetric Surveillance System.tw.
95	UKOSS.tw.
96	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".tw.
97	MBRRACE.tw.
98	Scottish confidential audit of severe maternal morbidity.tw.
99	SCASMM.tw.
100	"Confidential Enquiry into Maternal and Child Health".tw.
101	CEMACH.tw.
102	or/94-101
103	((obstetric$ or pregnan$ or labo?r or birth or childbirth or partu$ or intra?part$ or peri?part$ or Postpartum? or Post-partum? or Postnatal$ or Post-natal$ or Puerperium? or Puerperal?) and ((sepsis or septic$) adj10 bundle?)).tw.
104	10 and 15 and 27 and 41
105	10 and 15 and 27 and 53
106	10 and 15 and 27 and 65
107	10 and 15 and 27 and 69
108	10 and 15 and 27 and 87
109	10 and 27 and 92
110	10 and 15 and 93
111	27 and 102
112	or/103-111

Database: Embase

#	Searches
1	*PERINATAL PERIOD/
2	*PUERPERIUM/
3	Peripartum?.ti,ab.
4	(Postpartum? or Post-partum?).ti,ab.
5	(Postnatal$ or Post-natal$).ti,ab.
6	Puerperium?.ti,ab.
7	Puerperal?.ti,ab.
8	((twenty four hour? or twentyfour hour? or 24 hour? or 24 h? or 24h?) adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
9	(follow$ adj3 (birth$ or childbirth$ or parturition?)).ti,ab.
10	or/1-9
11	*MOTHER/
12	*FEMALE/
13	(maternal or mother? or wom?n or female?).ti,ab.
14	or/11-13
15	exp *SEPSIS/
16	sepsis.ti,ab.
17	*BLOODBORNE BACTERIUM/
18	(blood$ adj3 (pathogen$ or poison$)).ti,ab.
19	*SYSTEMIC INFLAMMATORY RESPONSE SYNDROME/
20	"systemic inflammatory response syndrome".ti,ab.
21	SIRS.ti,ab.
22	septic?emi$.ti,ab.
23	((septic or endotoxic or toxic) adj3 shock).ti,ab.
24	(py?emi$ or pyohemi$).ti,ab.
25	(bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$).ti,ab.
26	or/15-25
27	*INTENSIVE CARE/
28	*NEWBORN INTENSIVE CARE/
29	*INTENSIVE CARE UNIT/
30	*NEONATAL INTENSIVE CARE UNIT/
31	*PEDIATRIC INTENSIVE CARE UNIT/
32	critical care unit?.ti,ab.
33	CCU.ti,ab.
34	intensive care unit?.ti,ab.
35	(ICU or PICU or NICU).ti,ab.
36	(intensive adj1 (therapy or treatment) adj1 unit?).ti,ab.
37	ITU.ti,ab.

#	Searches
38	(high dependency adj1 (unit? or care)).ti,ab.
39	HDU.ti,ab.
40	(observ$ adj3 (area? or unit?)).ti,ab.
41	or/27-40
42	(care adj3 level?).ti,ab.
43	"Level 0".ti,ab.
44	(Level 1 or Level I).ti,ab.
45	(Level 2 or Level II).ti,ab.
46	(Level 3 or Level III).ti,ab.
47	(staff$ adj3 (level? or ratio?)).ti,ab.
48	*HOSPITAL EQUIPMENT/
49	equipment.ti,ab.
50	*CLINICAL COMPETENCE/
51	competen$.ti,ab.
52	expert$.ti,ab.
53	or/42-52
54	((add$ or extra or further) adj3 investigat$).ti,ab.
55	exp *ECHOGRAPHY/
56	ultrasonograph$.ti,ab.
57	sonograph$.ti,ab.
58	ultrasound.ti,ab.
59	sonogram?.ti,ab.
60	exp *X-RAY COMPUTED TOMOGRAPHY/
61	(computer$ adj3 tomograph$).ti,ab.
62	((CT or CAT) adj3 scan$).ti,ab.
63	*LAPAROTOMY/
64	laparotom$.ti,ab.
65	or/54-64
66	exp *ANTIBIOTIC AGENT/ and *INTRAVENOUS DRUG ADMINISTRATION/
67	((intravenous$ or IV) adj3 (Antibacterial? or anti-bacterial? or antibiotic? or anti-biotic?)).ti,ab.
68	((intravenous$ or IV) adj3 (Alamethicin or Amdinocillin or Amikacin or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocin? or Bambermycin? or Bongkrekic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalexin or Cephaloglycin or Cephaloridine or Cephalosporin? or Cephalothin or Cephamycin? or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid? or Clindamycin or Cloxacillin or Colistin or Cyclacillin or Dactinomycin or Daptomycin or Demeclocycline or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazine? or Distamycin? or Doxycycline or Echinomycin or Edeine or Enoxacin or

#	Searches
	Enviomycin or Erythromycin or Filipin or Floxacillin or Fluoroquinolone? or Fosfomycin or Framycetin or Fusidic Acid or Gentamicin? or Gramicidin or Hygromycin B or Imipenem or Josamycin or Kanamycin or Kitasamycin or Lactam? or Lasalocid or Leucomycin? or Levofloxacin or Lincomycin or Lincosamide? or Linezolid or Lucensomycin or Lymecycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycin? or Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin? or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxin? or Pristinamycin or Prodigiosin or Ribostamycin or Rifabutin or Rifamycin? or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin? or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thiamphenicol or Thienamycin? or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim or Sulfamethoxazole or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin or beta-Lactam?)).mp.
69	or/66-68
70	(frequen$ adj3 observ$).ti,ab.
71	(hour$ adj3 observ$).ti,ab.
72	*VITAL SIGN/
73	*BLOOD PRESSURE/
74	*BLOOD PRESSURE MONITORING/
75	*BLOOD PRESSURE MEASUREMENT/
76	*BODY TEMPERATURE/
77	*BODY TEMPERATURE MONITORING/
78	*BODY TEMPERATURE MEASUREMENT/
79	*BREATHING RATE/
80	*HEART RATE/
81	*PULSE RATE/
82	Vital Sign?.ti,ab.
83	((Blood or systolic or diastolic) adj3 pressure?).ti,ab.
84	Temperature?.ti,ab.
85	(Respirat$ adj3 rate?).ti,ab.
86	Heart Rate?.ti,ab.
87	Pulse?.ti,ab.
88	*OXIMETRY/
89	oximetr$.ti,ab.
90	*OXYGEN SATURATION/
91	(oxygen adj3 saturat$).ti,ab.
92	exp *URINARY CATHETER/
93	exp *BLADDER CATHETERIZATION/
94	((urin$ or urethra$ or bladder) adj3 catheter$).ti,ab.

#	Searches
95	*URINE VOLUME/
96	(urin$ adj3 output?).ti,ab.
97	or/70-96
98	*PHYSIOLOGIC MONITORING/
99	((maternal or mother? or wom?n or female?) adj7 (monitor$ or observ$ or surveillance)).ti,ab.
100	early warning scor$.ti,ab.
101	(matern$ adj3 scor$).ti,ab.
102	or/98-101
103	((sepsis or septic$ or "systemic inflammatory response syndrome" or toxic shock$ or bacter?emi$ or fung?emi$ or parasit?emi$ or vir?emi$ or endotox?emi$ or candid?emi$) adj15 (manag$ or guideline?)).ti,ab.
104	UK Obstetric Surveillance System.ti,ab.
105	UKOSS.ti,ab.
106	"Mothers and babies? reducing risk through audits and confidential enquiries across the UK".ti,ab.
107	MBRRACE.ti,ab.
108	Scottish confidential audit of severe maternal morbidity.ti,ab.
109	SCASMM.ti,ab.
110	"Confidential Enquiry into Maternal and Child Health".ti,ab.
111	CEMACH.ti,ab.
112	or/104-111
113	((obstetric$ or pregnan$ or labo?r or birth or childbirth or partu$ or intra?part$ or peri?part$ or Postpartum? or Post-partum? or Postnatal$ or Post-natal$ or Puerperium? or Puerperal?) and ((sepsis or septic$) adj10 bundle?)).ti,ab.
114	10 and 14 and 26 and 41
115	10 and 14 and 26 and 53
116	10 and 14 and 26 and 65
117	10 and 14 and 26 and 69
118	10 and 14 and 26 and 97
119	10 and 26 and 102
120	10 and 14 and 103
121	26 and 112
122	or/113-121
123	limit 122 to english language
124	letter.pt. or LETTER/
125	note.pt.
126	editorial.pt.
127	CASE REPORT/ or CASE STUDY/
128	(letter or comment*).ti.
129	or/124-128
130	RANDOMIZED CONTROLLED TRIAL/ or random*.ti,ab.

#	Searches
131	129 not 130
132	ANIMAL/ not HUMAN/
133	NONHUMAN/
134	exp ANIMAL EXPERIMENT/
135	exp EXPERIMENTAL ANIMAL/
136	ANIMAL MODEL/
137	exp RODENT/
138	(rat or rats or mouse or mice).ti.
139	or/131-138
140	123 not 139

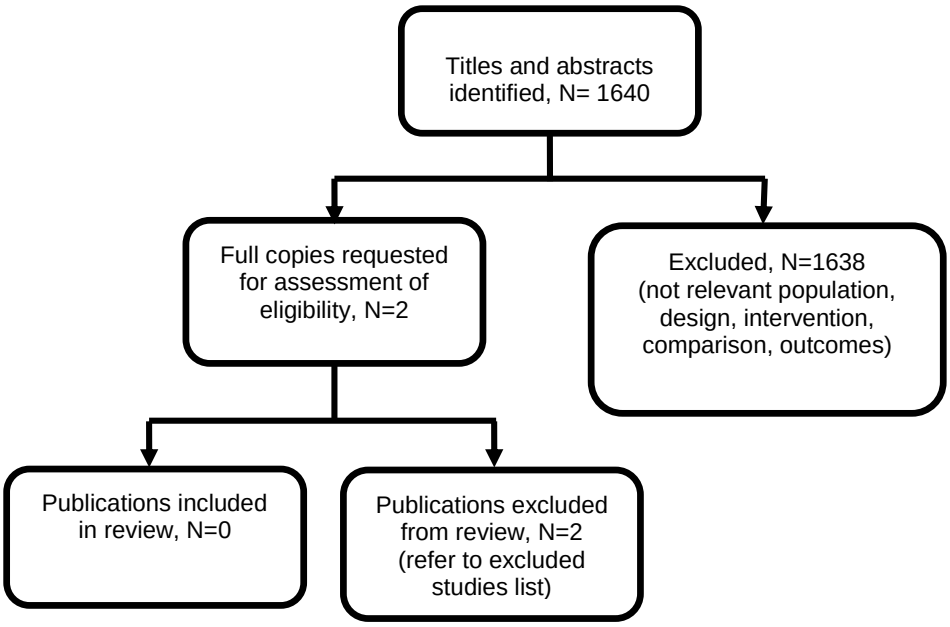
1

2

Appendix C – Clinical evidence study selection

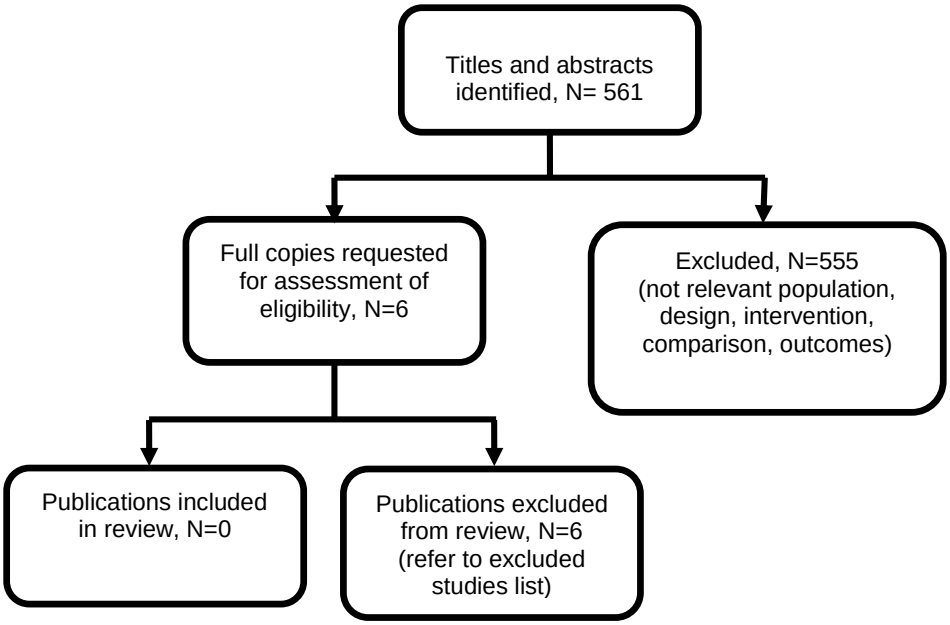
Intrapartum care for women with sepsis – mode of birth

Figure 1: Flow diagram of clinical article selection for intrapartum care for women with sepsis – mode of birth



