

Draft

## Major Trauma

### Search strategies appendix

*Clinical guideline*

*Appendices*

*10 June 2015*

*Draft*

*Commissioned by the National Institute for  
Health and Care Excellence*



**Disclaimer**

Healthcare professionals are expected to take NICE clinical guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and, where appropriate, their guardian or carer.

**Copyright**

National Clinical Guideline Centre, 2015.

**Funding**

National Institute for Health and Care Excellence

# Contents

Appendix A: Literature search strategies .....	5
--	---

# Appendix A: Literature search strategies

## A.1 Contents

<b>Introduction</b>	<b>Search methodology</b>
<b>Section A.2</b>	<b>Standard population search strategy</b>
A.2.1	Standard major trauma population
A.2.2	Haemorrhage
A.2.3	Chest trauma
<b>Section A.3</b>	<b>Study filter terms</b>
A.3.1	Systematic reviews (SR)
A.3.2	Randomised controlled trials (RCT)
A.3.3	Observational studies (OBS)
A.3.4	Qualitative studies (QUAL)
A.3.5	Diagnostic studies (DIAG)
A.3.6	Health economic studies (HE)
A.3.7	Quality of life studies (QoL)
A.3.8	Excluded study designs and publication types
<b>Section A.4</b>	<b>Searches for specific questions with intervention</b> (and population where different from A.2)
A.4.1	Airway management
A.4.2	Chest imaging (search 1)
A.4.3	Chest imaging (search 2)
A.4.4	Tension pneumothoraces
A.4.5	Open pneumothoraces – occlusive dressings
A.4.6	Haemostatic dressings
A.4.7	Torniquets
A.4.8	Pelvic binders
A.4.9	Haemostatic agents
A.4.10	Antiocoagulation reversal
A.4.11	Haemorrhage shock prediction/risk tools
A.4.12	Intraosseous/Intravenous access
A.4.13	Fluid resuscitation
A.4.14	Fluid replacement
A.4.15	Haemorrhage protocols
A.4.16	Haemorrhage imaging
A.4.17	Whole body CT
A.4.18	Damage control surgery
A.4.19	Interventional radiology
A.4.20	Coagulation testing
A.4.21	Frequency of blood testing

Introduction	Search methodology
A.4.22	Lactate levels
A.4.23	Warming
A.4.24	Pain assessment
A.4.25	Pain management
A.4.26	Documentation
A.4.27	Information and support
Section A.5	Health economics searches
A.5.1	Health economic reviews
A.5.2	Quality of life reviews
A.5.3	Pelvic binders
Section A.6	References

Search strategies used for the major trauma guideline are outlined below and were run in accordance with the methodology in the NICE guidelines manual 2012.<sup>1</sup> Final searches were run up between **18<sup>th</sup> March and 26<sup>th</sup> April 2015** (see individual questions for exact date). Any studies added to the databases after this date (even if they were published prior to this date) were not included unless specifically stated in the text. We do not routinely search for electronic, ahead of print or 'online early' publications. Where possible searches were limited to retrieve material published in English.

**Table 1: Database date parameters**

Database	Dates searched
Medline	1946 to between 18/03 to 26/04/2015
Embase	1980 to between 18/03 to 26/04/2015
The Cochrane Library	Cochrane Reviews to 2015 either Issue 3 of 12 or 4 of 12 CENTRAL to 2015 either Issue 2 of 12 or 3 of 12 DARE, HTA and NHSEED to 2015 Issue 1 of 4

Searches for the **clinical reviews** were run in Medline (OVID), Embase (OVID) and the Cochrane Library (Wiley). The information and support search was run in CINAHL (EBSCO) as well A.4.27.

Searches for **intervention and diagnostic studies** were usually constructed using a PICO format where population (P) terms were combined with Intervention (I) and sometimes Comparison (C) terms. An intervention can be a drug, a procedure or a diagnostic test. Outcomes (O) are rarely used in search strategies for interventions. Search filters were also added to the search where appropriate.

Searches for the health economic reviews were run in Medline (OVID), Embase (OVID), the NHS Economic Evaluations Database (NHS EED), the Health Technology Assessment (HTA) database and the Health Economic Evaluation Database (HEED). NHS EED and HTA databases were hosted by the Centre for Research and Dissemination (CRD). Searches in NHS EED, HTA and HEED were constructed using population terms only. The Health Economic Evaluation Database (HEED) ceased production in 2014 with access ceasing in January 2015. For the final dates of HEED searches, please see individual economic questions. For Medline and Embase an economic filter (instead of a study type filter) was added to the same clinical search strategy.

## A.2 Population search strategies

The standard major population search was used for most searches. The haemorrhage and chest trauma searches were added to this for some searches.

### A.2.1 Standard major trauma population

For the searches on information and support (question A.4.27), in Medline and Embase lines 1,2,5,6 and 7 were searched by title (ti) only and in Cochrane lines 2,3,10,11 and 12 were searched by title (ti) only.

#### Medline search terms

1.	(trauma* or polytrauma*).ti,ab.
2.	((serious* or severe* or major or life threaten*) adj3 (accident* or injur* or fall*)).ti,ab.
3.	multiple trauma/
4.	wounds, gunshot/ or wounds, stab/ or accidents, traffic/ or accidental falls/ or blast injuries/ or accidents, aviation/
5.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike* or head on or pile up) adj3 (accident* or crash* or collision* or smash*)).ti,ab.
6.	(mvas or mva or rtas or rta).ti,ab.
7.	(stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger).ti,ab.
8.	or/1-7

#### Embase search terms

1.	(trauma* or polytrauma*).ti,ab.
2.	((serious* or severe* or major or life threaten*) adj3 (accident* or injur* or fall*)).ti,ab.
3.	multiple trauma/
4.	gunshot injury/ or stab wound/ or traffic accident/ or falling/ or blast injury/ or aircraft accident/
5.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike* or head on or pile up) adj3 (accident* or crash* or collision* or smash*)).ti,ab.
6.	(mvas or mva or rtas or rta).ti,ab.
7.	(stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger).ti,ab.
8.	or/1-7

#### Cochrane search terms

#1.	MeSH descriptor: [multiple trauma] this term only
#2.	(trauma* or polytrauma*).ti,ab
#3.	((serious* or severe* or major) near/3 (accident* or injur* or fall*)).ti,ab
#4.	MeSH descriptor: [wounds, gunshot] this term only
#5.	MeSH descriptor: [wounds, stab] this term only
#6.	MeSH descriptor: [accidents, traffic] this term only
#7.	MeSH descriptor: [accidental falls] this term only
#8.	MeSH descriptor: [blast injuries] this term only
#9.	MeSH descriptor: [accidents, aviation] this term only

#10.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike*) near/3 (accident* or crash* or collision* or smash*)):ti,ab
#11.	(mvas or mva or rtas or rta):ti,ab
#12.	(stabbed or stabbing or stab or gunshot or gun or gunfire or firearm* or bullet or knife* or knives or dagger or shot):ti,ab
#13.	{or #1-#12}

#### Cinahl search terms

S1.	(trauma* or polytrauma*)
S2.	((serious* or severe* or major or life threaten*) and (accident* or injur* or fall*)) <sup>1</sup>
S3.	(MH "trauma") or (MH "multiple trauma")
S4.	(MH "wounds, gunshot")
S5.	(MH "wounds, stab")
S6.	(MH "accidents, traffic")
S7.	(MH "accidental falls")
S8.	(MH "blast injuries")
S9.	(MH "accidents, aviation")
S10.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike* or head on or pile up) and (accident* or crash* or collision* or smash*))
S11.	(mvas or mva or rtas or rta)
S12.	(stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger)
S13.	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12

### A.2.2 Haemorrhage population

#### Medline search terms

1.	hemorrhage/ or exsanguination/ or shock/ or shock, hemorrhagic/ or shock, traumatic/ or Hypovolemia/
2.	(hypovol?em* or shock or exsanguin* or olig?em* or h?emorrhag* or hypoperfus*).ti,ab.
3.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
4.	(bleed* or bloodloss*).ti,ab.
5.	(blood* adj3 loss*).ti,ab.
6.	or/1-5

#### Embase search terms

1.	exp *hypovolemia/ or *hemorrhagic shock/ or *traumatic shock/ or exp *bleeding/ or *exsanguination/
2.	(haemorrhag* or hemorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or h?emorrhag* or hypoperfus*).ti,ab.
3.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
4.	(bleed* or bloodloss*).ti,ab.
5.	(blood adj2 loss*).ti,ab.
6.	or/1-6

#### Cochrane search terms

#1.	MeSH descriptor: [hemorrhage] this term only
#2.	MeSH descriptor: [exsanguination] this term only
#3.	MeSH descriptor: [shock] this term only

#4.	MeSH descriptor: [shock, traumatic] this term only
#5.	MeSH descriptor: [shock, hemorrhagic] this term only
#6.	MeSH descriptor: [hypovolemia] this term only
#7.	(haemorrhag* or hemorrhag* or hypovolem* or hypovolaem* or shock or exsanguin* or oligem* or oligam* or hypoperfus*):ti,ab
#8.	(coagulopath* or (abnormal* near/2 coagulation) or hyperfibrinolysis):ti,ab
#9.	(bleed* or bloodloss*):ti,ab
#10.	blood* near/3 loss*:ti,ab
#11.	{or #1-#10}

