National Institute for Health and Care Excellence

Draft for consultation

Termination of pregnancy

[E] VTE prophylaxis for women having termination of pregnancy

NICE guideline <TBC>

Evidence reviews

April 2019

Draft for Consultation

These evidence reviews were developed by the National Guideline Alliance hosted by the Royal College of Obstetricians and Gynaecologists

Disclaimer

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

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

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ISBN:

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VTE prophylaxis for women having termination of pregnancy

Review question

In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

Introduction

The aim of this review is to determine the optimal duration and timing of pharmacological thromboprophylaxis for women having a termination of pregnancy up to 24 weeks' gestation who are at risk of venous thromboembolism (VTE).

PICO table

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

Table 1: Summary of the protocol (PICO table)

Population	Women who are having a surgical or medical termination of pregnancy up to 24 weeks' gestation and have been identified as requiring pharmacological thromboprophylaxis
Intervention	• Low molecular weight heparin • Direct oral anti coagulants
Comparison	• Low molecular weight heparin started at time A for duration A • Low molecular weight heparin started at time A for duration B • Low molecular weight heparin started at time B for duration A • Low molecular weight heparin started at time B for duration B • Low molecular weight heparin (any start time and duration) versus direct oral anti coagulants (any start time and duration)
Outcome	**Critical outcomes:** • Cardiovascular mortality within 6 weeks of termination • Major bleeding for the duration of low molecular weight heparin (as defined by the International Society on Thrombosis and Haemostasis bleeding scale) • Fatal pulmonary embolism within 6 weeks of termination **Important outcomes:** • Symptomatic deep vein thrombosis within 6 weeks of termination • Pulmonary embolism within 6 weeks of termination • Clinically relevant minor bleeding for the duration of low molecular weight heparin (as defined by the International Society on Thrombosis and Haemostasis bleeding scale) • Patient satisfaction

For further details see the full review protocol in appendix A.

Clinical evidence

Included studies

Only studies conducted from 1995 onwards were considered for this review question, as low molecular weight heparin was not available until 1995 and the first direct oral anticoagulants were approved in 2008.

A systematic review of the clinical literature was conducted but no studies were identified which were applicable to this review question.

See the literature search strategy in appendix B and the study selection flow chart in appendix C.

Excluded studies

Studies not included in this review with reasons for their exclusions are provided in appendix K.

Summary of clinical studies included in the evidence review

No studies were identified which were applicable to this review question (and so there are no evidence tables in Appendix D). No meta-analysis was undertaken for this review (and so there are no forest plots in Appendix E).

Quality assessment of clinical studies included in the evidence review

No studies were identified which were applicable to this review question.

Economic evidence

Included studies

A systematic review of the economic literature was conducted but no economic studies were identified which were applicable to this review question.

A single economic search was undertaken for all topics included in the scope of this guideline. Please see supplementary material 2 for details.

Excluded studies

No full-text copies of articles were requested for this review and so there is no excluded studies list.

Economic model

No economic modelling was undertaken for this review because the committee agreed that other topics were higher priorities for economic evaluation.

Resource impact

Table 2: Unit costs of venous thromboembolism

Resource	Unit costs	Source
Low weight molecular heparin. 9 day course	£107	NICE TA341
Nurses Time to explain administration (10 minutes)[1]	£6.16	PSSRU 2018

Resource	Unit costs	Source
1 Band 5 Nurse excluding qualification costs		

Evidence statements

No studies were identified which were applicable to this review question.

The committee's discussion of the evidence

Interpreting the evidence

The outcomes that matter most

Fatal pulmonary embolism and cardiovascular mortality were selected as critical outcomes as they are very serious complications of venous thromboembolism (VTE) that may be prevented with thromboprophylaxis. A follow-up of 6 weeks was selected for these outcomes because anticoagulant levels, and corresponding risk of VTE, return to normal within 6 weeks of term pregnancy and this is likely to be reduced following a termination of pregnancy occurring in the first or second trimester.

As pharmacological thromboprophylaxis thins the blood, the likelihood of bleeding is increased; therefore, major bleeding during prophylactic treatment was included as a critical outcome and clinically relevant minor bleeding was included as an important outcome.