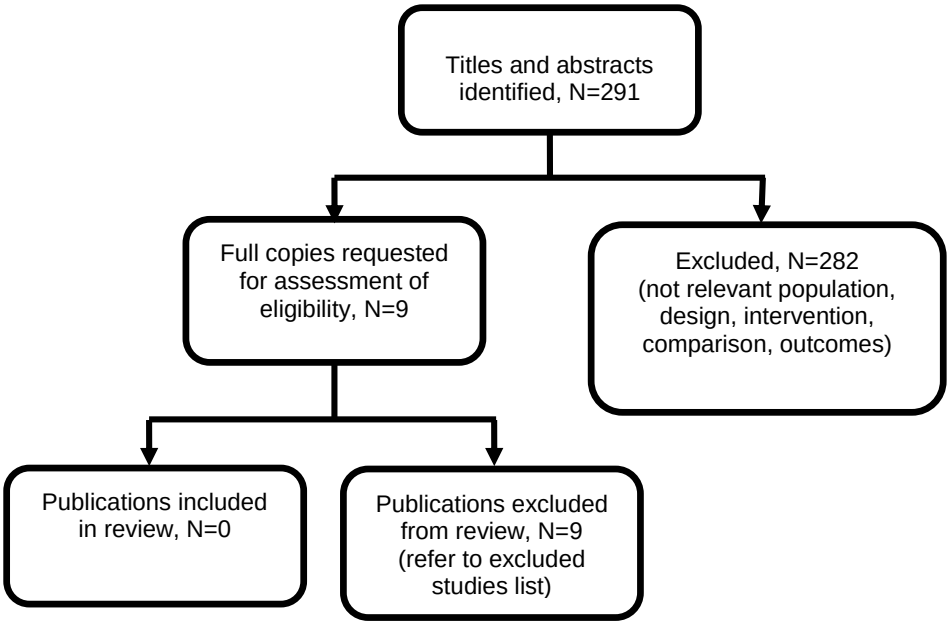
Intrapartum care for women with sepsis – anaesthesia

Figure 2: Flow diagram of clinical article selection for intrapartum care for women with sepsis – anaesthesia



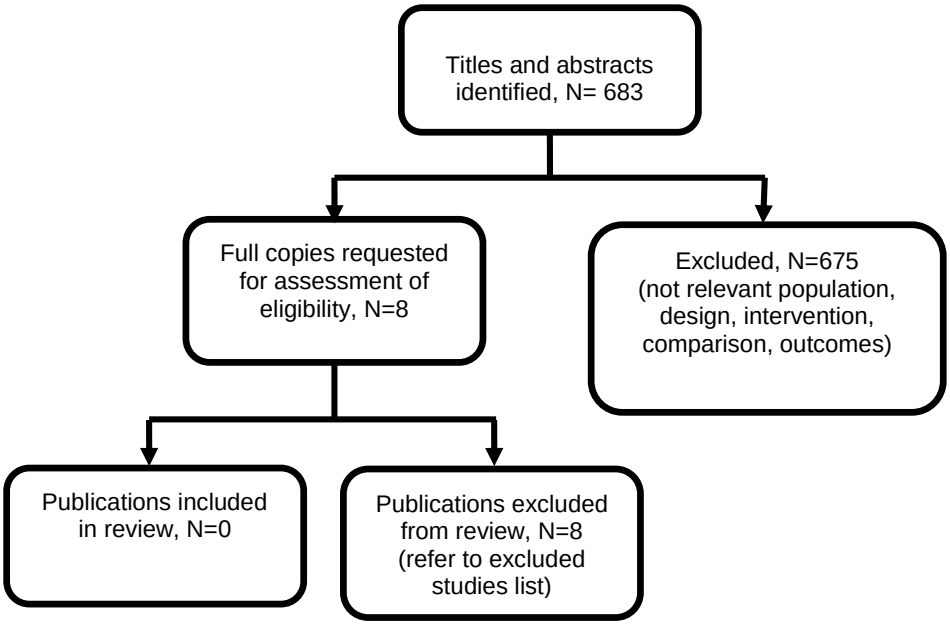
Intrapartum care for women with sepsis – analgesia

Figure 3: Flow diagram of clinical article selection for intrapartum care for women with sepsis – analgesia



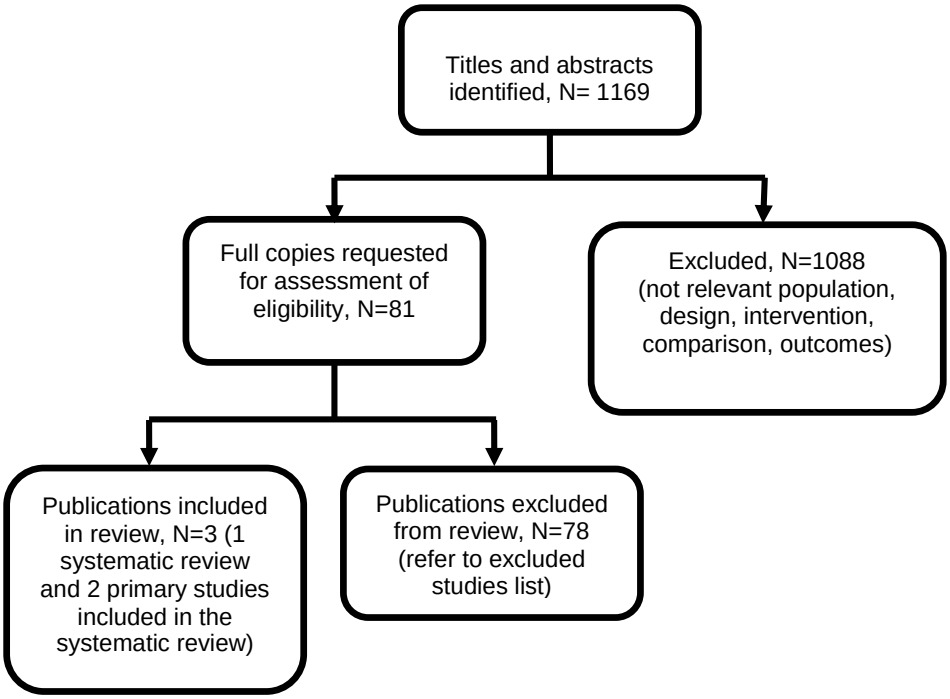
Intrapartum care for women with sepsis – fetal monitoring

Figure 4: Flow diagram of clinical article selection for intrapartum care for women with sepsis – fetal monitoring



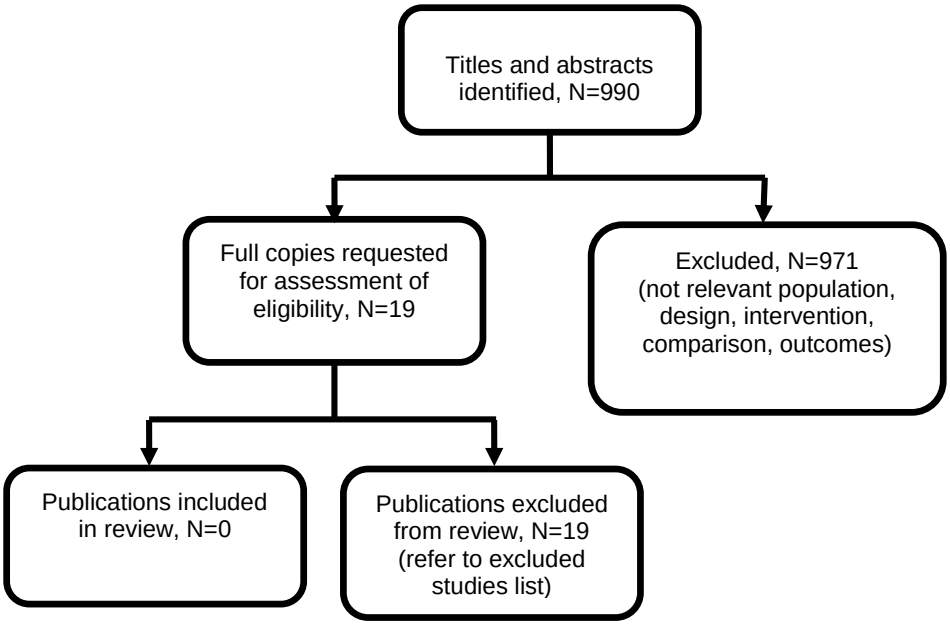
Intrapartum care for women with sepsis – antimicrobial therapy

Figure 5: Flow diagram of clinical article selection for intrapartum care for women with sepsis – antimicrobial therapy



Intrapartum care for women with sepsis – management immediately after the birth

Figure 6: Flow diagram of clinical article selection for intrapartum care for women with sepsis – management for the woman immediately after the birth



Appendix D – Excluded studies

Intrapartum care for women with sepsis – mode of birth

Clinical studies

Study	Reason for exclusion
Perrone S, Lotti F, Longini M, Rossetti A, Bindi I, Bazzini F, Belvisi E, Sarnacchiaro P, Scapellato C, Buonocore G. C reactive protein in healthy term newborns during the first 48 hours of life. Arch Dis Child Fetal Neonatal Ed, 103, F163-F166, 2018	No relevant comparison was reported
Snyder CC, Barton JR, Habli M, Sibai BM. Severe sepsis and septic shock in pregnancy: indications for delivery and maternal and perinatal outcomes, J Matern Fetal Neonatal Med, 26, 503-6, 2013	No relevant comparison was reported

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – anaesthesia

Clinical studies

Study	Reason for exclusion
Bauer, M. E., Bateman, B. T., Bauer, S. T., Shanks, A. M., Mhyre, J. M., Maternal sepsis mortality and morbidity during hospitalization for delivery: temporal trends and independent associations for severe sepsis, Anesthesia & Analgesia, 117, 944-50, 2013	Not the question of interest. The article examines frequency, temporal trends, and independent associations for severe sepsis during hospitalisation for labour
Chau, A., Tsen, L. C., Fetal optimization during maternal sepsis: relevance and response of the obstetric anesthesiologist, Current Opinion in Anaesthesiology, 27, 259-66, 2014	Not the question of interest. The article describes management of maternal sepsis
Kuczkowski, K. M., Infection and fever in pregnancy - Anesthetic implications, Progress in Anesthesiology, 16, 131-144, 2002	Not the question of interest. This is a descriptive article about various infections during pregnancy and their anaesthetic management
Kuczkowski, K. M., Reisner, L. S., Anesthetic management of the parturient with fever and infection, Journal of Clinical Anesthesia, 15, 478-88, 2003	Not the question of interest. This is a descriptive article about anaesthetic management during labour
Snyder, C. C., Barton, J. R., Habli, M., Sibai, B. M., Severe sepsis and septic shock in pregnancy: indications for delivery and maternal and perinatal outcomes, Journal of Maternal-Fetal & Neonatal Medicine, 26, 503-6, 2013	Not the question of interest. The article compares maternal and perinatal outcomes between women with severe sepsis and those with septic shock
Sobot Novakovic, S., Cuk, S., Lazic, G., Rakanovic, D., Ceric Banicevic, A., Draganovic, D., Visekruna, L., Effects of epidural and intravenous remifentanil analgesia during labor on neonatal outcome-retrospective observational study, Regional Anesthesia and Pain Medicine, 42, e131, 2017	Conference abstract

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – analgesia

Clinical studies

Study	Reason for exclusion
Axelsson, D., Blomberg, M., Maternal obesity, obstetric interventions and post-partum anaemia increase the risk of post-partum sepsis: a	No relevant comparison

Study	Reason for exclusion
population-based cohort study based on Swedish medical health registers, Infectious Diseases, 49, 765-771, 2017	
Evron,S., Glezerman,M., Sadan,O., Boaz,M., Ezri,T., Patient-controlled epidural analgesia for labor pain: effect on labor, delivery and neonatal outcome of 0.125% bupivacaine vs 0.2% ropivacaine, International Journal of Obstetric Anesthesia, 13, 5-10, 2004	Case series (2 women with sepsis)
Heesen, M., Klohr, S., Rossaint, R., Straube, S., Van de Velde, M., Labour epidural analgesia and anti-infectious management of the neonate: a meta-analysis, Journal of Perinatal Medicine, 40, 625-30, 2012	Not the question of interest - the article explores whether labour epidural analgesia is associated with anti-infectious management of the baby
Lieberman, E., O'Donoghue, C., Unintended effects of epidural analgesia during labor: a systematic review, American Journal of Obstetrics & Gynecology, 186, S31-68, 2002	Not the population of interest - not women with suspected or diagnosed sepsis
Philip,J., Alexander,J.M., Sharma,S.K., Leveno,K.J., McIntire,D.D., Wiley,J., Epidural analgesia during labor and maternal fever, Anesthesiology, 90, 1271-1275, 1999	Not the population of interest - not women with suspected or diagnosed sepsis
Roelants, F., De Franceschi, E., Veyckemans, F., Lavand'homme, P., Patient-controlled intravenous analgesia using remifentanil in the parturient, Canadian Journal of Anaesthesia, 48, 175-8, 2001	Case series (2 women with sepsis)
Sharpe, Emily E., Arendt, Katherine W., Epidural Labor Analgesia and Maternal Fever, Clinical obstetrics and gynecology, 60, 365-374, 2017	Non-systematic literature review
Viscomi, C. M., Manullang, T., Maternal fever, neonatal sepsis evaluation, and epidural labor analgesia, Regional Anesthesia & Pain Medicine, 25, 549-53, 2000	Not the question of interest - the article explores whether labour epidural analgesia is associated with maternal fever
White, Alice, Olson, Daniel, Messacar, Kevin, A state-wide assessment of the association between epidural analgesia, maternal fever and neonatal antibiotics in Colorado, 2007-2012, Archives of disease in childhood. Fetal and neonatal edition, 102, F120-F125, 2017	No relevant population

