

Guideline topic: Management of venous thromboembolism in adults

Search coverage

Patient searches

The patient search was conducted using the search strategy outlined below in conjunction with the SIGN patient search filter.

Databases covered: **Medline, Embase, CINAHL, PsycINFO** Dates covered: 2002-2008

Total hits: 3066

Sifted result: 39

Guidelines

Websites searched for relevant guidelines:

Agency for Health Care Research and Quality (AHRQ) <http://www.ahrq.gov/>

ASERNIP-S

<http://www.surgeons.org/Content/NavigationMenu/Research/ASERNIPS/ASERNIPSPublications/default.htm>

Canadian Medical Association <http://mdm.ca/cpgsnew/cpgs/index.asp>

Centre for Clinical Effectiveness (Australia)

<http://www.med.monash.edu.au/healthservices/cce/>

Health Technology Assessment <http://www.hta.nhsweb.nhs.uk/>

NHS Centre for Reviews and Dissemination

<http://www.york.ac.uk/inst/crd/welcome.htm>

NHS Quality Improvement Scotland <http://www.nhshealthquality.org>

National Institute for Clinical Excellence (NICE) <http://www.nice.org.uk/>

National Electronic Library for Health

<http://www.library.nhs.uk/guidelinesFinder/>

National Guideline Clearinghouse <http://www.guideline.gov/>

National Health and Medical Research Council (NHMRC)

<http://www.health.gov.au/nhmrc/publications/index.htm>

New Zealand Guidelines Group <http://www.nzgg.org.nz/>

PRODIGY Knowledge <http://www.prodigy.nhs.uk/>

Swedish Council on Technology Assessment in Health Care (SBU)

<http://www.sbu.se/www/index.asp>

TRIP Database <http://www.tripdatabase.com/>

Total hits: 49

Papers selected: 21

Systematic reviews

Databases covered: **Medline, Embase, CINAHL, PsycINFO, Cochrane** Dates covered: 1998-2008

Total hits: 2477

Sifted result 339

Papers requested: see below

The sifted results were split into 3 to reflect the 3 subgroup areas (prevention, investigation, management) to make sifting more manageable for group members. The number of sifted papers and papers requested for each subgroup are given below.

VTE prevention:

Sifted result: 199

Papers requested: 193

VTE investigation:

Sifted result: 71

Papers requested: 47

VTE management:

Sifted result: 110

Papers requested: 78

RCTs	
Databases covered: Medline, Embase, CINAHL, PsycINFO, Cochrane	Dates covered: 1998-2009 (with variations depending on topic; see Scope of Searches below) Searches carried out Jan-Mar 2009
Observational studies/ Searches without filter	
Databases covered: Medline, Embase, CINAHL, PsycINFO	Dates covered: 1998-2009 (with variations depending on topic; see Scope of Searches below) Searches carried out Jan-Mar 2009
Supplementary Searches	
Databases covered: Medline, Embase, PsycINFO	Dates covered: 1998-2008 (with variations depending on topic; see Scope of Supplementary Searches below) Searches carried out November 2009
Search strategies	
<p>The following are listings of the main Medline strategies used for this guideline. All conventions and symbols are from the Ovid implementation of Medline. Strategies used in other databases were substantially the same, though different terminology may have been used to take account of different thesauri used in non-Medline databases. Search filters were added to identify studies of a particular type (systematic review, RCT etc.) Listings of the search filters used by SIGN can be found on the SIGN Web site.</p>	

<p>Patient stem:</p> <ol style="list-style-type: none"> 1. Venous Thromboembolism/ 2. exp Pulmonary Embolism/ 3. exp Venous Thrombosis/ 4. ven\$ thrombo\$.tw. 5. vein\$ thrombo\$.tw. 6. pulmonary embolism\$.tw. 7. dvt.tw. 8. vte.tw. 9. or/1-8 <p>Generic Stem :</p> <ol style="list-style-type: none"> 1. exp Venous Thromboembolism/ 2. exp Pulmonary Embolism/ 3. exp Venous Thrombosis/ 4. exp Thrombophlebitis/ 5. (Venous adj thromb*).tw. 6. (Vein adj thromb*).tw. 7. dvt.tw.

