National Institute for Health and Care Excellence

Neonatal infection: antibiotics for prevention and treatment

[D2] Technical appendices for timing of prelabour rupture of membranes to birth and risk of early-onset neonatal infection

NICE guideline NG195

Technical data underpinning prognostic review [D2]

February 2026

Draft

ISBN: [XXX]

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Contents

Appendix A Review protocols

Review protocol for prognostic review: What is the risk of early-onset neonatal infection at different time intervals between prelabour rupture of membranes (PROM) and birth for singleton pregnancies at term?

The full protocol can be found at Review protocol | Neonatal infection: antibiotics for prevention and treatment - update| Guidance | NICE

Economic review protocol

ID	Field	Content
1.	Review title	What is the risk of early-onset neonatal infection at different time intervals between prelabour rupture of membranes (PROM) and birth for singleton pregnancies at term?
2.	Objective	To identify economic studies relevant for the review question
3.	Inclusion criteria	• Populations, interventions and comparators must be as specified in the effectiveness review protocol. • Relevant comparative economic study design: cost–utility analysis, cost–effectiveness analysis, cost–consequences analysis, comparative cost analysis. • Decision analytic model-based or within-trial economic analyses. • OECD countries (except USA). • Healthcare and personal social services cost perspective. • Non-comparative costing studies (such as econometric, efficiency, simulation, micro-costing and resource use, and time-series). • No date limits were applied to align with the effectiveness review. High-quality studies in line with the NICE reference case (recent UK NHS/PSS cost-utility analyses using the QALY as the measure of outcome) are the most applicable to NICE decision making. Not all studies meeting the inclusion criteria will therefore necessarily be used in decision-making - see Review strategy below for details.
4.	Exclusion criteria	• Conference posters or abstract only studies – these do not provide sufficient information for quality assessment. • Studies from non-OECD countries or the USA – these are considered unlikely to be applicable to the UK NHS setting

		due to substantial differences in healthcare delivery and unit costs. • Non-comparative economic analyses including cost-of-illness studies. • Letters, editorials or commentaries, study protocols or reviews of economic evaluations (recent reviews will be ordered and the bibliographies will be checked for relevant individual economic studies, which will then be ordered and checked for eligibility). • Non-English language papers. • Studies considering exclusively intervention costs, e.g. medicine acquisition costs, without considering wider healthcare costs associated with the management of ectopic pregnancy. • Studies comparing costs of branded vs generic forms of the same medicine. • Studies only focussing on productivity losses or gains.
5.	Search approach	The following bibliographic databases will be searched: • Medline ALL (Ovid platform) • Embase (Ovid platform) • INAHTA International HTA Database The guideline committee or other stakeholders will be asked for details of any additional, relevant studies they may be aware of. Database functionality will be used, where available, to exclude: • Animal studies • Editorials, letters, news items and commentaries • Conference abstracts and posters • Registry entries for ongoing clinical trials or those that contain no results • Theses and dissertations • Papers not published in the English language. • Preprints The information services team at NICE will quality assure the principal search strategy. Any revisions or additional steps will be agreed by the review team before being implemented. The full search strategies for all databases will be published as an appendix to the final evidence review.
6.	Review strategy	• Studies meeting the inclusion and exclusion criteria will be assessed for applicability and methodological limitations

		using the NICE economic evaluation checklist in appendix H of Developing NICE guidelines: the manual.
		• The NICE economic evaluation checklist assesses:
		  ○ Applicability to the NICE guideline decision making context with consideration of the NICE reference case relevant to the guideline. Recent UK studies that use the NICE reference case methods are the most applicable when considering cost effectiveness.
		  ○ Methodological limitations.
		• The aim is to present the best available economic evidence to inform committee decision-making in the context of the guideline, the current UK NHS setting and NICE methods. Therefore, the health economist may not present all studies that meet inclusion criteria. If recent high quality, UK cost-utility analyses are available for a question, it is often not deemed informative to present studies that are less applicable or lower quality such as older UK analyses or analyses from other countries. A similar principle is deemed to apply more generally when considering applicability and methodological limitations. Some specific examples are given below:
		  ○ If multiple versions of a model are available for the UK and other countries it is usually reasonable to only present the UK version.
		  ○ If multiple versions of the same UK model are available, it is usually reasonable to present only the most recent.
		  ○ If there has been a NICE MTA or guideline model that informs current NHS practice it is usually reasonable not to present older studies, unless they address a different subpopulation or other specific issue.
		  ○ If a UK model that includes all interventions in the decision space is available it may be reasonable not to present studies that only include individual or fewer interventions, if the analysis is sufficiently applicable and of good methodological quality.
		• Quality and relevance of effectiveness data used in the economic analysis: the more closely the clinical effectiveness data used in the economic analysis match with the outcomes of the studies included in the clinical review the more useful the analysis will be for decision-making in the guideline.
		• Hierarchy of economic evaluation evidence based on quality assessment
		  ○ 'Directly applicable' and 'Minor limitations' (only recent UK CUAs can get this rating). Usually presented and used in decision-making.

		○ Directly or partially applicable combined with minor or potentially serious limitations (other than 1). Discretion over whether these are presented and used in decision-making, depending on the availability of more relevant evidence. ○ 'Not applicable' or 'Very serious limitations'. Typically not presented and not used in decision-making. The health economist will make a decision based on the relative applicability and quality of the available evidence for each question, in discussion with the guideline committee if required. All decisions will be transparently reported in the evidence report. Studies that are presented to the committee and used in decision-making when formulating recommendations will be included in the summary tables and will have an evidence extraction. Other studies may not be presented to the committee in detail but will be listed, with the reason for not being presented to the committee and thus not used in decision-making being provided. Committee members can review and query the decision not to present studies with the health economist and will be provided with full details of these studies where requested.

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Appendix B Literature search strategies

Background and development

Search design and peer review

A NICE Senior Information Specialist (SIS) conducted the literature searches. The MEDLINE strategies below were quality assured (QA) by another NICE SIS. All translated search strategies were peer reviewed to ensure their accuracy. Both procedures were adapted from the Peer Review of Electronic Search Strategies Guideline Statement (for further details see: McGowan J et al. PRESS 2015 Guideline Statement. *Journal of Clinical Epidemiology*, 75, 40-46).

The principal search strategies were developed in MEDLINE (Ovid interface) and adapted, as appropriate, for use in the other sources listed in the protocol, taking into account their size, search functionality and subject coverage.

This search report is based on the requirements of the PRISMA Statement for Reporting Literature Searches in Systematic Reviews (for further details see: Rethlefsen M et al. PRISMA-S. *Systematic Reviews*, 10(1), 39).

Review management

The search results were managed in EPPI-Reviewer v5. Duplicates were removed in EPPI-R5 using a two-step process. First, automated deduplication is performed using a high-value algorithm. Second, manual deduplication is used to assess "low-probability" matches. All decisions made for the review can be accessed via the deduplication history.

Prior work

The searches were adapted from NG195 Neonatal infection: antibiotics for prevention and treatment

Two key papers were identified:

Search limits and other restrictions

Formats

Limits were applied in adherence to standard NICE practice (as set out in the Identifying the evidence chapter of the manual) and the eligibility criteria listed in the review protocol to exclude:

- Animal studies
- Editorials, letters, news items and commentaries
- Conference abstracts and posters
- Registry entries for ongoing clinical trials or those that contain no results
- Theses and dissertations
- Papers not published in the English language.

The limit to remove animal studies in the searches was the standard NICE practice, which has been adapted from:

> Dickersin K, Scherer R & Lefebvre C. (1994) Systematic reviews: identifying relevant studies for systematic reviews. *BMJ*, 309 (6964), 1286.

Date limits

No date limits were applied, in adherence to the review protocol.

Cost effectiveness searches

The following search filters were applied to the search strategies in MEDLINE and Embase to identify cost-effectiveness studies:

> Glanville J et al. (2009) Development and Testing of Search Filters to Identify Economic Evaluations in MEDLINE and EMBASE. Alberta: Canadian Agency for Drugs and Technologies in Health (CADTH)

Note: Several modifications have been made to these filters over the years that are standard NICE practice.

Key decisions

The search strategy was developed to find evidence for the specified population and intervention in the review protocol. The population focuses on term birth and does not include preterm or birth beyond 40 weeks.

Effectiveness searches

Database results

Databases	Date searched	Database platform	Database segment or version	No. of results downloaded
Cochrane Central Register of Controlled Trials (CENTRAL)	08/10/2025	Wiley	Issue 9 of 12, September 2025	210
Cochrane Database of Systematic Reviews (CDSR)	08/10/2025	Wiley	Issue 10 of 12, October 2025	34
Embase	08/10/2025	Ovid	1974 to October 06, 2025	1966

Epistemonikos	08/10/2025	https://www.epistemonikos.org/		16
MEDLINE ALL	08/10/2025	Ovid	1946 to October 07, 2025	1400

Additional search methods

Additional methods	Date searched	No. of results downloaded
Forward citation searching (of 2 key references specified in the protocol) with Lens.org	08/10/2025	70

Search strategy history

Database name: Cochrane Database of Systematic Reviews (CDSR)

Searches
#1 MeSH descriptor: [Fetal Membranes, Premature Rupture] this term only
#2 amniorrhexis:ti,ab
#3 (membrane* near/3 (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear*)):ti,ab
#4 (ROM or PLROM or PROM or RPOM or SROM or TPROM):ti,ab
#5 ((water* or fluid*) near/10 (break* or drain* or gush* or leak* or trickl*)):ti,ab
#6 {or #1-#5}
#7 MeSH descriptor: [Extraembryonic Membranes] explode all trees
#8 MeSH descriptor: [Rupture, Spontaneous] this term only
#9 MeSH descriptor: [Rupture] this term only
#10 #8 or #9
#11 #7 and #10
#12 #6 or #11
#13 MeSH descriptor: [Term Birth] this term only
#14 (fullterm* or term*):ti,ab
#15 ((36 or "thirty six" or 37 or "thirty seven") near/3 (weeks or wks)):ti,ab
#16 ((38 or "thirty eight" or 39 or "thirty nine" or 40 or forty) near/3 (weeks or wks)):ti,ab
#17 {or #13-#16}
#18 #12 and #17
#19 MeSH descriptor: [Bacterial Infections] explode all trees
#20 MeSH descriptor: [Chorioamnionitis] this term only
#21 MeSH descriptor: [Infections] this term only

Searches
#22 MeSH descriptor: [Pregnancy Complications, Infectious] explode all trees
#23 MeSH descriptor: [Sepsis] explode all trees
#24 MeSH descriptor: [Acinetobacter] explode all trees
#25 MeSH descriptor: [Cronobacter] explode all trees
#26 MeSH descriptor: [Enterobacteriaceae] this term only
#27 MeSH descriptor: [Enterococcus] explode all trees
#28 MeSH descriptor: [Escherichia coli] explode all trees
#29 MeSH descriptor: [Fusobacterium] explode all trees
#30 MeSH descriptor: [Haemophilus influenzae] explode all trees
#31 MeSH descriptor: [Klebsiella] explode all trees
#32 MeSH descriptor: [Listeria] explode all trees
#33 MeSH descriptor: [Meningitis] this term only
#34 MeSH descriptor: [Meningoencephalitis] this term only
#35 MeSH descriptor: [Neisseria] explode all trees
#36 MeSH descriptor: [Pseudomonas] explode all trees
#37 MeSH descriptor: [Serratia] explode all trees
#38 MeSH descriptor: [Staphylococcus] explode all trees
#39 MeSH descriptor: [Streptococcus] explode all trees
#40 (bacteraemi* or bacteremi* or bacterioses or bacteriosis or infect* or pyaemia* or pyemia* or pyhoaemia* or pyhoemia* or sepses or sepsis or septic*):ti,ab
#41 (blood* near/4 (contamin* or invas* or invad*)):ti,ab
#42 (acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*):ti,ab
#43 (chorioamnioniti* or amnioniti* or funisiti*):ti,ab
#44 (cronobact* or sakazaki* or malonatic*):ti,ab
#45 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia):ti,ab
#46 ((enteric or coliform) near/2 bac*):ti,ab
#47 enterococc*:ti,ab
#48 ((escheric* or E) near/2 coli):ti,ab
#49 (fusobact* or sphaerophor* or necrophorum or nucleatum):ti,ab
#50 (((gram next negativ* or gramnegativ*) near/2 bacill*) or GNB):ti,ab
#51 ((haemophil* or hemophil* or H or bacter* or bacill* or mycobacter* or coccobac*) near/2 (influenz* or pfeiffer* or meningitidis)):ti,ab
#52 klebsiella*:ti,ab
#53 listeria*:ti,ab
#54 (meningit* or meningencephalitis* or meningoencephalitis*or mening* next encephalitis*):ti,ab
#55 (meningococc* or pneumococc* or pneumon*):ti,ab
#56 neisseria*:ti,ab

Searches
#57 (pseudomonas or chryseomonas or flavimonas):ti,ab
#58 serratia*:ti,ab
#59 staphylococc*:ti,ab
#60 streptococc*:ti,ab
#61 (group B or GBS or MRSA or NRCS-A or MSSA):ti,ab
#62 ((methicillin resistant or meticillin resistant) near/3 aureus):ti,ab
#63 {or #19-#62}
#64 MeSH descriptor: [Infant, Newborn] explode all trees
#65 MeSH descriptor: [Infant Health] this term only
#66 (baby or babies or infant* or neonat* or neo next nat* or newborn* or new next born*):ti,ab
#67 (fetal* or fetus* or foetal* or foetus*):ti,ab
#68 {or #64-#67}
#69 #63 and #68
#70 #18 and #69
#71 MeSH descriptor: [Time Factors] this term only
#72 MeSH descriptor: [Time-to-Treatment] explode all trees
#73 MeSH descriptor: [Watchful Waiting] this term only
#74 MeSH descriptor: [Duration of Therapy] this term only
#75 MeSH descriptor: [Length of Stay] this term only
#76 (time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or prolong* or prompt* or wait*):ti,ab
#77 (length near/3 (hospitalisation* or hospitalization* or stay*)):ti,ab
#78 (6h* or 6 h or 12h* or 12 h or 18h* or 18 h or 24h* or 24 h or 36h* or 36 h or 48h* or 48 h or 72h* or 72 h):ti,ab
#79 {or #71-#78}
#80 #70 and #79 in Cochrane Reviews and Cochrane Protocols

Database name: Cochrane Central Register of Controlled Trials (CENTRAL)

Searches
#1 MeSH descriptor: [Fetal Membranes, Premature Rupture] this term only
#2 amniorrhexis:ti,ab
#3 (membrane* near/3 (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear*)):ti,ab
#4 (ROM or PLROM or PROM or RPOM or SROM or TPROM):ti,ab

Searches
#5 ((water* or fluid*) near/10 (break* or drain* or gush* or leak* or trickl*)):ti,ab
#6 {or #1-#5}
#7 MeSH descriptor: [Extraembryonic Membranes] explode all trees
#8 MeSH descriptor: [Rupture, Spontaneous] this term only
#9 MeSH descriptor: [Rupture] this term only
#10 #8 or #9
#11 #7 and #10
#12 #6 or #11
#13 MeSH descriptor: [Term Birth] this term only
#14 (fullterm* or term*):ti,ab
#15 ((36 or "thirty six" or 37 or "thirty seven") near/3 (weeks or wks)):ti,ab
#16 ((38 or "thirty eight" or 39 or "thirty nine" or 40 or forty) near/3 (weeks or wks)):ti,ab
#17 {or #13-#16}
#18 #12 and #17
#19 MeSH descriptor: [Bacterial Infections] explode all trees
#20 MeSH descriptor: [Chorioamnionitis] this term only
#21 MeSH descriptor: [Infections] this term only
#22 MeSH descriptor: [Pregnancy Complications, Infectious] explode all trees
#23 MeSH descriptor: [Sepsis] explode all trees
#24 MeSH descriptor: [Acinetobacter] explode all trees
#25 MeSH descriptor: [Cronobacter] explode all trees
#26 MeSH descriptor: [Enterobacteriaceae] this term only
#27 MeSH descriptor: [Enterococcus] explode all trees
#28 MeSH descriptor: [Escherichia coli] explode all trees
#29 MeSH descriptor: [Fusobacterium] explode all trees
#30 MeSH descriptor: [Haemophilus influenzae] explode all trees
#31 MeSH descriptor: [Klebsiella] explode all trees
#32 MeSH descriptor: [Listeria] explode all trees
#33 MeSH descriptor: [Meningitis] this term only
#34 MeSH descriptor: [Meningoencephalitis] this term only
#35 MeSH descriptor: [Neisseria] explode all trees
#36 MeSH descriptor: [Pseudomonas] explode all trees
#37 MeSH descriptor: [Serratia] explode all trees
#38 MeSH descriptor: [Staphylococcus] explode all trees
#39 MeSH descriptor: [Streptococcus] explode all trees
#40 (bacteraemi* or bacteremi* or bacterioses or bacteriosis or infect* or pyaemia* or pyemia* or pyhoaemia* or pyhoemia* or sepses or sepsis or septic*):ti,ab
#41 (blood* near/4 (contamin* or invas* or invad*)):ti,ab