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – fetal monitoring

Clinical studies

Study	Reason for exclusion
Aina-Mumuney,A.J., Althaus,J.E., Henderson,J.L., Blakemore,M.C., Johnson,E.A., Graham,E.M., Intrapartum electronic fetal monitoring and the identification of systemic fetal inflammation, Journal of Reproductive Medicine, 52, 762-768, 2007	Not the question of interest. The article explores whether by using the established definitions of EFM abnormalities it is possible to identify neonates with an in utero systemic inflammatory response or culture-positive sepsis
Cordioli, R. L., Cordioli, E., Negrini, R., Silva, E., Sepsis and pregnancy: do we know how to treat this situation?, Revista Brasileira de Terapia Intensiva, 25, 334-44, 2013	Not the question of interest. This narrative review describes the main particularities of sepsis during pregnancy
Day,D., Ugol,J.H., French,J.I., Haverkamp,A., Wall,R.E., McGregor,J.A., Fetal monitoring in perinatal sepsis, American Journal of Perinatology, 9, 28-33, 1992	Not the question of interest. The article explores the utility of electronic fetal monitoring in detection of established perinatal sepsis. That is, it compares interpretation of EFM between cases (neonates with sepsis) and controls (neonates without sepsis)
Galvagno, S. M., Jr., Camann, W., Sepsis and acute renal failure in pregnancy, Anesthesia & Analgesia, 108, 572-5, 2009	Not the question of interest. This narrative review summarises the latest recommendations for 2 conditions: pregnancy-related sepsis and acute renal failure
Kawakita, T., Reddy, U. M., Landy, H. J., Iqbal, S. N., Huang, C. C., Grantz, K. L., Neonatal complications associated with use of fetal scalp electrode: a retrospective study, BJOG: An International Journal of Obstetrics and Gynaecology, 123, 1797-1803, 2016	Not the question of interest. The article describes the incidence and risk of complications associated with a fetal scalp electrode and examines whether its application in the setting of operative vaginal birth is associated with increased neonatal morbidity; not women with diagnosed/suspected sepsis
Nakatsuka,N., Jain,V., Aziz,K., Verity,R., Kumar,M., Is there an association between fetal scalp electrode application and early-onset neonatal sepsis in term and late preterm pregnancies? A case-control study, Journal of Obstetrics and Gynaecology Canada: JOGC, 34, 29-33, 2012	Not the question of interest. The article explores an association between use of a fetal scalp electrode and development of early-onset neonatal sepsis; not stated whether the study population (mothers) had diagnosed/suspected sepsis
Wagener, M. M., Rycheck, R. R., Yee, R. B., McVay, J. F., Buffenmyer, C. L., Harger, J. H., Septic dermatitis of the neonatal scalp and maternal endomyometritis with intrapartum internal fetal monitoring, Pediatrics, 74, 81-85, 1984	Not the question of interest. The article describes the incidence of fetal scalp infection in neonates having spiral electrodes applied to their scalp during their mothers' labour
Youchah, J., Chazotte, C., Cohen, W. R., Heart rate patterns and fetal sepsis, American Journal of Perinatology, 6, 356-9, 1989	Not the question of interest - the article describes 15 fetal monitor patterns from babies with presumed in utero sepsis

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – antimicrobial therapy

Clinical studies

Study	Reason for exclusion
Arredondo Garcia, J. L., Figueroa Damian, R., Ortiz Ibarra, F. J., Sosa Gonzalez, I. E., Endometritis etiology: Diagnosis and treatment experience of the Instituto Nacional de Perinatologia, Current Therapeutic Research - Clinical and Experimental, 54, 529-539, 1993	No relevant population. Women with endometritis either postpartum or post-caesarean section. No relevant comparison
Brown,C.E., Stettler,R.W., Twickler,D., Cunningham,F.G., Puerperal septic pelvic thrombophlebitis: Incidence and response to heparin therapy, American Journal of Obstetrics and Gynecology, 181, 143-148, 1999	No relevant comparison
Butt, I. J., Khan, S., Butt, S., Bhutta, S., Frequency and treatment of methicillin resistant Staphylococcus aureus in obstetric and gynaecological sepsis, Jcpsp, Journal of the College of Physicians & Surgeons - Pakistan, 23, 708-10, 2013	No relevant population. Women with puerperal sepsis or postoperative wound infection. No relevant comparison
Campognone,P., Singer,D.B., Neonatal sepsis due to nontypable haemophilus influenzae, American Journal of Diseases of Children, 140, 117-121, 1986	No relevant comparison
Centre for Reviews and Dissemination, Indications for therapy and treatment recommendations for bacterial vaginosis in nonpregnant and pregnant women: a synthesis of data (Structured abstract), Database of Abstracts of Reviews of Effects, 2015	Included studies were assessed for inclusion but were not deemed eligible
Chan,G.J., Lee,A.C., Baqui,A.H., Tan,J., Black,R.E., Risk of early-onset neonatal infection with maternal infection or colonization: a global systematic review and meta-analysis, PLoS Medicine / Public Library of Science, 10, e1001502-, 2013	No relevant comparison
Clark, D. M., Anderson, G. V., Perinatal mortality and amnionitis in a general hospital population, Obstetrics & Gynecology, 31, 714-8, 1968	No relevant comparison
Colbourn,T., Asseburg,C., Bojke,L., Philips,Z., Claxton,K., Ades,A.E., Gilbert,R.E., Prenatal screening and treatment strategies to prevent group B streptococcal and other bacterial infections in early infancy: Cost-effectiveness	No relevant data; focus is on prevention of neonatal sepsis

Study	Reason for exclusion
and expected value of information analyses, Health Technology Assessment, 11, 21-108, 2007	
Coley, A. L., Todd, M. W., Harrington, P., Treatment of serious urinary tract infections at a university teaching hospital: a retrospective chart review, Hospital Formulary, 25, 548-52, 1990	No relevant population. Subgroup of pregnant women, but labour is not mentioned
Cowey, S., Nickell, K., Lynch, C., Selby, V., Jordan, L., Improving the management of maternal sepsis by rapid spread of multidisciplinary training following new NICE guidance, BJOG: An International Journal of Obstetrics and Gynaecology, 124, 31, 2017	Conference abstract
Craig, S., Permezel, M., Doyle, L., Mildenhall, L., Garland, S., Perinatal infection with Listeria monocytogenes, Australian and New Zealand Journal of Obstetrics and Gynaecology, 36, 286-290, 1996	Case series and case reports. The article mentions that some women received intrapartum antibiotics, but details of which antibiotics are provided only in relation to the case reports
Cunningham,F.G., Hauth,J.C., Strong,J.D., Kappus,S.S., Infectious morbidity following cesarean section. Comparison of two treatment regimens, Obstetrics and Gynecology, 52, 656-661, 1978	No relevant population
da Silva, L. P. A., Cavalheiro, L. G., Queiros, F., Nova, C. V., Lucena, R., Prevalence of newborn bacterial meningitis and sepsis during the pregnancy period for public health care system participants in Salvador, Bahia, Brazil, Brazilian Journal of Infectious Diseases, 11, 272-276, 2007	No relevant population
Dawodu, A. H., Effiong, C. E., Neonatal mortality: effects of selective pediatric interventions, Pediatrics, 75, 51-7, 1985	No relevant population
Desai, S. H., Kaplan, M. S., Chen, Q., Macy, E. M., Morbidity in Pregnant Women Associated with Unverified Penicillin Allergies, Antibiotic Use, and Group B Streptococcus Infections, The Permanente journal, 21, 2017	No relevant population. No relevant comparison
Duncan, M. E., Perine, P. L., Krause, D. W., Awoke, S., Zaidi, A. A., Pelvic inflammatory disease and puerperal sepsis in Ethiopia. II. Treatment, American Journal of Obstetrics & Gynecology, 138, 1059-63, 1980	No relevant population
Embleton,N.D., Fetal and neonatal death from maternally acquired infection, Paediatric and Perinatal Epidemiology, 15, 54-60, 2001	No relevant comparison
Falagas,M.E., Vouloumanou,E.K., Baskouta,E., Rafailidis,P.I., Polyzos,K., Rello,J., Treatment options for 2009 H1N1 influenza: Evaluation of	Does not mention women in labour

Study	Reason for exclusion
the published evidence, International Journal of Antimicrobial Agents, 35, 421-430, 2010	
Gerber, A. U., Craig, W. A., Worldwide clinical experience with cefoperazone, Drugs, 22 Suppl 1, 108-18, 1981	No relevant population. Does not focus on women in labour
Henry, S. A., Bendush, C. B., Aztreonam: worldwide overview of the treatment of patients with gram-negative infections, American Journal of Medicine, 78, 57-64, 1985	No relevant population. Does not focus on women in labour. Some data on postpartum infections
Hewagama, S., Walker, S. P., Stuart, R. L., Gordon, C., Johnson, P. D., Friedman, N. D., O'Reilly, M., Cheng, A. C., Giles, M. L., 2009 H1N1 influenza A and pregnancy outcomes in Victoria, Australia, Clinical Infectious Diseases, 50, 686-90, 2010	No relevant comparison
Jimenez, M. F., El Beitune, P., Salcedo, M. P., Von Ameln, A. V., Mastalir, F. P., Braun, L. D., Outcomes for pregnant women infected with the influenza A (H1N1) virus during the 2009 pandemic in Porto Alegre, Brazil, International Journal of Gynaecology & Obstetrics, 111, 217-9, 2010	No relevant comparison
Kankuri,E., Kurki,T., Carlson,P., Hiilesmaa,V., Incidence, treatment and outcome of peripartum sepsis, Acta Obstetricia et Gynecologica Scandinavica, 82, 730-735, 2003	No relevant comparison. No relevant population; cases of sepsis from 7 days before the birth until 7 days afterwards; no data on antimicrobial treatment for the subgroup of women with sepsis in labour
Kannangara, D. W., Lefrock, J. L., Drugs for urinary tract infections in women, American Family Physician, 24, 160-3, 1981	Non-systematic literature review
Keynan, Y., Rubinstein, E., Are drug clinical trials broadly applicable? The case of staphylococcal bacteraemia, International Journal of Antimicrobial Agents, 34 Suppl 4, S35-7, 2009	Non-systematic literature review and discussion article
Kim, J. W., Kim, Y. H., Cho, A. R., Moon, J. H., The efficacy of 3rd generation cephalosporin plus metronidazole versus 3rd generation cephalosporin plus clarithromycin in perinatal outcomes for women with preterm premature rupture of membranes, Reproductive Sciences, 24, 122A, 2017	Conference abstract
Kiser, C., Nawab, U., McKenna, K., Aghai, Z. H., Role of guidelines on length of therapy in chorioamnionitis and neonatal sepsis, Pediatrics, 133, 992-8, 2014	No relevant comparison
Knowles, S. J., O'Sullivan, N. P., Meenan, A. M., Hanniffy, R., Robson, M., Maternal sepsis incidence, aetiology and outcome for mother and fetus: a prospective study, BJOG: An	No relevant comparison

Study	Reason for exclusion
International Journal of Obstetrics & Gynaecology, 122, 663-71, 2015	
Kobak, A. J., Fields, C., Fitzgerald, J. E., Antibiotics and low cervical cesarian section in dystocia or intrapartum sepsis, Journal of the American Medical Association, 148, 1478-80, 1952	No relevant comparison
Larsson, S., Cronberg, S., Winblad, S., Listeriosis during pregnancy and neonatal period in Sweden 1958-1974, Acta Paediatrica Scandinavica, 68, 485-493, 1979	No relevant comparison
Ledger, W. J., Kriewall, T. J., Sweet, R. L., Fekety, F. R., The use of parenteral clindamycin in the treatment of obstetric-gynecologic patients with severe infections. A comparison of a clindamycin-kanamycin combination with penicillin-kanamycin, Obstetrics & Gynecology, 43, 490-7, 1974	No relevant population
Leszczynski, P., Sokol-Leszczynska, B., Pietrzak, B., Sawicka-Grzelak, A., Wielgos, M., Erythromycin or clindamycin-is it still an empirical therapy against Streptococcus agalactiae in patients allergic to penicillin?, Polish Journal of Microbiology, 66, 265-268, 2017	No relevant population
Mazzei,T., Paradiso,M., Nicoletti,I., Periti,P., Amikacin in obstetric, gynecologic, and neonatal infections: laboratory and clinical studies, Journal of Infectious Diseases, 134 SUPPL, S374-S379, 1976	No relevant comparison
McGregor,J.A., French,J.I., Witkin,S., Infection and prematurity: Evidence-based approaches, Current Opinion in Obstetrics and Gynecology, 8, 428-432, 1996	Non-systematic literature review
McNicholl, I. R., Palmer, S. M., Ziska, D. S., Cleary, J. D., Antiinfectives update: focus on treatment and prevention of viral and associated infections, Annals of Pharmacotherapy, 33, 607-14, 1999	Non-systematic literature review
Meijer, W. J., van Noortwijk, A. G., Bruinse, H. W., Wensing, A. M., Influenza virus infection in pregnancy: a review, Acta Obstetricia et Gynecologica Scandinavica, 94, 797-819, 2015	No relevant comparison
Miller,A.C., Safi,F., Hussain,S., Subramanian,R.A., Elamin,E.M., Sinert,R., Novel influenza A(H1N1) virus among gravid admissions, Archives of Internal Medicine, 170, 868-873, 2010	No relevant comparison
Mohamed-Ahmed, O., Nair, M., Acosta, C., Kurinczuk, J. J., Knight, M., Progression from	No relevant comparison. The article focuses on the number of days from diagnosis to