Symptomatic deep vein thrombosis was selected as an important outcome as it is the most common form of VTE and non-fatal pulmonary embolism was selected due to its severity; as above, 6 week follow-up was chosen for both these outcomes. Finally, patient satisfaction was selected as an important outcome as low-molecular-weight heparin requires women to self-administer injections.

The quality of the evidence

No evidence was identified about the optimal timing and duration of VTE prophylaxis for women having a termination of pregnancy identified as needing pharmacological thromboprophylaxis.

Benefits and harms

The committee agreed, based on their knowledge and expertise, that a minimum of 7 days of low-molecular-weight heparin for women having a termination of pregnancy identified as needing pharmacological thromboprophylaxis would reduce incidence of VTE in this population. This is in line with recommendations from the NICE guideline NG89 on hospital-acquired VTE in over 16s (NICE 2018).

The recommended risk assessment is based on evidence from term pregnancies and coagulation factors increase during pregnancy. As the vast majority of terminations occur at lower gestational ages, coagulation factors and corresponding VTE risk will be lower for women having a termination of pregnancy compared with women carrying a pregnancy to term. Therefore, as coagulation factors are not included in the assessment of risk, the committee were concerned that identifying women having a termination of pregnancy as requiring thromoboprophylaxis based on a risk assessment for term pregnancies will overestimate risk and may result in overtreatment with thromboprophylaxis. Further, the NICE VTE guideline only covers women who are admitted to hospital, who are likely to be less mobile than women who have had a termination of pregnancy with no complications. However, risk factors for VTE were not considered as part of this review question so the committee could not make recommendations about who is given thromboprophylaxis.

The committee agreed that women identified at high risk of thrombosis, according to the risk assessment tool for obstetric thromboprophylaxis from the Royal College of Obstetricians and Gynaecologists (2015), might need to start thromboprophylaxis before the termination of pregnancy in order to reduce risk of VTE whilst the termination is being arranged, particularly if delays are anticipated, and that a longer duration of thromboprophylaxis may be needed in this population. The committee noted that these recommendations are in line with the antenatal and postnatal risk assessment tools for obstetric thromboprophylaxis from the Royal College of Obstetricians and Gynaecologists, which recommend both antenatal thromboprophylaxis and a longer duration of postnatal thromboprophylaxis in women identified as high risk of VTE compared with intermediate risk.

Despite the limited evidence, the committee decided to prioritise other areas addressed by the guideline for future research and therefore made no research recommendations regarding thromboprophylaxis in women undergoing a termination of pregnancy.

Cost effectiveness and resource use

A systematic review of the economic literature was conducted but no relevant studies were identified which were applicable to this review question.

The committee discussed that women who have not previously administered low-molecular-weight heparin (LMWH) will need to be taught how to self-administer LMWH and normally give themselves the first injection under supervision. For women requiring thromboprophylaxis who have gone home to expel the pregnancy, this would mean returning to the clinic for an additional appointment after the pregnancy has been expelled. For those admitted to a clinical setting, they will need to remain in the service for 4 to 8 hours after the termination to allow bleeding to subside before LMWH is administered, which may be longer than normal for an uncomplicated termination.

These recommendations are in line with recommendations in the NICE VTE guideline but cover all women having a termination who are at risk of thrombosis, rather than just those admitted to hospital. Therefore, there will be an increase in the number of women receiving prophylaxis. There will be increased costs and resource use associated with the increased use of low-molecular-weight heparin (LMWH), training required to enable administration of LMWH and additional appointments or longer stays in services. The size of this increase will depend on current local practice and the number of women who are identified at risk of thrombosis. These costs will be partially offset by a reduction in the incidence of VTE but the savings associated with this may be small as VTE is a rare event.

Other considerations

The committee discussed that the optimal duration of VTE prophylaxis will be affected by how long it take for clotting factors to return to normal after a termination of pregnancy; however, this was not considered as part of this review question.

References

No studies were identified which were applicable to this review question.

NICE 2018

National Institute for Health and Care Excellence. (2018). Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism (NG89).