Searches
#42 (acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*):ti,ab
#43 (chorioamnioniti* or amnioniti* or funisiti*):ti,ab
#44 (cronobact* or sakazaki* or malonatic*):ti,ab
#45 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia):ti,ab
#46 ((enteric or coliform) near/2 bac*):ti,ab
#47 enterococc*:ti,ab
#48 ((escheric* or E) near/2 coli):ti,ab
#49 (fusobact* or sphaerophor* or necrophorum or nucleatum):ti,ab
#50 (((gram next negativ* or gramnegativ*) near/2 bacill*) or GNB):ti,ab
#51 ((haemophil* or hemophil* or H or bacter* or bacill* or mycobacter* or coccobac*) near/2 (influenz* or pfeiffer* or meningitidis)):ti,ab
#52 klebsiella*:ti,ab
#53 listeria*:ti,ab
#54 (meningit* or meningencephalitis* or meningoencephalitis*or mening* next encephalitis*):ti,ab
#55 (meningococc* or pneumococc* or pneumon*):ti,ab
#56 neisseria*:ti,ab
#57 (pseudomonas or chryseomonas or flavimonas):ti,ab
#58 serratia*:ti,ab
#59 staphylococc*:ti,ab
#60 streptococc*:ti,ab
#61 (group B or GBS or MRSA or NRCS-A or MSSA):ti,ab
#62 ((methicillin resistant or meticillin resistant) near/3 aureus):ti,ab
#63 {or #19-#62}
#64 MeSH descriptor: [Infant, Newborn] explode all trees
#65 MeSH descriptor: [Infant Health] this term only
#66 (baby or babies or infant* or neonat* or neo next nat* or newborn* or new next born*):ti,ab
#67 (fetal* or fetus* or foetal* or foetus*):ti,ab
#68 {or #64-#67}
#69 #63 and #68
#70 #18 and #69
#71 MeSH descriptor: [Time Factors] this term only
#72 MeSH descriptor: [Time-to-Treatment] explode all trees
#73 MeSH descriptor: [Watchful Waiting] this term only
#74 MeSH descriptor: [Duration of Therapy] this term only
#75 MeSH descriptor: [Length of Stay] this term only

Searches
#76 (time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or prolong* or prompt* or wait*):ti,ab
#77 (length near/3 (hospitalisation* or hospitalization* or stay*)):ti,ab
#78 (6h* or 6 h or 12h* or 12 h or 18h* or 18 h or 24h* or 24 h or 36h* or 36 h or 48h* or 48 h or 72h* or 72 h):ti,ab
#79 {or #71-#78}
#80 #70 and #79
#81 ((clinicaltrials or trialsearch* or trial-registry or trials-registry or clinicalstudies or trialsregister* or trialregister* or trial-number* or studyregister* or study-register* or controlled-trials-com or current-controlled-trial or AMCTR or ANZCTR or ChiCTR* or CRiS or CTIS or CTRI* or DRKS* or EU-CTR* or EUCTR* or EUDRACT* or ICTRP or IRCT* or JAPIC* or JMCTR* or JRCT or ISRCTN* or LBCTR* or NTR* or ReBec* or REPEC* or RPCEC* or SLCTR or TCTR* or UMIN*):so or (ctgov or ictrp)):an
#82 #80 not #81
#83 "conference":pt
#84 #82 not #83 in Trials

1 **Database name: EMBASE**

Searches
1 "premature rupture of membranes"/
2 amniorrhexis.tw.
3 (membrane* adj3 (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn)).tw.
4 (ROM or PLROM or PROM or RPOM or SROM or TPROM).tw.
5 ((water* or fluid*) adj10 (break* or drain* or gush* or leak* or trickl*)).tw.
6 or/1-5
7 exp embryo membrane/
8 membrane rupture/ or rupture/
9 7 and 8
10 6 or 9
11 term birth/
12 (fullterm* or term*).tw.
13 (("36" or thirty six or "37" or thirty seven) adj3 (weeks or wks)).tw.
14 (("38" or thirty eight or "39" or thirty nine or "40" or forty) adj3 (weeks or wks)).tw.
15 or/11-14
16 10 and 15
17 exp bacterial infection/
18 exp chorioamnionitis/

Searches
19 infection/
20 infectious pregnancy complication/
21 exp newborn infection/
22 exp sepsis/
23 exp acinetobacter/ or exp cronobacter/ or enterobacteriaceae/ or exp enterococcus/ or exp escherichia coli/ or exp fusobacterium/ or exp haemophilus influenzae/ or exp klebsiella/ or exp listeria/ or meningitis/ or exp infectious meningitis/ or exp meningoencephalitis/ or exp neisseria/ or exp pseudomonas/ or exp serratia/ or exp staphylococcus/ or exp streptococcus/
24 (bacter?emi* or bacterios?s or infect* or py?emia* or pyho?emia* or seps?s or septic*).tw.
25 (blood* adj4 (contamin* or invas* or invad*)).tw.
26 (acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*).tw.
27 (chorioamnioniti* or amnioniti* or funisiti*).tw.
28 (cronobact* or sakazaki* or malonatic*).tw.
29 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
30 ((enteric or coliform) adj2 bac*).tw.
31 enterococc*.tw.
32 ((escheric* or E) adj2 coli).tw.
33 (fusobact* or sphaerophor* or necrophorum or nucleatum).tw.
34 (((gram negativ* or gramnegativ*) adj2 bacill*) or GNB).tw.
35 ((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.
36 klebsiella*.tw.
37 listeria*.tw.
38 (meningit* or mening?encephalitis* or mening* encephalitis*).tw.
39 (meningococc* or pneumococc* or pneumon*).tw.
40 neisseria*.tw.
41 (pseudomonas or chryseomonas or flavimonas).tw.
42 serratia*.tw.
43 staphylococc*.tw.
44 streptococc*.tw.
45 (group B or GBS or MRSA or NRCS-A or MSSA).tw.
46 (met?icillin resistant adj3 aureus).tw.
47 or/17-42
48 newborn/
49 newborn care/
50 (baby or babies or infant* or neonat* or neo nat* or newborn* or new born*).tw.
51 (fetal* or fetus* or foetal* or foetus*).tw.

Searches
52 or/48-51
53 47 and 52
54 16 and 53
55 time/
56 duration/
57 time factor/
58 exp time interval/
59 exp timeliness/
60 treatment duration/
61 watchful waiting/
62 "length of stay"/
63 (time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or prolong* or prompt* or wait*).tw.
64 (length adj3 (hospitali?ation* or stay*)).tw.
65 (6h* or 6 h or 12h* or 12 h or 18h* or 18 h or 24h* or 24 h or 36h* or 36 h or 48h* or 48 h or 72h* or 72 h).tw.
66 or/55-65
67 54 and 66
68 limit 67 to english language
69 animal/
70 nonhuman/
71 exp Animal Experiment/
72 exp Experimental Animal/
73 animal model/
74 exp Rodent/
75 (rat or rats or mouse or mice or rodent*).ti.
76 or/69-75
77 76 not human/
78 68 not 77
79 letter.pt. or letter/
80 note.pt.
81 editorial.pt.
82 (letter or comment*).ti.
83 or/79-82
84 randomized controlled trial/ or random*.ti,ab.
85 83 not 84
86 78 not 85
87 86 not clinical trial.pt.

Searches
88 (conference abstract* or conference review or conference paper or conference proceeding).db,pt,su.
89 87 not 88

1 **Database: Epistemonikos**

Searches
amniorrhexis
OR
(membrane* and (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn))
OR
(ROM or PLROM or PROM or RPOM or SROM or TPROM)
OR
((water* or fluid*) and (break* or drain* or gush* or leak* or trickl*))
AND
(bacter* or infect* or pyemia* or pyaemia* or pyhoaemia* or pyhoemia* or sepses or sepsis or septic*)
AND
(baby or babies or fetal* or fetus* or foetal* or foetus* or infant* or neonat* or neo-nat* or newborn* or new-born*)
AND
(time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or (length and (hospital* or stay*)) or prolong* or prompt* or wait* or 12h* or "12 h" or 18h* or "18 h" or 24h* or "24 h" or 36h* or "36 h" or 48h* or "48 h" or 72h* or "72 h")
Limit to Systematic Reviews

2 **Database: MEDLINE ALL**

Searches
1 Fetal Membranes, Premature Rupture/
2 amniorrhexis.tw.
3 (membrane* adj3 (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn)).tw.
4 (ROM or PLROM or PROM or RPOM or SROM or TPROM).tw.
5 ((water* or fluid*) adj10 (break* or drain* or gush* or leak* or trickl*)).tw.
6 or/1-5
7 exp Extraembryonic Membranes/
8 Rupture, Spontaneous/ or Rupture/

Searches
9 7 and 8
10 6 or 9
11 Term Birth/
12 (fullterm* or term*).tw.
13 (("36" or thirty six or "37" or thirty seven) adj3 (weeks or wks)).tw.
14 (("38" or thirty eight or "39" or thirty nine or "40" or forty) adj3 (weeks or wks)).tw.
15 or/11-14
16 10 and 15
17 exp Bacterial Infections/
18 Chorioamnionitis/
19 Infections/
20 exp Pregnancy Complications, Infectious/
21 exp Sepsis/
22 exp Acinetobacter/ or exp Cronobacter/ or Enterobacteriaceae/ or exp Enterococcus/ or exp Escherichia coli/ or exp Fusobacterium/ or exp Haemophilus influenzae/ or exp Klebsiella/ or exp Listeria/ or Meningitis/ or Meningoencephalitis/ or exp Neisseria/ or exp Pseudomonas/ or exp Serratia/ or exp Staphylococcus/ or exp Streptococcus/
23 (bacter?emi* or bacterios?s or infect* or py?emia* or pyho?emia* or seps?s or septic*).tw.
24 (blood* adj4 (contamin* or invas* or invad*)).tw.
25 (acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*).tw.
26 (chorioamnioniti* or amnioniti* or funisiti*).tw.
27 (cronobact* or sakazaki* or malonatic*).tw.
28 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
29 ((enteric or coliform) adj2 bac*).tw.
30 enterococc*.tw.
31 ((escheric* or E) adj2 coli).tw.
32 (fusobact* or sphaerophor* or necrophorum or nucleatum).tw.
33 (((gram negativ* or gramnegativ*) adj2 bacill*) or GNB).tw.
34 ((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.
35 klebsiella*.tw.
36 listeria*.tw.
37 (meningit* or mening?encephalitis* or mening* encephalitis*).tw.
38 (meningococc* or pneumococc* or pneumon*).tw.
39 neisseria*.tw.
40 (pseudomonas or chryseomonas or flavimonas).tw.
41 serratia*.tw.

Searches
42 staphylococc*.tw.
43 streptococc*.tw.
44 (group B or GBS or MRSA or NRCS-A or MSSA).tw.
45 (met?icillin resistant adj3 aureus).tw.
46 or/17-45
47 exp Infant, Newborn/
48 Infant Health/
49 (baby or babies or infant* or neonat* or neo nat* or newborn* or new born*).tw.
50 (fetal* or fetus* or foetal* or foetus*).tw.
51 or/47-50
52 46 and 51
53 16 and 52
54 Time Factors/
55 exp Time-to-Treatment/
56 Watchful Waiting/
57 Duration of Therapy/
58 "Length of Stay"/
59 (time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or prolong* or prompt* or wait*).tw.
60 (length adj3 (hospitali?ation* or stay*)).tw.
61 (6h* or 6 h or 12h* or 12 h or 18h* or 18 h or 24h* or 24 h or 36h* or 36 h or 48h* or 48 h or 72h* or 72 h).tw.
62 or/54-61
63 53 and 62
64 limit 63 to english language
65 animals/ not humans/
66 64 not 65
67 limit 66 to (letter or historical article or comment or editorial or news or case reports)
68 66 not 67
69 68 not overall.pt.

Additional search methods

Forward citation searching

Date of search	08/10/2025

How the seed references were identified	Identified from the scoping search
Sources and tools used	Lens.org
How results were managed and selected	A title search was done in Lens.org for each seed reference and the selected results were downloaded in separate RIS files
No. of results	70
List of seed references used	The correlation between prelabour rupture of membranes and neonatal infectious diseases, and the evaluation of guideline implementation in China: a multi-centre prospective cohort study. Zhuang et al 2020. The Lancet regional health. Western Pacific. Vol. 3 100029 Time between membrane rupture and delivery and septicaemia in term neonates. Herbst 2007. Obstetrics and Gynaecology vol. 110 no. 3

Cost-effectiveness searches

Database results

Databases	Date searched	Database platform	Database segment or version	No. of results downloaded
Embase	08/10/2025	Ovid	1974 to October 06, 2025	59
International HTA Database	08/10/2025	https://database.inahta.org/		3
MEDLINE ALL	08/10/2025	Ovid	1946 to October 07, 2025	33

Search strategy history

Database name: EMBASE

Searches
1 "premature rupture of membranes"/

Searches
2 amniorrhexis.tw.
3 (membrane* adj3 (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn)).tw.
4 (ROM or PLROM or PROM or RPOM or SROM or TPROM).tw.
5 ((water* or fluid*) adj10 (break* or drain* or gush* or leak* or trickl*)).tw.
6 or/1-5
7 exp embryo membrane/
8 membrane rupture/ or rupture/
9 7 and 8
10 6 or 9
11 term birth/
12 (fullterm* or term*).tw.
13 (("36" or thirty six or "37" or thirty seven) adj3 (weeks or wks)).tw.
14 (("38" or thirty eight or "39" or thirty nine or "40" or forty) adj3 (weeks or wks)).tw.
15 or/11-14
16 10 and 15
17 exp bacterial infection/
18 exp chorioamnionitis/
19 infection/
20 infectious pregnancy complication/
21 exp newborn infection/
22 exp sepsis/
23 exp acinetobacter/ or exp cronobacter/ or enterobacteriaceae/ or exp enterococcus/ or exp escherichia coli/ or exp fusobacterium/ or exp haemophilus influenzae/ or exp klebsiella/ or exp listeria/ or meningitis/ or exp infectious meningitis/ or exp meningoencephalitis/ or exp neisseria/ or exp pseudomonas/ or exp serratia/ or exp staphylococcus/ or exp streptococcus/
24 (bacter?emi* or bacterios?s or infect* or py?emia* or pyho?emia* or seps?s or septic*).tw.
25 (blood* adj4 (contamin* or invas* or invad*)).tw.
26 (acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*).tw.
27 (chorioamnioniti* or amnioniti* or funisiti*).tw.
28 (cronobact* or sakazaki* or malonatic*).tw.
29 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
30 ((enteric or coliform) adj2 bac*).tw.
31 enterococc*.tw.
32 ((escheric* or E) adj2 coli).tw.
33 (fusobact* or sphaerophor* or necrophorum or nucleatum).tw.
34 (((gram negativ* or gramnegativ*) adj2 bacill*) or GNB).tw.