Study	Reason for exclusion
severe sepsis in pregnancy to death: a UK population-based case-control analysis, BJOG: An International Journal of Obstetrics & Gynaecology, 122, 1506-15, 2015	administration of antibiotics and on whether or not women were started on antibiotics, but the study does not compare different antimicrobials
Money, D., Allen, V. M., The prevention of early-onset neonatal group B streptococcal disease, J Obstet Gynaecol CanJournal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC, 35, 939-948, 2013	No relevant data; the study focuses on prevention of neonatal sepsis
Morales,W.J., Angel,J.L., O'Brien,W.F., Knuppel,R.A., Finazzo,M., A randomized study of antibiotic therapy in idiopathic preterm labor, Obstetrics and Gynecology, 72, 829-833, 1988	No relevant population
Msukwa,G., Batumba,N., Drucker,M., Menezes,L., Ranjit,R., Maternal and neonatal risk factors associated with vertical transmission of ophthalmia neonatorum in neonates receiving health care in Blantyre, Malawi, Middle East African journal of ophthalmology, 21, 240-243, 2014	No relevant population
Mullett, C. J., Thomas, J. G., Smith, C. L., Sarwari, A. R., Khakoo, R. A., Computerized antimicrobial decision support: an offline evaluation of a database-driven empiric antimicrobial guidance program in hospitalized patients with a bloodstream infection, International Journal of Medical Informatics, 73, 455-60, 2004	No relevant comparison
Nair, M., Kurinczuk, J. J., Brocklehurst, P., Sellers, S., Lewis, G., Knight, M., Factors associated with maternal death from direct pregnancy complications: a UK national case-control study, BJOG: An International Journal of Obstetrics & Gynaecology, 122, 653-62, 2015	No relevant comparison
Nolla-Salas, J., Bosch, J., Gasser, I., Vinas, L., De Simon, M., Almela, M., Latorre, C., Coll, P., Ferrer, M. D., Perinatal listeriosis: A population based multicenter study in Barcelona, Spain (1990-1996), American Journal of Perinatology, 15, 461-467, 1998	No relevant comparison
Olvera, L., Dutra, D., Early Recognition and Management of Maternal Sepsis, Nursing for Women's Health, 20, 182-95; quiz 196, 2016	No relevant comparison and no relevant outcomes. This study evaluates compliance with administering a broad-spectrum antibiotic to women with sepsis, severe sepsis or septic shock, before and after the implementation of a standardised physician order set and inteprofessional education
Patel, S. S., Balfour, J. A., Bryson, H. M., Fosfomycin Tromethamine. A review of its	No relevant population. Does not focus on women in labour

Study	Reason for exclusion
antibacterial activity, pharmacokinetic properties and therapeutic efficacy as a single-dose oral treatment for acute uncomplicated lower urinary tract infections, Drugs, 53, 637-656, 1997	
Pearson,H.E., Anderson,G.V., Perinatal deaths associated with bacteroides infections, Obstetrics and Gynecology, 30, 486-492, 1967	Case series
Pegues, D. A., Arathoon, E. G., Samayoa, B., Del Valle, G. T., Anderson, R. L., Riddle, C. F., O'Hara, C. M., Miller, J. M., Hill, B. C., Highsmith, A. K., et al.,, Epidemic gram-negative bacteremia in a neonatal intensive care unit in Guatemala, American Journal of Infection Control, 22, 163-71, 1994	No relevant population
Plosker, G. L., Foster, R. H., Benfield, P., Cefotaxime. A pharmacoeconomic review of its use in the treatment of infections, Pharmacoeconomics, 13, 91-106, 1998	Non-systematic literature review and cost analysis
Quirante,J., Ceballos,R., Cassady,G., Group B beta-hemolytic streptococcal infection in the newborn. I. Early onset infection, American Journal of Diseases of Children, 128, 659-665, 1974	No relevant population. Four out of 17 women had evidence suggesting infection prior to birth. No data relating to relevant antimicrobials given to the women
Reisner,D.P., Haas,M.J., Zingheim,R.W., Williams,M.A., Luthy,D.A., Performance of a group B streptococcal prophylaxis protocol combining high-risk treatment and low-risk screening, American Journal of Obstetrics and Gynecology, 182, 1335-1343, 2000	No relevant comparison
Ribeiro, A. F., Pellini, A. C. G., Kitagawa, B. Y., Marques, D., Madalosso, G., Fred, J., Albernaz, R. K. M., Carvalhanas, T. R. M. P., Zanetta, D. M. T., Severe influenza A(H1N1)pdm09 in pregnant women and neonatal outcomes, State of Sao Paulo, Brazil, 2009, PLoS ONE, 13, e0194392, 2018	No relevant population. Not specific to women in labour. The article mentions that "Considering the live births that occurred during hospitalization, in 100% of cases and in 75.0% of controls a cesarean delivery was performed". It is unclear whether caesarean sections took place after the onset of labour
Richards,D.M., Brogden,R.N., Ceftazidime. A review of its antibacterial activity, pharmacokinetic properties and therapeutic use, Drugs, 29, 105-161, 1985	Non-systematic literature review. Does not mention relevant population
Rosene, K., Eschenbach, D. A., Tompkins, L. S., Kenny, G. E., Watkins, H., Polymicrobial early postpartum endometritis with facultative and anaerobic bacteria, genital mycoplasmas, and Chlamydia trachomatis: treatment with piperacillin or cefoxitin, Journal of Infectious Diseases, 153, 1028-37, 1986	No relevant population. Women postpartum
Saleeby,E., Chapman,J., Morse,J., Bryant,A., Nygaard,I., H1N1 influenza in pregnancy: Cause	Case reports and non-systematic literature review

Study	Reason for exclusion
for concern, Obstetrics and Gynecology, 114, 885-891, 2009	
Sapuan, S., Kortsalioudaki, C., Anthony, M., Chang, J., Embleton, N. D., Geethanath, R. M., Gray, J., Greenough, A., Lal, M. K., Luck, S., Pattnayak, S., Reynolds, P., Russell, A. B., Scorrer, T., Turner, M., Heath, P. T., Vergnano, S., Neonatal listeriosis in the UK 2004-2014, Journal of Infection, 74, 236-242, 2017	Case series
Schuchat,A., Impact of intrapartum chemoprophylaxis on neonatal sepsis, Pediatric Infectious Disease Journal, 22, 1087-1088, 2003	Non-systematic literature review
Seale, J., Millar, M., Perinatal vertical transmission of antibiotic-resistant bacteria: a systematic review and proposed research strategy, BJOG: An International Journal of Obstetrics & Gynaecology, 121, 923-8, 2014	No relevant comparison
Seppelt, I., Critical illness due to 2009 A/H1N1 influenza in pregnant and postpartum women: Population based cohort study, BMJ (Online), 340, 751, 2010	No relevant comparison
Seski, A. G., Miller, L. A., Guindi, S., Amnionitis--Evaluation of a Diagnostic Procedure, Journal - Michigan State Medical Society, 62, 1191-4, 1963	No relevant comparison
Shinar, S., Fouks, Y., Amit, S., Pauzner, D., Tarabeia, J., Schechner, V., Many, A., Clinical Characteristics of and Preventative Strategies for Peripartum Group A Streptococcal Infections, Obstetrics and Gynecology, 127, 227-232, 2016	No relevant population. No relevant comparison
Sifakis,S., Angelakis,E., Makrigiannakis,A., Orfanoudaki,I., Christakis-Hampsas,M., Katonis,P., Tsatsakis,A., Koumantakis,E., Chemoprophylactic and bactericidal efficacy of 80 mg gentamicin in a single and once-daily dosing, Archives of Gynecology and Obstetrics, 272, 201-206, 2005	No relevant population. One subgroup includes both chorioamnionitis in labour and puerperal endometritis; results are not presented separately for chorioamnionitis and for endometritis. The main comparison in the article is not relevant, although it reports narratively on a comparison between gentamicin plus cefoxitin and gentamicin plus ceforanide
Singhal, S., Sarda, N., Arora, R., Punia, N., Jain, A., Clinical profile & outcome of H1N1 infected pregnant women in a tertiary care teaching hospital of northern India, Indian Journal of Medical Research, 139, 454-8, 2014	No relevant comparison
Sriskandan, S., Severe peripartum sepsis, Journal of the Royal College of Physicians of Edinburgh, 41, 339-46, 2011	Non-systematic literature review
Sung,E., George,J., Porter,M., Sepsis in pregnancy, Fetal and Maternal Medicine Review, 22, 287-305, 2011	Non-systematic literature review

Study	Reason for exclusion
Suputtamongkol, Y., Dance, D. A., Chaowagul, W., Wattanagoon, Y., Wuthiekanun, V., White, N. J., Amoxycillin-clavulanic acid treatment of melioidosis, Transactions of the Royal Society of Tropical Medicine & Hygiene, 85, 672-5, 1991	No relevant population
Surgers, L., Bleibtreu, A., Burdet, C., Clermont, O., Laouenan, C., Lefort, A., Mentre, F., Carbonne, B., Bingen, E., Meynard, J. L., Denamur, E., Colibafi Group, Escherichia coli bacteraemia in pregnant women is life-threatening for foetuses, Clinical Microbiology & Infection, 20, O1035-41, 2014	No relevant population. No relevant comparison
Surgers, L., Valin, N., Carbonne, B., Bingen, E., Lalande, V., Pacanowski, J., Meyohas, M. C., Girard, P. M., Meynard, J. L., Evolving microbiological epidemiology and high fetal mortality in 135 cases of bacteremia during pregnancy and postpartum, European Journal of Clinical Microbiology & Infectious Diseases, 32, 107-13, 2013	No relevant comparison
Sweet, R. L., Ledger, W. J., Puerperal infectious morbidity. A two year review, American Journal of Obstetrics and Gynecology, 117, 1093-1100, 1973	No relevant population. Women with postpartum infection
Sweet, R. L., Ohm-Smith, M., Landers, D. V., Robbie, M. O., Moxalactam versus clindamycin plus tobramycin in the treatment of obstetric and gynecologic infections, American Journal of Obstetrics & Gynecology, 152, 808-17, 1985	No relevant population
Vanukuru, Jayasree, Bagga, Rashmi, Muthyala, Tanuja, Gautam, Vikas, Sethi, Sunil, Jain, Vanita, Sikka, Pooja, A clinical and microbiological study of puerperal sepsis in a tertiary care hospital in India, The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians, 1-7, 2018	No relevant population. Women with sepsis from labour onset or rupture of membranes until day 42 postpartum. No subgroup analysis for women with sepsis in labour
Vellend, H., Bergeron, M. G., Krip, G., Ronald, A. R., Clinical evaluation of cefoxitin in the treatment of intra-abdominal and pelvic infections: A multicentre study in Canada, Current Therapeutic Research - Clinical and Experimental, 33, 528-538, 1983	A full-text copy of the article could not be obtained
Vilchez, G., Espinoza, M., D'Onadio, G., Saona, P., Gotuzzo, E., Brucellosis in pregnancy: clinical aspects and obstetric outcomes, International Journal of Infectious Diseases, 38, 95-100, 2015	No relevant population. No relevant comparison

Study	Reason for exclusion
White,C.A., Koontz,F.P., -Hemolytic streptococcus infections in postpartum patients, Obstetrics and Gynecology, 41, 27-32, 1973	No relevant population. Women with fever and infection postpartum. The study authors mention that only 4 women were febrile in labour
Willis,A.T., Metronidazole in the prevention and treatment of anaerobic sepsis, Annali Dell'Istituto Superiore di Sanita, 15, 123-135, 1979	No relevant population. Metronidazole was given as prophylaxis to reduce the incidence of postoperative infections. No relevant comparison. Metronidazole versus placebo
Wortham, J. M., Hansen, N. I., Schrag, S. J., Hale, E., Van Meurs, K., Sanchez, P. J., Cantey, J. B., Faix, R., Poindexter, B., Goldberg, R., Bizzarro, M., Frantz, I., Das, A., Benitz, W. E., Shane, A. L., Higgins, R., Stoll, B. J., Chorioamnionitis and culture-confirmed, early-onset neonatal infections, Pediatrics, 137, 2016	No relevant comparison
Wright, A. J., Unger, S., Coleman, B. L., Lam, P. P., McGeer, A. J., Maternal antibiotic exposure and risk of antibiotic resistance in neonatal early-onset sepsis: a case-cohort study, Pediatric Infectious Disease Journal, 31, 1206-8, 2012	No relevant population. No relevant outcomes
Yates,L., Pierce,M., Stephens,S., Mill,A.C., Spark,P., Kurinczuk,J.J., Valappil,M., Brocklehurst,P., Thomas,S.H.L., Knight,M., Influenza A/HINIv in pregnancy: An investigation of the characteristics and management of affected women and the relationship to pregnancy outcomes for mother and infant, Health Technology Assessment, 14, 109-182, 2010	No relevant comparison

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – antimicrobial therapy

Clinical studies

Study	Reason for exclusion
Arredondo Garcia, J. L., Figueroa Damian, R., Ortiz Ibarra, F. J., Sosa Gonzalez, I. E., Endometritis etiology: Diagnosis and treatment experience of the Instituto Nacional de Perinatologia, Current Therapeutic Research - Clinical and Experimental, 54, 529-539, 1993	No relevant population. Women with endometritis either postpartum or post-caesarean section. No relevant comparison
Brown,C.E., Stettler,R.W., Twickler,D., Cunningham,F.G., Puerperal septic pelvic thrombophlebitis: Incidence and response to	No relevant comparison

Study	Reason for exclusion
heparin therapy, American Journal of Obstetrics and Gynecology, 181, 143-148, 1999	
Butt, I. J., Khan, S., Butt, S., Bhutta, S., Frequency and treatment of methicillin resistant Staphylococcus aureus in obstetric and gynaecological sepsis, Jcpsp, Journal of the College of Physicians & Surgeons - Pakistan, 23, 708-10, 2013	No relevant population. Women with puerperal sepsis or postoperative wound infection. No relevant comparison
Campognone,P., Singer,D.B., Neonatal sepsis due to nontypable haemophilus influenzae, American Journal of Diseases of Children, 140, 117-121, 1986	No relevant comparison
Centre for Reviews and Dissemination, Indications for therapy and treatment recommendations for bacterial vaginosis in nonpregnant and pregnant women: a synthesis of data (Structured abstract), Database of Abstracts of Reviews of Effects, 2015	Included studies were assessed for inclusion but were not deemed eligible
Chan,G.J., Lee,A.C., Baqui,A.H., Tan,J., Black,R.E., Risk of early-onset neonatal infection with maternal infection or colonization: a global systematic review and meta-analysis, PLoS Medicine / Public Library of Science, 10, e1001502-, 2013	No relevant comparison
Clark, D. M., Anderson, G. V., Perinatal mortality and amnionitis in a general hospital population, Obstetrics & Gynecology, 31, 714-8, 1968	No relevant comparison
Colbourn,T., Asseburg,C., Bojke,L., Philips,Z., Claxton,K., Ades,A.E., Gilbert,R.E., Prenatal screening and treatment strategies to prevent group B streptococcal and other bacterial infections in early infancy: Cost-effectiveness and expected value of information analyses, Health Technology Assessment, 11, 21-108, 2007	No relevant data; focus is on prevention of neonatal sepsis
Coley, A. L., Todd, M. W., Harrington, P., Treatment of serious urinary tract infections at a university teaching hospital: a retrospective chart review, Hospital Formulary, 25, 548-52, 1990	No relevant population. Subgroup of pregnant women, but labour is not mentioned
Cowey, S., Nickell, K., Lynch, C., Selby, V., Jordan, L., Improving the management of maternal sepsis by rapid spread of multidisciplinary training following new NICE guidance, BJOG: An International Journal of Obstetrics and Gynaecology, 124, 31, 2017	Conference abstract
Craig, S., Permezel, M., Doyle, L., Mildenhall, L., Garland, S., Perinatal infection with Listeria monocytogenes, Australian and New Zealand	Case series and case reports. The article mentions that some women received intrapartum antibiotics, but details of which