### A.2.3 Chest trauma

#### Medline search terms

1.	pericardial effusion/ or heart injuries/ or aortic rupture/
2.	thoracic injuries/ or lung injury/ or flail chest/
3.	cardiac tamponade/ or hemopneumothorax/ or hemothorax/ or pneumothorax/
4.	(flail* adj2 chest*).ti,ab.
5.	((rib or thoracic) adj1 fracture*).ti,ab.
6.	(paradoxical adj2 (breathing or motion* or movement*)).ti,ab.
7.	((pericardial or cardiac) adj4 (tamponade* or effusion or fluid* or liquid*)).ti,ab.
8.	(pneumothora* or hemothora* or haemothora* or hemopneumothora* or haemopneumothora* or haematothora* or hematothora* or hematopneumothora* or haematopneumothora* or hemopericardium).ti,ab.
9.	((aortic or aorta or heart or cardiac) adj4 (disrupt* or transect* or dissect*)).ti,ab.
10.	((pulmonary or lung*) adj4 collaps*).ti,ab.
11.	((chest or pulmonary or thora* or lung* or aorta or aortic or cardiac or myocardial or tracheobronchial) adj6 (injur* or damag* or contus* or lesion* or ruptur* or lacerat* or tearing or tear or torn or trauma*)).ti,ab.
12.	or/1-11

#### Embase search terms

1.	thorax injury/
2.	flail chest/
3.	pericardial effusion/ or heart injury/ or aorta rupture/ or heart tamponade/
4.	lung injury/ or hematopneumothorax/ or hematothorax/ or pneumothorax/
5.	(pneumothora* or hemothora* or haemothora* or hemopneumothora* or haemopneumothora* or haematothora* or hematothora* or hematopneumothora* or haematopneumothora* or hemopericardium).ti,ab.
6.	((pericardial or cardiac) adj4 (tamponade* or effusion or fluid* or liquid*)).ti,ab.
7.	((pulmonary or lung*) adj4 collaps*).ti,ab.
8.	(flail* adj2 chest*).ti,ab.
9.	((rib or thoracic) adj1 fracture*).ti,ab.
10.	(paradoxical adj2 (breathing or motion* or movement*)).ti,ab.
11.	((aortic or aorta or heart or cardiac) adj4 (disrupt* or transect* or dissect*)).ti,ab.
12.	((chest or pulmonary or thora* or lung* or aorta or aortic or cardiac or myocardial or tracheobronchial) adj6 (injur* or damag* or contus* or lesion* or ruptur* or lacerat* or tearing or tear or torn or trauma* or disrupt*)).ti,ab.
13.	or/1-12

### Cochrane search terms

#1.	MeSH descriptor: [pericardial effusion] this term only
#2.	MeSH descriptor: [heart injuries] this term only
#3.	MeSH descriptor: [aortic rupture] this term only
#4.	MeSH descriptor: [thoracic injuries] this term only
#5.	MeSH descriptor: [lung injury] this term only
#6.	MeSH descriptor: [flail chest] this term only
#7.	MeSH descriptor: [cardiac tamponade] this term only
#8.	MeSH descriptor: [hemopneumothorax] this term only
#9.	MeSH descriptor: [hemothorax] this term only
#10.	MeSH descriptor: [pneumothorax] this term only
#11.	(flail* near/2 chest*):ti,ab
#12.	((rib or thoracic) near/1 fracture*):ti,ab
#13.	(paradoxical near/2 (breathing or motion* or movement*)):ti,ab
#14.	((pericardial or cardiac) near/4 (tamponade* or effusion or fluid* or liquid*)):ti,ab
#15.	(pneumothora* or hemothora* or haemothora* or hemopneumothora* or haemopneumothora* or haematothora* or hematothora* or hematopneumothora* or haematopneumothora* or hemopericardium):ti,ab
#16.	((aortic or aorta or heart or cardiac) near/4 (disrupt* or transect* or dissect*)):ti,ab
#17.	((pulmonary or lung*) near/4 collaps*):ti,ab
#18.	((chest or pulmonary or thora* or lung* or aorta or aortic or cardiac or myocardial or tracheobronchial) near/6 (injur* or damag* or contus* or lesion* or ruptur* or lacerat* or tearing or tear or torn or trauma*)):ti,ab
#19.	{or #1-#18}

## A.3 Study filter search terms

### A.3.1 Systematic review (SR) search terms

#### Medline search terms

1.	meta-analysis/
2.	meta-analysis as topic/
3.	(meta analy* or metanaly* or metaanaly*).ti,ab.
4.	((systematic* or evidence*) adj3 (review* or overview*)):ti,ab.
5.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7.	(search* adj4 literature).ab.
8.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9.	cochrane.jw.
10.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
11.	or/1-10

#### Embase search terms

1.	systematic review/
2.	meta-analysis/
3.	(meta analy* or metanaly* or metaanaly*).ti,ab.

4.	((systematic or evidence) adj3 (review* or overview*)).ti,ab.
5.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7.	(search* adj4 literature).ab.
8.	(medline or pubmed or cochrane or embase or psychlit or psychlit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9.	((pool* or combined) adj2 (data or trials or studies or results)).ab.
10.	cochrane.jw.
11.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
12.	or/1-11

### A.3.2 Randomised controlled trials (RCTs) search terms

#### Medline search terms

1.	randomized controlled trial.pt.
2.	controlled clinical trial.pt.
3.	randomi#ed.ab.
4.	placebo.ab.
5.	randomly.ab.
6.	clinical trials as topic.sh.
7.	trial.ti.
8.	or/1-7

#### Embase search terms

1.	random*.ti,ab.
2.	factorial*.ti,ab.
3.	(crossover* or cross over*).ti,ab.
4.	((doubl* or singl*) adj blind*).ti,ab.
5.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
6.	crossover procedure/
7.	double blind procedure/
8.	single blind procedure/
9.	randomized controlled trial/
10.	or/1-9

### A.3.3 Observational studies (OBS) search terms

#### Medline search terms

1.	epidemiologic studies/
2.	exp case control studies/
3.	exp cohort studies/
4.	cross-sectional studies/
5.	case control.ti,ab.
6.	(cohort adj (study or studies or analys*)).ti,ab.
7.	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
8.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or

	review or analys* or cohort*).ti,ab.
9.	or/1-8

#### Embase search terms

1.	clinical study/
2.	exp case control study/
3.	family study/
4.	longitudinal study/
5.	retrospective study/
6.	prospective study/
7.	cross-sectional study/
8.	cohort analysis/
9.	follow-up/
10.	cohort*.ti,ab.
11.	9 and 10
12.	case control.ti,ab.
13.	(cohort adj (study or studies or analys*).ti,ab.
14.	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
15.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*).ti,ab.
16.	or/1-8,11-15

### A.3.4 Qualitative studies (QUAL) search terms

#### Medline search terms

1.	Qualitative research/ or Narration/ or exp Interviews as Topic/ or exp Questionnaires/ or Health care surveys/
2.	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
3.	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
4.	or/1-3

#### Embase search terms

1.	health survey/ or exp questionnaire/ or exp interview/ or qualitative research/ or narrative/
2.	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*).ti,ab.
3.	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*).ti,ab.
4.	or/1-3

#### Cinahl search terms

S1.	(MH "qualitative studies+")
S2.	(MH "qualitative validity+")
S3.	(MH "interviews+") or (MH "focus groups") or (MH "surveys") or (MH "questionnaires+")

S4.	(qualitative or interview* or focus group* or theme* or questionnaire* or survey*)
S5.	(metasynthes* or meta-synthes* or metasummar* or meta-summar* or metastud* or meta-stud* or metathem* or meta-them* or ethno* or emic or etic or phenomenolog* or grounded theory or constant compar* or (thematic* adj3 analys*) or theoretical sampl* or purposive sampl* or hermeneutic* or heidegger* or husserl* or colaizzi* or van kaam* or van manen* or giorgi* or glaser* or strauss* or ricoeur* or spiegelberg* or merleau*)
S6.	S1 or S2 or S3 or S4 or S5

### A.3.5 Diagnostic accuracy studies (DIAG) search terms

#### Medline search terms

1.	exp "sensitivity and specificity"/
2.	(sensitivity or specificity).ti,ab.
3.	((pre test or pretest or post test) adj probability).ti,ab.
4.	(predictive value* or PPV or NPV).ti,ab.
5.	likelihood ratio*.ti,ab.
6.	likelihood function/
7.	(ROC curve* or AUC).ti,ab.
8.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
9.	gold standard.ab.
10.	or/1-9

#### Embase search terms

1.	exp "sensitivity and specificity"/
2.	(sensitivity or specificity).ti,ab.
3.	((pre test or pretest or post test) adj probability).ti,ab.
4.	(predictive value* or PPV or NPV).ti,ab.
5.	likelihood ratio*.ti,ab.
6.	(ROC curve* or AUC).ti,ab.
7.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
8.	diagnostic accuracy/
9.	diagnostic test accuracy study/
10.	gold standard.ab.
11.	or/1-10

### A.3.6 Health economics (HE) search terms

#### Medline search terms

1.	economics/
2.	value of life/
3.	exp "costs and cost analysis"/
4.	exp economics, hospital/
5.	exp economics, medical/
6.	economics, nursing/
7.	economics, pharmaceutical/
8.	exp "fees and charges"/

9.	exp budgets/
10.	budget*.ti,ab.
11.	cost*.ti.
12.	(economic* or pharmaco?economic*).ti.
13.	(price* or pricing*).ti,ab.
14.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15.	(financ* or fee or fees).ti,ab.
16.	(value adj2 (money or monetary)).ti,ab.
17.	or/1-16

#### Embase search terms

1.	health economics/
2.	exp economic evaluation/
3.	exp health care cost/
4.	exp fee/
5.	budget/
6.	funding/
7.	budget*.ti,ab.
8.	cost*.ti.
9.	(economic* or pharmaco?economic*).ti.
10.	(price* or pricing*).ti,ab.
11.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
12.	(financ* or fee or fees).ti,ab.
13.	(value adj2 (money or monetary)).ti,ab.
14.	or/1-13

### A.3.7 Quality of life (QoL) search terms

#### Medline search terms

1.	quality-adjusted life years/
2.	sickness impact profile/
3.	(quality adj2 (wellbeing or well-being)).ti,ab.
4.	sickness impact profile.ti,ab.
5.	disability adjusted life.ti,ab.
6.	(qal* or qtime* or qwb* or daly*).ti,ab.
7.	(euroqol* or eq5d* or eq 5d*).ti,ab.
8.	(qol* or hq1* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
9.	(health utility* or utility score* or disutilit*).ti,ab.
10.	(hui or hui1 or hui2 or hui3).ti,ab.
11.	health* year* equivalent*.ti,ab.
12.	(hye or hyes).ti,ab.
13.	rosser.ti,ab.
14.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
15.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
16.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
17.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.