RCOG 2015

Royal College of Obstetricians and Gynaecologists (2015). Reducing the Risk of Venous Thromboembolism during Pregnancy and the Puerperium: Green-top Guideline No. 37a. London: RCOG Press

Appendices

Appendix A – Review protocols

Review protocol for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

Field (based on PRISMA-P	Content
Review question in SCOPE	In women who are undergoing a termination of pregnancy, and who are identified as requiring thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?
Review question in guideline	In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?
Type of review question	Intervention
Objective of the review	To determine the optimal duration and timing of pharmacological thromboprophylaxis for women having a termination of pregnancy up to 24 weeks' gestation who are at risk of VTE.
Eligibility criteria – population	Women who are having a surgical or medical termination of pregnancy up to 24 weeks' gestation and have been identified as requiring pharmacological thromboprophylaxis Exclusions: - No indirect evidence will be considered
Eligibility criteria – intervention(s	• Low molecular weight heparin • Direct oral anti coagulants
Eligibility criteria – comparator(s)	Comparisons: Any comparisons of 1-4 will be included: 1. Low molecular weight heparin started at time A for duration A 2. Low molecular weight heparin started at time A for duration B 3. Low molecular weight heparin started at time B for duration A 4. Low molecular weight heparin started at time B for duration B 5. Low molecular weight heparin (any start time and duration) versus direct oral anti coagulants (any start time and duration)
Outcomes and prioritisation	**Critical outcomes:** • Cardiovascular mortality within 6 weeks of termination • Major bleeding for the duration of the LMWH (as defined by the International Society on Thrombosis and Haemostasis bleeding scale:https://www.wikidoc.org/index.php/Internationa

Field (based on PRISMA-P	Content
	l_Society_on_Thrombosis_and_Haemostasis_bleeding_scale) • Fatal pulmonary embolism within 6 weeks of termination **Important outcomes:** • Symptomatic deep vein thrombosis within 6 weeks of termination • Pulmonary embolism within 6 weeks of termination • Clinically relevant minor bleeding for the duration of LMWH (as defined by the International Society on Thrombosis and Haemostasis bleeding scale) • Patient satisfaction
Eligibility criteria – study design	- Systematic reviews of RCTs - RCTs - If insufficient RCTs: comparative prospective cohort studies with n≥100 per arm - If insufficient comparative prospective cohort studies: comparative retrospective cohort studies with n≥100 per arm
Other inclusion exclusion criteria	Inclusion: - English-language
Proposed sensitivity/sub-group analysis, or meta-regression	Stratified analyses based on the following sub-groups of women, where possible: Medical conditions: - Complex pre-existing medical conditions - No complex pre-existing medical conditions Type of termination: - Surgical - Medical Gestation: - ≤ 10^{+0} weeks - 10^{+1} to 13^{+6} weeks - > 14^{+0} to 24^{+0} weeks
Selection process – duplicate screening/selection/analysis	Dual weeding will not be performed for this question Sifting, data extraction, appraisal of methodological quality and GRADE assessment will be performed by the systematic reviewer. Quality control will be performed by the senior systematic reviewer. Dual data extraction will not be performed for this question.
Data management (software)	Pairwise meta-analyses will be performed using Cochrane Review Manager (RevMan5). 'GRADEpro' will be used to assess the quality of evidence for each outcome. NGA STAR software will be used for study sifting, data extraction, recording quality assessment using checklists and generating bibliographies/citations,
Information sources – databases and dates	Sources to be searched: Medline, Medline In-Process, CCTR, CDSR, DARE, HTA, Embase Limits (e.g. date, study design):