Study	Reason for exclusion
Journal of Obstetrics and Gynaecology, 36, 286-290, 1996	antibiotics are provided only in relation to the case reports
Cunningham,F.G., Hauth,J.C., Strong,J.D., Kappus,S.S., Infectious morbidity following cesarean section. Comparison of two treatment regimens, Obstetrics and Gynecology, 52, 656-661, 1978	No relevant population
da Silva, L. P. A., Cavalheiro, L. G., Queiros, F., Nova, C. V., Lucena, R., Prevalence of newborn bacterial meningitis and sepsis during the pregnancy period for public health care system participants in Salvador, Bahia, Brazil, Brazilian Journal of Infectious Diseases, 11, 272-276, 2007	No relevant population
Dawodu, A. H., Effiong, C. E., Neonatal mortality: effects of selective pediatric interventions, Pediatrics, 75, 51-7, 1985	No relevant population
Desai, S. H., Kaplan, M. S., Chen, Q., Macy, E. M., Morbidity in Pregnant Women Associated with Unverified Penicillin Allergies, Antibiotic Use, and Group B Streptococcus Infections, The Permanente journal, 21, 2017	No relevant population. No relevant comparison
Duncan, M. E., Perine, P. L., Krause, D. W., Awoke, S., Zaidi, A. A., Pelvic inflammatory disease and puerperal sepsis in Ethiopia. II. Treatment, American Journal of Obstetrics & Gynecology, 138, 1059-63, 1980	No relevant population
Embleton,N.D., Fetal and neonatal death from maternally acquired infection, Paediatric and Perinatal Epidemiology, 15, 54-60, 2001	No relevant comparison
Falagas,M.E., Vouloumanou,E.K., Baskouta,E., Rafailidis,P.I., Polyzos,K., Rello,J., Treatment options for 2009 H1N1 influenza: Evaluation of the published evidence, International Journal of Antimicrobial Agents, 35, 421-430, 2010	Does not mention women in labour
Gerber, A. U., Craig, W. A., Worldwide clinical experience with cefoperazone, Drugs, 22 Suppl 1, 108-18, 1981	No relevant population. Does not focus on women in labour
Henry, S. A., Bendush, C. B., Aztreonam: worldwide overview of the treatment of patients with gram-negative infections, American Journal of Medicine, 78, 57-64, 1985	No relevant population. Does not focus on women in labour. Some data on postpartum infections
Hewagama, S., Walker, S. P., Stuart, R. L., Gordon, C., Johnson, P. D., Friedman, N. D., O'Reilly, M., Cheng, A. C., Giles, M. L., 2009 H1N1 influenza A and pregnancy outcomes in Victoria, Australia, Clinical Infectious Diseases, 50, 686-90, 2010	No relevant comparison

Study	Reason for exclusion
Jimenez, M. F., El Beitune, P., Salcedo, M. P., Von Ameln, A. V., Mastalir, F. P., Braun, L. D., Outcomes for pregnant women infected with the influenza A (H1N1) virus during the 2009 pandemic in Porto Alegre, Brazil, International Journal of Gynaecology & Obstetrics, 111, 217-9, 2010	No relevant comparison
Kankuri,E., Kurki,T., Carlson,P., Hiilesmaa,V., Incidence, treatment and outcome of peripartum sepsis, Acta Obstetricia et Gynecologica Scandinavica, 82, 730-735, 2003	No relevant comparison. No relevant population; cases of sepsis from 7 days before the birth until 7 days afterwards; no data on antimicrobial treatment for the subgroup of women with sepsis in labour
Kannangara, D. W., Lefrock, J. L., Drugs for urinary tract infections in women, American Family Physician, 24, 160-3, 1981	Non-systematic literature review
Keynan, Y., Rubinstein, E., Are drug clinical trials broadly applicable? The case of staphylococcal bacteraemia, International Journal of Antimicrobial Agents, 34 Suppl 4, S35-7, 2009	Non-systematic literature review and discussion article
Kim, J. W., Kim, Y. H., Cho, A. R., Moon, J. H., The efficacy of 3rd generation cephalosporin plus metronidazole versus 3rd generation cephalosporin plus clarithromycin in perinatal outcomes for women with preterm premature rupture of membranes, Reproductive Sciences, 24, 122A, 2017	Conference abstract
Kiser, C., Nawab, U., McKenna, K., Aghai, Z. H., Role of guidelines on length of therapy in chorioamnionitis and neonatal sepsis, Pediatrics, 133, 992-8, 2014	No relevant comparison
Knowles, S. J., O'Sullivan, N. P., Meenan, A. M., Hanniffy, R., Robson, M., Maternal sepsis incidence, aetiology and outcome for mother and fetus: a prospective study, BJOG: An International Journal of Obstetrics & Gynaecology, 122, 663-71, 2015	No relevant comparison
Kobak, A. J., Fields, C., Fitzgerald, J. E., Antibiotics and low cervical cesarian section in dystocia or intrapartum sepsis, Journal of the American Medical Association, 148, 1478-80, 1952	No relevant comparison
Larsson, S., Cronberg, S., Winblad, S., Listeriosis during pregnancy and neonatal period in Sweden 1958-1974, Acta Paediatrica Scandinavica, 68, 485-493, 1979	No relevant comparison
Ledger, W. J., Kriewall, T. J., Sweet, R. L., Fekety, F. R., The use of parenteral clindamycin in the treatment of obstetric-gynecologic patients with severe infections. A comparison of a	No relevant population

Study	Reason for exclusion
clindamycin-kanamycin combination with penicillin-kanamycin, Obstetrics & Gynecology, 43, 490-7, 1974	
Leszczynski, P., Sokol-Leszczynska, B., Pietrzak, B., Sawicka-Grzelak, A., Wielgos, M., Erythromycin or clindamycin-is it still an empirical therapy against Streptococcus agalactiae in patients allergic to penicillin?, Polish Journal of Microbiology, 66, 265-268, 2017	No relevant population
Mazzei,T., Paradiso,M., Nicoletti,I., Periti,P., Amikacin in obstetric, gynecologic, and neonatal infections: laboratory and clinical studies, Journal of Infectious Diseases, 134 SUPPL, S374-S379, 1976	No relevant comparison
McGregor,J.A., French,J.I., Witkin,S., Infection and prematurity: Evidence-based approaches, Current Opinion in Obstetrics and Gynecology, 8, 428-432, 1996	Non-systematic literature review
McNicholl, I. R., Palmer, S. M., Ziska, D. S., Cleary, J. D., Antiinfectives update: focus on treatment and prevention of viral and associated infections, Annals of Pharmacotherapy, 33, 607-14, 1999	Non-systematic literature review
Meijer, W. J., van Noortwijk, A. G., Bruinse, H. W., Wensing, A. M., Influenza virus infection in pregnancy: a review, Acta Obstetricia et Gynecologica Scandinavica, 94, 797-819, 2015	No relevant comparison
Miller,A.C., Safi,F., Hussain,S., Subramanian,R.A., Elamin,E.M., Sinert,R., Novel influenza A(H1N1) virus among gravid admissions, Archives of Internal Medicine, 170, 868-873, 2010	No relevant comparison
Mohamed-Ahmed, O., Nair, M., Acosta, C., Kurinczuk, J. J., Knight, M., Progression from severe sepsis in pregnancy to death: a UK population-based case-control analysis, BJOG: An International Journal of Obstetrics & Gynaecology, 122, 1506-15, 2015	No relevant comparison. The article focuses on the number of days from diagnosis to administration of antibiotics and on whether or not women were started on antibiotics, but the study does not compare different antimicrobials
Money, D., Allen, V. M., The prevention of early-onset neonatal group B streptococcal disease, J Obstet Gynaecol CanJournal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC, 35, 939-948, 2013	No relevant data; the study focuses on prevention of neonatal sepsis
Morales,W.J., Angel,J.L., O'Brien,W.F., Knuppel,R.A., Finazzo,M., A randomized study of antibiotic therapy in idiopathic preterm labor, Obstetrics and Gynecology, 72, 829-833, 1988	No relevant population

Study	Reason for exclusion
Msukwa,G., Batumba,N., Drucker,M., Menezes,L., Ranjit,R., Maternal and neonatal risk factors associated with vertical transmission of ophthalmia neonatorum in neonates receiving health care in Blantyre, Malawi, Middle East African journal of ophthalmology, 21, 240-243, 2014	No relevant population
Mullett, C. J., Thomas, J. G., Smith, C. L., Sarwari, A. R., Khakoo, R. A., Computerized antimicrobial decision support: an offline evaluation of a database-driven empiric antimicrobial guidance program in hospitalized patients with a bloodstream infection, International Journal of Medical Informatics, 73, 455-60, 2004	No relevant comparison
Nair, M., Kurinczuk, J. J., Brocklehurst, P., Sellers, S., Lewis, G., Knight, M., Factors associated with maternal death from direct pregnancy complications: a UK national case-control study, BJOG: An International Journal of Obstetrics & Gynaecology, 122, 653-62, 2015	No relevant comparison
Nolla-Salas, J., Bosch, J., Gasser, I., Vinas, L., De Simon, M., Almela, M., Latorre, C., Coll, P., Ferrer, M. D., Perinatal listeriosis: A population based multicenter study in Barcelona, Spain (1990-1996), American Journal of Perinatology, 15, 461-467, 1998	No relevant comparison
Olvera, L., Dutra, D., Early Recognition and Management of Maternal Sepsis, Nursing for Women's Health, 20, 182-95; quiz 196, 2016	No relevant comparison and no relevant outcomes. This study evaluates compliance with administering a broad-spectrum antibiotic to women with sepsis, severe sepsis or septic shock, before and after the implementation of a standardised physician order set and inteprofessional education
Patel, S. S., Balfour, J. A., Bryson, H. M., Fosfomycin Tromethamine. A review of its antibacterial activity, pharmacokinetic properties and therapeutic efficacy as a single-dose oral treatment for acute uncomplicated lower urinary tract infections, Drugs, 53, 637-656, 1997	No relevant population. Does not focus on women in labour
Pearson,H.E., Anderson,G.V., Perinatal deaths associated with bacteroides infections, Obstetrics and Gynecology, 30, 486-492, 1967	Case series
Pegues, D. A., Arathoon, E. G., Samayoa, B., Del Valle, G. T., Anderson, R. L., Riddle, C. F., O'Hara, C. M., Miller, J. M., Hill, B. C., Highsmith, A. K., et al.,, Epidemic gram-negative bacteremia in a neonatal intensive care unit in Guatemala, American Journal of Infection Control, 22, 163-71, 1994	No relevant population

Study	Reason for exclusion
Plosker, G. L., Foster, R. H., Benfield, P., Cefotaxime. A pharmacoeconomic review of its use in the treatment of infections, Pharmacoeconomics, 13, 91-106, 1998	Non-systematic literature review and cost analysis
Quirante,J., Ceballos,R., Cassady,G., Group B beta-hemolytic streptococcal infection in the newborn. I. Early onset infection, American Journal of Diseases of Children, 128, 659-665, 1974	No relevant population. Four out of 17 women had evidence suggesting infection prior to birth. No data relating to relevant antimicrobials given to the women
Reisner,D.P., Haas,M.J., Zingheim,R.W., Williams,M.A., Luthy,D.A., Performance of a group B streptococcal prophylaxis protocol combining high-risk treatment and low-risk screening, American Journal of Obstetrics and Gynecology, 182, 1335-1343, 2000	No relevant comparison
Ribeiro, A. F., Pellini, A. C. G., Kitagawa, B. Y., Marques, D., Madalosso, G., Fred, J., Albernaz, R. K. M., Carvalhanas, T. R. M. P., Zanetta, D. M. T., Severe influenza A(H1N1)pdm09 in pregnant women and neonatal outcomes, State of Sao Paulo, Brazil, 2009, PLoS ONE, 13, e0194392, 2018	No relevant population. Not specific to women in labour. The article mentions that "Considering the live births that occurred during hospitalization, in 100% of cases and in 75.0% of controls a cesarean delivery was performed". It is unclear whether caesarean sections took place after the onset of labour
Richards,D.M., Brogden,R.N., Ceftazidime. A review of its antibacterial activity, pharmacokinetic properties and therapeutic use, Drugs, 29, 105-161, 1985	Non-systematic literature review. Does not mention relevant population
Rosene, K., Eschenbach, D. A., Tompkins, L. S., Kenny, G. E., Watkins, H., Polymicrobial early postpartum endometritis with facultative and anaerobic bacteria, genital mycoplasmas, and Chlamydia trachomatis: treatment with piperacillin or cefoxitin, Journal of Infectious Diseases, 153, 1028-37, 1986	No relevant population. Women postpartum
Saleeby,E., Chapman,J., Morse,J., Bryant,A., Nygaard,I., H1N1 influenza in pregnancy: Cause for concern, Obstetrics and Gynecology, 114, 885-891, 2009	Case reports and non-systematic literature review
Sapuan, S., Kortsalioudaki, C., Anthony, M., Chang, J., Embleton, N. D., Geethanath, R. M., Gray, J., Greenough, A., Lal, M. K., Luck, S., Pattnayak, S., Reynolds, P., Russell, A. B., Scorrer, T., Turner, M., Heath, P. T., Vergnano, S., Neonatal listeriosis in the UK 2004-2014, Journal of Infection, 74, 236-242, 2017	Case series
Schuchat,A., Impact of intrapartum chemoprophylaxis on neonatal sepsis, Pediatric Infectious Disease Journal, 22, 1087-1088, 2003	Non-systematic literature review
Seale, J., Millar, M., Perinatal vertical transmission of antibiotic-resistant bacteria: a systematic review and proposed research	No relevant comparison