18.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
19.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
20.	or/1-19

#### Embase search terms

1.	quality adjusted life year/
2.	"quality of life index"/
3.	short form 12/ or short form 20/ or short form 36/ or short form 8/
4.	sickness impact profile/
5.	(quality adj2 (wellbeing or well-being)).ti,ab.
6.	sickness impact profile.ti,ab.
7.	disability adjusted life.ti,ab.
8.	(qal* or qtime* or qwb* or daly*).ti,ab.
9.	(euroqol* or eq5d* or eq 5d*).ti,ab.
10.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
11.	(health utility* or utility score* or disutilit*).ti,ab.
12.	(hui or hui1 or hui2 or hui3).ti,ab.
13.	health* year* equivalent*.ti,ab.
14.	(hye or hyes).ti,ab.
15.	rosser.ti,ab.
16.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
17.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
18.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
19.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
20.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
21.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
22.	or/1-21

#### A.3.8 Excluded study designs and publication types

The following study designs and publication types were removed from retrieved results using the NOT operator.

#### Medline search terms

1.	letter/
2.	editorial/
3.	news/
4.	exp historical article/
5.	anecdotes as topic/
6.	comment/
7.	case report/
8.	(letter or comment*).ti.
9.	or/1-8
10.	randomized controlled trial/ or random*.ti,ab.
11.	9 not 10
12.	animals/ not humans/
13.	exp animals, laboratory/

14.	exp animal experimentation/
15.	exp models, animal/
16.	exp rodentia/
17.	(rat or rats or mouse or mice).ti.
18.	or/11-17

#### Embase search terms

1.	letter.pt. or letter/
2.	note.pt.
3.	editorial.pt.
4.	case report/ or case study/
5.	(letter or comment*).ti.
6.	or/1-5
7.	randomized controlled trial/ or random*.ti,ab.
8.	6 not 7
9.	animal/ not human/
10.	nonhuman/
11.	exp animal experiment/
12.	exp experimental animal/
13.	animal model/
14.	exp rodent/
15.	(rat or rats or mouse or mice).ti.
16.	or/8-15

#### CINAHL search terms

S1.	PT anecdote or PT audiovisual or PT bibliography or PT biography or PT book or PT book review or PT brief item or PT cartoon or PT commentary or PT computer program or PT editorial or PT games or PT glossary or PT historical material or PT interview or PT letter or PT listservs or PT masters thesis or PT obituary or PT pamphlet or PT pamphlet chapter or PT pictorial or PT poetry or PT proceedings or PT "questions and answers" or PT response or PT software or PT teaching materials or PT website
-----	--

## A.4 Searches for specific questions

### A.4.1 Airway management

1. What is the most clinically and cost effective strategy of airway management in patients with major trauma pre-hospital?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Emergency settings (terms included below)	Airway management	n/a	n/a	See Table 1 Date of last search: 18/03/2015 English only Exclusion filter applied in

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
				Medline and Embase

### Medline search terms

1.	<i>standard trauma population (see A.2.1)</i>
2.	emergency medical services/ or advanced trauma life support care/ or emergency service, hospital/ or triage/
3.	(prehospital* or pre hospital* or roadside* or road side* or triage* or triaging).ti,ab.
4.	((accident* or trauma) adj2 (site* or scene* or location*)).ti,ab.
5.	((outside or out) adj2 hospital).ti,ab.
6.	((in or on) adj2 field).ti,ab.
7.	(ambulance* or helicopter* or paramedic* or emergency medic* or emergency service* or emergency care or first respon*).ti,ab.
8.	(transport* or transfer* or transit or extricat*).ti,ab.
9.	(extract* adj2 (patient* or casual*)).ti,ab.
10.	or/2-9
11.	airway management/ or intubation, intratracheal/ or laryngeal masks/
12.	intubat*.ti,ab.
13.	((emergenc* or manag* or stabili* or drug assist*) adj3 (airway* or ventilat*)).ti,ab.
14.	((tracheal or endotracheal) adj3 tube*).ti,ab.
15.	(rapid* adj3 sequence* adj3 induction*).ti,ab.
16.	rsi.ti,ab.
17.	((supralaryngeal or supraglottic or supra glottic or laryngeal or guedel or oropharyngeal or nasopharyngeal or oesophageal or esophageal or perilaryngeal or pharyngeal) adj3 (airway* or device* or mask* or tube* or sealer* or ventilat*)).ti,ab.
18.	(igel or proseal or combitube or preshaped sealers or king lt-d or king lts-d or king lad or king lt).ti,ab.
19.	(surgical adj3 (airway* or ventilat*)).ti,ab.
20.	(cricothyrot* or cricothyroidot* or thyrocricot* or inferior laryngot* or intercricothyro* or coniot*).ti,ab.
21.	or/11-20
22.	1 and 10 and 21

### Embase search terms

1.	<i>standard trauma population (see A.2.1)</i>
2.	emergency care/ or emergency health service/ or rescue personnel/ or emergency patient/ or emergency treatment/
3.	(prehospital* or pre hospital* or roadside* or road side* or triage* or triaging).ti,ab.
4.	((accident* or trauma) adj2 (site* or scene* or location*)).ti,ab.
5.	((outside or out) adj2 hospital).ti,ab.
6.	((in or on) adj2 field).ti,ab.
7.	(ambulance* or helicopter* or paramedic* or emergency medic* or emergency service* or emergency care or first respon*).ti,ab.
8.	(transport* or transfer* or transit or extricat*).ti,ab.
9.	(extract* adj2 (patient* or casual*)).ti,ab.
10.	or/2-9

11.	respiration control/ or intubation/ or exp respiratory tract intubation/ or laryngeal mask/ or tracheotomy/
12.	intubat*.ti,ab.
13.	((emergenc* or manag* or stabili* or drug assist*) adj3 (airway* or ventilat*)).ti,ab.
14.	((tracheal or endotracheal) adj3 tube*).ti,ab.
15.	(rapid* adj3 sequence* adj3 induction*).ti,ab.
16.	rsi.ti,ab.
17.	((supralaryngeal or supraglottic or supra glottic or laryngeal or guedel or oropharyngeal or nasopharyngeal or oesophageal or esophageal or perilaryngeal or pharyngeal) adj3 (airway* or device* or mask* or tube* or sealer* or ventilat*)).ti,ab.
18.	(igel or proseal or combitube or preshaped sealers or king lt-d or king lts-d or king lad or king lt).ti,ab.
19.	(surgical adj3 (airway* or ventilat*)).ti,ab.
20.	(cricothyrot* or cricothyroidot* or thyrocricot* or inferior laryngot* or intercricothyro* or coniot*).ti,ab.
21.	or/11-20
22.	1 and 10 and 21

#### Cochrane search terms

#1.	<i>standard trauma population (see A.2.1)</i>
#2.	MeSH descriptor: [emergency medical services] this term only
#3.	MeSH descriptor: [advanced trauma life support care] this term only
#4.	MeSH descriptor: [emergency service, hospital] this term only
#5.	MeSH descriptor: [triage] this term only
#6.	(prehospital* or pre hospital* or roadside* or road side* or triage* or triaging):ti,ab
#7.	((accident* or trauma) near/2 (site* or scene* or location*)):ti,ab
#8.	((outside or out) near/2 hospital):ti,ab
#9.	((in or on) near/2 field):ti,ab
#10.	(ambulance* or helicopter* or paramedic* or emergency medic* or emergency service* or emergency care or first respon*):ti,ab
#11.	(transport* or transfer* or transit or extricat*):ti,ab
#12.	(extract* near/2 (patient* or casual*)):ti,ab
#13.	{or #2-12}
#14.	MeSH descriptor: [airway management] this term only
#15.	MeSH descriptor: [intubation, intratracheal] this term only
#16.	MeSH descriptor: [laryngeal masks] this term only
#17.	intubat*:ti,ab
#18.	((emergenc* or manag* or stabili* or drug assist*) near/3 (airway* or ventilat*)):ti,ab
#19.	((tracheal or endotracheal) near/3 tube*):ti,ab
#20.	(rapid* near/3 sequence* near/3 induction*):ti,ab
#21.	rsi:ti,ab
#22.	((supralaryngeal or supraglottic or supra glottic or laryngeal or guedel or oropharyngeal or nasopharyngeal or oesophageal or esophageal or perilaryngeal or pharyngeal) near/3 (airway* or device* or mask* or tube* or sealer* or ventilat*)):ti,ab
#23.	(igel or proseal or combitube or preshaped sealers or king lt-d or king lts-d or king lad or king lt):ti,ab
#24.	(surgical near/3 (airway* or ventilat*)):ti,ab