Searches
35 ((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.
36 klebsiella*.tw.
37 listeria*.tw.
38 (meningit* or mening?encephalitis* or mening* encephalitis*).tw.
39 (meningococc* or pneumococc* or pneumon*).tw.
40 neisseria*.tw.
41 (pseudomonas or chryseomonas or flavimonas).tw.
42 serratia*.tw.
43 staphylococc*.tw.
44 streptococc*.tw.
45 (group B or GBS or MRSA or NRCS-A or MSSA).tw.
46 (met?icillin resistant adj3 aureus).tw.
47 or/17-42
48 newborn/
49 newborn care/
50 (baby or babies or infant* or neonat* or neo nat* or newborn* or new born*).tw.
51 (fetal* or fetus* or foetal* or foetus*).tw.
52 or/48-51
53 47 and 52
54 16 and 53
55 time/
56 duration/
57 time factor/
58 exp time interval/
59 exp timeliness/
60 treatment duration/
61 watchful waiting/
62 "length of stay"/
63 (time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or prolong* or prompt* or wait*).tw.
64 (length adj3 (hospitali?ation* or stay*)).tw.
65 (6h* or 6 h or 12h* or 12 h or 18h* or 18 h or 24h* or 24 h or 36h* or 36 h or 48h* or 48 h or 72h* or 72 h).tw.
66 or/55-65
67 54 and 66
68 limit 67 to english language
69 animal/

Searches
70 nonhuman/
71 exp Animal Experiment/
72 exp Experimental Animal/
73 animal model/
74 exp Rodent/
75 (rat or rats or mouse or mice or rodent*).ti.
76 or/69-75
77 76 not human/
78 68 not 77
79 letter.pt. or letter/
80 note.pt.
81 editorial.pt.
82 (letter or comment*).ti.
83 or/79-82
84 randomized controlled trial/ or random*.ti,ab.
85 83 not 84
86 78 not 85
87 86 not clinical trial.pt.
88 Health economics/
89 exp health care cost/
90 exp Fee/
91 exp Budget/
92 Funding/
93 budget*.ti,ab.
94 cost*.ti.
95 (economic* or pharmaco?economic*).ti.
96 (price* or pricing*).ti,ab.
97 (cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
98 (financ* or fee or fees).ti,ab.
99 (value adj2 (money or monetary)).ti,ab.
100 or/88-99
101 87 and 100
102 (conference abstract* or conference review or conference paper or conference proceeding).db,pt,su.
103 101 not 102

1 Database name: International HTA Database (INAHTA)

Searches
("Fetal Membranes, Premature Rupture”[mh] or ("Extraembryonic Membranes"[mh] and ("Rupture, Spontaneous"[mh] or "Rupture"[mh]))) OR Amniorrhexis[Title] OR (membrane* and (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn))[Title] OR (ROM or PLROM or PROM or RPOM or SROM or TPROM)[Title] OR ((water* or fluid*) and (break* or drain* or gush* or leak* or trickl*))[Title] OR Amniorrhexis[Abstract] OR (membrane* and (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn))[Abstract] OR (ROM or PLROM or PROM or RPOM or SROM or TPROM)[Abstract] OR ((fluid* or water*) and (break* or drain* or gush* or leak* or trickl*))[Abstract] AND ("Infant, Newborn"[mhe] or baby or babies or fetal* or fetus* or foetal* or foetus* or infant* or neonat* or neo-nat* or newborn* or new-born*) Limit to English language

2 Database name: MEDLINE

Searches
1 Fetal Membranes, Premature Rupture/ 2 amniorrhexis.tw. 3 (membrane* adj3 (breach* or break* or disrupt* or erupt* or ruptur* or sever or severed or tear* or torn)).tw. 4 (ROM or PLROM or PROM or RPOM or SROM or TPROM).tw. 5 ((water* or fluid*) adj10 (break* or drain* or gush* or leak* or trickl*)).tw. 6 or/1-5 7 exp Extraembryonic Membranes/ 8 Rupture, Spontaneous/ or Rupture/

Searches
9 7 and 8
10 6 or 9
11 Term Birth/
12 (fullterm* or term*).tw.
13 (("36" or thirty six or "37" or thirty seven) adj3 (weeks or wks)).tw.
14 (("38" or thirty eight or "39" or thirty nine or "40" or forty) adj3 (weeks or wks)).tw.
15 or/11-14
16 10 and 15
17 exp Bacterial Infections/
18 Chorioamnionitis/
19 Infections/
20 exp Pregnancy Complications, Infectious/
21 exp Sepsis/
22 exp Acinetobacter/ or exp Cronobacter/ or Enterobacteriaceae/ or exp Enterococcus/ or exp Escherichia coli/ or exp Fusobacterium/ or exp Haemophilus influenzae/ or exp Klebsiella/ or exp Listeria/ or Meningitis/ or Meningoencephalitis/ or exp Neisseria/ or exp Pseudomonas/ or exp Serratia/ or exp Staphylococcus/ or exp Streptococcus/
23 (bacter?emi* or bacterios?s or infect* or py?emia* or pyho?emia* or seps?s or septic*).tw.
24 (blood* adj4 (contamin* or invas* or invad*)).tw.
25 (acinetobact* or herellea* or mima or baumanni* or genomosp* or calcoacetic*).tw.
26 (chorioamnioniti* or amnioniti* or funisiti*).tw.
27 (cronobact* or sakazaki* or malonatic*).tw.
28 (enterobact* or sodalis or paracolobactrum or ewingella or leclercia).tw.
29 ((enteric or coliform) adj2 bac*).tw.
30 enterococc*.tw.
31 ((escheric* or E) adj2 coli).tw.
32 (fusobact* or sphaerophor* or necrophorum or nucleatum).tw.
33 (((gram negativ* or gramnegativ*) adj2 bacill*) or GNB).tw.
34 ((h?emophil* or H or bacter* or bacill* or mycobacter* or coccobac*) adj2 (influenz* or pfeiffer* or meningitidis)).tw.
35 klebsiella*.tw.
36 listeria*.tw.
37 (meningit* or mening?encephalitis* or mening* encephalitis*).tw.
38 (meningococc* or pneumococc* or pneumon*).tw.
39 neisseria*.tw.
40 (pseudomonas or chryseomonas or flavimonas).tw.
41 serratia*.tw.

Searches
42 staphylococc*.tw.
43 streptococc*.tw.
44 (group B or GBS or MRSA or NRCS-A or MSSA).tw.
45 (met?icillin resistant adj3 aureus).tw.
46 or/17-45
47 exp Infant, Newborn/
48 Infant Health/
49 (baby or babies or infant* or neonat* or neo nat* or newborn* or new born*).tw.
50 (fetal* or fetus* or foetal* or foetus*).tw.
51 or/47-50
52 46 and 51
53 16 and 52
54 Time Factors/
55 exp Time-to-Treatment/
56 Watchful Waiting/
57 Duration of Therapy/
58 "Length of Stay"/
59 (time* or timing* or hour* or hr or hrs or after* or before* or delay* or duration* or during or earlie* or early or expectant* or immediate* or interval* or late* or prolong* or prompt* or wait*).tw.
60 (length adj3 (hospitali?ation* or stay*)).tw.
61 (6h* or 6 h or 12h* or 12 h or 18h* or 18 h or 24h* or 24 h or 36h* or 36 h or 48h* or 48 h or 72h* or 72 h).tw.
62 or/54-61
63 53 and 62
64 limit 63 to english language
65 animals/ not humans/
66 64 not 65
67 limit 66 to (letter or historical article or comment or editorial or news or case reports)
68 66 not 67
69 Economics/
70 Value of life/
71 exp "Costs and Cost Analysis"/
72 exp Economics, Hospital/
73 exp Economics, Medical/
74 Economics, Nursing/
75 Economics, Pharmaceutical/
76 exp "Fees and Charges"/

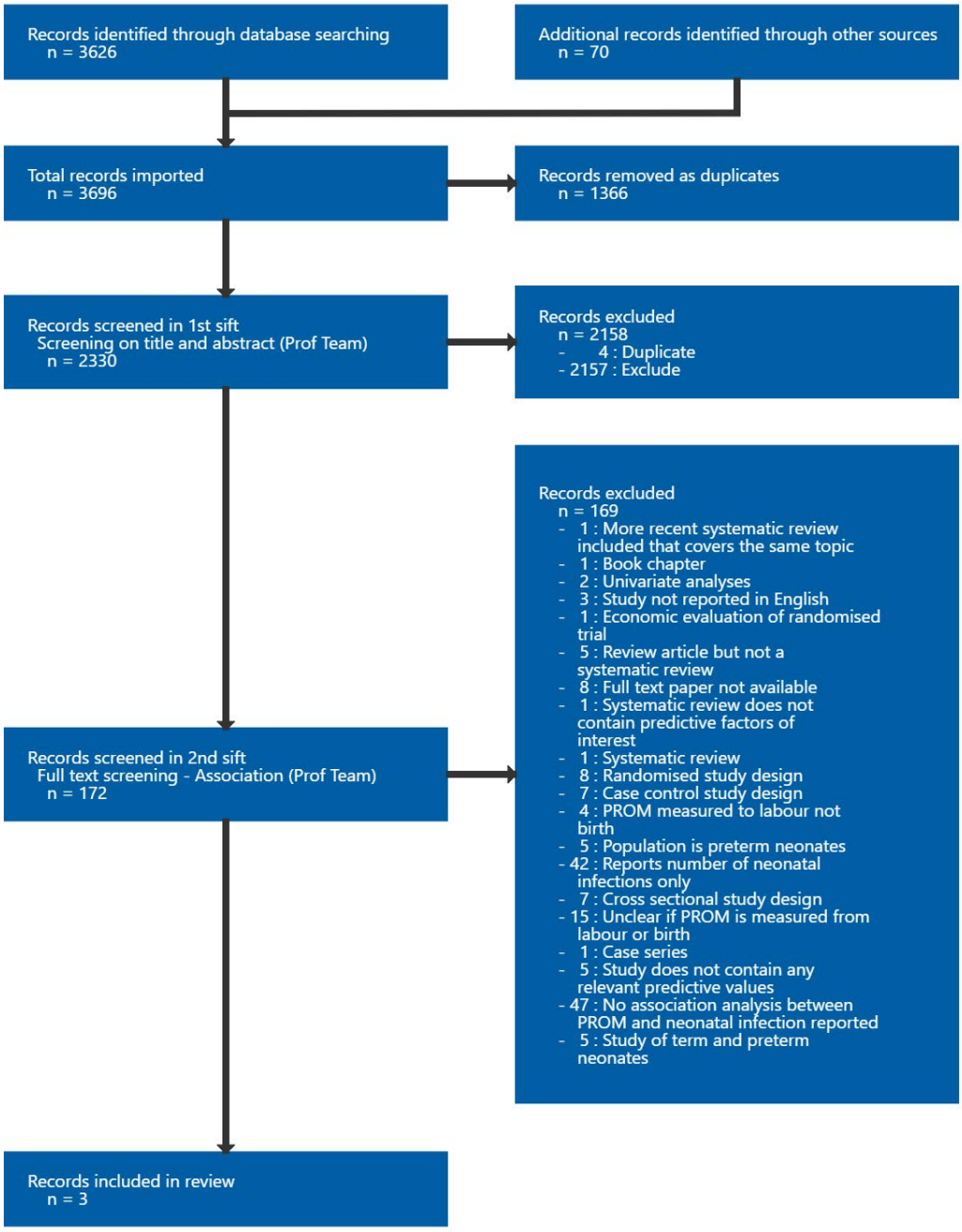
Searches
77 exp Budgets/
78 budget*.ti,ab.
79 cost*.ti.
80 (economic* or pharmaco?economic*).ti.
81 (price* or pricing*).ti,ab.
82 (cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
83 (financ* or fee or fees).ti,ab.
84 (value adj2 (money or monetary)).ti,ab.
85 or/69-84
86 68 and 85
87 86 not overall.pt.

1

2

Appendix C Study selection

Figure 1 Prognostic evidence study selection



Appendix D Prognostic evidence tables

Herbst, 2007

Bibliographic Reference	Herbst, Andreas; Kallen, Karin; Time between membrane rupture and delivery and septicemia in term neonates.; Obstetrics and gynecology; 2007; vol. 110 (no. 3); 612-8

Study details

Other publications associated with this study included in review	NA
Trial registration number and/or trial name	NR
Source of funding	Supported by the Evy and Gunnar Sandberg Foundation, Lund, Sweden
Study design	Retrospective cohort study
Location	Sweden
Setting	NR
Study dates	January 1995 to December 2004
Inclusion criteria	The study population included singleton infants born at term after a trial of labour during the period January 1995 to December 2004.
Exclusion criteria	Multiple pregnancies, preterm births, and elective caesarean deliveries were excluded.
Number of participants in total	113568
Number of participants: details	Rupture of membranes (ROM) to birth equal to or less than 6 hours n = 75865

	Rupture of membranes (ROM) to birth more than 6 hours n = 37703
Index prognostic factor	Rupture of membranes (ROM) to birth for the following intervals 6.1 hours to 12 hours 12.1 hours to 18 hours 18.1 hours to 24 hours 24.1 hours to 48 hours 48.1 hours to 72 hours
Comparator prognostic factor	ROM to birth less than 6 hours
Duration of follow up / analysis	Data was collected from a registry spanning 10 years. No information was reported on follow up of neonatal outcomes
Analysis methods	Multiple logistic regression analysis Odds ratios with 95% confidence intervals were calculated by using multiple logistic regression analysis with adjustments for maternal age (continuous variable), multiparity (yes/no), infant gender, gestational age (continuous variable), and birth weight (continuous variable). Quadratic terms of maternal age, gestational age, birth weight, and rupture of membranes time were added as specified. The rupture of membranes time was entered as a continuous or a class variable as specified. When specified, duration of labour was also controlled for (as a continuous variable).
Additional details	Sepsis diagnosed following positive culture or clinical signs with an elevated level of C reactive protein. No timeframe reported for sepsis diagnosis.

	Study reports the predictive risk factor as rupture of membranes (ROM). However the authors describe in the methods section the different management policy for prelabour rupture of membranes at term between the included obstetric units during the study period. Therefore it can be assumed that rupture of membranes in this study refers to prelabour rupture of membranes.

Abbreviations: NA: not applicable; NR: not reported; ROM: rupture of membranes

Study characteristics

Characteristic	Study (N = 113568)
Gestational age (weeks) Sample size	NR (NR)
Maternal age (years)	
Less than 20	n = 2327 ; % = 2.05
20 – 24	n = 17073 ; % = 15.03
25 – 29	n = 39866 ; % = 35.10
30 – 34	n = 37497 ; % = 33.01
35 – 39	n = 14467 ; % = 12.74
40 or more	n = 2338 ; % = 2.06

Characteristic	Study (N = 113568)
Sample size	
Number of neonates	n = 113568
Female	n = 54945 ; % = 48.38
Male	n = 58623 ; % = 51.62
Sample size	
Number of mothers	n = 113568 ; % = 100
Sample size	
Parity	
Please note: the parity numbers extracted from publication add up to 114004 and not 113568	
0	n = 51306 ; % = 45.00
1	n = 39482 ; % = 34.63
2	n = 15458 ; % = 13.56
3 or more	n = 7758 ; % = 6.80

Characteristic	Study (N = 113568)
Sample size	
Ethnicity Sample size	n = NR ; % = NR
Total duration of PROM to birth time (hours) Median (Q1, Q3)	NR (NR)
ROM to birth interval 6 hours or less Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 75865 ; % = 66.8
Prognostic factors of interest – ROM to birth interval 6.1 hours - 12 hours Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 17389 ; % = 15.31

Characteristic	Study (N = 113568)
Prognostic factors of interest – ROM to birth interval 12.1 hours - 18 hours Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 7899 ; % = 6.96
Prognostic factors of interest – ROM to birth interval 18.1 hours - 24 hours Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 4050 ; % = 3.57
Prognostic factors of interest – ROM to birth interval 24.1 hours - 48 hours Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 6103 ; % = 5.37
Prognostic factors of interest – ROM to birth interval 48.1 hours - 72 hours Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 1435 ; % = 1.26

Characteristic	Study (N = 113568)
Prognostic factors of interest – ROM to birth interval more than 72 hours Outcome data for time interval was not extractable - data presented in a graphical format Sample size	n = 828 ; % = 0.73

Abbreviations: NA: not applicable; NR: not reported; ROM: rupture of membrane

Neonatal sepsis

Outcome	ROM to birth interval 6 hours or less vs ROM to birth interval greater than 6 hours, N2 = 75865, N1 = 37703
Association of sepsis with ROM-time (per 6-hour increase) (Adjusted odds ratio (95% CI))* Interval from ROM to birth. Multivariate analysis	1.29 (1.23 to 1.35)

Abbreviations: CI: confidence interval; ROM: rupture of membranes
* Adjusted for maternal age, parity, infant gender, gestational age, birth weight, duration of labour

Critical Appraisal – QUIPs checklist for prognostic studies

Section	Question	Answer	Comment
Overall bias	Risk of bias judgement	High	No exact details on how ROM to birth timing was measured. The registry used for the data analyses contains information on the points of time of the beginning of regular contractions, rupture of the membranes, and birth, no further details are reported. Additionally there are no details on the timeframe of the development of sepsis.
Overall bias	Directness	Directly applicable	NR

Abbreviations: NR: not reported; ROM: rupture of membranes

Zhuang, 2020

Bibliographic Reference	Zhuang, Lu; Li, Zhan-Kui; Zhu, Yuan-Fang; Ju, Rong; Hua, Shao-Dong; Yu, Chun-Zhi; Li, Xing; Zhang, Yan-Ping; Li, Lei; Yu, Yan; Zeng, Wen; Cui, Jie; Chen, Xin-Yu; Peng, Jing-Ya; Li, Ting; Feng, Zhi-Chun; The correlation between prelabour rupture of the membranes and neonatal infectious diseases, and the evaluation of guideline implementation in China: a multi-centre prospective cohort study.; The Lancet regional health. Western Pacific; 2020; vol. 3; 100029

Study details

Other publications associated with this study included in review	Zhuang L, Li ZK, Zhu YF, Ju R, Hua SD, Yu CZ, Li X, Zhang YP, Li L, Yu Y, Zeng W, Cui J, Chen XY, Peng JY, Li T, Feng ZC. Latency period of PROM at term and the risk of neonatal infectious diseases. Sci Rep. 2022 Jul 18;12(1):12275. doi: 10.1038/s41598-022-16593-6. PMID: 35851306; PMCID: PMC9293978.
Trial registration number and/or trial name	NCT03251898
Source of funding	National Natural Science Foundation of China (81170602) and Capital Medical Development Research Fund of Beijing (20053044)
Study design	Prospective cohort study
Location	China
Setting	3 hospital sites
Study dates	1st August 2017 to 31st March 2018
Inclusion criteria	Participants were recruited from patients admitted the three participating medical centres with a diagnosis of PROM. All of the women with PROM between 24 weeks and 42 weeks gestation were included in the study. Pregnancies without PROM were eligible for the inclusion of unexposed group (non-PROM Group) if they satisfied the following conditions: the same gestational week, admission date±3 days and age±5 years compared with recruited PROM pregnancies.