Study	Reason for exclusion
strategy, BJOG: An International Journal of Obstetrics & Gynaecology, 121, 923-8, 2014	
Seppelt, I., Critical illness due to 2009 A/H1N1 influenza in pregnant and postpartum women: Population based cohort study, BMJ (Online), 340, 751, 2010	No relevant comparison
Seski, A. G., Miller, L. A., Guindi, S., Amnionitis--Evaluation of a Diagnostic Procedure, Journal - Michigan State Medical Society, 62, 1191-4, 1963	No relevant comparison
Shinar, S., Fouks, Y., Amit, S., Pauzner, D., Tarabeia, J., Schechner, V., Many, A., Clinical Characteristics of and Preventative Strategies for Peripartum Group A Streptococcal Infections, Obstetrics and Gynecology, 127, 227-232, 2016	No relevant population. No relevant comparison
Sifakis,S., Angelakis,E., Makrigiannakis,A., Orfanoudaki,I., Christakis-Hampsas,M., Katonis,P., Tsatsakis,A., Koumantakis,E., Chemoprophylactic and bactericidal efficacy of 80 mg gentamicin in a single and once-daily dosing, Archives of Gynecology and Obstetrics, 272, 201-206, 2005	No relevant population. One subgroup includes both chorioamnionitis in labour and puerperal endometritis; results are not presented separately for chorioamnionitis and for endometritis. The main comparison in the article is not relevant, although it reports narratively on a comparison between gentamicin plus cefoxitin and gentamicin plus ceforanide
Singhal, S., Sarda, N., Arora, R., Punia, N., Jain, A., Clinical profile & outcome of H1N1 infected pregnant women in a tertiary care teaching hospital of northern India, Indian Journal of Medical Research, 139, 454-8, 2014	No relevant comparison
Sriskandan, S., Severe peripartum sepsis, Journal of the Royal College of Physicians of Edinburgh, 41, 339-46, 2011	Non-systematic literature review
Sung,E., George,J., Porter,M., Sepsis in pregnancy, Fetal and Maternal Medicine Review, 22, 287-305, 2011	Non-systematic literature review
Suputtamongkol, Y., Dance, D. A., Chaowagul, W., Wattanagoon, Y., Wuthiekanun, V., White, N. J., Amoxycillin-clavulanic acid treatment of melioidosis, Transactions of the Royal Society of Tropical Medicine & Hygiene, 85, 672-5, 1991	No relevant population
Surgers, L., Bleibtreu, A., Burdet, C., Clermont, O., Laouenan, C., Lefort, A., Mentre, F., Carbonne, B., Bingen, E., Meynard, J. L., Denamur, E., Colibafi Group, Escherichia coli bacteraemia in pregnant women is life-threatening for foetuses, Clinical Microbiology & Infection, 20, O1035-41, 2014	No relevant population. No relevant comparison
Surgers, L., Valin, N., Carbonne, B., Bingen, E., Lalande, V., Pacanowski, J., Meyohas, M. C., Girard, P. M., Meynard, J. L., Evolving microbiological epidemiology and high fetal	No relevant comparison

Study	Reason for exclusion
mortality in 135 cases of bacteremia during pregnancy and postpartum, European Journal of Clinical Microbiology & Infectious Diseases, 32, 107-13, 2013	
Sweet, R. L., Ledger, W. J., Puerperal infectious morbidity. A two year review, American Journal of Obstetrics and Gynecology, 117, 1093-1100, 1973	No relevant population. Women with postpartum infection
Sweet, R. L., Ohm-Smith, M., Landers, D. V., Robbie, M. O., Moxalactam versus clindamycin plus tobramycin in the treatment of obstetric and gynecologic infections, American Journal of Obstetrics & Gynecology, 152, 808-17, 1985	No relevant population
Vanukuru, Jayasree, Bagga, Rashmi, Muthyala, Tanuja, Gautam, Vikas, Sethi, Sunil, Jain, Vanita, Sikka, Pooja, A clinical and microbiological study of puerperal sepsis in a tertiary care hospital in India, The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians, 1-7, 2018	No relevant population. Women with sepsis from labour onset or rupture of membranes until day 42 postpartum. No subgroup analysis for women with sepsis in labour
Vellend, H., Bergeron, M. G., Krip, G., Ronald, A. R., Clinical evaluation of cefoxitin in the treatment of intra-abdominal and pelvic infections: A multicentre study in Canada, Current Therapeutic Research - Clinical and Experimental, 33, 528-538, 1983	A full-text copy of the article could not be obtained
Vilchez, G., Espinoza, M., D'Onadio, G., Saona, P., Gotuzzo, E., Brucellosis in pregnancy: clinical aspects and obstetric outcomes, International Journal of Infectious Diseases, 38, 95-100, 2015	No relevant population. No relevant comparison
White,C.A., Koontz,F.P., -Hemolytic streptococcus infections in postpartum patients, Obstetrics and Gynecology, 41, 27-32, 1973	No relevant population. Women with fever and infection postpartum. The study authors mention that only 4 women were febrile in labour
Willis,A.T., Metronidazole in the prevention and treatment of anaerobic sepsis, Annali Dell'Istituto Superiore di Sanita, 15, 123-135, 1979	No relevant population. Metronidazole was given as prophylaxis to reduce the incidence of postoperative infections. No relevant comparison. Metronidazole versus placebo
Wortham, J. M., Hansen, N. I., Schrag, S. J., Hale, E., Van Meurs, K., Sanchez, P. J., Cantey, J. B., Faix, R., Poindexter, B., Goldberg, R., Bizzarro, M., Frantz, I., Das, A., Benitz, W. E., Shane, A. L., Higgins, R., Stoll, B. J., Chorioamnionitis and culture-confirmed, early-onset neonatal infections, Pediatrics, 137, 2016	No relevant comparison
Wright, A. J., Unger, S., Coleman, B. L., Lam, P. P., McGeer, A. J., Maternal antibiotic exposure	No relevant population. No relevant outcomes

Study	Reason for exclusion
and risk of antibiotic resistance in neonatal early-onset sepsis: a case-cohort study, Pediatric Infectious Disease Journal, 31, 1206-8, 2012	
Yates,L., Pierce,M., Stephens,S., Mill,A.C., Spark,P., Kurinczuk,J.J., Valappil,M., Brocklehurst,P., Thomas,S.H.L., Knight,M., Influenza A/HINIv in pregnancy: An investigation of the characteristics and management of affected women and the relationship to pregnancy outcomes for mother and infant, Health Technology Assessment, 14, 109-182, 2010	No relevant comparison

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – management immediately after the birth

Clinical studies

Study	Reason for exclusion
Aarvold, Alice B. R., Ryan, Helen M., Magee, Laura A., von Dadelszen, Peter, Fjell, Chris, Walley, Keith R., Multiple Organ Dysfunction Score Is Superior to the Obstetric-Specific Sepsis in Obstetrics Score in Predicting Mortality in Septic Obstetric Patients, Critical Care Medicine, 45, e49-e57, 2017	The study assesses a newly developed sepsis in obstetrics score and compares it to existing severity of illness scoring systems
Acosta, C. D., Kurinczuk, J. J., Lucas, D. N., Tuffnell, D. J., Sellers, S., Knight, M., Severe Maternal Sepsis in the UK, 2011-2012: A National Case-Control Study, PLoS Medicine, 11, no pagination, 2014	The article describes the incidence, causative organisms and sources of infection, and identifies risk factors for severe maternal sepsis
Albright, Catherine M., Has, Phinnara, Rouse, Dwight J., Hughes, Brenna L., Internal Validation of the Sepsis in Obstetrics Score to Identify Risk of Morbidity From Sepsis in Pregnancy, Obstetrics and Gynecology, 130, 747-755, 2017	The study validates the Sepsis in Obstetrics Score to identify women at risk of admission to the intensive care unit because of sepsis in pregnancy or within 2 weeks postpartum and compares the score with other scoring systems
Arulkumaran, N., Singer, M., Puerperal sepsis, Best Practice & Research in Clinical Obstetrics & Gynaecology, 27, 893-902, 2013	A descriptive article about aetiology and management of sepsis
Austin, J., Laurie, A., Wilson, A., Mathers, F., Sepsis six: Improving recognition and management of sepsis in the obstetric population, Anaesthesia, 69, 45, 2014	Conference abstract
Axelsson, D., Blomberg, M., Maternal obesity, obstetric interventions and post-partum anaemia increase the risk of post-partum sepsis: a population-	Not the comparison of interest. The study examines whether maternal obesity is associated with diagnosed maternal postpartum sepsis and looks at the

Study	Reason for exclusion
based cohort study based on Swedish medical health registers, Infectious Diseases, 49, 765-771, 2017	relationship between obstetric interventions/complications and maternal postpartum sepsis
Brown, K. N., Arafeh, J. M., Obstetric Sepsis: Focus on the 3-Hour Bundle, The Journal of perinatal & neonatal nursing, 29, 213-221, 2015	A descriptive article about incidence, aetiology and management of sepsis
Chapman, E., Reveiz, L., Illanes, E., Bonfill Cosp, X., Antibiotic regimens for management of intra-amniotic infection, Cochrane Database of Systematic Reviews, 12, CD010976, 2014	Not the population of interest: women with intra-amniotic infection
Galvao, A., Braga, A. C., Goncalves, D. R., Guimaraes, J. M., Braga, J., Sepsis during pregnancy or the postpartum period, Journal of Obstetrics & Gynaecology, 36, 735-743, 2016	A descriptive article about epidemiology, aetiology, diagnosis and management of sepsis
Katakam, N., Patel, S., Worton, S., Management of maternal sepsis in a large UK District General Hospital: Audit results, interventions and introduction of a regional audit tool, BJOG: An International Journal of Obstetrics and Gynaecology, 121, 111-112, 2014	Conference abstract
Kramer,W.B., Saade,G.R., Belfort,M., Samora-Mata,J., Wen,T., Moise,K.J., Antibiotic prophylaxis for presumptive group B streptococcal infection in preterm premature rupture of the membranes: effect on neonatal and maternal infectious morbidity, Infectious Diseases in Obstetrics and Gynecology, 4, 313-318, 1996	Not the question of interest. The article evaluates the risk factors for developing neonatal sepsis
Mabie, W. C., Barton, J. R., Sibai, B., Septic shock in pregnancy, Obstetrics and Gynecology, 90, 553-561, 1997	Not the question of interest. The article evaluates the aetiology and management in women with sepsis during pregnancy
Mackeen, A. D., Packard, R. E., Ota, E., Berghella, V., Baxter, J. K., Timing of intravenous prophylactic antibiotics for preventing postpartum infectious morbidity in women undergoing cesarean delivery, Cochrane Database of Systematic Reviews, 12, CD009516, 2014	Not the comparison of interest. The article compares the effects of caesarean antibiotic prophylaxis administered preoperatively versus administration after neonatal cord clamping on postoperative infectious complications
Mohamed-Ahmed, O., Nair, M., Acosta, C., Kurinczuk, J. J., Knight, M., Progression from severe sepsis in pregnancy to death: a UK population-based case-control analysis, BJOG: An International Journal of Obstetrics & Gynaecology, 122, 1506-15, 2015	Not the question of interest. The article examines factors associated with progression from pregnancy-associated severe sepsis to death
Oakley-Hannibal, E., Gowda, H., Are antibiotics administered within one hour in suspected neonatal sepsis as per nice guidelines?, Archives of Disease in Childhood, 100, A61-A62, 2015	Conference abstract
Olvera, L., Dutra, D., Early Recognition and Management of Maternal Sepsis, Nursing for Women's Health, 20, 182-95; quiz 196, 2016	Not the question of interest. The article evaluates staff (physicians and nurses) compliance with early goal-directed therapy before, during and after the implementation

Study	Reason for exclusion
	of a standardized physician order set and inter-professional education
Plante, L. A., Management of Sepsis and Septic Shock for the Obstetrician-Gynecologist, Obstetrics & Gynecology Clinics of North America, 43, 659-678, 2016	A descriptive article about the pathophysiology, epidemiology, diagnosis and management of sepsis
Reed, Benjamin D., Schibler, Kurt R., Deshmukh, Hitesh, Ambalavanan, Namasivayam, Morrow, Ardythe L., The Impact of Maternal Antibiotics on Neonatal Disease, The Journal of pediatrics, 2018	The study examines whether infant antibiotic exposure antenatally is associated with increased incidence of adverse neonatal outcomes
Roca, A., Oluwalana, C., Bojang, A., Camara, B., Kampmann, B., Bailey, R., Demba, A., Bottomley, C., D'Alessandro, U., Oral azithromycin given during labour decreases bacterial carriage in the mothers and their offspring: a double-blind randomized trial, Clinical Microbiology & Infection, 22, 565.e1-9, 2016	Not women with suspected/diagnosed sepsis

Economic studies

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Appendix E – Clinical evidence tables

Intrapartum care for women with sepsis – mode of birth

No clinical evidence was identified for this review and so there are no evidence tables.