#25.	(cricothyrot* or cricothyroidot* or thyrocricot* or inferior laryngot* or intercricothyro* or coniot*):ti,ab
#26.	{or #14-#25}
#27.	#1 and #13 and #26

#### A.4.2 Imaging assessment of chest trauma – search 1

2. What is the clinical and cost effectiveness of performing FAST compared to clinical examination pre-hospital in people who have suffered suspected major chest trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Chest trauma (A.2.3)A.2.3	Clinical examination	n/a	The following filters were used in Medline and Embase only: DIAG, OBS, RCT, SR	See Table 1 Date of last search: 27/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	physical examination/
2.	symptom assessment/
3.	needs assessment/
4.	((clinical* or physical* or patient* or field* or clinician* or paramedic* or road*) adj4 (assess* or examin* or evaluat* or diagnos*)):ti,ab.
5.	(emergenc* adj2 (medic* or service*) adj4 (assess* or examin* or evaluat* or diagnos*)):ti,ab.
6.	((no or 'not' or without) adj2 (image* or imaging*)):ti,ab.
7.	or/1-6

#### Embase search terms

1.	physical examination/
2.	symptom assessment/
3.	needs assessment/
4.	((clinical* or physical* or patient* or field* or clinician* or paramedic* or road*) adj4 (assess* or examin* or evaluat* or diagnos*)):ti,ab.
5.	(emergenc* adj2 (medic* or service*) adj4 (assess* or examin* or evaluat* or diagnos*)):ti,ab.
6.	((no or 'not' or without) adj2 (image* or imaging*)):ti,ab.
7.	or/1-6

#### Cochrane search terms

#1.	MeSH descriptor: [physical examination] this term only
#2.	MeSH descriptor: [symptom assessment] this term only
#3.	MeSH descriptor: [needs assessment] this term only
#4.	((clinical* or physical* or patient* or field* or clinician* or paramedic* or road*) near/4 (assess* or examin* or evaluat* or diagnos*)):ti,ab
#5.	(emergenc* near/2 (medic* or service*) near/4 (assess* or examin* or evaluat* or

	diagnos*)):ti,ab
#6.	((no or 'not' or without) near/2 (image* or imaging*)):ti,ab
#7.	{or #1-#6}

### A.4.3 Imaging assessment of chest trauma – search 2

Searches for the following four questions were run as one search:

3. What is the diagnostic accuracy of performing FAST compared to clinical examination pre-hospital in people who have suffered suspected major chest trauma?
4. What is the diagnostic accuracy of clinical examination pre-hospital in people who have suspected major chest trauma?
5. What is the diagnostic accuracy of hospital imaging strategies in identifying the following injuries, tension pneumothorax, haemothorax, cardiac tamponade, pneumothorax, pulmonary contusion, flail chest and aortic injury in people with major trauma on initial presentation?
6. What are the most clinically and cost effective strategies for assessing tension pneumothorax, haemothorax, cardiac tamponade, pneumothorax, pulmonary contusion, flail chest and aortic injury in people with major trauma on initial presentation?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Chest trauma (A.2.3)	Imaging techniques	n/a	The following filters were used in Medline and Embase only: DIAG, OBS, RCT, SR	See Table 1 Date of last search: 26/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	radiography/ or tomography/ or exp tomography, x-ray/ or ultrasonography/ or exp ultrasonography, doppler/ or whole body imaging/
2.	(x ray* or xray* or mdct* or ct or radiograph*).ti,ab.
3.	(cat adj2 (scan or imag*)).ti,ab.
4.	(compute* adj2 tomograph*).ti,ab.
5.	(fast or sonograph* or ultrasonograph* or ultrasound* or efast or e-fast).ti,ab.
6.	echocardiography/
7.	echo*.ti,ab.
8.	or/1-7

#### Embase search terms

1.	radiography/
2.	tomography/
3.	ultrasound/
4.	echography/
5.	doppler echography/
6.	echocardiography/

7.	whole body imaging/
8.	(x ray* or xray* or mdct* or ct or radiograph*).ti,ab.
9.	(cat adj2 (scan or imag*)).ti,ab.
10.	(compute* adj2 tomograph*).ti,ab.
11.	(fast or sonograph* or ultrasonography* or ultrasound* or echo* or efast or e-fast).ti,ab.
12.	echocardiography/
13.	or/1-12

#### Cochrane search terms

#1.	MeSH descriptor: [radiography] this term only
#2.	MeSH descriptor: [tomography] this term only
#3.	MeSH descriptor: [tomography, x-ray] explode all trees
#4.	MeSH descriptor: [ultrasonography] this term only
#5.	MeSH descriptor: [ultrasonography, doppler] explode all trees
#6.	MeSH descriptor: [whole body imaging] this term only
#7.	(x ray* or xray* or mdct* or ct or radiograph*).ti,ab
#8.	(cat near/2 (scan* or imag*)):ti,ab
#9.	compute* near/2 tomograph*:ti,ab
#10.	(fast or sonograph* or ultrasonography* or ultrasound*):ti,ab
#11.	MeSH descriptor: [echocardiography] this term only
#12.	echo*:ti,ab
#13.	{or #1-#12}

#### A.4.4 Tension pneumothoraces

Searches for the following two questions were run as one search:

7. What is the most clinically and cost effective treatment for tension pneumothoraces in the pre-hospital setting?
8. What is the most effective technique to manage tension pneumothoraces?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Pneumothoraces AND Needle decompression, thoracostomy or drainage	n/a	n/a	See Table 1 Date of last search: 26/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	pneumothorax/
2.	pneumothor*.ti,ab.
3.	((chest or wound) adj4 suck*).ti,ab.
4.	pulmonary atelectasis/

5.	(collaps* adj4 lung*).ti,ab.
6.	atelectasis.ti,ab.
7.	or/1-6
8.	decompression, surgical/
9.	thoracostomy/
10.	needles/
11.	chest tubes/
12.	((chest or intercostal or thorac* or pleura*) adj2 (tube* or drain* or catheter* or canula* or cannula*)).ti,ab.
13.	thoracostom*.ti,ab.
14.	needle*.ti,ab.
15.	drainage/
16.	or/8-15
17.	7 and 16

#### Embase search terms

1.	(pneumothorax or pneumothoraces).ti,ab.
2.	exp *pneumothorax/
3.	*atelectasis/
4.	atelectas*.ti,ab.
5.	(collaps* adj4 lung*).ti,ab.
6.	((chest or wound) adj4 suck*).ti,ab.
7.	or/1-6
8.	*decompression surgery/
9.	*thorax drainage/
10.	exp *needle/
11.	exp *chest tube/
12.	*drainage catheter/
13.	((chest or intercostal or thorac* or pleura*) adj2 (tube* or drain* or catheter* or canula* or cannula*)).ti,ab.
14.	thoracostom*.ti,ab.
15.	needle*.ti,ab.
16.	or/8-15
17.	7 and 16

#### Cochrane search terms

#1.	(pneumothorax or pneumothoraces):ti,ab,kw
#2.	atelectas*:ti,ab,kw
#3.	(collaps* near/4 lung*):ti,ab
#4.	((chest or wound) near/4 suck*):ti,ab
#5.	{or #1-#4}

#### A.4.5 Open pneumothoraces - occlusive dressings

9. Which occlusive dressing used in the pre-hospital setting is the most clinically and cost effective in improving outcomes for patients with open pneumothoraces as a part of major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Pneumothoraces AND Occlusive dressings	n/a	n/a	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

### Medline search terms

1.	pneumothorax/
2.	pneumothor*.ti,ab.
3.	((chest or wound) adj4 suck*).ti,ab.
4.	pulmonary atelectasis/
5.	(collaps* adj4 lung*).ti,ab.
6.	atelectasis.ti,ab.
7.	or/1-6
8.	(dress* or bandag* or barrier* or seal* or gauze*).ti,ab.
9.	occlusive*.ti,ab.
10.	(bolin or halo or h&h or sherman or hyfin or russell or sam* or sentinel or asherman).ti,ab.
11.	occlusive dressings/
12.	exp bandages/
13.	or/8-12
14.	chest tubes/
15.	drainage/
16.	((chest or intercostal or thorac* or pleural) adj2 (tube* or drain* or catheter*)).ti,ab.
17.	or/14-16
18.	7 and (13 or 17)

### Embase search terms

1.	(pneumothorax or pneumothoraces).ti,ab.
2.	exp *pneumothorax/
3.	*atelectasis/
4.	atelectas*.ti,ab.
5.	(collaps* adj4 lung*).ti,ab.
6.	((chest or wound) adj4 suck*).ti,ab.
7.	or/1-6
8.	(dress* or bandag* or barrier* or seal* or gauze*).ti,ab.
9.	occlusive*.ti,ab.
10.	(bolin or halo or h&h or sherman or hyfin or russell or sam* or sentinel or asherman).ti,ab.
11.	occlusive dressing/
12.	exp "bandages and dressings"/
13.	or/8-12

14.	((chest or intercostal or thorac* or pleural) adj2 (tube* or drain* or catheter*)).ti,ab.
15.	drainage catheter/
16.	chest tube/
17.	or/14-16
18.	7 and (13 or 17)

#### Cochrane search terms

#1.	(pneumothorax or pneumothoraces):ti,ab,kw
#2.	atelectas*:ti,ab,kw
#3.	(collaps* near/4 lung*):ti,ab
#4.	((chest or wound) near/4 suck*):ti,ab
#5.	{or #1-#4}
#6.	(dress* or bandag* or barrier* or seal* or gauze*):ti,ab
#7.	occlusive*:ti,ab
#8.	(bolin or halo or h&h or sherman or hyfin or russell or sam* or sentinel or asherman):ti,ab
#9.	MeSH descriptor: [occlusive dressings] this term only
#10.	MeSH descriptor: [bandages] explode all trees
#11.	{or #6-#10}
#12.	MeSH descriptor: [chest tubes] this term only
#13.	MeSH descriptor: [drainage] this term only
#14.	((chest or intercostal or thorac* or pleural) near/2 (tube* or drain* or catheter*)):ti,ab
#15.	{or #12-#14}
#16.	#11 or #15
#17.	#5 and #16

#### A.4.6 Haemostatic dressings

10.Are haemostatic dressings clinically and cost effective in improving outcomes in patients with haemorrhage in major trauma compared to non-haemostatic dressings?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Haemostatic dressings	n/a	n/a	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	factor concentrator*.ti,ab.
2.	dehydrator*.ti,ab.
3.	mucoadhes*.ti,ab.
4.	procoagulant supplementor*.ti,ab.