Exclusion criteria	Participants at an estimated gestational age of <24 weeks and ≥42 weeks were excluded.
Number of participants in total	15926
Number of participants: details	Sample size of 8151 PROM and 7775 non-PROM met the inclusion criteria. Of those: 7079 neonates from pregnancies with PROM at term 7073 neonates from pregnancies without PROM at term
Index prognostic factor	PROM. The definition of PROM is rupture of membranes before the onset of labour. Duration between PROM to delivery in term PROM pregnancies was median, 26.38 hours; Q1-Q3, 10.15-40.87 h.
Comparator prognostic factor	Non-PROM defined as pregnancies without PROM
Duration of follow up / analysis	Neonates followed up for 7 days / Study conducted for 8 months
Analysis methods	Multiple logistic models to assess association between PROM and outcomes of interest. For models of term neonates including the non-PROM Group , the following potential confounding variables were added: the city where the hospital locates (sorted by latitude from low to high), mode of delivery (caesarean section or vaginal delivery), clinical chorioamnionitis or subclinical chorioamnionitis, large or small for gestational age, amniotic fluid pollution, gestational hypertensive, essential hypertension, diabetes mellitus arising in pregnancy, multiparity and multiple birth. Note: PROM to birth time intervals was not included as a predictor in the model.
Additional details	Early onset pneumonia defined as <72 hours of age

	Early onset sepsis defined as <72 hours of age Early-onset sepsis diagnosed following clinical symptoms and a positive blood culture or cerebrospinal fluid samples drawn within 7 days of birth* Neonatal infectious disease defined as neonatal pneumonia, neonatal sepsis, omphalitis of newborn, neonatal urinary tract infection, congenital syphilis, neonatal conjunctivitis or dacryocystitis, necrotising enterocolitis of newborn, pyogenic abscess of the skin, neonatal peritonitis, congenital cytomegalovirus infection, bacterial meningitis, fungal infection of foetus or newborn, gastroenteritis due to Rotavirus of the neonates born from participated pregnancies. No information was given on confirmation of infectious disease diagnoses. Neonatal pneumonia was confirmed if meet the criteria in all three categories: (1) If there is underlying pulmonary or cardiac disease, two serial X-rays demonstrating at least one of the following: New or progressive infiltrate, consolidation, cavitation pneumoatocele. If there is no underlying pulmonary or cardiac disease, one definitive imaging test result is acceptable;* (2) Worsening gas exchange. Any of the following: O2 desaturation, increased oxygen requirement, increased ventilator demand;* (3) Clinical/ laboratory evidence. Must have at least three of the following: Temperature instability; Leukopenia (≤4000 WBC/ mm3) or leukocytosis (≥15,000 WBC/mm3) and left shift (≥10% band forms); New onset of purulent sputum or change in character of sputum, or increased respiratory secretions or increased suctioning requirements; Apnea, tachypnea, nasal flaring with retractions of the chest wall or nasal flaring with grunting; Wheezing, rales, or rhonchi; Cough; Bradycardia (<100 beats/min) or tachycardia (>170 beats/min)* Multiple births were not excluded in this study. Out of a total of 8283 and 7857 foetuses in the PROM group and the non-PROM group respectively, 131 pregnancies with more than one foetus (130 twins and 1 triplets) were recorded in the PROM Group and 82 (all twins) in the non-PROM Group. *Definitions extracted from Zhuang 2022

Abbreviations: min: minute; O2: oxygen; PROM: prelabour rupture of membranes; WBC white blood cells

Study characteristics

Characteristic	Study (N = 15926)
Gestational age (weeks) Mean (SD)	NR (NR)
Maternal age (years) PROM	30.19 (4.08)
Maternal age (years) non-PROM Mean (SD)	30.23 (3.99)
Number of neonates 212 pregnancies were twins, 1 pregnancy was triplets	N = 16353
% Female	n = NR ; % = NR
% Male Sample size	n = NR ; % = NR
Number of mothers Sample size	n = 15926 ; % = 100
Parity	

Characteristic	Study (N = 15926)
Primiparous (PROM) Multiparous (PROM) Primiparous (non-PROM) Multiparous (non-PROM) Sample size	n = 5621 ; % = 68.96 n = 2530 ; % = 31.04 n = 4255 ; % = 54.73 n = 3520 ; % = 45.27
Ethnicity Sample size	n = NR ; % = NR
Duration of time between PROM to birth (hours) Median (Q1, Q3)	26.38 (10.15, 40.87)
Prognostic factors of interest - term PROM to birth every six hours Sample size	n = 7079 ; % = 16.25

Abbreviations: NR: not reported; PROM: prelabour rupture of membranes

Early-onset sepsis within 72 hours

Outcome	Term PROM vs Term Non-PROM, N2 = 7079, N1 = 7073
Association of early-onset sepsis with PROM to birth median time (Q1, Q3) 26.38 hours (10.15, 40.87)(Adjusted odds ratio (95% CI))* multivariate analysis	14.56 (1.9 to 111.67)

Abbreviations: CI: confidence interval; PROM: prelabour rupture of membrane
* Adjusted for city where the hospital locates, mode of delivery (caesarean section or vaginal delivery), clinical chorioamnionitis or subclinical chorioamnionitis, large or small for gestational age, amniotic fluid pollution, gestational hypertensive, essential hypertension, diabetes mellitus arising in pregnancy, multiparity and multiple birth

Early-onset pneumonia within 72 hours

Outcome	Term PROM vs Term Non-PROM, , N2 = 7079, N1 = 7073
Association of early-onset pneumonia with PROM to birth median time (Q1, Q3) 26.38 hours (10.15, 40.87) (Adjusted odds ratio (95% CI))* multivariate analysis	1.81 (1.29 to 2.53)

Abbreviations: CI: confidence interval; PROM: prelabour rupture of membrane
* Adjusted for city where the hospital locates, mode of delivery (caesarean section or vaginal delivery), clinical chorioamnionitis or subclinical chorioamnionitis, large or small for gestational age, amniotic fluid pollution, gestational hypertensive, essential hypertension, diabetes mellitus arising in pregnancy, multiparity and multiple birth

Neonatal infectious diseases within 7 days

Outcome	Term PROM vs Term Non-PROM, , N2 = 7079, N1 = 7073
Association of neonatal infectious diseases with PROM to birth median time (Q1, Q3) 26.38 hours (10.15, 40.87) (Adjusted odds ratio (95% CI))* multivariate analysis	1.92 (1.49 to 2.49)

Abbreviations: CI: confidence interval; PROM: prelabour rupture of membrane

* Adjusted for city where the hospital locates, mode of delivery (caesarean section or vaginal delivery), clinical chorioamnionitis or subclinical chorioamnionitis, large or small for gestational age, amniotic fluid pollution, gestational hypertensive, essential hypertension, diabetes mellitus arising in pregnancy, multiparity and multiple birth

Critical Appraisal – QUIPs checklist for prognostic studies

Section	Question	Answer	Comment
Overall bias	Risk of bias judgement	Moderate	No information reported on how PROM to birth was measured
Overall bias	Directness	Directly applicable	NR

Abbreviations: NR: not reported; PROM: prelabour rupture of membranes

Zhuang, 2022

Bibliographic Reference	Zhuang, Lu; Li, Zhan-Kui; Zhu, Yuan-Fang; Ju, Rong; Hua, Shao-Dong; Yu, Chun-Zhi; Li, Xing; Zhang, Yan-Ping; Li, Lei; Yu, Yan; Zeng, Wen; Cui, Jie; Chen, Xin-Yu; Peng, Jing-Ya; Li, Ting; Feng, Zhi-Chun; Latency period of PROM at term and the risk of neonatal infectious diseases.; Scientific reports; 2022; vol. 12 (no. 1); 12275

Study details

Other publications associated with this study included in review	Zhuang L, Li ZK, Zhu YF, Ju R, Hua SD, Yu CZ, Li X, Zhang YP, Li L, Yu Y, Zeng W, Cui J, Chen XY, Peng JY, Li T, Feng ZC. The correlation between prelabour rupture of the membranes and neonatal infectious diseases, and the evaluation of guideline implementation in China: a multi-centre prospective cohort study. Lancet Reg Health West Pac. 2020 Sep 17;3:100029. doi: 10.1016/j.lanwpc.2020.100029. PMID: 34327382; PMCID: PMC8315451.
Trial registration number and/or trial name	MCPPNC (Multi-center Cohort of Pregnancies with PROM and their Neonates in China) / NCT03251898
Source of funding	National Natural Science Foundation of China (81170602) and Capital Medical Development Research Fund of Beijing (20053044).
Study design	Other design Secondary analysis of prospective study design, not prespecified.
Location	China
Setting	3 Hospital sites
Study dates	1st August 2017 to 31st March 2018
Inclusion criteria	All women with PROM at term (estimated ≥ 37 weeks). Pregnancies without PROM were eligible for the inclusion of unexposed group (non-PROM Group) if they satisfied the following conditions: the same gestational week, admission date ± 3 days and age ± 5 years compared with recruited PROM pregnancies. Note: PROM was confirmed by pooling and positive PROM test (PH test or insulin-like growth factor binding protein 1 detection test).
Exclusion criteria	Participants with an estimated gestational age of < 24 weeks and ≥ 42 weeks

	Multiple births
Number of participants in total	7019
Number of participants: details	N=7019 4 participants were stillbirth Time threshold of PROM to birth: >10 hours: n=4882 >12 hours: n=4328 >14 hours: n=3833 >16 hours: n=3388 >18 hours: n=2986 >20 hours: n=2634 >22 hours: n=2309
Index prognostic factor	Time threshold of PROM to birth (hours); from 0 hours to ≥ 10 hours from 0 hours to ≥ 12 hours

	from 0 hours to ≥ 14 hours from 0 hours to ≥ 16 hours from 0 hours to ≥ 18 hours from 0 hours to ≥ 20 hours from 0 hours to ≥ 22* hours
Comparator prognostic factor	Time threshold of PROM to birth (hours); < 10 hours < 12 hours < 14 hours < 16 hours < 18 hours < 20 hours < 22 hours
Duration of follow up / analysis	Neonates followed up for 7 days / Study conducted for 8 months
Analysis methods	Multivariable analysis of length of time of PROM and neonatal outcomes: adjusted OR of other factors at time thresholds with significant differences of early-onset pneumonia in 3 days, 7 days or early-onset sepsis (3 days) according to length of time of PROM. Confounding variables included the city where the hospital locates (sorted by

	latitude from low to high), the mother's age, education level, induction of labour, prenatal antibiotic treatment, mode of delivery (caesarean section or vaginal delivery), meconium-stained amniotic fluid (MSAF), the neonates' sex, Apgar Score at 1 min (≤7 vs.≥8)
Additional details	Early-onset sepsis diagnosed following clinical symptoms and a positive blood culture or cerebrospinal fluid samples drawn within 7 days of birth Neonatal pneumonia was confirmed if meet the criteria in all three categories: (1) If there is underlying pulmonary or cardiac disease, two serial X-rays demonstrating at least one of the following: New or progressive infiltrate, consolidation, cavitation pneumoatocele. If there is no underlying pulmonary or cardiac disease, one definitive imaging test result is acceptable; (2) Worsening gas exchange. Any of the following: O2 desaturation, increased oxygen requirement, increased ventilator demand; (3) Clinical/ laboratory evidence. Must have at least three of the following: Temperature instability; Leukopenia (≤4000 WBC/ mm3) or leukocytosis (≥15,000 WBC/mm3) and left shift (≥10% band forms); New onset of purulent sputum or change in character of sputum, or increased respiratory secretions or increased suctioning requirements; Apnea, tachypnea, nasal flaring with retractions of the chest wall or nasal flaring with grunting; Wheezing, rales, or rhonchi; Cough; Bradycardia (<100 beats/min) or tachycardia (>170 beats/min).

Abbreviations: min: minute; O2: oxygen; OR: odds ratio; PROM: prelabour rupture of membrane; WBC: white blood cells
* Upper time threshold of PROM not reported

Study level characteristics

Characteristic	Study (N = 7015)
Gestational age (weeks)	38.81 (1.07)

Characteristic	Study (N = 7015)
Mean (SD)	
Maternal age (years) Mean (SD)	30.11 (4.00)
Number of neonates 4 neonates were stillborn **% Female** **% Male** Sample size	n = 7015 n = 3375 ; % = 48.11 n = 3640 ; % = 51.86
Number of Mothers Sample size	n = 7019
Parity **Primiparous** **Multiparous** Sample size	 n = 4966 ; % = 70.75 n = 2053 ; % = 29.25
Ethnicity Sample size	n = NR ; % = NR

Characteristic	Study (N = 7015)
Duration of time between PROM to birth (hours) Median (Q1, Q3)	20.52 (8.57, 26.52)
Prognostic factors of interest - Time threshold of PROM equal to or more than 10 hours Sample size	n = 4882 ; % = 69.59
Prognostic factors of interest - Time threshold of PROM equal to or more than 12 hours Sample size	n = 4328 ; % = 61.7
Prognostic factors of interest - Time threshold of PROM equal to or more than 14 hours Sample size	n = 3833 ; % = 54.64
Prognostic factors of interest - Time threshold of PROM equal to or more than 16 hours Sample size	n = 3388 ; % = 48.3
Prognostic factors of interest - Time threshold of PROM equal to or more than 18 hours Sample size	n = 2986 ; % = 42.57
Prognostic factors of interest - Time threshold of PROM equal to or more than 20 hours Sample size	n = 2634 ; % = 37.55
Prognostic factors of interest - Time threshold of PROM equal to or more than 22* hours Sample size	n = 2309 ; % = 32.92

Abbreviations: NR: note reported; PROM: prelabour rupture of membrane
* Upper time threshold of PROM not reported

Early-onset Sepsis within 72 hours

Outcome	> 10 hours PROM vs <10 hours PROM, , N2 = 4882, N1 = 2137	> 12 hours PROM vs <12 hours PROM, , N2 = 4328, N1 = 2691	> 14 hours PROM vs <14 hours PROM, , N2 = 3833, N1 = 3186	>16 hours PROM vs <16 hours PROM, , N2 = 3388, N1 = 3631	> 18 hours PROM vs <18 hours PROM, , N2 = 2986, N1 = 4033	> 20 hours PROM vs <20 hours PROM, , N2 = 2634, N1 = 4385	>22 hours PROM vs <22 hours PROM**, , N2 = 2309, N1 = 4710
Association of early-onset sepsis within 72 hours with PROM (Adjusted odds ratio (95% CI))* Multivariate analysis	3.28 (0.65 to 16.52)	1.98 (0.5 to 7.81)	1.99 (0.51 to 7.71)	1.9 (0.51 to 7.08)	1.74 (0.48 to 6.32)	0.97 (0.26 to 3.67)	0.77 (0.19 to 3.18)

Abbreviations: CI: confidence interval; PROM: prelabour rupture of membrane

* Adjusted for city where the hospital locates, the mother's age, education level, chorioamnionitis, induction of labour, prenatal antibiotic treatment, mode of delivery, amniotic fluid pollution, neonate's sex, Apgar Score.