Field (based on PRISMA-P	Content
	Apply standard animal/non-English language exclusion Dates: from 1995 Only studies conducted from 1995 onwards were considered for this review question, as low molecular weight heparin was not available until 1995 and the first direct oral anti coagulants were approved in 2008.
Identify if an update	Not an update
Author contacts	For details please see the guideline in development web site
Highlight if amendment to previous protocol	For details please see section 4.5 of Developing NICE guidelines: the manual
Search strategy – for one database	For details please see appendix B
Data collection process – forms/duplicate	A standardised evidence table format will be used, and published as appendix D (clinical evidence tables) or H (economic evidence tables).
Data items – define all variables to be collected	For details please see evidence tables in appendix D (clinical evidence tables) or H (economic evidence tables).
Methods for assessing bias at outcome/study level	Standard study checklists will be used to critically appraise individual studies. For details please see section 6.2 of Developing NICE guidelines: the manual Appraisal of methodological quality: The methodological quality of each study will be assessed using an appropriate checklist: • RoBIS for systematic reviews • Cochrane risk of bias tool for RCTs • Newcastle-Ottawa scale for non-randomised studies The risk of bias across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group http://www.gradeworkinggroup.org/
Criteria for quantitative synthesis (where suitable)	For details please see section 6.4 of Developing NICE guidelines: the manual
Methods for analysis – combining studies and exploring (in)consistency	Synthesis of data: Pairwise meta-analysis will be conducted where appropriate for all other outcomes. When meta-analysing continuous data, change scores will be pooled in preference to final scores. For details regarding inconsistency, please see the methods chapter Minimally important differences: For cardiovascular mortality, major bleeding and fatal pulmonary embolism, statistical significance will be used as an MID. All other outcomes default values will be used of: 0.8 and 1.25 for relative risks which will be calculated for all dichotomous outcomes; 0.5 times SD (of the control group) for continuous outcomes

Field (based on PRISMA-P	Content
Meta-bias assessment – publication bias, selective reporting bias	For details please see section 6.2 of Developing NICE guidelines: the manual. If sufficient relevant RCT evidence is available, publication bias will be explored using RevMan software to examine funnel plots.
Assessment of confidence in cumulative evidence	For details please see sections 6.4 and 9.1 of Developing NICE guidelines: the manual
Rationale/context – Current management	For details please see the introduction to the evidence review.
Describe contributions of authors and guarantor	A multidisciplinary committee developed the guideline. The committee was convened by The National Guideline Alliance and chaired by Professor Iain Cameron in line with section 3 of Developing NICE guidelines: the manual. Staff from The National Guideline Alliance will undertake systematic literature searches, appraise the evidence, conduct meta-analysis and cost-effectiveness analysis where appropriate, and draft the guideline in collaboration with the committee. For details please see the methods chapter.
Sources of funding/support	The National Guideline Alliance is funded by NICE and hosted by the Royal College of Obstetricians and Gynaecologists
Name of sponsor	The National Guideline Alliance is funded by NICE and hosted by the Royal College of Obstetricians and Gynaecologists
Roles of sponsor	NICE funds The National Guideline Alliance to develop guidelines for those working in the NHS, public health, and social care in England
PROSPERO registration number	Not registered

GRADE: Grading of Recommendations Assessment, Development and Evaluation; LMWH: low-molecular-weight heparin; MID: minimally important difference; NHS: National Health Service; NICE: National Institute for Health and Care Excellence; NGA: National Guideline Alliance; RCT: randomised controlled trial; RoBIS: risk of bias in systematic reviews; SD: standard deviation; VTE: venous thromboembolism

Appendix B – Literature search strategies

Literature search strategy for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

The search for this topic was last run on 18th October 2018. It was agreed to be unnecessary to undertake a re-run for this topic in November 2018 given that the original search was from only a month earlier.

Database: Medline & Embase (Multifile)
Last searched on **Embase Classic+Embase** 1947 to 2018 October 17, **Ovid MEDLINE(R) Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R)** 1946 to October 17, 2018
Date of last search: 18th October 2018

#	Searches
1	exp abortion/ use emczd
2	exp pregnancy termination/ use emczd
3	exp Abortion, Induced/ use ppez
4	Abortion Applicants/ use ppez
5	exp Abortion, Spontaneous/ use ppez
6	exp Abortion, Criminal/ use ppez
7	Aborted fetus/ use ppez
8	fetus death/ use emczd
9	abortion.mp.
10	(abort$ or postabort$ or preabort$).tw.
11	((f?etal$ or f?etus$ or gestat$ or midtrimester$ or pregnan$ or prenatal$ or pre natal$ or trimester$) and terminat$).tw.
12	((f?etal$ or f?etus$) adj loss$).tw.
13	((gestat$ or midtrimester$ or pregnan$ or prenatal$ or pre natal$ or trimester$) adj3 loss$).tw.
14	(((elective$ or threaten$ or voluntar$) adj3 interrupt$) and pregnan$).tw.
15	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14
16	exp Heparin, Low-Molecular-Weight/ use ppez
17	exp low molecular weight heparin/ use emczd
18	(lmwh or lmwhs).ti,ab.
19	((LMW$ or weight$ or dose$ or molecular$) adj heparin$).ti,ab.
20	(bemiparin$ or certoparin$ or dalteparin$ or enoxaparin$ or fragmin$ or nadroparin$ or parnaparin$ or reviparin$ or tinzaparin$).ti,ab.
21	16 or 17 or 18 or 19 or 20
22	15 and 21
23	(direct$ adj oral adj (anticoagulant$ or anti-coagulant$)).ti,ab.
24	DOAC$.ti,ab.
25	(apixaban/ or dabigatran/ or edoxaban/ or rivaroxaban/) use emczd
26	(apixiban$ or dabigatran$ or rivaroxaban$ or edoxaban$).ti,ab.
27	23 or 24 or 25 or 26
28	15 and 27