5.	(quickclot or quikclot).ti,ab.
6.	traumadex.ti,ab.
7.	((haemostatic or hemostatic) adj3 polymer*).ti,ab.
8.	celox.ti,ab.
9.	woundstat.ti,ab.
10.	hemcon.ti,ab.
11.	chitoflex.ti,ab.
12.	rapid deployment hemostat*.ti,ab.
13.	syvek.ti,ab.
14.	insta clot.ti,ab.
15.	bloodstop.ti,ab.
16.	(super qr or sqr or super quick relief).ti,ab.
17.	fast act.ti,ab.
18.	seraseal.ti,ab.
19.	tachocomb.ti,ab.
20.	combat-gauze.ti,ab.
21.	x-sponge.ti,ab.
22.	((gelatamp or gelatin* or clot* or chitosan) adj sponge*).ti,ab.
23.	polymem.ti,ab.
24.	alpha bandage*.ti,ab.
25.	kaltostat.ti,ab.
26.	trauma gauze.ti,ab.
27.	chitogauze.ti,ab.
28.	rapid gauze.ti,ab.
29.	kaolin.ti,ab.
30.	chitin/ or chitosan/
31.	kaolin/ or zeolites/
32.	silicon dioxide/
33.	fibrin tissue adhesive/
34.	chitin.ti,ab.
35.	chitosan.ti,ab.
36.	smectite.ti,ab.
37.	zeolite*.ti,ab.
38.	silica.ti,ab.
39.	silicon dioxide.ti,ab.
40.	acet* glucosamine.ti,ab.
41.	(fibrin adj2 (sealant or dress* or glue* or adhesive*)).ti,ab.
42.	dfsd.ti,ab.
43.	(rdh or mrdh).ti,ab.
44.	(haemosta* or hemosta*).ti,ab.
45.	hemostasis/ or hemostatic techniques/ or hemostatics/
46.	or/44 or 45
47.	bandages/
48.	46 and 47
49.	((hemosta* or haemosta*) adj4 (pad* or powder* or paste* or sponge* or solution* or dress*

	or textile* or MeSH* or salt* or granul* or adhesive* or bandage* or gauze* or patch* or gel* or barrier*)).ti,ab.
50.	or/1-43,48,49

### Embase search terms

1.	factor concentrator*.ti,ab.
2.	dehydrator*.ti,ab.
3.	mucoadhes*.ti,ab.
4.	procoagulant supplementor*.ti,ab.
5.	(quickclot or quikclot).ti,ab.
6.	traumadex.ti,ab.
7.	((haemostatic or hemostatic) adj3 polymer).ti,ab.
8.	celox.ti,ab.
9.	woundstat.ti,ab.
10.	hemcon.ti,ab.
11.	chitoflex.ti,ab.
12.	rapid deployment hemostat*.ti,ab.
13.	syvek.ti,ab.
14.	insta clot.ti,ab.
15.	bloodstop.ti,ab.
16.	(super qr or sqr or super quick relief).ti,ab.
17.	fast act.ti,ab.
18.	seraseal.ti,ab.
19.	tachocomb.ti,ab.
20.	combat-gauze.ti,ab.
21.	x-sponge.ti,ab.
22.	((gelatamp or gelatin* or clot* or chitosan) adj sponge*).ti,ab.
23.	polymem.ti,ab.
24.	alpha bandage*.ti,ab.
25.	kaltostat.ti,ab.
26.	trauma gauze.ti,ab.
27.	chitogauze.ti,ab.
28.	rapid gauze.ti,ab.
29.	kaolin.ti,ab.
30.	chitin/ or chitosan/
31.	kaolin/ or zeolites/
32.	silicon dioxide/
33.	fibrin glue/
34.	chitin.ti,ab.
35.	chitosan.ti,ab.
36.	smectite.ti,ab.
37.	zeolite*.ti,ab.
38.	silica.ti,ab.
39.	silicon dioxide.ti,ab.
40.	acet* glucosamine.ti,ab.
41.	(fibrin adj2 (sealant or dress* or glue* or adhesive*)).ti,ab.

42.	dfsd.ti,ab.
43.	(rdh or mrdh).ti,ab.
44.	(haemosta* or hemosta*).ti,ab.
45.	hemostasis/
46.	hemostatic agent/
47.	or/44-46
48.	bandage/ or wound dressing/
49.	47 and 48
50.	((hemosta* or haemosta*) adj4 (pad* or powder* or paste* or sponge* or solution* or dress* or textile* or MeSH* or salt* or granul* or adhesive* or bandage* or gauze* or patch* or gel* or barrier*)).ti,ab.
51.	or/1-43,49,50

### Cochrane search terms

#1.	(factor next concentrator*):ti,ab
#2.	dehydrator*:ti,ab
#3.	mucoadhes*:ti,ab
#4.	(procoagulant next supplementor*):ti,ab
#5.	(quickclot or quikclot):ti,ab
#6.	traumadex:ti,ab
#7.	((haemostatic or hemostatic) near/3 polymer*):ti,ab
#8.	celox:ti,ab
#9.	woundstat:ti,ab
#10.	hemcon:ti,ab
#11.	chitoflex:ti,ab
#12.	(rapid next deployment next hemostat*):ti,ab
#13.	syvek:ti,ab
#14.	insta clot:ti,ab
#15.	bloodstop:ti,ab
#16.	super quick relief:ti,ab
#17.	super qr:ti,ab
#18.	sqr:ti,ab
#19.	fast act:ti,ab
#20.	seraseal:ti,ab
#21.	tachocomb:ti,ab
#22.	combat gauze:ti,ab
#23.	x-sponge:ti,ab
#24.	((gelatamp or gelatin* or clot* or chitosan) next sponge*):ti,ab
#25.	polymem:ti,ab
#26.	(alpha next bandage*):ti,ab
#27.	kaltostat:ti,ab
#28.	trauma gauze:ti,ab
#29.	chitogauze:ti,ab
#30.	rapid gauze:ti,ab
#31.	kaolin:ti,ab
#32.	MeSH descriptor: [chitin] this term only

#33.	MeSH descriptor: [chitosan] this term only
#34.	MeSH descriptor: [kaolin] this term only
#35.	MeSH descriptor: [zeolites] this term only
#36.	MeSH descriptor: [fibrin tissue adhesive] this term only
#37.	MeSH descriptor: [silicon dioxide] this term only
#38.	chitin:ti,ab
#39.	chitosan:ti,ab
#40.	smectite:ti,ab
#41.	zeolite*:ti,ab
#42.	silica:ti,ab
#43.	silicon dioxide:ti,ab
#44.	(acet* next glucosamine):ti,ab
#45.	(fibrin near/2 (sealant or dress* or glue* or adhesive*)):ti,ab
#46.	dfsd:ti,ab
#47.	(rdh or mrdh):ti,ab
#48.	(haemosta* or hemosta*):ti,ab
#49.	MeSH descriptor: [hemostasis] this term only
#50.	MeSH descriptor: [hemostatic techniques] this term only
#51.	MeSH descriptor: [hemostatics] this term only
#52.	{or #48-#51}
#53.	MeSH descriptor: [bandages] this term only
#54.	#52 and #53
#55.	((hemosta* or haemosta*) next/4 (pad* or powder* or paste* or sponge* or solution* or dress* or textile* or MeSH* or salt* or granul* or adhesive* or bandage* or gauze* or patch* or gel* or barrier*)):ti,ab
#56.	{or #1-#47,#54,#55}

#### A.4.7 Tourniquets

11. Is the use of pneumatic or mechanical tourniquets clinically and cost effective in improving outcomes in patients with haemorrhage in major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Tourniquets	n/a	n/a	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	tourniquets/
2.	tourniquet*.ti,ab.