- 8. vte.tw.
- 9. ((pulmonary or lung) adj (embolism or emboli)).tw.
- 10. (Pulmonary adj thromb*).tw.
- 11. pte.tw.
- 12. thrombophlebitis.tw.
- 13. or/1-12

Scope of searches for RCTs /Observational studies/searches without filter

KQ	Type of studies	Date range	Initial recall	Sifted result
1 (Risk factors)	Observational	2004-2009	3270	109
1 (Gaps)	Observational	2004-2009	699	47
2-3(CAMs)	All (no filter)	2004-2009	602	4
2 (varicose veins)	RCT	1996-2009	732	59
5 (travel)	All (no filter)	2004-2009	310	56
7 (adverse effects)	RCT	1998-2009	1731	69
9 (DVT diagnosis)	RCT	2004-2009	1547	41
9 (DVT diagnosis)	Observational	2004-2009	1633	90
10 (PTE diagnosis)	RCT	2005-2009	611	66
10 (PTE diagnosis)	Observational	2005-2009	676	126
11 (hydration, elevation)	All (no filter)	1999-2009	2236	39
11 (non-lower limb vte)	RCT	1999-2009	453	40
14 (outpatients)	All (no filter)	2004-2009	941	60

Medline Search strategies used for specific key questions:

KQ 1 (risk factors)

- 14. risk/
- 15. risk factors/
- 16. risk*.tw.
- 17. or/14-16

KQ 1 (risk factors - gaps)

- 14. exp Thalidomide/
- 15. thalidomide*.tw.
- 16. or/14-15
- 17. 13 and 16
- 18. exp Antipsychotic Agents/
- 19. antipsychotic*.tw.

- 20. or/18-19
- 21. 13 and 20
- 22. exp Reproductive Techniques, Assisted/
- 23. (assist* adj5 reproduct*).tw.
- 24. or/22-23
- 25. 13 and 24
- 26. exp Transvestism/ or exp Homosexuality/ or exp Transsexualism/ or exp Bisexuality/ or exp Homosexuality, Male/ or exp Sexual Behavior/
- 27. transgender*.tw.
- 28. or/26-27
- 29. 13 and 28
- 30. exp Smoking/
- 31. smoking.tw.
- 32. or/30-31
- 33. 13 and 32
- 34. exp Substance-Related Disorders/
- 35. (drug adj5 (misuse or abuse)).tw.
- 36. or/34-35
- 37. 13 and 36
- 38. family history.tw.
- 39. 13 and 38
- 40. 17 or 21 or 25 or 29 or 33 or 37 or 39

KQ 2/3 (CAMs use in prophylaxis of VTE)

- 14. exp Complementary Therapies/
- 15. (complementary and (therap* or medicine)).tw.
- 16. (alternative and (therap* or medicine)).tw.
- 17. exp Homeopathy/
- 18. homeop*.tw.
- 19. or/14-18

KQ2 (varicose vein procedures)

- 14. exp Varicose Veins/
- 15. varicose vein*.tw.
- 16. exp Sclerotherapy/
- 17. sclerotherap*.tw.
- 18. radiofrequency ablation.tw.
- 19. exp Lasers/
- 20. laser*.tw.
- 21. or/14-15
- 22. or/16-20

23. 21 and 22

KQ 5 (travel)

14. exp Travel/

15. travel.tw.

16. or/14-15

KQ 7 (adverse effects)

14. exp Bleeding/

15. bleeding*.tw.

16. (hemorrhag* or haemorrhag*).tw.

17. (heparin* adj5 thrombocytopenia*).tw.

18. exp Osteoporosis/

19. osteoporosis.tw.

20. exp Bone Density/

21. (bone* adj5 densit*).tw.

22. (rebound adj3 phenomen*).tw.

23. teratogenicit*.tw.

24. pressure effect*.tw.

25. exp Blister/

26. (skin adj5 blister*).tw.

27. or/14-26

28. 13 and 27

29. exp Heparin/ or exp Heparin, Low-Molecular-Weight/

30. exp Warfarin/

31. or/29-30

32. 31 and 27

33. adverse effect*.tw.

34. 31 and 33

35. 13 and 33

36. 28 or 32 or 34 or 35

KQ 9 (DVT diagnosis)

1. exp Venous Thromboembolism/

2. exp Venous Thrombosis/

3. (Venous adj thromb*).tw.

4. (Vein adj thromb*).tw.

5. dvt.tw.

6. vte.tw.

7. or/1-6

8. exp Ultrasonography/
9. exp Tomography/
10. exp Magnetic Resonance Imaging/
11. exp Phlebography/
12. exp Plethysmography/
13. ultrasound*.tw.
14. ultrasonograph*.tw.
15. (duplex adj3 scan*).tw.
16. tomograph*.tw.
17. venograph*.tw.
18. magnetic resonance imag*.tw.
19. mri.tw.
20. phlebograph*.tw.
21. plethysmograph*.tw.
22. or/8-21
23. 7 and 22

KQ 10 (PTE diagnosis)

1. exp Pulmonary Embolism/
2. ((pulmonary or lung) adj (embolism or emboli)).tw.
3. (Pulmonary adj thromb*).tw.
4. pte.tw.
5. or/1-4
6. exp Tomography/
7. exp Magnetic Resonance Imaging/
8. exp Ventilation-Perfusion Ratio/
9. exp Angiography/
10. exp Blood Gas Analysis/
11. exp Oximetry/
12. exp Electrocardiography/
13. exp Troponin/
14. or/6-13
15. tomograph*.tw.
16. magnetic resonance.tw.
17. mri.tw.
18. mra.tw.
19. ventilation perfusion.tw.
20. ((lung or pulmonary or VQ) adj scan*).tw.
21. ((pulmonary or lung) adj angiogra*).tw.
22. pulse oximetry.tw.
23. troponin*.tw.