** Upper time threshold of PROM not reported

Early-onset pneumonia within 72 hours

Outcome	> 10 hours PROM vs <10 hours PROM, , N2 = 4882, N1 = 2137	> 12 hours PROM vs <12 hours PROM, , N2 = 4328, N1 = 2691	> 14 hours PROM vs <14 hours PROM, , N2 = 3833, N1 = 3186	>16 hours PROM vs <16 hours PROM, , N2 = 3388, N1 = 3631	> 18 hours PROM vs <18 hours PROM, , N2 = 2986, N1 = 4033	> 20 hours PROM vs <20 hours PROM, , N2 = 2634, N1 = 4385	>22 hours PROM vs <22 hours PROM**, , N2 = 2309, N1 = 4710
Association of early-onset pneumonia within 72 hours with PROM (Adjusted odds ratio (95% CI))* Multivariate analysis	1.3 (0.77 to 2.2)	1.28 (0.78 to 2.11)	1.59 (0.97 to 2.58)	1.86 (1.16 to 3)	1.8 (1.14 to 2.28)	1.79 (1.14 to 2.82)	1.56 (0.995 to 2.45)

Abbreviations: CI: confidence interval; PROM: prelabour rupture of membrane
*Adjusted for city where the hospital locates, the mother's age, education level, chorioamnionitis, induction of labour, prenatal antibiotic treatment, mode of delivery, amniotic fluid pollution, neonate's sex, Apgar Score.
** Upper time threshold of PROM not reported

Early-onset pneumonia within 7 days

Outcome	> 10 hours PROM vs <10 hours PROM, , N2 = 4882, N1 = 2137	> 12 hours PROM vs <12 hours PROM, , N2 = 4328, N1 = 2691	> 14 hours PROM vs <14 hours PROM, , N2 = 3833, N1 = 3186	>16 hours PROM vs <16 hours PROM, , N2 = 3388, N1 = 3631	> 18 hours PROM vs <18 hours PROM, , N2 = 2986, N1 = 4033	> 20 hours PROM vs <20 hours PROM, , N2 = 2634, N1 = 4385	>22 hours PROM vs <22 hours PROM**, , N2 = 2309, N1 = 4710
Association of early-onset pneumonia within 7 days with PROM (Adjusted odds ratio (95% CI))* Multivariate analysis	1.29 (0.8 to 2.08)	1.26 (0.8 to 1.97)	1.53 (0.98 to 2.39)	1.7 (1.1 to 2.63)	1.68 (1.1 to 2.57)	1.75 (1.15 to 2.66)	1.61 (1.06 to 2.45)

Abbreviations: CI: confidence interval; PROM: prelabour rupture of membrane

*Adjusted for city where the hospital locates, the mother's age, education level, chorioamnionitis, induction of labour, prenatal antibiotic treatment, mode of delivery, amniotic fluid pollution, neonate's sex, Apgar Score.
** Upper time threshold of PROM not reported

Critical Appraisal – QUIPs checklist for prognostic studies

Section	Question	Answer	Comment
Overall bias	Risk of bias judgement	High	Secondary analysis of primary study. The details of this secondary analysis were not reported in the primary publication.
Overall bias	Directness	Directly applicable	NA

Appendix E Forest plots

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

Appendix F GRADE summary

Table 1 Prognostic evidence summary: PROM to birth compared to no PROM for risk of early neonatal infection in singleton pregnancies at term

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM	Non-PROM	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of culture-positive early-onset sepsis* with PROM to birth with median time (Q1, Q3) 26.38 hours (10.15, 40.87) (timeframe: within 3 days of life). PROM to birth time intervals not included in model as a predictor											
1 (Zhuang 2020)***	non-randomised studies	serious[a]	serious[b]	not serious	not serious	none	7079/14152 (50.0%) Rate of early-onset sepsis: not reported in term neonates	7073/14152 (50.0%) Rate of early-onset sepsis: not reported in term neonates	**aOR 14.56** (1.90 to 111.60) EVIDENCE OF INCREASED RISK	Not estimable**	⨁◯◯◯ Very low[a,b]
Association of early-onset pneumonia with PROM to birth with median time (Q1, Q3) 26.38 hours (10.15, 40.87) (timeframe: within 3 days of life). PROM to birth time intervals not included in model as a predictor											
1 (Zhuang 2020)***	non-randomised studies	serious[a]	serious[b]	not serious	not serious	none	7079/14152 (50.0%) Rate of early-onset pneumonia: not reported in term neonates	7073/14152 (50.0%) Rate of early-onset sepsis pneumonia: not reported in term neonates	**aOR 1.81** (1.29 to 2.53) EVIDENCE OF INCREASED RISK	Not estimable**	⨁◯◯◯ Very low[a,b]
Association of neonatal infectious disease (method of diagnosis NR) with PROM to birth with median time (Q1, Q3) 26.38 hours (10.15, 40.87) (timeframe: 28+0 weeks gestation to 7 days after birth). PROM to birth time intervals not included in model as a predictor											

1 (Zhuang 2020)***	non-randomised studies	serious[a]	serious[b]	serious[c]	not serious	none	7079/14152 (50.0%) Rate of neonatal infectious disease: not reported in term neonates	7073/14152 (50.0%) Rate of neonatal infectious disease: not reported in term neonates	**aOR 1.92** (1.49 to 2.49) **EVIDENCE OF INCREASED RISK**	Not estimable**	⊕◯◯◯ Very low[a,b,c]

CI: confidence interval; NR: not reported; **aOR:** adjusted odds ratio
* diagnosed following clinical symptoms and a positive blood culture or cerebrospinal fluid samples drawn within 7 days of birth..
**Absolute effects not estimable for adjusted data.
***1.5% of population multiple births.
a. Serious risk of bias in the evidence contributing to the outcome. The evidence came from a study at moderate risk of bias as per QUIPS
b. Single study- downgraded once for inconsistency, as single study outcomes may otherwise receive favourable ratings for inconsistency by default.
c. Serious indirectness because neonatal infectious disease definition includes bacterial, viral and fungal infections. Non-bacterial neonatal infections are not included in the outcome listed in the protocol.

Table 2 Prognostic evidence summary: PROM to birth compared to other PROM to birth time intervals for risk of early neonatal infection in singleton pregnancies at term

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of culture-positive early-onset sepsis* with PROM to birth >10 hours compared to <10 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	4882/7019 (69.6%) Rate of early-onset sepsis: 0.23%	2137/7019 (30.4%) Rate of early-onset sepsis: Not reported	**aOR 3.28** (0.65 to 16.52) **UNCERTAIN RISK**	Not estimable**	⊕◯◯◯ Very low[a,b,c]

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of culture-positive early-onset sepsis* with PROM to birth >12 hours compared to <12 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	4328/7019 (61.7%) Rate of early-onset sepsis: 0.21%	2691/7019 (38.3%) Rate of early-onset sepsis: Not reported	**aOR 1.98** (0.50 to 7.81) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]
Association of culture-positive early-onset sepsis* with PROM to birth >14 hours compared to <14 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	3833/7019 (54.6%) Rate of early-onset sepsis: 0.21%	3186/7019 (45.4%) Rate of early-onset sepsis: Not reported	**aOR 1.99** (0.51 to 7.71) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]
Association of culture-positive early-onset sepsis* with PROM to birth >16 hours compared to <16 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	3388/7019 (48.3%) Rate of early-onset sepsis: 0.21%	3631/7019 (51.7%) Rate of early-onset sepsis: Not reported	**aOR 1.90** (0.51 to 7.08) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]
Association of culture-positive early-onset sepsis* with PROM to birth >18 hours compared to <18 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	2986/7019 (42.5%) Rate of early-onset sepsis: 0.20%	4033/7019 (57.5%) Rate of early-onset sepsis: Not reported	**aOR 1.74** (0.48 to 6.32) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of culture-positive early-onset sepsis* with PROM to birth >20 hours compared to <20 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	2634/7019 (37.5%) Rate of early-onset sepsis: 0.15%	4385/7019 (62.5%) Rate of early-onset sepsis: Not reported	**aOR 0.97** (0.26 to 3.67) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]
Association of culture-positive early-onset sepsis* with PROM to birth >22 hours compared to <22 hours (timeframe: within 3 days of life). No upper time threshold of PROM reported											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	2309/7019 (32.9%) Rate of early-onset sepsis: 0.13%	4710/7019 (67.1%) Rate of early-onset sepsis: Not reported	**aOR 0.77** (0.19 to 3.18) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]
Association of culture-positive septicaemia* with rupture of membrane time to birth (per 6 hour increase) compared to <6 hours (outcome timeframe undefined)**											
1 (Herbst 2007)****	non-randomised studies	very serious[a]	serious[b]	not serious	serious[d]	none	75865/113568 (66.8%) Rate of septicaemia: <6 hours: 0.3%	37703/113568 (33.2%) Rate of septicaemia: 6-18 hours: 0.5% 18-24 hours: 0.8% >24 hours: 1.1%	**aOR 1.29** (1.23 to 1.35) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d]
Association of early-onset pneumonia with PROM to birth >10 hours compared to <10 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	4882/7019 (69.6%) Rate of early-onset pneumonia: 1.54%	2137/7019 (30.4%) Rate of early-onset pneumonia: Not reported	**aOR 1.30** (0.77 to 2.20) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of early-onset pneumonia with PROM to birth >12 hours compared to <12 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	very serious[c]	none	4328/7019 (61.7%) Rate of early-onset pneumonia: 1.55%	2691/7019 (38.3%) Rate of early-onset pneumonia: Not reported	**aOR 1.28** (0.78 to 2.11) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c]
Association of early-onset pneumonia with PROM to birth >14 hours compared to <14 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	serious[d]	none	3833/7019 (54.6%) Rate of early-onset pneumonia: 1.67%	3186/7019 (45.4%) Rate of early-onset pneumonia: Not reported	**aOR 1.59** (0.97 to 2.58) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d]
Association of early-onset pneumonia with PROM to birth >16 hours compared to <16 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	serious[d]	none	3388/7019 (48.3%) Rate of early-onset pneumonia: 1.77%	3631/7019 (51.7%) Rate of early-onset pneumonia: Not reported	**aOR 1.86** (1.16 to 3.00) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d]
Association of early-onset pneumonia with PROM to birth >18 hours compared to <18 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	serious[d]	none	2986/7019 (42.5%) Rate of early-onset pneumonia: 1.78%	4033/7019 (57.5%) Rate of early-onset pneumonia: Not reported	**aOR 1.80** (1.14 to 2.28) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d]

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of early-onset pneumonia with PROM to birth >20 hours compared to <20 hours (timeframe: within 3 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	serious[d]	none	2634/7019 (37.5%) Rate of early-onset pneumonia: 1.83%	4385/7019 (62.5%) Rate of early-onset pneumonia: Not reported	**aOR 1.79** (1.14 to 2.82) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d]
Association of early-onset pneumonia with PROM to birth >22 hours compared to <22 hours (timeframe: within 3 days of life). No upper time threshold of PROM reported											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	not serious	serious[d]	none	2309/7019 (32.9%) Rate of early-onset pneumonia: 1.78%	4710/7019 (67.1%) Rate of early-onset pneumonia: Not reported	**aOR 1.56** (0.995 to 2.45) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d]
Association of early-onset pneumonia with PROM to birth >10 hours compared to <10 hours (timeframe: within 7 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	very serious[c]	none	4882/7019 (69.6%) Rate of early-onset pneumonia: 1.78%	2137/7019 (30.4%) Rate of early-onset pneumonia: Not reported	**aOR 1.29** (0.80 to 2.08) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c,e]
Association of early-onset pneumonia with PROM to birth >12 hours compared to <12 hours (timeframe: within 7 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	very serious[c]	none	4328/7019 (61.7%) Rate of early-onset pneumonia: 1.78%	2691/7019 (38.3%) Rate of early-onset pneumonia: Not reported	**aOR 1.26** (0.80 to 1.97) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c,e]

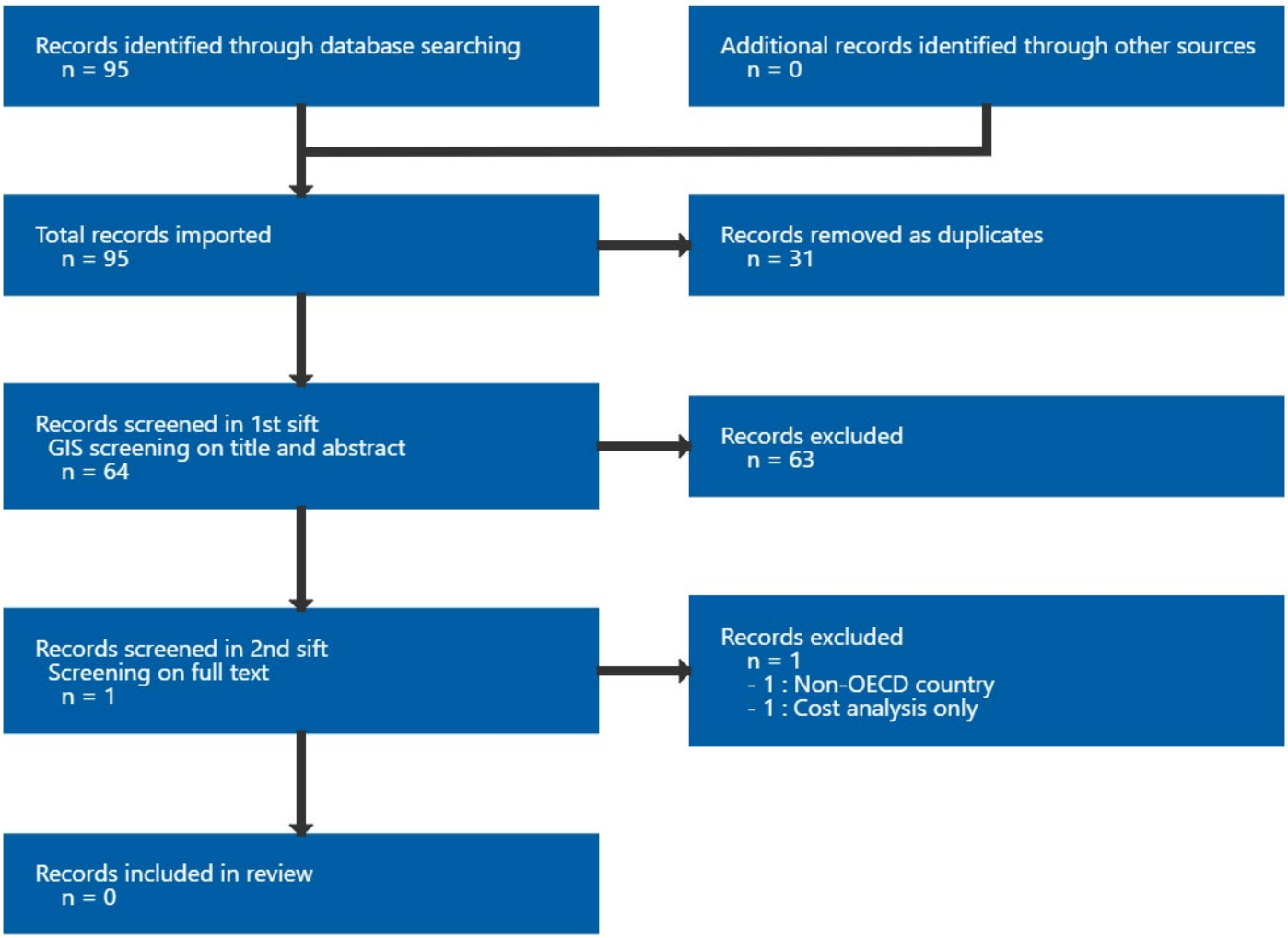
Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of early-onset pneumonia with PROM to birth >14 hours compared to <14 hours (timeframe: within 7 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	very serious[c]	none	3833/7019 (54.6%) Rate of early-onset pneumonia: 1.91%	3186/7019 (45.4%) Rate of early-onset pneumonia: Not reported	**aOR 1.53** (0.98 to 2.39) **UNCERTAIN RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,c,e]
Association of early-onset pneumonia with PROM to birth >16 hours compared to <16 hours (timeframe: within 7 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	serious[d]	none	3388/7019 (48.3%) Rate of early-onset pneumonia: 1.98%	3631/7019 (51.7%) Rate of early-onset pneumonia: Not reported	**aOR 1.70** (1.10 to 2.63) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d,e]
Association of early-onset pneumonia with PROM to birth >18 hours compared to <18 hours (timeframe: within 7 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	serious[d]	none	2986/7019 (42.5%) Rate of early-onset pneumonia: 1.98%	4033/7019 (57.5%) Rate of early-onset pneumonia: Not reported	**aOR 1.68** (1.10 to 2.57) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,e,f]
Association of early-onset pneumonia with PROM to birth >20 hours compared to <20 hours (timeframe: within 7 days of life)											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	serious[d]	none	2634/7019 (37.5%) Rate of early-onset pneumonia: 2.05%	4385/7019 (62.5%) Rate of early-onset pneumonia: Not reported	**aOR 1.75** (1.15 to 2.66) **EVIDENCE OF INCREASED RISK**	Not estimable**	⨁◯◯◯ Very low[a,b,d,e]

Certainty assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	PROM to birth	other PROM to birth time intervals	Relative (95% CI) and clinical importance	Absolute (95% CI)	
Association of early-onset pneumonia with PROM to birth >22 hours compared to <22 hours (timeframe: within 7 days of life). No upper time threshold of PROM reported.											
1 (Zhuang 2022)	non-randomised studies	very serious[a]	serious[b]	serious[e]	serious[d]	none	2309/7019 (32.9%) Rate of early-onset pneumonia: 2.04%	4710/7019 (67.1%) Rate of early-onset pneumonia: Not reported	**aOR 1.61** (1.06 to 2.45) EVIDENCE OF INCREASED RISK	Not estimable**	⨁◯◯◯ Very low[a,b,d,e]

CI: confidence interval; **OR:** odds ratio
* diagnosed following clinical symptoms and a positive blood culture or cerebrospinal fluid samples drawn within 7 days of birth.
**Absolute effects not estimable for adjusted data.
*** diagnosed following positive culture or clinical signs with an elevated level of C reactive protein.
****1.9% of population multiple births.
a. Very serious risk of bias in the evidence contributing to the outcome. The evidence came from a study at high risk of bias as per QUIPS
b. Single study- downgraded once for inconsistency, as single study outcomes may otherwise receive favourable ratings for inconsistency by default
c. Very serious imprecision because 95% CI crosses 2 clinical decision thresholds (0.8 and 1.25)
d. Serious imprecision because 95% CI crosses 1 clinical decision threshold (1.25)
e. Serious indirectness because early-onset pneumonia defined within 7 days of birth. Earl-onset pneumonia defined as ≤72 hours of birth in the protocol

Appendix G Economic evidence study selection

Figure 2: Economic evidence study selection flow chart



Appendix H Economic evidence tables

No evidence was identified which was applicable to this review question.