3.	or/1-2
----	--------

#### Embase search terms

1.	exp tourniquet/
2.	tourniquet*.ti,ab.
3.	or/1-2

#### Cochrane search terms

#1.	MeSH descriptor: [tourniquets] this term only
#2.	tourniquet*:ti,ab
#3.	{or #1-#2}

### A.4.8 Pelvic binders

12. Is the application of pelvic binders pre-hospital in patients suspected of pelvic fracture clinically and cost effective in improving outcomes?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Pelvic fractures (included below)	Pelvic binders	n/a	n/a	See Table 1 Date of last search: 02/04/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	exp pelvic bones/
2.	fractures, bone/
3.	1 and 2
4.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) adj3 (fracture* or break or breaks or broken or crack* or frx)).ti,ab.
5.	3 or 4
6.	(binding* or binder* or pccd or inflatable garment* or niecs or sheet* or c clamp*).ti,ab.
7.	((circumferen* or external or compression) adj5 (device* or belt* or sling*)).ti,ab.
8.	(brim or pelvigrip or pelvicbinder or t pod or t pod).ti,ab.
9.	(mast or pasg or pneumatic anti-shock garment*).ti,ab.
10.	(sam adj3 sling*).ti,ab.
11.	or/6-10
12.	5 and 11

#### Embase search terms

1.	exp pelvis fracture/
2.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) adj3 (fracture* or break or breaks or

	broken or crack* or frx)).ti,ab.
3.	or/1-2
4.	(binding* or binder* or pccd or inflatable garment* or niecs or sheet* or c clamp*).ti,ab.
5.	((circumferen* or external or compression) adj5 (device* or belt* or sling*)).ti,ab.
6.	(brim or pelvigrip or pelvicbinder or t pod or tpod).ti,ab.
7.	(mast or pasg or pneumatic anti-shock garment*).ti,ab.
8.	(sam adj3 sling*).ti,ab.
9.	or/4-8
10.	3 and 9

#### Cochrane search terms

#1.	MeSH descriptor: [pelvic bones] explode all trees
#2.	MeSH descriptor: [fractures, bone] this term only
#3.	#1 or #2
#4.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) near/3 (fracture* or break or breaks or broken or crack* or frx)):ti,ab
#5.	#3 or #4
#6.	(binding* or binder* or pccd or inflatable garment* or niecs or sheet* or c clamp*):ti,ab
#7.	((circumferen* or external or compression) near/5 (device* or belt* or sling*)):ti,ab
#8.	(brim or pelvigrip or pelvicbinder or t pod or tpod):ti,ab
#9.	(mast or pasg or pneumatic anti-shock garment*):ti,ab
#10.	(sam near/3 sling*):ti,ab
#11.	{or #6-#10}
#12.	#5 and #11

#### A.4.9 Haemostatic agents

13. Is the use of systemic haemostatic agents clinically and cost effective in improving outcomes in patients with haemorrhage in major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Haemorrhage (A.2.2)	Haemostatic agents	n/a	The following filters were used in Medline and Embase only: OBS, RCT, SR	See Table 1 Date of last search: 01/04/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	blood coagulation factors/
2.	factor vii/
3.	factor viia/
4.	(factor vii* or factor 7 or novo 7 or novoseven or aryoseven or fvii* or rfvii*).ti,ab.

5.	tranexamic acid/
6.	(tranexamic acid* or TXA).ti,ab.
7.	(cyklokapron or transamin or cyclo-f or femstrual).ti,ab.
8.	(transcam or traxyl or espercil or kapron).ti,ab.
9.	fibrinogen/
10.	(fibrinogen or riastap).ti,ab.
11.	prothrombin/
12.	(prothrombin adj2 (complex* or concentrate*)).ti,ab.
13.	PCC.ti,ab.
14.	(beriplex or octaplex or kcentra or cofact).ti,ab.
15.	antifibrinolytic agents/ or aminocaproic acid/ or alpha-2-antiplasmin/
16.	(antifibrinolytic* or anti-fibrinolytic*).ti,ab.
17.	ethamsylate/
18.	(dicynene or dicynone or etamsylate or ethamsylate).ti,ab.
19.	(aminocaproic acid or amicar or aminohexanoic acid).ti,ab.
20.	(haemostatic* adj2 agent*).ti,ab.
21.	(anti-h?emorrhagic* or antih?emorrhagic*).ti,ab.
22.	hemostatics/
23.	or/1-22

#### Embase search terms

1.	*blood clotting factor 7/ or *blood clotting factor 7a/
2.	(factor vii* or factor 7 or novo 7 or novoseven or aryoseven or FVII* or rFVII*).ti,ab.
3.	(cyklokapron or transamin or cyclo-f or femstrual).ti,ab.
4.	(transcam or traxyl or espercil or kapron).ti,ab.
5.	*fibrinogen/
6.	(fibrinogen or riastap).ti,ab.
7.	*prothrombin/
8.	(prothrombin adj2 (complex* or concentrate*)).ti,ab.
9.	PCC.ti,ab.
10.	(beriplex or octaplex or kcentra or cofact).ti,ab.
11.	exp *antifibrinolytic agent/
12.	aprotinin.ti,ab.
13.	*aprotinin/
14.	*4 aminomethylbenzoic acid/
15.	aminomethylbenzoic acid.ti,ab.
16.	*tranexamic acid/
17.	(tranexamic acid* or TXA).ti,ab.
18.	*aminocaproic acid/
19.	(aminocaproic acid or amicar or aminohexanoic acid).ti,ab.
20.	(antifibrinolytic* or anti-fibrinolytic*).ti,ab.
21.	*thrombin activatable fibrinolysis inhibitor/
22.	(thrombin activable fibrinolysis inhibitor or thrombin activatable fibrinolysis inhibitor).ti,ab.
23.	*alpha 2 antiplasmin/
24.	((alpha-2 or alpha2) adj2 (inhibitor* or antiplasmin or plasmin)).ti,ab.

25.	trasyolol.ti,ab.
26.	(PAMBA or aminobenzoic acid).ti,ab.
27.	(carboxypeptidase u or procarboxypeptidase u or TAFI).ti,ab.
28.	*ethamsylate/
29.	(dicynene or dicynone or etamsylate or ethamsylate).ti,ab.
30.	(haemostatic* adj2 agent*).ti,ab.
31.	(anti-h?emorrhagic* or antih?emorrhagic*).ti,ab.
32.	*hemostatic agent/
33.	or/1-32

#### Cochrane search terms

#1.	MeSH descriptor: [blood coagulation factors] this term only
#2.	MeSH descriptor: [factor vii] explode all trees
#3.	(factor next vii* or factor next 7 or novo next 7 or novoseven or aryoseven or FVII* or rFVII*):ti,ab
#4.	MeSH descriptor: [tranexamic acid] this term only
#5.	tranexamic next acid*:ti,ab
#6.	TXA.ti,ab
#7.	(cyklokapron or transamin or cyclo next f or femstrual):ti,ab
#8.	(transcam or traxyl or espercil or kapron):ti,ab
#9.	MeSH descriptor: [fibrinogen] this term only
#10.	(fibrinogen or riastap):ti,ab
#11.	MeSH descriptor: [prothrombin] this term only
#12.	(prothrombin near/2 (complex or concentrate)):ti,ab
#13.	PCC:ti,ab
#14.	(beriplex or octaplex or kcentra or cofact):ti,ab
#15.	MeSH descriptor: [antifibrinolytic agents] this term only
#16.	MeSH descriptor: [alpha-2-antiplasmin] this term only
#17.	MeSH descriptor: [aminocaproic acid] this term only
#18.	(antifibrinolytic* or anti next fibrinolytic*):ti,ab
#19.	MeSH descriptor: [ethamsylate] this term only
#20.	(dicynene or dicynone or etamsylate or ethamsylate):ti,ab
#21.	(aminocaproic next acid or amicar or aminohexanoic next acid):ti,ab
#22.	(haemostatic* near/2 agent*):ti,ab
#23.	anti next h?emorrhagic*:ti,ab
#24.	antih?emorrhagic*.ti,ab
#25.	MeSH descriptor: [hemostatics] this term only
#26.	{or #1-#25}

#### A.4.10 Anticoagulation reversal

14. What is the most clinically and cost effective regimen for reversal of pre-existing therapeutic anticoagulation (laboratory effect) in major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
------------	--------------------------	------------	---------------------	----------------------------------

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Anticoagulants AND Reversal agents	n/a	The following filters were used in Medline and Embase only: RCT, SR	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

### Medline search terms

1.	exp warfarin/
2.	(marevan or warfarin or apo-wafarin or couma* or wafar* or sofarin or aldocumar or gen-warfarin or tedicumar or jantoven or uniwarfin).ti,ab.
3.	exp acenocoumarol/
4.	(aceno#oum* or nicoumalon* or sint?rom* or syn#o?mar).ti,ab.
5.	(mini adj1 sintrom).ti,ab.
6.	exp phenindione/
7.	(phenindion* or pindion* or phenylin* or fenilin or phenylindan?dione or dindevan or hedulin).ti,ab.
8.	(apixaban or eliqu?s).ti,ab.
9.	(dabigatran or pradaxa or pradax or prazaxa).ti,ab.
10.	(rivaroxaban or xarel*).ti,ab.
11.	(clopidogrel or plavix).ti,ab.
12.	exp aspirin/
13.	(asprin or asa or dispril or polopiry* or zoeporin or colfarit or aloxiprimium or micristin or easprin or magnecyl or solprin or ecotrin or endosprin or acylpyrin or solopsan or acetysal).ti,ab.
14.	exp dalteparin/
15.	(dalteparin or tedelparin or fragmin*).ti,ab.
16.	exp enoxaparin/
17.	(enoxaparin or xaparin or clexan*).ti,ab.
18.	or/1-17
19.	exp fibrinogen/
20.	("factor i" or "factor1").ti,ab.
21.	(coagulation adj2 factor).ti,ab.
22.	("fibrinogen conc*" or haemocomplettan or riastrap).ti,ab.
23.	(cryoprecipitat* or ecryo or cryo).ti,ab.
24.	exp blood platelets/
25.	(platelet* or thrombolyte).ti,ab.
26.	(phytonadion* or phytomenadion*).ti,ab.
27.	exp vitamin k/
28.	("vitamin adj k" or konakion).ti,ab.
29.	(phyllohydroquinone or phylloquinone or mephton).ti,ab.
30.	exp plasma/
31.	exp blood component transfusion/