Intrapartum care for women with sepsis – anaesthesia

No clinical evidence was identified for this review and so there are no evidence tables.

Intrapartum care for women with sepsis – analgesia

No clinical evidence was identified for this review and so there are no evidence tables.

Intrapartum care for women with sepsis – fetal monitoring

No clinical evidence was identified for this review and so there are no evidence tables.

1 **Intrapartum care for women with sepsis – antimicrobial therapy**

2

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
Full citation Chapman, E., Reveiz, L., Illanes, E., Bonfill Cosp, X., Antibiotic regimens for management of intra-amniotic infection, Cochrane Database of Systematic Reviews, 12, CD010976, 2014 **Ref Id** 364720 **Country/ies where the study was carried out** Maberry 1991: USA. Scalambrino 1989: Italy **Study type** Chapman 2014: Systematic review Maberry 1991: RCT Scalambrino 1989: Open RCT **Aim of the study**	**Sample size** Maberry 1991: N=133 Scalambrino 1989: N=19 **Characteristics** Maberry 1991*: Estimated gestational age ≥36 weeks: dual-agent therapy, 61/69 versus triple-agent therapy, 56/64; estimated gestational age ≤ 36 weeks: dual-agent therapy, 8/69 versus triple-agent therapy, 8/64. Spontaneous labour: dual-agent therapy, 16/69 (23%) versus triple-agent therapy, 16/64 (25%); induced labour: dual agent therapy, 18/69 (26%) versus triple-agent therapy, 13/64 (20%); augmented labour: dual-agent therapy 35/69 (51%) vs triple	**Interventions** Maberry 1991: Intervention: ampicillin and gentamicin (dual therapy, n = 69). Comparator: ampicillin, gentamicin and clindamycin (triple-agent therapy, n = 64). Scalambrino 1989: Intervention (n=11): ampicillin 2 g plus sulbactam 1 g IV every 8 hours for at least 96 hours (4 days), or until 24 hours after disappearance of all symptoms of infection. Control group (n=8): cefotetan 2 g every 12 hours for at least 96 hours (4 days), or until 24 hours after	**Details** Maberry 1991: RCT. Study setting was a tertiary county hospital. Outcome assessment*: neonatal sepsis was defined as a 'positive blood or spinal fluid culture or a positive urine latex test for group B Streptococcus'. The diagnosis of respiratory distress was based on the need for supplemental oxygen. Intracranial haemorrhage was diagnosed by ultrasound, and necrotising enterocolitis was	**Results** **Maberry 1991** Maternal outcomes: Data on the following outcomes are reported in the article but were not extracted for the guideline review because they are not included in the review protocol: postpartum endometritis, wound infections or dehiscence, pelvic abscesses, septic pelvic thrombophlebitis.* Average duration of hospital stay (days)*: dual-agent therapy, 4 versus triple-agent therapy, 4 (standard deviation not reported) Neonatal outcomes: Neonatal sepsis: dual-agent therapy, 1/69	**Limitations** **Chapman 2014** The methodological quality of Chapman 2014 was assessed using the AMSTAR 2 checklist (https://amstar.ca/Amstar_Checklist.php). AMSTAR score: 11/13, implying moderate quality; the denominator in the score is lower than 16 (corresponding to the 16 questions in the AMSTAR checklist) because items related to meta-analysis (AMSTAR questions 11, 12 and 15) were considered not applicable (the results relevant to the guideline review did not involve any meta-analysis). The following limitations were identified that lowered the AMSTAR score: firstly, the review authors reported a significant deviation from the published protocol, that is, the inclusion of additional outcomes that were not prespecified in the protocol, but no justification for this deviation was reported; secondly, the review authors did not explain why they only included RCTs and cluster-RCTs. The following limitation was identified in the review but did not lower the AMSTAR score because it did not affect the results relevant to the guideline review: the review

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
Chapman 2014: To evaluate antibiotic regimens for intra-amniotic infection by considering maternal and perinatal morbidity and mortality and infection-related complications. Maberry 1991: To evaluate the impact of adding an antibiotic providing anaerobic coverage for treating intra-amniotic infection be considering maternal infectious morbidity, with a particular focus on women undergoing caesarean section. Scalambrino 1989: To evaluate effectiveness and safety of sulbactam plus ampicillin versus cefotetan for treatment of obstetric and gynaecological infections **Study dates**	agent therapy 35/64 (55%); spontaneous membrane rupture: dual agent therapy: 8/69 (12%) vs triple agent therapy: 11/64 (17%); artificial membrane rupture: dual-agent therapy, 31/69 (45%) versus triple-agent therapy, 30/64 (47%); membrane rupture before admission: dual-agent therapy, 30/69 (43%) versus triple-agent therapy, 23/64 (36%); vaginal births: dual-agent therapy, 39/69 (57%) versus triple-agent therapy, 34/64 (53%); spontaneous vaginal births: dual-agent therapy, 29/69 versus triple-agent therapy, 22/64; forceps: dual-agent therapy, 10/69 versus triple-agent therapy, 12/64; caesarean sections: dual-agent therapy, 30/69 (43%) versus triple-agent therapy, 30/64 (47%); caesarean	disappearance of all symptoms of infection	diagnosed by abdominal distension, bloody stools and abdominal radiograph. Scalambrino 1989: Open RCT. Study setting was a university hospital in Monza, Italy. Outcome assessment*: any side effects related to the administered antibiotics were recorded. No explicit definition of 'treatment failure' was reported but the study authors stated that positive response to treatment was indicated by defervescence and disappearance of all symptoms and signs of infection.	versus triple-agent therapy, 1/64 Neonatal death: dual-agent therapy, 3/69 versus triple-agent therapy, 2/64. In the dual-agent therapy group, 2 deaths were due to immaturity (both with birthweights less than 700 g) and 1 from aspiration pneumonia. In the triple antibiotic group, 1 death was due to immaturity (birthweight 710 g, estimated gestational age 25 weeks) and 1 from congenital pneumonia diagnosed on autopsy. This baby had a positive culture for *S. aureus.** (neonatal death was not an outcome in the guideline review protocol but it was extracted for the guideline review because it is the result of major morbidity, which is included in the protocol).	authors reported that only 3 included studies described the source of funding but the review authors did not report the source for these 3 studies; this is not relevant for the studies included in the guideline review (Maberry 1991; Scalambrino 1989) as these did not report the source of funding). The risk of bias assessment for the primary studies included in Chapman 2014 (Maberry 1991; Scalambrino 1989) was taken from Chapman 2014, which used the Cochrane Handbook for Systematic Reviews of Interventions (Higgins 2011), and was modified by the NGA technical team as noted below. **Maberry 1991** Random sequence generation (selection bias): low risk (table of random numbers) Allocation concealment (selection bias): unclear risk (not reported) Blinding of participants and personnel (performance bias) (all outcomes): high risk (not performed; lack of blinding of personnel was the main concern in relation to performance bias, as this may have impacted on decisions around performing interventions during labour, and on whether to admit the woman or the baby to intensive care after the birth or to discharge them from hospital. Moreover, healthcare professionals would be expected to be familiar with different antibiotic regimens

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
Chapman 2014: Dates of searches were: 1 October 2014 (the Cochrane Pregnancy and Childbirth Group's Trials Register was searched); September 2014 (CENTRAL, MEDLINE, Embase, LILACS, and the WHO ICTRP were searched). Maberry 1991: Women admitted to the study hospital between December 1987 and January 1989 were included. Scalambrino 1989: Women were enrolled in the study between January and December 1987 **Source of funding** Chapman 2014: No internal sources of support. External sources of support: UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development	sections were performed for dystocia, fetal distress, breech, or other reasons. Scalambrino 1989*: All infections during pregnancy were in participants with hyperpyrexia and/or malodorous amniotic fluid which appeared at the end of pregnancy, with birth within 24 hours from the appearance of symptoms and signs. Vaginal births: sulbactam plus ampicillin, 10/11 versus cefotetan, 8/8. No other characteristics provided for the subgroup with chorioamnionitis. * Data were extracted from the primary studies or source articles rather than from the Cochrane review **Inclusion criteria**		*Information extracted from the primary article rather than the Cochrane review	Intraventricular haemorrhage: dual-agent therapy, 2/69 versus triple-agent therapy, 0/64 Respiratory distress syndrome: dual-agent therapy, 6/69 versus triple-agent therapy, 5/64 Necrotising enterocolitis:* dual-agent therapy, 0/69 versus triple-agent therapy, 0/64 (this outcome was not in the guideline review protocol but, as above, major morbidity was included in the protocol therefore data on this outcome was extracted) Neonatal seizures: dual-agent therapy, 1/69 versus triple-agent therapy, 1/64 (this outcome was not in the guideline review protocol but, as above, major morbidity was included in the	and so may have preconceived ideas about them. Lack of blinding of participants could also have led to bias. For example, if participants had access to information about different antibiotic regimens and if shared decision making between the healthcare professionals and women was applied in the context of the studies, lack of blinding of participants could also have impacted on care decisions*) Blinding of outcome assessment (detection bias)**: unclear risk of bias for the following outcomes: maternal hospital stay, neonatal sepsis, intraventricular haemorrhage, respiratory distress syndrome, necrotising enterocolitis, neonatal seizures, admission to NICU, neonatal hospital stay (blinding was not performed; although these outcomes seem objective, and the study authors explained how a diagnosis of each condition was made, it is unclear whether knowledge of the treatment arm may have influenced diagnoses of adverse outcomes or classifications relating to hospital stay or NICU admission); low risk of bias for the following outcome: neonatal death (blinding not performed, but it is unlikely that lack of blinding would have influenced outcome assessment). Incomplete outcome data (attrition bias) (all outcomes): low risk (no loss to follow up was reported)

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
and Research Training in Human Reproduction (HRP), Department of Reproductive Health and Research (RHR), World Health Organization, Switzerland. Maberry 1991: Not reported Scalambrino 1989: Not reported	Maberry 1991: Women with a diagnosis of intra-amniotic infection and gestational age greater than 24 weeks were included. Diagnosis of intra-amniotic infection was made on the basis of a temperature of 38°C or higher in the presence of labour and ruptured membranes. In addition, at least 1 of the following was present: maternal tachycardia, fetal tachycardia, uterine tenderness, or foul-smelling amniotic fluid. Scalambrino 1989: Women with chorioamnionitis defined by body temperature ≥ 38°in a single measurement before birth **Exclusion criteria** Maberry 1991: Other sources of fever were			protocol therefore data on this outcome was extracted) Average hospital stay (days)*: dual-agent therapy, 7.0 versus triple-agent therapy, 8.0 (standard deviation not reported) Admission to NICU: the study authors mention that there was no difference in the number of babies admitted to the Special Care Nursery, however no quantitative data were reported* **Scalambrino 1989** Maternal outcomes: Treatment failure: sulbactam plus ampicillin, 0/11 versus cefotetan, 0/8 (treatment was considered ineffective when symptoms and signs and/or temperature curve remained unchanged	Selective reporting (reporting bias): unclear risk (information reported was insufficient to allow a judgment to be made) Other bias: low risk (no other biases were noted) **Scalambrino 1989** Random sequence generation (selection bias): unclear risk (not reported) Allocation concealment (selection bias): unclear risk*** (not reported) Blinding of participants and personnel (performance bias) (all outcomes): high risk (open trial; lack of blinding of personnel was the main concern in relation to performance bias, as this may have impacted on decisions around performing interventions during labour. Moreover, healthcare professionals would be expected to be familiar with different antibiotic regimens and so may have preconceived ideas about them. Lack of blinding of participants could also have led to bias. For example, if participants had access to information about different antibiotic regimens and if shared decision making between the healthcare professionals and women was applied in the context of the studies, lack of blinding of participants could also have impacted on care decisions*)

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
	excluded before the diagnosis was made. Scalambrino 1989: Allergy to penicillin or cephalosporin, participants with renal or hepatic function impairment. Women who had received antibiotic treatment in the week preceding the study			or rose during the first 72 hours of treatment. This outcome was not included in the guideline review protocol but it was extracted as a proxy for major morbidity.) Adverse side effects:* sulbactam plus ampicillin, 0/11 versus cefotetan, 0/8. (The study authors noted that no side effects or clinical laboratory abnormalities needing reduction of dose or discontinuation of therapy were observed with either of the treatment regimens.) Neonatal outcomes Not reported * Information extracted from the primary study or source article rather than from the Cochrane review	Blinding of outcome assessment (detection bias)**: unclear risk of bias for the following outcomes: treatment failure and maternal adverse side effects (open trial; although these outcomes seem objective, and details were reported on how response to treatment was assessed, it is unclear whether knowledge of the treatment arm may have influenced diagnoses or classifications of adverse outcomes) Incomplete outcome data (attrition bias) (all outcomes): unclear risk (not clearly stated for the chorioamnionitis subgroup) Selective reporting (reporting bias): unclear risk (information reported was insufficient to allow a judgment to be made; not all relevant outcomes were reported) Other bias: unclear risk (information reported was insufficient to allow a judgment to be made) * Details explaining assessment of high risk of performance bias were added by the NGA technical team (and not extracted from the Cochrane review) ** Risk of detection bias was rated differently in the Cochrane review, which rated the risk as high ***Risk of bias assessment different from that in the Cochrane review, which reported that there was no statement of allocation

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
					concealment, but rated the risk of bias related to allocation concealment as high rather than unclear **Other information** Maberry 1991: No details were reported about antibiotic doses and administration. The study authors noted that most babies born to women with intrapartum antibiotic treatment of intra-amniotic infection received ampicillin and gentamicin for at least 48 hours pending blood culture results
Full citation Maberry, M. C., Gilstrap, L. C., 3rd, Bawdon, R., Little, B. B., Dax, J., Anaerobic coverage for intra-amnionic infection: maternal and perinatal impact, 8, 338-41, 1991 **Ref Id** 794249 **Country/ies where the study was carried out** See Chapman 2014 **Study type**	**Sample size** See Chapman 2014 **Characteristics** See Chapman 2014 **Inclusion criteria** See Chapman 2014 **Exclusion criteria** See Chapman 2014	**Interventions** See Chapman 2014	**Details** See Chapman 2014	**Results** See Chapman 2014	**Limitations** See Chapman 2014 **Other information** See Chapman 2014

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
See Chapman 2014 **Aim of the study** See Chapman 2014 **Study dates** See Chapman 2014 **Source of funding** See Chapman 2014					
Full citation Scalambrino, S., Mangioni, C., Milani, R., Regallo, M., Norchi, S., Negri, L., Carrera, S., Vigano, E. F., Ruffilli, M. P., Canale, M. P., Sulbactam/ampicillin versus cefotetan in the treatment of obstetric and gynecologic infections, Suppl Int J Gynecol ObstetSupplement to International journal of gynecology and obstetrics, 2, 21-7, 1989 **Ref Id** 794250	**Sample size** See Chapman 2014 **Characteristics** See Chapman 2014 **Inclusion criteria** See Chapman 2014 **Exclusion criteria** See Chapman 2014	**Interventions** See Chapman 2014	**Details** See Chapman 2014	**Results** See Chapman 2014	**Limitations** See Chapman 2014 **Other information** See Chapman 2014

Study details	Participants	Interventions	Methods	Outcomes and Results	Comments
Country/ies where the study was carried out See Chapman 2014 **Study type** See Chapman 2014 **Aim of the study** See Chapman 2014 **Study dates** See Chapman 2014 **Source of funding** See Chapman 2014					

1

2

3

Intrapartum care for women with sepsis – management immediately after the birth

No clinical evidence was identified for this review and so there are no evidence tables.