10 # Appendix I Excluded studies

11 ## Prognostic Review

12 ### Table 3 Studies excluded from the prognostic review

Study	Reason for exclusion
Abu Shqara, Raneen, Bang, Sarina, Glikman, Daniel et al. (2023) Single versus dual antibiotic regimen in women with term prolonged rupture of membranes and intrapartum fever: a retrospective study. Journal of gynecology obstetrics and human reproduction 52(6): 102599	- Unclear if PROM is measured from labour or birth
Abu Shqara, Raneen, Glikman, Daniel, Lowenstein, Lior et al. (2025) Maternal and Neonatal Infectious Outcomes Compared According to Rupture of Membrane Duration and Antibiotic Administration: A Retrospective Study. The Pediatric infectious disease journal 44(3): 251-256	- No association analysis between PROM and neonatal infection reported
Abu Shqara, Raneen; Lowenstein, Lior; Wolf, Maya Frank (2025) Time Matters: Evaluating the clinical and infectious outcomes in Rupture of Membranes<12 hours vs 12-18 hours, at term: a retrospective study. Gynecologic and obstetric investigation: 1-18	- No association analysis between PROM and neonatal infection reported
Abu Shqara, Raneen, Nakhleh Francis, Yara, Lowenstein, Lior et al. (2024) The relation between low-grade fever during prolonged rupture of membranes (>12 hours) at term and infectious outcomes: a retrospective cohort study. American journal of obstetrics and gynecology 231(3): 361e1-361e10	- Unclear if PROM is measured from labour or birth
Abu Shqara, Raneen, Or, Shany, Goldinfeld, Gabriela et al. (2025) Maternal and Perinatal Outcomes Associated with Intrapartum Antibiotic Regimens in Women with Prolonged Membrane Rupture and Unknown Group B Streptococcus Status: A Retrospective Comparative Study. Gynecologic and obstetric investigation: 1-8	- Unclear if PROM is measured from labour or birth
Abu Shqara, Raneen, Rosso, Liron, Lowensetin, Lior et al. (2024) Maternal and perinatal infectious morbidity in term prelabor rupture of membrane according to	- Unclear if PROM is measured from labour or birth

Study	Reason for exclusion
two induction of labor protocols. Archives of gynecology and obstetrics 310(3): 1577-1585	
Abu Shqara, Raneen, Saporta, Omer, Glikman, Daniel et al. (2025) Maternal bacteremia in intrapartum fever: the role of ampicillin resistance and prolonged membrane rupture-a retrospective comparative study. Archives of gynecology and obstetrics 312(2): 451-460	- Reports number of neonatal infections only
Aeimcharnbanchong, Kanokwan (2023) Incidence Rate and Associated Factors of Early Onset Sepsis Among Neonate Born at >=35 Weeks' Gestation in Thai Tertiary Hospital. Infection and drug resistance 16: 4093-4100	- Unclear if PROM is measured from labour or birth
Ahlden, S, Andersch, B, Stigsson, L et al. (1988) Prediction of sepsis neonatorum following a full-term pregnancy. Gynecologic and obstetric investigation 25(3): 181-5	- Case control study design
Akalu, Tadesse Yirga, Aynalem, Yared Asmare, Shiferaw, Wondimeneh Shibabaw et al. (2023) Prevalence and determinants of early onset neonatal sepsis at two selected public referral hospitals in the Northwest Ethiopia: a cross-sectional study. BMC pediatrics 23(1): 10	- Cross sectional study design
Akyol, D, Mungan, T, Unsal, A et al. (1999) Prelabour rupture of the membranes at term--no advantage of delaying induction for 24 hours. The Australian & New Zealand journal of obstetrics & gynaecology 39(3): 291-5	- Randomised study design
Al-Qa'Qa', K. and Al-Awaysheh, F. (2005) Neonatal outcome and prenatal antibiotic treatment in premature rupture of membranes. Pakistan Journal of Medical Sciences 21(4): 441	- No association analysis between PROM and neonatal infection reported
Al-Shehab, Mohammed, Abdul-Ghani, Rashad, Elnemr, Muna et al. (2025) Comparison of risk factors, clinical characteristics, laboratory findings and bacterial etiology between early-onset and late-onset neonatal sepsis in Sana'a City, Yemen. BMC pediatrics 25(1): 208	- Unclear if PROM is measured from labour or birth

Study	Reason for exclusion
Aldemir, E.; Kavuncuoglu, S.; Turel, O. (2019) Epidemiology of sepsis in neonates: Microbiological profile and antibiotic susceptibility. Cocuk Enfeksiyon Dergisi 13(4): e165	- PROM measured to labour not birth
Alemayehu, A., Yusuf, M., Demissie, A. et al. (2024) Determinants and Magnitude of Neonatal Sepsis at Hiwot Fana Comprehensive Specialized University Hospital, in Eastern Ethiopia: A Cross-Sectional Study. Clinical Medicine Insights: Pediatrics 18	- Unclear if PROM is measured from labour or birth
Alemu, Mulunesh, Ayana, Mulatu, Abiy, Hailemariam et al. (2019) Determinants of neonatal sepsis among neonates in the northwest part of Ethiopia: case-control study. Italian journal of pediatrics 45(1): 150	- Case control study design
Amgothu, M., Jyothi, V.U.V.N., Kumar, T.N. et al. (2022) The Clinical and Experimental Characteristics of Neonates with Culture Positive Sepsis: A Study. Journal of Cardiovascular Disease Research 13(8): 1942	- Full text paper not available
Amin, S E, Islam, M N, Choudhury, F H et al. (2021) Risk Factors of Neonatal Sepsis in Neonatal Intensive Care Unit (NICU) of Mymensingh Medical College Hospital. Mymensingh medical journal : MMJ 30(3): 671-677	- No association analysis between PROM and neonatal infection reported
Ashwal, E., Krispin, E., Aviram, A. et al. (2016) Perinatal outcome in women with prolonged premature rupture of membranes at term undergoing labor induction. Archives of Gynecology and Obstetrics 294(6): 1125	- No association analysis between PROM and neonatal infection reported
Asogwa, Augustine O, Ezugwu, Euzebus C, Eleje, George Uchenna et al. (2023) Association of clinical signs of chorioamnionitis with histological chorioamnionitis and neonatal outcomes in women with premature rupture of membranes. Nigerian journal of clinical practice 26(9): 1354-1360	- No association analysis between PROM and neonatal infection reported
Bachar, Gal, Shemesh, Doron, Farago, Naama et al. (2023) The optimal induction timing in prelabor rupture of membranes: a retrospective study. The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of	- Reports number of neonatal infections only

Study	Reason for exclusion
Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians 36(1): 2215997	
Banerjee, S, Sanyal, S, Banerjee, U et al. (1997) Pre-labour rupture of membrane: the histological study of membrane and bacteriological profile. Journal of the Indian Medical Association 95(9): 500-4	- No association analysis between PROM and neonatal infection reported
Bashir, K.; Navid, S.; Awan, A.S. (2017) A comparison of 24 hours expectant management versus induction of labour in pre-labour rupture of membranes at term. Medical Forum Monthly 28(5): 7	- Randomised study design
Bech, Christine Manich, Stensgaard, Christina Nadia, Lund, Stine et al. (2022) Risk factors for neonatal sepsis in Sub-Saharan Africa: a systematic review with meta-analysis. BMJ open 12(9): e054491	- Unclear if PROM is measured from labour or birth
Begum, S.; Islam, S.; Mia, M.B. (2025) Maternal and fetal risks associated with pre-mature rupture of membranes: Implications for neonatal health. Annals of International Medical and Dental Research 11(3): 21	- Reports number of neonatal infections only
Bellussi, Federica, Livi, Alessandra, Diglio, Josefina et al. (2021) Timing of induction for term prelabor rupture of membranes and intravenous antibiotics. American journal of obstetrics & gynecology MFM 3(1): 100245	- PROM measured to labour not birth
Ben-David, Chen, Bachar, Gal, Shbita, Dima et al. (2024) Pre-labour Rupture of Membranes at Term in Women With Gestational Diabetes and the Risk of Neonatal Hypoglycemia. Journal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC 46(1): 102234	- No association analysis between PROM and neonatal infection reported
Benitz, W E; Gould, J B; Druzin, M L (1999) Risk factors for early-onset group B streptococcal sepsis: estimation of odds ratios by critical literature review. Pediatrics 103(6): e77	- Univariate analyses
Berardi, Alberto, Rossi, Cecilia, Bacchi Reggiani, Maria Letizia et al. (2017) An area-based study on intrapartum antibiotic prophylaxis for preventing group B streptococcus early-onset disease:	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
advances and limitations. 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 30(14): 1739-1744	
Biesiada, L., Pietrzak, Z., Jacaszek, M. et al. (2010) Delivery in women with premature rupture of membranes (PROM). Ginekologia i Poloznictwo 16(2): 37	- Case control study design
Birrie, Endalk, Sisay, Ermias, Tibebu, Nigusie Selomon et al. (2022) Neonatal Sepsis and Associated Factors Among Newborns in Woldia and Dessie Comprehensive Specialized Hospitals, North-East Ethiopia, 2021. Infection and drug resistance 15: 4169-4179	- Unclear if PROM is measured from labour or birth
Bouchghoul, H. (2020) Term Prelabor Rupture of Membranes: CNGOF Guidelines for Clinical Practice - Initial Management. Gynecologie Obstetrique Fertilite et Senologie 48(1): 24	- No association analysis between PROM and neonatal infection reported
Byonanuwe, Simon, Nzabandora, Emmanuel, Nyongozi, Baltazar et al. (2020) Predictors of Premature Rupture of Membranes among Pregnant Women in Rural Uganda: A Cross-Sectional Study at a Tertiary Teaching Hospital. International journal of reproductive medicine 2020: 1862786	- Cross sectional study design
Chandana, P.S., Parthasaradhi Reddy, G., Sunitha, K. et al. (2022) STUDY OF MATERNAL AND PERINATAL OUTCOME IN PREMATURE RUPTURE OF MEMBRANES AT TERM GESTATION IN A TERTIARY CARE HOSPITAL-GOVERNMENT MATERNITY HOSPITAL, TIRUPATI, ANDHRA PRADESH, INDIA. European Journal of Molecular and Clinical Medicine 9(4): 2484	- Full text paper not available
Chandra, Ivana and Sun, Lizhou (2017) Third trimester preterm and term premature rupture of membranes: Is there any difference in maternal characteristics and pregnancy outcomes?. Journal of the Chinese Medical Association : JCMA 80(10): 657-661	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
Chua, S, Arulkumaran, S, Sailesh Kumar, S et al. (1995) Prelabour rupture of membranes to delivery interval related to the incidence of maternal and neonatal infection. Journal of obstetrics and gynaecology (Tokyo, Japan) 21(4): 367-72	- Reports number of neonatal infections only
Dai, Wei, Zhang, Youcheng, Xu, Yin et al. (2019) The effect of group B streptococcus on maternal and infants' prognosis in Guizhou, China. Bioscience reports 39(12)	- No association analysis between PROM and neonatal infection reported
Dan, Liu, Lin, Wu, Hailong, Li et al. (2024) Timing of antibiotic prophylaxis in term prelabor rupture of membranes: A retrospective cohort study using propensity-score matching. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 164(2): 741-749	- Unclear if PROM is measured from labour or birth
Daniel, Zelele, Tantu, Temesgen, Zewdu, Dereje et al. (2023) Determinants of term premature rupture of membrane: case-control study in Saint Paul's Millennium Medical College Hospital, Addis Ababa, Ethiopia. BMC women's health 23(1): 390	- Case control study design
Dasgupta, N., Koley, A., Chaudhary, A. et al. (2023) A comparative study of pregnancy outcome and risk factors in preterm premature rupture of membranes (PROM) between 28 to less than 34 weeks of gestation and 34-37 weeks of gestation. European Journal of Cardiovascular Medicine 13(3): 1209	- Population is preterm neonates
Dasgupta, N., Nasrin, N., Banu, R. et al. (2024) A comparative study between intracervical dinoprostone gel and expectant management of premature rupture of membranes in term pregnancy. National Journal of Physiology, Pharmacy and Pharmacology 14(2): 236	- Study does not contain any relevant predictive values
Davies, Jill K. and Gibbs, Ronald S. (2006) Obstetric Factors Associated with Infections in the Fetus and Newborn Infant. Infectious Diseases of the Fetus and Newborn Infant: 59-86	- Book chapter
Del Valle, G O, Joffe, G M, Izquierdo, L A et al. (1992) The biophysical profile and the nonstress test: poor predictors of	- Population is preterm neonates

Study	Reason for exclusion
chorioamnionitis and fetal infection in prolonged preterm premature rupture of membranes. Obstetrics and gynecology 80(1): 106-10	
Dhivya, A., Hebbale, V., Jayavani, R.L. et al. (2025) ACTIVE VERSUS EXPECTANT MANAGEMENT OF TERM PROM: A COMPARATIVE STUDY OF FETOMATERNAL OUTCOMES. International Journal of Medicine and Public Health 15(3): 1316	- Randomised study design
Diguisto, C. (2020) Term Prelabor Rupture of Membranes: CNGOF Guidelines for Clinical Practice - Definition, Epidemiology, Complications and Risk Factors. Gynecologie Obstetrique Fertilite et Senologie 48(1): 19	- Full text paper not available
Egan, D. and O'Herlihy, C. (1988) Expectant management of spontaneous rupture of membranes at term. Journal of Obstetrics and Gynaecology 8(3): 243	- Reports number of neonatal infections only
Endale, Tigist, Fentahun, Netsanet, Gemada, Desta et al. (2016) Maternal and fetal outcomes in term premature rupture of membrane. World journal of emergency medicine 7(2): 147-52	- No association analysis between PROM and neonatal infection reported
Gafni, A, Goeree, R, Myhr, T L et al. (1997) Induction of labour versus expectant management for prelabour rupture of the membranes at term: an economic evaluation. TERMPROM Study Group. Term Prelabour Rupture of the Membranes. CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne 157(11): 1519-25	- Economic evaluation of randomised trial
Ganatra, Hammad A.; Stoll, Barbara J.; Zaidi, Anita K. M. (2010) International perspective on early-onset neonatal sepsis. Clinics in perinatology 37(2): 501-523	- Review article but not a systematic review
Gandhi, M.D.; Shah, F.H.; Panchal, C. (2012) Obstetric outcomes in premature rupture of the membrane (PROM). Internet Journal of Gynecology and Obstetrics 16(2)	- Reports number of neonatal infections only
Geethanath, Ruppa Mohanram, Ahmed, Imran, Abu-Harb, Majd et al. (2019) Intrapartum antibiotics for prolonged rupture of membranes at term to prevent Group B	- No association analysis between PROM and neonatal infection reported Study assesses the incidence of culture-proven GBS sepsis before and after a

Study	Reason for exclusion
Streptococcal sepsis. Journal of obstetrics and gynaecology : the journal of the Institute of Obstetrics and Gynaecology 39(5): 619-622	change of practice on intrapartum management of GBS sepsis in babies
Ghafoor, S. (2021) Review of Prelabor Rupture of the Membranes: Pathophysiologic Concepts and Novel Therapeutic Strategies. Current Women's Health Reviews 17(4): 297	- Review article but not a systematic review
Girma, Derara; Dejene, Hiwot; Adugna, Leta (2022) Predictors of Neonatal Mortality in Ethiopia: A Comprehensive Review of Follow-Up Studies. International journal of pediatrics 2022: 1491912	- Review article but not a systematic review
Guise, J M; Duff, P; Christian, J S (1992) Management of term patients with premature rupture of membranes and an unfavorable cervix. American journal of perinatology 9(1): 56-60	- No association analysis between PROM and neonatal infection reported Management of term patients with PROM and a cervix unfavorable for induction of labor (Bishop score 4 or less)
Gupta, Shruti; Malik, Sunita; Gupta, Shailesh (2020) Neonatal complications in women with premature rupture of membranes (PROM) at term and near term and its correlation with time lapsed since PROM to delivery. Tropical doctor 50(1): 8-11	- Reports number of neonatal infections only
Hagen, Irene D; Bailey, Joanne M; Zielinski, Ruth E (2021) Outcomes of Expectant Management of Term Prelabor Rupture of Membranes. Journal of obstetric, gynecologic, and neonatal nursing : JOGNN 50(2): 122-132	- Reports number of neonatal infections only
Hagskog, K, Nisell, H, Sarman, I et al. (1994) Conservative ambulatory management of prelabor rupture of the membranes at term in nulliparous women. Acta obstetricia et gynecologica Scandinavica 73(10): 765-9	- Reports number of neonatal infections only
Hauth, J C, Gilstrap, L C 3rd, Hankins, G D et al. (1985) Term maternal and neonatal complications of acute chorioamnionitis. Obstetrics and gynecology 66(1): 59-62	- No association analysis between PROM and neonatal infection reported
Helmer, H. (2006) Continuing challenges in treating preterm labour: Preterm prelabour rupture of the membranes. BJOG: An International Journal of Obstetrics and Gynaecology 113(suppl3): 111	- Case series