#	Searches
29	22 or 28
30	limit 29 to english language
31	limit 30 to yr="1995 -Current"
32	remove duplicates from 31
33	letter/
34	editorial/
35	news/
36	exp historical article/
37	Anecdotes as Topic/
38	comment/
39	case report/
40	(letter or comment*).ti.
41	33 or 34 or 35 or 36 or 37 or 38 or 39 or 40
42	randomized controlled trial/ or random*.ti,ab.
43	41 not 42
44	animals/ not humans/
45	exp Animals, Laboratory/
46	exp Animal Experimentation/
47	exp Models, Animal/
48	exp Rodentia/
49	(rat or rats or mouse or mice).ti.
50	43 or 44 or 45 or 46 or 47 or 48 or 49
51	letter.pt. or letter/
52	note.pt.
53	editorial.pt.
54	case report/ or case study/
55	(letter or comment*).ti.
56	51 or 52 or 53 or 54 or 55
57	randomized controlled trial/ or random*.ti,ab.
58	56 not 57
59	animal/ not human/
60	nonhuman/
61	exp Animal Experiment/
62	exp Experimental Animal/
63	animal model/
64	exp Rodent/
65	(rat or rats or mouse or mice).ti.
66	58 or 59 or 60 or 61 or 62 or 63 or 64 or 65
67	50 use ppez
68	66 use emczd
69	67 or 68
70	32 and 69
71	32 not 70

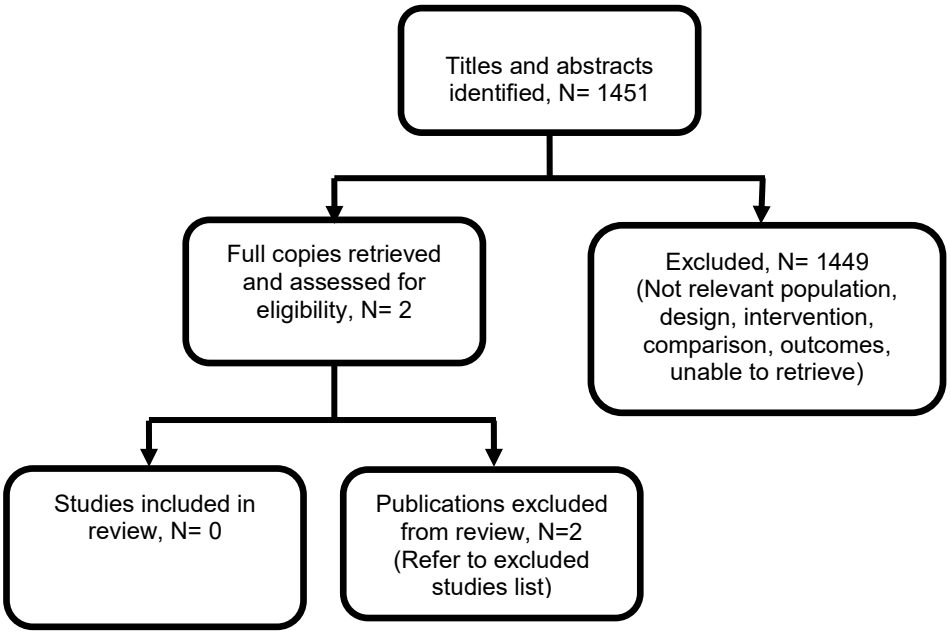
Database: Cochrane Library via Wiley Online
Date of last search: 18th October 2018