Appendix F – Forest plots

Intrapartum care for women with sepsis – mode of birth

No meta-analysis was undertaken for this review and so there are no forest plots.

Intrapartum care for women with sepsis – anaesthesia

No meta-analysis was undertaken for this review and so there are no forest plots.

Intrapartum care for women with sepsis – analgesia

No meta-analysis was undertaken for this review and so there are no forest plots.

Intrapartum care for women with sepsis – fetal monitoring

No meta-analysis was undertaken for this review and so there are no forest plots.

Intrapartum care for women with sepsis – antimicrobial therapy

No meta-analysis was undertaken for this review and so there are no forest plots.

Intrapartum care for women with sepsis – management immediately after the birth

No meta-analysis was undertaken for this review and so there are no forest plots.

Appendix G – GRADE tables

Intrapartum care for women with sepsis – mode of birth

No clinical evidence was identified for this review and so there are no GRADE tables.

Intrapartum care for women with sepsis – anaesthesia

No clinical evidence was identified for this review and so there are no GRADE tables.

Intrapartum care for women with sepsis – analgesia

No clinical evidence was identified for this review and so there are no GRADE tables.

Intrapartum care for women with sepsis – fetal monitoring

2 No clinical evidence was identified for this review and so there are no GRADE tables.

Intrapartum care for women with sepsis – antimicrobial therapy

Dual-agent therapy versus triple-agent therapy

Table 8: Clinical evidence profile for dual-agent therapy versus triple-agent therapy for sepsis in labour, outcomes for the woman

Quality assessment							Number of women		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dual-agent therapy	Triple-agent therapy	Relative (95% CI)	Absolute	Quality	Importance
Maternal hospital stay (better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Not estimable[2]	None	69	64	Average hospital stay was 4 days in both groups. MD 0 (95% CI not calculable due to insufficient data)	-	⊕⊕⊖⊖ LOW	CRITICAL

CI: confidence interval; MD: mean difference

1 Unclear risk of selection bias because allocation concealment was not reported; high risk of performance bias because blinding of participants and personnel was not performed; unclear risk of detection bias because blinding of outcome assessment was not performed; unclear risk of selective reporting bias because information was insufficient to permit judgement

2 Imprecision could not be estimated due to insufficient data

Table 9: Clinical evidence profile for dual-agent therapy versus triple-agent therapy for sepsis in labour, outcomes for the baby

Quality assessment							Number of babies		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dual agent therapy	Triple agent therapy	Relative (95% CI)	Absolute	Quality	Importance
Neonatal sepsis (better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Very serious[2]	None	1/69 (1.4%)	1/64 (1.6%)	RR 0.93 (0.06 to 14.52)	1 fewer per 1000 (from 15 fewer to 211 more)	⊕⊖⊖⊖ VERY LOW	CRITICAL
Neonatal death (better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [3]	No serious inconsistency	No serious indirectness	Very serious[2]	None	3/69 (4.3%)	2/64 (3.1%)	RR 1.39 (0.24 to 8.06)	12 more per 1000 (from 24 fewer to 221 more)	⊕⊖⊖⊖ VERY LOW	CRITICAL
Intraventricular haemorrhage (better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Very serious[2]	None	2/69 (2.9%)	0/64 (0%)	RR 4.64 (0.23 to 94.9)	-	⊕⊖⊖⊖ VERY LOW	CRITICAL
Respiratory distress syndrome (better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Very serious[2]	None	6/69 (8.7%)	5/64 (7.8%)	RR 1.11 (0.36 to 3.47)	9 more per 1000 (from 50 fewer to 193 more)	⊕⊖⊖⊖ VERY LOW	CRITICAL
Necrotising enterocolitis (better indicated by lower values)												
1 (Mab	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Not estimable	None	0/69 (0%)	0/64 (0%)	-	-	⊕⊕⊖⊖ LOW	CRITICAL

Quality assessment							Number of babies		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dual agent therapy	Triple agent therapy	Relative (95% CI)	Absolute	Quality	Importance
erry 1991)					due to 0 events							
Neonatal seizures (better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Very serious[2]	None	1/69 (1.4%)	1/64 (1.6%)	RR 0.93 (0.06 to 14.52)	1 fewer per 1000 (from 15 fewer to 211 more)	⊕⊖⊖⊖ VERY LOW	CRITICAL
Admission to NICU (Better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Not estimable[4]	None	69	64	The study authors reported that there was no difference in the numbers of babies admitted to the special care nursery, however no relevant data were reported		⊕⊕⊖⊖ LOW	IMPORTANT
Neonatal hospital stay (days; better indicated by lower values)												
1 (Maberry 1991)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Not estimable[4]	None	69	64	Average hospital stay was 7 days in intervention group and 8 days in compar	-	⊕⊕⊖⊖ LOW	IMPORTANT

Quality assessment							Number of babies		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Dual agent therapy	Triple agent therapy	Relative (95% CI)	Absolute		
									ator group. MD -1 (95% CI not calculable due to insufficient data)			

1 *CI: confidence interval; MID: minimally important difference; NICU: neonatal intensive care unit; RR: risk ratio*
2 *1 Unclear risk of selection bias because allocation concealment was not reported; high risk of performance bias because blinding of participants and personnel was not*
3 *performed; unclearrisk of detection bias because blinding of outcome assessment was not performed; unclear risk of reporting bias because information was insufficient to*
4 *permit judgement on potential selective reporting*
5 *2 The quality of the evidence was downgraded by 2 levels because the 95% CI crosses both default MID thresholds.*
6 *3 Unclear risk of selection bias because allocation concealment was not reported; high risk of performance bias because blinding of participants and personnel was not*
7 *performed; unclear risk of reporting bias because information was insufficient to permit judgement on potential selective reporting*
8 *4 Imprecision could not be estimated due to insufficient data*

Sulbactam plus ampicillin versus cefotetan

10 **Table 10: Clinical evidence profile for sulbactam plus ampicillin versus cefotetan, outcomes for the woman**

Quality assessment							Number of women		Effect		Quality	Importance
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Sulbactam plus ampicillin	Cefotetan	Relative (95% CI)	Absolute		
Treatment failure (better indicated by lower values)												

Quality assessment							Number of women		Effect			
Number of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Sulbactam plus ampicillin	Cefotetan	Relative (95% CI)	Absolute	Quality	Importance
1 (Scalambrino 1989)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Not estimable due to 0 events	None	0/11 (0%)	0/8 (0%)	-	-	⨁⨁⊖⊖ LOW	IMPORTANT
Maternal adverse side effects (better indicated by lower values)												
1 (Scalambrino 1989)	Randomised trials	Very serious [1]	No serious inconsistency	No serious indirectness	Not estimable due to 0 events	None	0/11 (0%)	0/8 (0%)	-	-	⨁⨁⊖⊖ LOW	NOT IMPORTANT

CI: confidence interval; RR: risk ratio

1 Unclear risk of selection bias because random sequence generation and allocation concealment were not reported; high risk of performance bias because the study was an open trial; unclear risk of detection bias because the study was an open trial; unclear risk of attrition bias because loss to follow up was not clearly stated for the chorioamnionitis group; unclear risk of reporting bias because information was insufficient to permit judgement. Not all the relevant outcomes were reported

Intrapartum care for women with sepsis – management immediately after the birth

No clinical evidence was identified for this review and so there are no evidence tables.

Appendix H – Economic evidence study selection

Intrapartum care for women with sepsis – mode of birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – anaesthesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – analgesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – fetal monitoring

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – antimicrobial therapy

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – management immediately after the birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Appendix I – Economic evidence tables

Intrapartum care for women with sepsis – mode of birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – anaesthesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – analgesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – fetal monitoring

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – antimicrobial therapy

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – management immediately after the birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Appendix J – Health economic evidence profiles

Intrapartum care for women with sepsis – mode of birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – anaesthesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – analgesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – fetal monitoring

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – antimicrobial therapy

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – management immediately after the birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Appendix K – Health economic analysis

Intrapartum care for women with sepsis – mode of birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – anaesthesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – analgesia

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – fetal monitoring

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – antimicrobial therapy

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Intrapartum care for women with sepsis – management immediately after the birth

See Supplement 2 (Health economics) for details of economic evidence reviews and health economic modelling.

Appendix L – Research recommendations

Intrapartum care for women with sepsis – mode of birth

No research recommendations were made for this review.

Intrapartum care for women with sepsis – anaesthesia

No research recommendations were made for this review.

Intrapartum care for women with sepsis – analgesia

No research recommendations were made for this review.

Intrapartum care for women with sepsis – fetal monitoring

What is the clinical and cost effectiveness of fetal blood sampling during labour using lactate or pH testing for women with sepsis or suspected sepsis?

Why this is important

The committee was aware of the discussion in the NICE guideline on intrapartum care for healthy women and babies (CG190) concerning fetal blood sampling. The purpose of this procedure is to help determine whether a baby is acidotic. There are 2 kinds of tests available to assess for acidosis: measurement of fetal blood pH and measurement of fetal blood lactate. For healthy women and babies, it is recommended that either pH or lactate testing is used when performing fetal blood sampling. For women in labour with sepsis or suspected sepsis there is an additional concern that serious medical problems in the baby may occur with a relatively normal fetal blood pH. The committee sought evidence to evaluate the comparative effectiveness of fetal blood sampling using lactate and pH in this context, but no evidence was found and so the committee did not make a recommendation on which kind of test to use. However, the committee agreed to make a research recommendation to complement an existing research recommendation in the NICE guideline on intrapartum care for healthy women and babies (CG190).

Research recommendation rationale

Research question	What is the clinical and cost effectiveness of fetal blood sampling during labour using lactate or pH testing for women with sepsis or suspected sepsis?
Importance to 'patients' or the population	Fetal blood sampling in the presence of maternal sepsis or suspected sepsis may be falsely reassuring, and serious medical problems in the baby may occur with a relatively normal fetal blood pH. Improved understanding of the relative value of fetal blood lactate testing and fetal blood pH testing in this context could reduce the incidence and/or severity of such problems
Relevance to NICE guidance	The recommended research would facilitate development of a future update of this NICE guideline
Relevance to NHS	The efficient use of fetal blood sampling during labour is expected to improve outcomes for women and their babies and lead to a net saving

Research question	What is the clinical and cost effectiveness of fetal blood sampling during labour using lactate or pH testing for women with sepsis or suspected sepsis?
	for the NHS by reducing avoidable harms and use of interventions needed to provide care when serious medical problems occur
National priorities	The ability to provide clear guidance on whether lactate testing is more clinically and cost effective than pH testing in the context of maternal sepsis or suspected sepsis would: • improve care and outcomes • reduce costs associated with preventable medical problems • reduce variations in practice
Current evidence base	No evidence was found to inform the committee in recommending whether lactate testing should be used in preference to pH testing in the presence of maternal sepsis or suspected sepsis
Equalities	No specific equalities issues were identified

Research recommendation PICO

Criterion	Explanation
Population	Women in labour with sepsis or suspected sepsis
Intervention	Fetal blood sampling using lactate testing
Comparator	Fetal blood sampling using pH testing
Outcomes	For the woman: • woman's experience of labour and birth, including experience of the birth companion For the baby: • mortality • neonatal sepsis • administration of antibiotics (as a marker of neonatal sepsis) • hypoxic ischaemic encephalopathy • Diagnostic test accuracy measures: • sensitivity and specificity • positive and negative likelihood ratios
Study design	A mixed-method design should include a randomised controlled trial comparing decision rules after testing, or alternatively a prospective cohort study, in conjunction with a qualitative study of women's views and experiences. Evaluation of diagnostic test accuracy as part of a test-and-treat approach would also be of interest
Timeframe	Sufficient duration of follow up to allow evaluation of perinatal outcomes including identification of neonatal sepsis and hypoxic ischaemic encephalopathy

2

Intrapartum care for women with sepsis – antimicrobial therapy

No research recommendations were made for this review.

Intrapartum care for women with sepsis – management immediately after the birth

No research recommendations were made for this review.