Study	Reason for exclusion
Hincu, Maura-Adelina, Zonda, Gabriela-Ildiko, Vicoveanu, Petronela et al. (2024) Investigating the Association between Serum and Hematological Biomarkers and Neonatal Sepsis in Newborns with Premature Rupture of Membranes: A Retrospective Study. Children (Basel, Switzerland) 11(1): 124-124	- Reports number of neonatal infections only
Huret, C., Pereira, B., Collange, V. et al. (2017) Premature rupture of membranes >= 37 weeks of gestation: Predictive factors for labour onset within 24 hours. Gynecologie Obstetrique Fertilite et Senologie 45(6): 348	- Study not reported in English
Ibishi, Vlora Ademi; Isjanovska, Rozalinda; Malin, Anne E (2018) Early-onset neonatal infection in pregnancies with prelabor rupture of membranes in Kosovo: A major challenge. Turkish journal of obstetrics and gynecology 15(3): 171-176	- Study of term and preterm neonates 78.7% preterm neonates
Ismail, Abdul Qader Tahir and Lahiri, Soma (2013) Management of prelabour rupture of membranes (PROM) at term. Journal of perinatal medicine 41(6): 647-9	- Review article but not a systematic review
Jackson, Gregory L, Rawiki, Patricia, Sendelbach, Dorothy et al. (2012) Hospital course and short-term outcomes of term and late preterm neonates following exposure to prolonged rupture of membranes and/or chorioamnionitis. The Pediatric infectious disease journal 31(1): 89-90	- Population is preterm neonates
Jain, S., Jain, S.K., Singh, P. et al. (2023) ASSESSMENT OF MATERNAL AND FETAL OUTCOME IN PREMATURE RUPTURE OF MEMBRANE. International Journal of Academic Medicine and Pharmacy 5(2): 1642	- No association analysis between PROM and neonatal infection reported
Ji, Yunpeng, Zhao, Chenkai, Ma, Xiao-Xia et al. (2019) Outcome of a screening program for the prevention of neonatal early-onset group B Streptococcus infection: a population-based cohort study in Inner Mongolia, China. Journal of medical microbiology 68(5): 803-811	- Reports number of neonatal infections only
Johnson, J W, Daikoku, N H, Niebyl, J R et al. (1981) Premature rupture of the membranes and prolonged latency. Obstetrics and gynecology 57(5): 547-56	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
Jovičić, Marija, Milosavljević, Miloš N, Folić, Marko et al. (2023) Predictors of Mortality in Early Neonatal Sepsis: A Single-Center Experience. Medicina (Kaunas, Lithuania) 59(3): 604-604	- Case control study design
Kayem, Gilles, Batteux, Frederic, Girard, Noemie et al. (2017) Predictive value of vaginal IL-6 and TNFalpha bedside tests repeated until delivery for the prediction of maternal-fetal infection in cases of premature rupture of membranes. European journal of obstetrics, gynecology, and reproductive biology 211: 8-14	- Reports number of neonatal infections only
Keirse, M J; Ottervanger, H P; Smit, W (1996) Controversies: prelabor rupture of the membranes at term: the case for expectant management. Journal of perinatal medicine 24(6): 563-72	- Randomised study design
Khadim, M.M.; Abed, M.I.; Hashim, N.K. (2021) Neonatal sepsis: Evaluation the risk factors, pathogenic agents and outcome. Clinical Schizophrenia and Related Psychoses 15	- Reports number of neonatal infections only
Khasawneh, Wasim, Obeidat, Nail, Yusef, Dawood et al. (2020) The impact of cesarean section on neonatal outcomes at a university-based tertiary hospital in Jordan. BMC pregnancy and childbirth 20(1): 335	- Unclear if PROM is measured from labour or birth
Khasawneh, Wasim, Sindiani, Amer, Rawabdeh, Saif Aldeen et al. (2020) Indications and Clinical Profile of Neonatal Admissions: A Cross-Sectional Descriptive Analysis from a Single Academic Center in Jordan. Journal of multidisciplinary healthcare 13: 997-1006	- Cross sectional study design
Kim, Yeon Mee, Romero, Roberto, Chaiworapongsa, Tinnakorn et al. (2004) Toll-like receptor-2 and -4 in the chorioamniotic membranes in spontaneous labor at term and in preterm parturition that are associated with chorioamnionitis. American journal of obstetrics and gynecology 191(4): 1346-55	- No association analysis between PROM and neonatal infection reported
Kumar, M., Kumari, A., Kumar, R.R. et al. (2023) Risk Factor and Outcome Analysis for Neonatal Sepsis in Tertiary Care Neonatal Unit: A Cross Sectional Study.	- Cross sectional study design

Study	Reason for exclusion
International Journal of Pharmaceutical and Clinical Research 15(4): 571	
Kumari, J.; Kumar, N.; Bibha, K. (2024) Maternal and Neonatal Risk Factors for Developing Early Onset Newborn Sepsis (EONS) in a Tertiary Care Hospital. International Journal of Pharmaceutical and Clinical Research 16(6): 703	- No association analysis between PROM and neonatal infection reported
Kumari, S.; Das, S.L.; Sinha, A.R. (2023) Assessment of neonatal and maternal outcome of premature rupture of membrane. International Journal of Life Sciences Biotechnology and Pharma Research 12(1): 89	- Reports number of neonatal infections only
Kurek Eken, Meryem, Tuten, Abdulhamit, Ozkaya, Enis et al. (2016) Evaluation of the maternal and fetal risk factors associated with neonatal care unit hospitalization time. 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 29(21): 3553-7	- No association analysis between PROM and neonatal infection reported
Kurki, T, Hallman, M, Zilliacus, R et al. (1992) Premature rupture of the membranes: effect of penicillin prophylaxis and long-term outcome of the children. American journal of perinatology 9(1): 11-6	- Study does not contain any relevant predictive values
Ladfors, L, Tessin, I, Mattsson, L A et al. (1998) Risk factors for neonatal sepsis in offspring of women with prelabor rupture of the membranes at 34-42 weeks. Journal of perinatal medicine 26(2): 94-101	- Randomised study design
Lakshmi, S. and Joesph, S. (2024) Maternal and Neonatal Outcomes in Premature Rupture of Membranes (PROM) at Term: A Prospective Observational Study. International Journal of Pharmaceutical and Clinical Research 16(11): 138	- Reports number of neonatal infections only
Lalwani, A., Farooq, Y., Singh, P. et al. (2022) Pregnancy Outcome In Patients With Prelabour Rupture Of Membranes (Term And Preterm): A Retrospective Observational Study. European Journal of Molecular and Clinical Medicine 9(3): 11059	- Reports number of neonatal infections only

Study	Reason for exclusion
Lavanya, P., Yamuna, M., Sravani, D. et al. (2023) TO EVALUATE THE ETIOLOGICAL FACTORS FOR MATERNAL AND FETAL OUTCOME IN PROM. International Journal of Academic Medicine and Pharmacy 6(1): 195	- No association analysis between PROM and neonatal infection reported
Lee, Hao-Yuan, Hsu, Yu-Lung, Lee, Wen-Yuan et al. (2025) Association of maternal infections, antibiotic use, and cesarean delivery with the risk of early-onset sepsis: a nationwide population-based study in full-term neonates. BMC pregnancy and childbirth 25(1): 885	- Study does not contain any relevant predictive values
Lemma, Ketsela and Berhane, Yemane (2024) Early onset neonatal sepsis and its associatited factors: a cross sectional study. BMC pregnancy and childbirth 24(1): 617	- Unclear if PROM is measured from labour or birth
Levy, D L, Cox, A, Leffell, M S et al. (1982) Serum complement activity in pre-term pregnancies: relationship to duration of ruptured membranes and clinical infection. American journal of reproductive immunology : AJRI : official journal of the American Society for the Immunology of Reproduction and the International Coordination Committee for Immunology of Reproduction 2(3): 142-7	- Population is preterm neonates
Li, Kui, Wang, Yanping, Li, Haiyan et al. (2011) A study of 579 pregnant women with premature rupture of membranes at term. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 112(1): 45-7	- No association analysis between PROM and neonatal infection reported
Li, L.; Wang, M.; Luo, J. (2016) Clinical relevance of sHLA-G to premature rupture of membrane. International Journal of Clinical and Experimental Medicine 9(8): 16498	- Study does not contain any relevant predictive values
Lieu, T.A., Mohle-Boetani, J.C., Ray, G.T. et al. (1998) Neonatal group B streptococcal infection in a managed care population. Obstetrics and Gynecology 92(1): 21	- Reports number of neonatal infections only
Lim, C T, Thong, M K, Parasakthi, N et al. (1997) Group B streptococcus: maternal carriage rate and early neonatal septicaemia. Annals of the Academy of Medicine, Singapore 26(4): 421-5	- Reports number of neonatal infections only

Study	Reason for exclusion
Lin, C.-S., Chen, J.-Y., Su, P.-H. et al. (2001) Clinical study of neonates born after premature rupture of the membranes. Clinical Neonatology 8(1): 6	- Full text paper not available
Linder, N, Ohel, G, Gazit, G et al. (1995) Neonatal sepsis after prolonged premature rupture of membranes. Journal of perinatology : official journal of the California Perinatal Association 15(1): 36-8	- Reports number of neonatal infections only
Liu, Dan, Wu, Lin, Zeng, Linan et al. (2025) No difference in outcomes with early vs late antibiotic prophylaxis for term premature rupture of membranes: a multicenter analysis. American journal of obstetrics and gynecology 233(2): 129e1-129e13	- Reports number of neonatal infections only
Liu, Gang, He, Shan, Zhu, Xueping et al. (2020) Early onset neonatal bacterial meningitis in term infants: the clinical features, perinatal conditions, and in-hospital outcomes: A single center retrospective analysis. Medicine 99(42): e22748	- PROM measured to labour not birth
Liu, Hui, Li, Jing, Guo, Jingyu et al. (2022) A prediction nomogram for neonatal acute respiratory distress syndrome in late-preterm infants and full-term infants: A retrospective study. EClinicalMedicine 50: 101523	- No association analysis between PROM and neonatal infection reported
Liu, Jing; Feng, Zhi Chun; Wu, Jing (2009) The incidence rate of premature rupture of membranes and its influence on fetal-neonatal health: a report from mainland China. Journal of tropical pediatrics 56(1): 36-42	- Reports number of neonatal infections only
Lovereen, S., Khanum, A., Nargis, N. et al. (2018) Maternal and neonatal outcome in premature rupture of membranes. Bangladesh Journal of Medical Science 17(3): 479	- Reports number of neonatal infections only
Mahmood, M.K. and Alsultany, B.A. (2020) Immediate induction of labour versus expectant management (Waiting for 24 hours before induction) forprelabour rupture of membranes at term. Medico-Legal Update 20(4): 1315	- Reports number of neonatal infections only
Marlowe, S E, Greenwald, J, Anwar, M et al. (1997) Prolonged rupture of membranes	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
in the term newborn. American journal of perinatology 14(8): 483-6	
McIntire, Donald D and Leveno, Kenneth J (2008) Neonatal mortality and morbidity rates in late preterm births compared with births at term. Obstetrics and gynecology 111(1): 35-41	- Reports number of neonatal infections only
Medugu, Nubwa, Iregbu, Kenneth, Iroh Tam, Pui-Ying et al. (2018) Aetiology of neonatal sepsis in Nigeria, and relevance of Group b streptococcus: A systematic review. PloS one 13(7): e0200350	- Systematic review does not contain predictive factors of interest References checked, no relevant primary sources identified
Memon, M.H., Hanif, S., Saeed, F. et al. (2022) Adverse Neonatal Outcomes of Prolonged Latency after Premature Rupture of Membranes (PROM). Pakistan Paediatric Journal 46(1): 9	- Cross sectional study design
Milasinovic, L, Radeka, G, Petrovic, D et al. (1998) Premature rupture of the fetal membranes--an active or expectant approach in management of this obstetrical problem. Medicinski pregled 51(78): 346-349	- Full text paper not available
Miller, J.M.; Pupkin, M.J.; Crenshaw Jr., C. (1978) Premature labor and premature rupture of the membranes. American Journal of Obstetrics and Gynecology 132(1): 1	- Reports number of neonatal infections only
Mishra, U.; Lata; Sahay, V. (2024) A Retrospective Study to Evaluate Maternal and Fetal Outcome in Cases of Premature Rupture of Membrane. International Journal of Current Pharmaceutical Review and Research 16(1): 608	- Reports number of neonatal infections only
Money, D and Allen, VM (2016) The Prevention of Early-Onset Neonatal Group B Streptococcal Disease. Journal d'obstetrique et gynecologie du Canada : JOGC [Journal of obstetrics and gynaecology Canada : JOGC] 38(12s): S326-S335	- More recent systematic review included that covers the same topic
Money, Deborah and Allen, Victoria M (2018) No. 298-The Prevention of Early-Onset Neonatal Group B Streptococcal Disease. Journal of obstetrics and gynaecology Canada : JOGC = Journal	- Randomised study design

Study	Reason for exclusion
d'obstetrique et gynecologie du Canada : JOGC 40(8): e665-e674	
Mozurkewich, E., Chilimigras, J., Koepke, E. et al. (2009) Indications for induction of labour: A best-evidence review. BJOG: An International Journal of Obstetrics and Gynaecology 116(5): 626	- Systematic review All PROM outcomes came from randomised trial studies
Nair, P.; Chaudhary, A.; Jaiswal, A. (2020) Study of maternal and fetal outcome following term prelabour rupture of membrane in a Peri urban tertiary care centre. Indian Journal of Forensic Medicine and Toxicology 14(4): 6402	- Reports number of neonatal infections only
Nazneen, S.; Begum, F.; Nargis, S. (2013) Premature rupture of membrane - A clinical study in comilla medical college hospital. Bangladesh Journal of Obstetrics and Gynecology 28(2): 82	- No association analysis between PROM and neonatal infection reported
Nivedita, S.; Tiwari, A.K.; Jaiswal, A.K. (2021) Early Discontinuation of Antibiotics in Patients with Suspected Early Onset Sepsis Based on A Negative Blood Culture and Their 7-Day Outcome. International Journal of Pharmaceutical and Clinical Research 13(3): 381	- No association analysis between PROM and neonatal infection reported
Oboskalova, T.A. and Maksimyak, O.V. (2021) Premature rupture of membranes in full-term pregnancy. Rossiiskii vestnik akushera-ginekologa 21(1): 54	- Study not reported in English
Ocviyanti, Dwiana and Wahono, William Timotius (2018) Risk Factors for Neonatal Sepsis in Pregnant Women with Premature Rupture of the Membrane. Journal of pregnancy 2018: 4823404	- Study of term and preterm neonates 65% are preterm neonates
Olita'a, Diana, Barnabas, Roland, Vali Boma, Gamini et al. (2019) Simplified management protocol for term neonates after prolonged rupture of membranes in a setting with high rates of neonatal sepsis and mortality: a quality improvement study. Archives of disease in childhood 104(2): 115-120	- Reports number of neonatal infections only
Oyato, Befekadu Tesfaye, Sime, Teshome Ketema, Debele, Tirunesh et al. (2025) Time to recovery of neonatal sepsis and its predictors in public hospitals of North Shoa	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
Zone, Central Ethiopia. BMC infectious diseases 25(1): 113	
Parea, M., Goglio, A., Natale, N. et al. (1994) Neonatal early-onset Streptococcus agalactiae disease and maternal risk factors: A six-year retrospective study. Alpe Adria Microbiology Journal 3(3): 187	- Full text paper not available
Patel, A.J., Varma, A.J., Shah, J.V. et al. (2023) Feto-Maternal Outcome in Patients with Premature Rupture of Membranes, a Study of 250 Cases at a Tertiary Health Centre in Western India. International Journal of Pharmaceutical and Clinical Research 15(12): 418	- Study of term and preterm neonates 70% preterm neonates
Pathak, S.K., Mishra, J., Kumar, S. et al. (2023) Clinico-Etiologic and Demographic Profile of Neonatal Respiratory Distress: An Observational Study. International Journal of Current Pharmaceutical Review and Research 15(8): 425	- Reports number of neonatal infections only
Peleg, D, Hannah, M E, Hodnett, E D et al. (1999) Predictors of cesarean delivery after prelabor rupture of membranes at term. Obstetrics and gynecology 93(6): 1031-5	- Randomised study design
Pintucci, Armando, Meregalli, Virginio, Colombo, Paolo et al. (2014) Premature rupture of membranes at term in low risk women: how long should we wait in the "latent phase"?. Journal of perinatal medicine 42(2): 189-96	- Univariate analyses
Polcwiartek, Laura Bech, Smith, P Brian, Benjamin, Daniel K et al. (2021) Early-onset sepsis in term infants admitted to neonatal intensive care units (2011-2016). Journal of perinatology : official journal of the California Perinatal Association 41(1): 157-163	- Unclear if PROM is measured from labour or birth
Prasad Dwa, Yam; Bhandari, Sunita; Bajracharya, Manisha (2023) Prelabour Rupture of Membranes among Pregnant Women Visiting a Tertiary Care Centre: A Descriptive Cross-sectional Study. JNMA; journal of the Nepal Medical Association 61(262): 506-509	- Cross sectional study design
Priyanka, R.K., Kumari, S., Najeeb, Z. et al. (2022) Neonatal Sepsis Present on as Acute Febrile Illness in A Tertiary Care	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
Centre. European Journal of Molecular and Clinical Medicine 9(3): 11258	
Qasim, I.K. and Salman, I.A. (2020) Prevalence and determinants of unfavorable maternal and neonatal outcome in term premature rupture of membrane. Indian Journal of Forensic Medicine and Toxicology 14(4): 1530	- Reports number of neonatal infections only
Qin, Jiangxia, Liu, Weiling, Zou, Haidong et al. (2025) Associations of PM2.5 and its components with term preterm rupture of membranes: a retrospective study. PeerJ 13: e18886-e18886	- Study does not contain any relevant predictive values
Rakshith, N., Ballu, A.S., Anusha, B.C. et al. (2024) Feto-Maternal Outcome in Term primigravida with PROM - A Cross Sectional Study at Tertiary Care Hospital. Journal of Cardiovascular Disease Research 15(12): 784	- No association analysis between PROM and neonatal infection reported
Ramesh Bhat, Y. and Baby, L.P. (2012) Early onset of neonatal sepsis: Analysis of the risk factors and the bacterial isolates by using the BacT alert system. Journal of Clinical and Diagnostic Research 5(7): 1385	- No association analysis between PROM and neonatal infection reported
Ramirez-Montesinos, Lucia; Downe, Soo; Ramsden, Annette (2023) Systematic review on the management of term prelabour rupture of membranes. BMC pregnancy and childbirth 23(1): 650	- No association analysis between PROM and neonatal infection reported
Rana, P.; Sadiq, S.; Busri, R. (2025) A Comparative Study Of Early Vs Delayed Induction In Patients With Prom At Term. International Journal of Life Sciences Biotechnology and Pharma Research 14(7): 1628	- Reports number of neonatal infections only
Rani, G.; Chaudhary, H.; Shah, D. (2025) A Study On Maternal And Perinatal Outcome in Premature Rupture of Membranes at Term. International Journal of Current Pharmaceutical Review and Research 17(1): 640	- Reports number of neonatal infections only
Ratnesh, P.K.; Kumar, D.; Kumar, S. (2025) Retrospective Cohort Study of the Incidence and Risk Factors of Neonatal Sepsis. International Journal of Current Pharmaceutical Review and Research 17(2): 695	- Reports number of neonatal infections only