- 24. ECG.tw.
- 25. or/15-24
- 26. 14 or 25
- 27. 5 and 26

KQ 11 (VTE management - hydration, elevation)

- 14. exp Dehydration/
- 15. exp Fluid Therapy/
- 16. exp Body Water/
- 17. hydrat*.tw.
- 18. or/14-17
- 19. 13 and 18
- 20. elevat*.tw.
- 21. 13 and 20
- 22. (rais* adj3 (leg* or limb*)).tw.
- 23. 13 and 22
- 24. 19 or 21 or 23

KQ11 (non-lower limb vte)

- 14. exp Arm/
- 15. exp Upper Extremity/
- 16. upper limb*.tw.
- 17. upper extremit*.tw.
- 18. exp Cerebral Veins/
- 19. exp "Intracranial Embolism and Thrombosis"/
- 20. cerebral.tw.
- 21. exp Portal Vein/
- 22. portal vein*.tw.
- 23. or/14-22

KQ 14 (outpatient management)

- 14. exp Outpatients/
- 15. outpatient*.tw.
- 16. out patient*.tw.
- 17. exp Home Care Services/
- 18. (home adj5 (treatment* or therap* or management or care)).tw.
- 19. or/14-18

Scope of supplementary searches

KQ	Type of studies	Date range	Initial recall	Sifted result
----	-----------------	------------	----------------	---------------

1 (Myeloma and thalidomide)	RCT	1998-2009	1496	22
2 (VTE prophylaxis in H&N, ENT and plastic surgery)	RCT	1998-2009	796	11
12 (Mechanical Thrombolysis in ICU)	RCT	1998-2009	920	42

Search Strategies for supplementary searches:

KQ1 (Myeloma and thalidomide)

1. exp Multiple Myeloma/
2. myeloma*.tw.
3. or/1-2
4. exp Thalidomide/
5. thalidomide*.tw.
6. or/4-5
7. 3 and 6

KQ2 (VTE prophylaxis in H&N, ENT and plastic surgery)

1. exp Surgery, Plastic/
2. (plastic and (surger* or surgical)).tw.
3. (esthetic and (surger* or surgical)).tw.
4. (aesthetic and (surger* or surgical)).tw.
5. (cosmetic and (surger* or surgical)).tw.
6. or/1-5
7. exp Head/su [Surgery]
8. exp Neck/su [Surgery]
9. exp Ear/su [Surgery]
10. exp Ear, External/su [Surgery]
11. exp Ear, Inner/su [Surgery]
12. exp Ear, Middle/su [Surgery]
13. exp Nose/su [Surgery]
14. exp Pharynx/su [Surgery]
15. exp Otolaryngology/
16. exp Otorhinolaryngologic Diseases/
17. exp Otorhinolaryngologic Surgical Procedures/
18. exp Rhinoplasty/
19. exp Pharyngectomy/
20. exp Pharyngostomy/
21. ((head or neck) adj5 (surger* or surgical)).tw.
22. ((ear or ears or nose or noses or throat or throats) and (surger* or surgical)).tw.
23. otolaryngolog*.tw.

- 24. otorhinolaryngolog*.tw.
- 25. or/7-24
- 26. 6 or 25

KQ12 (Mechanical thrombolysis in ICU)

- 1. exp Intensive Care Units/ or exp Intensive Care/ or exp Critical Care/
- 2. exp Critical Illness/
- 3. (intensive adj5 care).tw.
- 4. (critical adj5 care).tw.
- 5. (critical adj5 illness).tw.
- 6. icu.tw.
- 7. micu.tw.
- 8. or/1-7
- 9. (mechanical adj3 prophylaxis).tw.
- 10. (mechanical adj3 thromboprophylaxis).tw.
- 11. (physical adj3 prophylaxis).tw.
- 12. (physical adj3 thromboprophylaxis).tw.
- 13. exp Intermittent Pneumatic Compression Devices/
- 14. (compression adj3 device*).tw.
- 15. (mechanical adj3 device*).tw.
- 16. (pneumatic adj3 device*).tw.
- 17. (pneumatic adj3 compression).tw.
- 18. (foot adj3 pump*).tw.
- 19. exp Stockings, Compression/
- 20. (elastic adj3 stocking*).tw.
- 21. (compression adj3 stocking*).tw.
- 22. or/9-21
- 23. 8 and 22

Update searches

An update search for systematic reviews was carried out on 27/10/09 to identify papers published since the initial literature searches for the guideline were carried out. Dates covered were 2008 to 27 Oct 2009.

Type of studies	Date range	Initial recall	Sifted result
SR	2008-2009	657	88