32.	(ffp or ((frozen or fresh) adj3 plasma)).ti,ab.
33.	(pcc* or ppsb or beriplex or "beriplex p n" or "beriplex b-n" or " beriplex p/n" or confidex or kaskadil or kcentra or octaplex or ocplex or cofact or prothar or pponc or "protein c concentrate").ti,ab.
34.	("prothrombin complex" adj2 (concentrate* or preparation)).ti,ab.
35.	("prothrombin convert*" adj2 (complex or enzyme)).ti,ab.
36.	exp factor viia/
37.	(factor adj2 vii).ti,ab.
38.	("factor viia" or "factor 7a").ti,ab.
39.	proconvertin.ti,ab.
40.	(revers* or correct* or antidote* or counteract*).ti,ab.
41.	or/19-40
42.	18 and 41

### Embase search terms

1.	exp *warfarin/
2.	(marevan or warfarin or apo-warfarin or couma* or wafar* or sofarin or aldocumar or genwarfarin or tidicumar or jantoven or uniwarfarin).ti,ab.
3.	exp *acenocoumarol/
4.	(aceno#oum* or nicoumalon* or sint?rom* or syn#o?mar).ti,ab.
5.	(mini adj1 sintrom).ti,ab.
6.	exp *phenindione/
7.	(phenindion* or pindion* or phenylin* or fenilin or phenylindan?dione or dindevan or hedulin).ti,ab.
8.	(apixaban or xarel*).ti,ab.
9.	(clopidogrel or plavix).ti,ab.
10.	exp *acetylsalicylic acid/
11.	(asprin or asa or dispril or polopiry* or zoeporin or colfarit or aloxiprimum or micristin or easprin or magnecyl or solprin or ecotrin or endosprin or acylpyrin or solosan or acetysal).ti,ab.
12.	(rivaroxaban or xarel*).ti,ab.
13.	(dabigatran or praxada or pradax or prazaxa).ti,ab.
14.	exp *dalteparin/
15.	(dalteparin or tedelparin or fragmin*).ti,ab.
16.	exp *enoxaparin/
17.	(enoxaparin or xaparin or clexan*).ti,ab.
18.	or/1-17
19.	exp *fibrinogen/
20.	(factor i or factor 1).ti,ab.
21.	(coagulation adj2 factor).ti,ab.
22.	("fibrinogen conc*" or haemocomplettan or oriastrap).ti,ab.
23.	(cryoprecipitat* or ecryno or cryo).ti,ab.
24.	exp *thrombocyte/
25.	(platelet* or thrombolyte).ti,ab.
26.	(phytonadion* or phytomenadion*).ti,ab.
27.	exp *vitamin k group/
28.	("vitamin adj k" or kontaktion).ti,ab.
29.	(phyllohydroquinone or phylloquinone or mephton).ti,ab.

30.	exp *plasma/
31.	exp *blood component/
32.	(ffp or ((frozen or fresh) adj3 plasma)).ti,ab.
33.	(pcc* or ppsb or beriplex or "beriplex p n " or "beriplex b-n" or "beriplex p/n" or confodex or kaskadil or kcentra or octaplex or cofact or prothar or ppconc or "protein c concentrate").ti,ab.
34.	("prothrombin complex" adj2 (concentrate* or preparation)).ti,ab.
35.	("prothrombin convert" adj2 (complex or enzyme)).ti,ab.
36.	exp *blood clotting factor 7a/
37.	(factor adj2 vii).ti,ab.
38.	("factor viia" or "factor 7a").ti,ab.
39.	proconvertin.ti,ab.
40.	(revers* or correct* or antidote* or counteract*).ti,ab.
41.	or/19-40
42.	18 and 41

### Cochrane search terms

#1.	MeSH descriptor: [warfarin] explode all trees
#2.	(marevan or warfarin or apo-wafarin or couma* or wafar* or sofarin or aldocumar or gen-warfarin or tedicumar or jantoven or uniwarfin):ti,ab
#3.	MeSH descriptor: [acenocoumarol] explode all trees
#4.	(acenocoum* or nicoumalon* or sint?rom* or synto?mar):ti,ab
#5.	mini near1/sintrom
#6.	MeSH descriptor: [phenindione] explode all trees
#7.	(phenindion* or pindion* or phenylin* or fenilin or phenylindan?dione or dindevan or hedulin):ti,ab
#8.	(apixaban or eliqu?s):ti,ab
#9.	(dabigatran or pradaxa or pradax or prazaxa):ti,ab
#10.	(rivaroxaban or xarel*):ti,ab
#11.	(clopidogrel or plavix):ti,ab
#12.	MeSH descriptor: [aspirin] explode all trees
#13.	(asprin or asa or dispril or polopiry* or zoeporin or colfarit or aloxiprimium or micristin or easprin or magnecyl or solprin or ecotrin or endosprin or acylpyrin or solopsan or acetysal):ti,ab
#14.	MeSH descriptor: [dalteparin] explode all trees
#15.	(dalteparin or tedelparin or fragmin*):ti,ab
#16.	MeSH descriptor: [enoxaparin] explode all trees
#17.	(enoxaparin or xaparin or clexan*):ti,ab
#18.	{or #1-#17}
#19.	MeSH descriptor: [fibrinogen] explode all trees
#20.	("factor i" or "factor1"):ti,ab
#21.	(coagulation near/2 factor):ti,ab
#22.	("fibrinogen conc*" or haemocomplettan or riastrap):ti,ab
#23.	(cryoprecipitat* or ecryo or cryo):ti,ab
#24.	MeSH descriptor: [blood platelets] explode all trees
#25.	(platelet* or thrombolyte):ti,ab
#26.	(phytonadion* or phytomenadion*):ti,ab
#27.	MeSH descriptor: [vitamin k] explode all trees

#28.	("vitamin near/ k" or konakion):ti,ab
#29.	(phyllohydroquinone or phylloquinone or mephton):ti,ab
#30.	MeSH descriptor: [plasma] explode all trees
#31.	MeSH descriptor: [blood component transfusion] explode all trees
#32.	(ffp or ((frozen or fresh) near/3 plasma)):ti,ab
#33.	(pcc* or ppsb or beriplex or "beriplex p n" or "beriplex b-n" or "beriplex p/n" or confidex or kaskadil or kcentra or octaplex or ocplex or cofact or prothar or pponc or "protein c concentrate"):ti,ab
#34.	("prothrombin complex" near/2 (concentrate* or preparation)):ti,ab
#35.	("prothrombin convert*" near/2 (complex or enzyme)):ti,ab
#36.	MeSH descriptor: [factor viia] explode all trees
#37.	(factor near/2 vii):ti,ab
#38.	("factor viia" or "factor 7a"):ti,ab
#39.	proconvertin:ti,ab
#40.	(revers* or correct* or antidote* or counteract*):ti,ab
#41.	{or #19-#40}
#42.	#18 and #41

#### A.4.11 Haemorrhage shock prediction/risk tools

15. What is the most accurate risk tool to predict the need for massive transfusion in patients with major trauma (pre-hospital and hospital)?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Haemorrhage AND Shock prediction tools	n/a	n/a	See Table 1 Date of last search: 01/04/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	hemorrhage/ or exsanguination/ or shock/ or shock, hemorrhagic/ or shock, traumatic/ or hypovolemia/ or hypotension/
2.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus* or hypotensi* or low blood pressure).ti,ab.
3.	(bleed* or bloodloss*).ti,ab.
4.	(blood* adj3 loss*).ti,ab.
5.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
6.	blood transfusion/
7.	transfusion.ti,ab.
8.	or/1-7
9.	((transfusion or shock) adj3 (scor* or index* or classif* or predict* or tool* or risk*)).ti,ab.
10.	(risk adj3 (tool* or scor* or index* or predict*)).ti,ab.

11.	abc.ti,ab.
12.	assessment of blood consumption.ti,ab.
13.	nunez.ti,ab.
14.	tash.ti,ab.
15.	trauma-associated severe h?emorrhage.ti,ab.
16.	pwh.ti,ab.
17.	prince of wales hospital.ti,ab.
18.	rainer.ti,ab.
19.	mclaughlin.ti,ab.
20.	emergency transfusion score.ti,ab.
21.	ets.ti,ab.
22.	vandromme.ti,ab.
23.	schreiber.ti,ab.
24.	lars?n.ti,ab.
25.	revised trauma score.ti,ab.
26.	rts.ti,ab.
27.	field triage score.ti,ab.
28.	fts.ti,ab.
29.	*risk/
30.	*risk assessment/
31.	*risk factors/
32.	or/9-31
33.	8 and 32

#### Embase search terms

1.	exp *hypovolemia/ or *hemorrhagic shock/ or *traumatic shock/ or exp *bleeding/ or *exsanguination/
2.	*hypotension/
3.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus* or hypotensi* or low blood pressure).ti,ab.
4.	(bleed* or bloodloss*).ti,ab.
5.	(blood* adj3 loss*).ti,ab.
6.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
7.	*blood transfusion/
8.	transfusion.ti,ab.
9.	or/1-8
10.	((transfusion or shock) adj3 (scor* or index* or classif* or predict* or tool* or risk*)).ti,ab.
11.	(risk adj3 (tool* or scor* or index* or predict*)).ti,ab.
12.	abc.ti,ab.
13.	assessment of blood consumption.ti,ab.
14.	nunez.ti,ab.
15.	tash.ti,ab.
16.	trauma-associated severe h?emorrhage.ti,ab.
17.	pwh.ti,ab.
18.	prince of wales hospital.ti,ab.
19.	rainer.ti,ab.