#	Searches
#1	MeSH descriptor: [Abortion, Induced] explode all trees
#2	MeSH descriptor: [Abortion Applicants] explode all trees
#3	MeSH descriptor: [Abortion, Spontaneous] explode all trees
#4	MeSH descriptor: [Abortion, Criminal] explode all trees
#5	MeSH descriptor: [Aborted Fetus] explode all trees
#6	"abortion":ti,ab,kw (Word variations have been searched)
#7	(abort* or postabort* or preabort*):ti,ab,kw (Word variations have been searched)
#8	((fetal* or fetus* or foetal* or foetus* or gestat* or midtrimester* or pregnan* or prenatal* or pre natal* or trimester*) and terminat*):ti,ab,kw (Word variations have been searched)
#9	((fetal* or fetus* or foetal* or foetus*) next loss*):ti,ab,kw (Word variations have been searched)
#10	((gestat* or midtrimester* or pregnan* or prenatal* or pre natal* or trimester*) near/3 loss*):ti,ab,kw (Word variations have been searched)
#11	(((elective* or threaten* or voluntar*) near/3 interrupt*) and pregnan*):ti,ab,kw (Word variations have been searched)
#12	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11
#13	MeSH descriptor: [Heparin, Low-Molecular-Weight] explode all trees
#14	(lmwh or lmwhs):ti,ab,kw (Word variations have been searched)
#15	((LMW* or weight* or dose* or molecular*) next heparin*):ti,ab,kw (Word variations have been searched)
#16	(bemiparin* or certoparin* or dalteparin* or enoxaparin* or fragmin* or nadroparin* or parnaparin* or reviparin* or tinzaparin*):ti,ab,kw (Word variations have been searched)
#17	(direct* next oral next (anticoagulant* or anti-coagulant*)):ti,ab,kw (Word variations have been searched)
#18	DOAC*:ti,ab,kw (Word variations have been searched)
#19	(apixiban* or dabigatran* or rivaroxaban* or edoxaban*):ti,ab,kw (Word variations have been searched)
#20	#13 or #14 or #15 or #16 or #17 or #18 or #19
#21	#12 and #20

Appendix C – Clinical evidence study selection

Clinical evidence study selection for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

Figure 1: Study selection flow chart



Appendix D – Clinical evidence tables

Clinical evidence tables for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

No studies were identified which were applicable to this review question.

Appendix E – Forest plots

Forest plots for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

No studies were identified which were applicable to this review question.

Appendix F – GRADE tables

GRADE tables for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

No studies were identified which were applicable to this review question.

Appendix G – Economic evidence study selection

Economic evidence for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

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

Appendix H – Economic evidence tables

Economic evidence tables for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

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

Appendix I –Economic evidence profiles

Economic evidence profiles for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as

requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

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

Appendix J –Economic analysis

Economic analysis for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

No economic analysis was conducted for this review question.

Appendix K – Excluded studies

Excluded studies for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

Clinical studies

Study	Reason for Exclusion
Kaneshiro, B., Tschann, M., Jensen, J., Bednarek, P., Texeira, R., Edelman, A., Blood loss at the time of surgical abortion up to 14 weeks in anticoagulated patients: a case series, Contraception, 96, 14-18, 2017	Comparison not in PICO
van Eerden, L., de Groot, C. J. M., Zeeman, G. G., Page-Christiaens, G. C. M., Pajkrt, E., Duvekot, J. J., Vandenbussche, F. P., Oei, S. G., Scheepers, H. C. J., van Eyck, J., Middeldorp, J. M., Bolte, A. C., Subsequent pregnancy outcome after mid-trimester termination of pregnancy for preeclampsia, Australian and New Zealand Journal of Obstetrics and Gynaecology, 58, 204-209, 2018	Population not in PICO: Pregnant women who had had a previous termination due to pre-eclampsia

PICO: population, intervention, comparison and outcome

Economic studies

No economic evidence was identified for this review. See supplementary material X for further information.

Appendix L – Research recommendations

Research recommendations for review question: In women who are undergoing a termination of pregnancy up to 24 weeks' gestation, and who are identified as requiring pharmacological thromboprophylaxis, what is the optimal timing and duration of VTE prophylaxis?

No research recommendations were made for this review question.