Study	Reason for exclusion
Ribere, Maite, Lemieux-Labonte, Virginie, Pincez, Thomas et al. (2024) Duration of rupture of membranes and microbiome transmission to the newborn: A prospective study. BJOG : an international journal of obstetrics and gynaecology 131(9): 1249-1258	- No association analysis between PROM and neonatal infection reported
Robillard, P Y, Hulsey, T C, Perez, J M et al. (2001) Evaluation of neonatal sepsis screening in a tropical area. Part II: Evaluation of intrapartum chemoprophylaxis protocol. The West Indian medical journal 50(1): 37-41	- No association analysis between PROM and neonatal infection reported
Rod, Emma, Solberg, Vilde, Stenersen, Eydis Oddsdottir et al. (2023) Biochemical surveillance versus clinical observation of term infants born after prolonged rupture of membranes - A quality assurance initiative. Acta paediatrica (Oslo, Norway : 1992) 112(3): 391-397	- No association analysis between PROM and neonatal infection reported
Rosenstein, N E and Schuchat, A (1997) Opportunities for prevention of perinatal group B streptococcal disease: a multistate surveillance analysis. The Neonatal Group B Streptococcal Disease Study Group. Obstetrics and gynecology 90(6): 901-6	- No association analysis between PROM and neonatal infection reported
Sadeh-Mestechkin, Dana, Samara, Nivin, Wiser, Amir et al. (2016) Premature rupture of the membranes at term: time to reevaluate the management. Archives of gynecology and obstetrics 294(6): 1203-1207	- No association analysis between PROM and neonatal infection reported
Sahibzadi Hingoro, Sajida Alias; Rizwan, Naushaba; Qazi, Roshan Ara (2016) Maternal outcome of early intervention in women with prom at term (37 weeks or more). JPMA. The Journal of the Pakistan Medical Association 66(3): 334-6	- No association analysis between PROM and neonatal infection reported
Saropala, N and Chaturachinda, K (1993) Outcome of premature rupture of membranes (PROM) at term: Ramathibodi Hospital, 1988. Journal of the Medical Association of Thailand = Chotmaihet thangphaet 76suppl1: 56-9	- Reports number of neonatal infections only
Schuchat, A, Deaver-Robinson, K, Plikaytis, B D et al. (1994) Multistate case-control study of maternal risk factors for neonatal group B streptococcal disease. The Active	- Case control study design

Study	Reason for exclusion
Surveillance Study Group. The Pediatric infectious disease journal 13(7): 623-9	
Seaward, P G, Hannah, M E, Myhr, T L et al. (1998) International multicenter term PROM study: evaluation of predictors of neonatal infection in infants born to patients with premature rupture of membranes at term. Premature Rupture of the Membranes. American journal of obstetrics and gynecology 179(3pt1): 635-9	- Randomised study design
Selvi; Begam, D.; Vennila (2024) A study on Fetomaternal Outcome in term Premature Rupture of Membrane. International Journal of Life Sciences Biotechnology and Pharma Research 13(4): 579	- No association analysis between PROM and neonatal infection reported
Senat, M.-V., Schmitz, T., Bouchghoul, H. et al. (2020) Term Prelabor Rupture of Membranes: CNGOF Guidelines for Clinical Practice - Short Text. Gynecologie Obstetrique Fertilite et Senologie 48(1): 15	- Study not reported in English
Senat, Marie-Victoire, Schmitz, Thomas, Bouchghoul, Hanane et al. (2022) Term prelabor rupture of membranes: guidelines for clinical practice from the French College of Gynaecologists and Obstetricians (CNGOF). 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 35(16): 3105-3109	- Review article but not a systematic review
Seneviratne, H R, de Silva, G D, de Silva, M V et al. (1998) Obstetric performance, perinatal outcome and risk of infection to the newborn in spontaneous and artificial rupture of membranes during labour. The Ceylon medical journal 43(1): 11-5	- Full text paper not available
Sgro, Michael, Kobylianskii, Anna, Yudin, Mark H et al. (2019) Population-based study of early-onset neonatal sepsis in Canada. Paediatrics & child health 24(2): e66-e73	- Study of term and preterm neonates 51% preterm neonates
Shah, Krupa and Doshi, Haresh (2012) Premature rupture of membrane at term: early induction versus expectant management. Journal of obstetrics and gynaecology of India 62(2): 172-5	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
Shariat, M., Youssefkhani, A.B., Dalili, H. et al. (2023) Associated Factors and Common Pathogens of Positive Cultures in Infants With Definitive Septicemia Admitted to NICU. Acta Medica Iranica 61(6): 355	- Case control study design
Sikias, P., Biran, V., Foix-L'helias, L. et al. (2023) Early-onset neonatal sepsis in the Paris area: a population-based surveillance study from 2019 to 2021. Archives of Disease in Childhood: Fetal and Neonatal Edition 108(2): 114	- Unclear if PROM is measured from labour or birth
Singh, R.; Kumari, S.; Sinha, S. (2022) Adolescent Pregnancy: A Prospective Study in a Tertiary Care Centre. European Journal of Molecular and Clinical Medicine 9(3): 9818	- No association analysis between PROM and neonatal infection reported
Singh, S., Mehta, A., Gaur, S. et al. (2023) A Study of Risk Variables and how they Affect the Fetomaternal Outcome in Cases of Prelabour Rupture of the Membranes. European Journal of Cardiovascular Medicine 13(4): 1677	- No association analysis between PROM and neonatal infection reported
Singh, S.K. and Kumar, M. (2023) Evaluation of Maternal and Neonatal Risk Factors and Outcomes of EOS. International Journal of Current Pharmaceutical Review and Research 15(10): 280	- Study of term and preterm neonates Proportions of term and preterm neonates in study not reported
Snehil; Sinha, K.; Sinha, A. (2021) A prospective study to assess the mother and foetal outcomes in term prelabor rupture of membranes. International Journal of Toxicological and Pharmacological Research 11(3): 37	- Reports number of neonatal infections only
Sobande, A A and Albar, H M (2003) Induced labour with prostaglandin E2 in different parity groups after premature rupture of membranes. Eastern Mediterranean health journal = La revue de sante de la Mediterranee orientale = al-Majallah al-sihhiyah li-sharq al-mutawassit 9(3): 309-15	- No association analysis between PROM and neonatal infection reported
Starrach, Teresa, Ehmann, Lucia, Volkmann, Hannah et al. (2025) PROM at term: when might be the best time to induce labour? A retrospective analysis. Archives of gynecology and obstetrics 312(1): 247-255	- No association analysis between PROM and neonatal infection reported

Study	Reason for exclusion
Strauss, R.A., Balu, R., Kuller, J.A. et al. (2003) Gastroschisis: The effect of labor and ruptured membranes on neonatal outcome. American Journal of Obstetrics and Gynecology 189(6): 1672	- No association analysis between PROM and neonatal infection reported
Surrati, Amal M, Alharbi, Khulood M, Mohammedsaeed, Walaa et al. (2024) Neonatal Group B Streptococcus infection at a single center in Al-Madinah Al-Munawarah, Saudi Arabia. Saudi medical journal 45(2): 163-170	- Reports number of neonatal infections only
Trivedi, S. and Gupta, R. (2023) STUDY OF COMPARISON OF MODE OF DELIVERIES AND MATERNAL OUTCOME IN TERM PROM PREGNANCY. Journal of Cardiovascular Disease Research 14(2): 99	- Full text paper not available
Tsai, M.-L., Hsu, C.-H., Chang, J.-H. et al. (2004) Group B streptococcal sepsis and meningitis in neonates: An 11-year survey. Clinical Neonatology 11(2): 62	- Reports number of neonatal infections only
Vasconcelos, Alexandra, Sousa, Swasilanne, Bandeira, Nelson et al. (2024) Factors associated with perinatal and neonatal deaths in Sao Tome & Principe: a prospective cohort study. Frontiers in pediatrics 12: 1335926	- PROM measured to labour not birth
Veleminsky, Milos and Tosner, Jindrich (2008) Relationship of vaginal microflora to PROM, pPROM and the risk of early-onset neonatal sepsis. Neuro endocrinology letters 29(2): 205-21	- Reports number of neonatal infections only
Wahabi, Hayfaa, Elmorshedy, Hala, Bakhsh, Hanadi et al. (2024) Predictors and outcomes of premature rupture of membranes among pregnant women admitted to a teaching Hospital in Saudi Arabia: a cohort study. BMC pregnancy and childbirth 24(1): 850	- Reports number of neonatal infections only
Wandile, Shailesh, Waghmode, Manoj, Uke, Punam et al. (2024) The Impact of Maternal Risk Factors on Neonatal Morbidity and Mortality in a Tertiary Care Neonatal Intensive Care Unit (NICU): An Observational Study. Cureus 16(7): e65714	- Reports number of neonatal infections only
Wang, Mandy, Keighley, Caitlin, Watts, Matthew et al. (2020) Preventing Early-Onset Group B Streptococcus neonatal	- Reports number of neonatal infections only

Study	Reason for exclusion
infection and reducing antibiotic exposure using a rapid PCR test in term prelabour rupture of membranes. The Australian & New Zealand journal of obstetrics & gynaecology 60(5): 753-759	
Wang, Yuejiao, Chen, Qi, Xu, Shixia et al. (2022) Obstetric Risk Factors and Serological Characteristics of Early-Onset Neonates Bacterial Infections. Frontiers in surgery 9: 899795	- Unclear if PROM is measured from labour or birth
Worku, Endale; Fenta, Demissie Assegu; Ali, Musa Mohammed (2022) Bacterial etiology and risk factors among newborns suspected of sepsis at Hawassa, Ethiopia. Scientific reports 12(1): 20187	- Reports number of neonatal infections only
Yazdani, S., Bouzari, Z., Akhondi, S. et al. (2015) The comparison of the risk factors in the term and preterm delivery. Journal of Babol University of Medical Sciences 17(3): 7	- Cross sectional study design
Zhang, C., Jiang, H., Kong, L. et al. (2023) Labor induction in term gravidas with prelabor rupture of membranes and unfavorable cervixes: Oxytocin versus vaginal misoprostol. International Journal of Gynecology and Obstetrics 161(2): 536	- No association analysis between PROM and neonatal infection reported
Zhang, Xueling, Hu, Zhexia, Li, Jingya et al. (2025) The Relationship between Different Delivery Timing and the Outcome of Premature Rupture of Membranes in Primiparous Women. Alternative therapies in health and medicine 31(5): 126-130	- Population is preterm neonates
Ziaei, Saeideh, Sadrkhanlu, Mitra, Moeini, Ashraf et al. (2006) Effect of bacterial vaginosis on premature rupture of membranes and related complications in pregnant women with a gestational age of 37-42 weeks. Gynecologic and obstetric investigation 61(3): 135-8	- No association analysis between PROM and neonatal infection reported

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Economic

Table 4 Studies excluded from the economic review

Study	Reason for exclusion
Dan, Liu, Lin, Wu, Hailong, Li et al. (2024) Timing of antibiotic prophylaxis in term prelabor rupture of membranes: A retrospective cohort study using propensity-score matching. International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics 164(2): 741-749	- Non-OECD country - Cost analysis only

Appendix J Methods

This evidence review was developed using the methods and process described in Developing NICE guidelines: the manual. Methods specific to this review question are outlined below.

Data synthesis

A meta-analysis was not conducted due to substantial differences across the included studies, such as variations in risk factors, reference groups, outcome definitions, follow-up periods, and covariate adjustments. Instead, results for all outcomes are presented individually.

Assessing indirectness

Each individual study was classified into one of three groups for directness, based on if there were concerns about the population, prognostic risk factor, comparator and/or outcomes in the study and how directly these variables could address the specified review question. Studies were rated as follows:

- Direct – No important deviations from the protocol in population, prognostic risk factor, comparator and/or outcomes.

- Partially indirect – Important deviations from the protocol in one of the following areas: population, prognostic risk factor, comparator and/or outcomes.

- Indirect – Important deviations from the protocol in at least two of the following areas: population, prognostic risk factor, comparator and/or outcomes.

Assessing imprecision

The committee agreed to use minimally important difference (MID) thresholds corresponding to odds ratios (ORs) of 0.8 and 1.25 to assess imprecision.

Assessing clinical importance

A. Decision rules for assessing clinical importance using MIDs (applicable when outcome measures are OR, RR, or HR)

1. Evidence of increased risk

Point estimate is greater than the upper MID and the 95% CI does not include 1 (i.e. does not cross the line of no effect).

2. Evidence of reduced risk

Point estimate is less than the lower MID and the 95% CI does not include 1.

3. Uncertain risk

Point estimate is above the upper MID or below the lower MID, but the 95% CI includes 1 OR the point estimate is between the MIDs, and the 95% CI crosses either a MID or the line of no effect.

4. Evidence of no difference in risk

Point estimate is between the lower and upper MID, and the 95% CI is also entirely within this range.

Note: These categories apply to negative outcomes, where a higher point estimate indicates higher risk. If the outcome is positive (i.e., a higher point estimate indicates lower risk), the interpretation of increased or reduced risk should be reversed.

B. Decision rules for assessing clinical importance using statistical significance (applicable when outcome measures are OR, RR, or HR)

1. Evidence of increased risk

Where the point estimate is greater than 1 and the 95% CI does not include 1.

2. Evidence of reduced risk

The point estimate is less than 1 and the 95% CI does not include 1.

3. Uncertain risk

The point estimate is less than or greater than 1, but the 95% CI includes 1.

4. Evidence of no difference in risk

The point estimate is 1 and the 95% CI includes 1.

Note: These categories apply to negative outcomes, where a higher point estimate indicates higher risk. If the outcome is positive (i.e. a higher point estimate indicates lower risk), the interpretation of increased or reduced risk should be reversed.

Appendix K Research recommendations

No research recommendations were made for this review question.