20.	emergency transfusion score.ti,ab.
21.	ets.ti,ab.
22.	vandromme.ti,ab.
23.	schreiber.ti,ab.
24.	lars?n.ti,ab.
25.	revised trauma score.ti,ab.
26.	rts.ti,ab.
27.	field triage score.ti,ab.
28.	fts.ti,ab.
29.	*risk assessment/ or *risk/ or *risk factor/
30.	or/10-29
31.	9 and 30

### Cochrane search terms

#1.	MeSH descriptor: [hemorrhage] this term only
#2.	MeSH descriptor: [exsanguination] this term only
#3.	MeSH descriptor: [shock] this term only
#4.	shock, hemorrhagic
#5.	MeSH descriptor: [shock, traumatic] this term only
#6.	MeSH descriptor: [hypovolemia] this term only
#7.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus*):ti,ab
#8.	(bleed* or bloodloss* or blood loss*):ti,ab
#9.	(coagulopath* or (abnormal* near/2 coagulation) or hyperfibrinolysis):ti,ab
#10.	{or #1-#9}
#11.	((transfusion or shock) near/3 (scor* or index* or classif* or predict* or tool* or risk*)):ti,ab
#12.	(risk near/3 (tool* or scor* or index* or predict*)):ti,ab
#13.	abc:ti,ab
#14.	assessment of blood consumption:ti,ab
#15.	nunez:ti,ab
#16.	tash:ti,ab
#17.	trauma associated severe h?emorrhage:ti,ab
#18.	pwh:ti,ab
#19.	prince of wales hospital:ti,ab
#20.	rainer:ti,ab
#21.	mclaughlin:ti,ab
#22.	emergency transfusion score:ti,ab
#23.	ets:ti,ab
#24.	vandromme:ti,ab
#25.	schreiber:ti,ab
#26.	lars?n:ti,ab
#27.	revised trauma score:ti,ab
#28.	rts:ti,ab
#29.	field triage score:ti,ab
#30.	fts:ti,ab
#31.	MeSH descriptor: [risk] this term only

#32.	MeSH descriptor: [risk assessment] this term only
#33.	MeSH descriptor: [risk factors] this term only
#34.	{or #11-#33}
#35.	#10 and #34

#### A.4.12 Intraosseous/Intravenous access

16. What is the most clinically and cost effective technique for circulatory access in patients with major trauma, including following a failed attempt at initial peripheral access?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	IO/IV access	n/a	n/a	See Table 1 Date of last search: 26/04/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	(intraosseous or intra osseous or io).ti,ab.
2.	(access* or device* or needle* or catheter* or canul* or infus* or admin* or line* or gun or inject*).ti,ab.
3.	1 and 2
4.	infusions, intraosseous/
5.	(fast1 or fast x or fast combat or fast responder or ez-io or bone injection gun or jamshidi or cook io or big 15g or big 18g).ti,ab.
6.	or/4-5
7.	3 or 6

#### Embase search terms

1.	(intraosseous or intra osseous or io).ti,ab.
2.	(access* or device* or needle* or catheter* or canul* or infus* or admin* or line* or gun or inject*).ti,ab.
3.	1 and 2
4.	intraosseous drug administration/
5.	(fast1 or fast x or fast combat or fast responder or ez-io or bone injection gun or jamshidi or cook io or big 15g or big 18g).ti,ab.
6.	or/4-5
7.	3 or 6

#### Cochrane search terms

#1.	(intraosseous or osseous or IO):ti,ab
#2.	MeSH descriptor: [infusions, intraosseous] this term only
#3.	(fast1 or "injection gun" or jamshidi or "fast x" or "fast combat" or "fast responder" or "ez-io" or "cook io" or "big 15g" or "big 18g"):ti,ab

#4.	{or #1-#3}
-----	------------

#### A.4.13 Fluid resuscitation

17. What are the most clinically and cost effective fluid resuscitation strategies in the major trauma patient (hypotensive vs. normotensive)?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Haemorrhage (A.2.2)	Fluid resuscitation strategy	n/a	The following filters were used in Medline and Embase only: RCT, SR	See Table 1 Date of last search: 27/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	fluid therapy/
2.	((hypoten* or normoten* or euvo?emi* or normovo?emi* or hypovo?emi*) adj6 (permissive or resuscitat* or control*)):ti,ab.
3.	((fluid* or electrolyte*) adj6 (therap* or resuscitat* or administrat* or replace*)):ti,ab.
4.	((novel or hybrid) adj6 resuscitat*):ti,ab.
5.	((control* or restrict* or delay* or limit* or volume* or conserve or conservative) adj6 (iv or fluid* or electrolyte* or resuscitat* or intravenous*)):ti,ab.
6.	rehydrat*.ti,ab.
7.	(resuscitat* adj6 (plan* or strateg* or polic* or order* or decision* or protocol*)):ti,ab.
8.	or/1-7

#### Embase search terms

1.	fluid resuscitation/
2.	*fluid therapy/
3.	((hypoten* or normoten* or euvo?emi* or normovo?emi* or hypovo?emi*) adj6 (permissive or resuscitat* or control*)):ti,ab.
4.	((Fluid* or electrolyte*) adj6 (therap* or resuscitat* or administrat* or replace*)):ti,ab.
5.	((novel or hybrid) adj6 resuscitat*):ti,ab.
6.	((control* or restrict* or delay* or limit* or volume* or conserve or conservative) adj6 (IV or fluid* or electrolyte* or resuscitat* or intravenous*)):ti,ab.
7.	rehydrat*.ti,ab.
8.	(resuscitat* adj6 (plan* or strateg* or polic* or order* or decision* or protocol*)):ti,ab.
9.	or/1-8

#### Cochrane search terms

#1.	MeSH descriptor: [fluid therapy] this term only
#2.	((hypoten* or normoten* or euvo?emi* or normovo?emi* or hypovo?emi*) near/6 (permissive or resuscitat* or control*)):ti,ab
#3.	((fluid* or electrolyte*) near/6 (therap* or resuscitat* or administrat* or replace*)):ti,ab

#4.	((novel or hybrid) near/6 resuscitat*):ti,ab
#5.	((control* or restrict* or delay* or limit* or volume* or conserve or conservative) near/6 (iv or fluid* or electrolyte* or resuscitat* or intravenous*)):ti,ab
#6.	rehydrat*:ti,ab
#7.	(resuscitat* near/6 (plan* or strateg* or polic* or order* or decision* or protocol*)):ti,ab
#8.	{or #1-#7}

#### A.4.14 Fluid replacement

18.What is the best volume expansion fluid to use in the resuscitation of haemorrhagic shock?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND haemorrhage	Volume expansion fluids	n/a	The following filters were used in Medline and Embase only: OBS, RCT, SR	See Table 1 Date of last search: 26/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	<i>standard trauma population (see A.2.1)</i>
2.	hemorrhage/ or exsanguination/ or shock/ or shock, hemorrhagic/ or shock, traumatic/ or hypovolemia/
3.	(hypovol?em* or shock or exsanguin* or olig?em* or h?emorrhag* or hypoperfus*).ti,ab.
4.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
5.	(bleed* or bloodloss*).ti,ab.
6.	(blood* adj3 loss*).ti,ab.
7.	or/2-6
8.	((red blood cell* or rbc or prbc or red cell* or blood or packed cell* or erythrocyte* or fluid* or volum* or plasma*) adj5 (therap* or transfus* or replac* or resuscita* or substitut* or restor* or deficien* or replenish*).ti,ab.
9.	exp plasma/
10.	(ffp or ((frozen or thawed or tp or fresh) adj3 plasma)).ti,ab.
11.	(albumin or zenalb or octaplas*).ti,ab.
12.	((lyophil?ed or freeze-dried or liquid or "not frozen" or "never frozen") adj3 plasma).ti,ab.
13.	(fdsp or fdp or lqp or lhp).ti,ab.
14.	exp freeze drying/ and plasma.ti,ab,sh.
15.	exp sodium chloride/
16.	exp fluid therapy/
17.	exp rehydration solutions/
18.	exp plasma substitutes/
19.	exp isotonic solutions/
20.	(sodium or salin* or hartman* or ringer* or lactate* or acetate* or plasmalyte* or plasma-lyte*).ti,ab.

21.	(crystalloid* or isotonic).ti,ab.
22.	((balanced or physiologic*) adj2 (fluid* or solution*)).ti,ab.
23.	or/8-22
24.	1 and 7 and 23
25.	*blood transfusion/ or exp *blood component transfusion/ or *exchange transfusion, whole blood/ or *plasma exchange/
26.	24 or 25

#### Embase search terms

1.	<i>standard trauma population (see A.2.1)</i>
2.	exp *hypovolemia/ or *hemorrhagic shock/ or *traumatic shock/ or exp *bleeding/ or *exsanguination/
3.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus*).ti,ab.
4.	(bleed* or bloodloss*).ti,ab.
5.	(blood* adj3 loss*).ti,ab.
6.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
7.	or/2-6
8.	exp *blood transfusion/
9.	((red blood cell* or rbc or prbc or red cell* or blood or packed cell* or erythrocyte* or fluid* or volum*) adj3 (therap* or transfus* replac* or resuscita* or substitut* or restor* or deficient* or replenish*)).ti,ab.
10.	exp *plasma/
11.	exp *blood component therapy/
12.	exp *erythrocyte transfusion/
13.	(ffp or ((frozen or fresh or thawed or tp) adj3 plasma)).ti,ab.
14.	((lyophilised or freeze-dried or liquid or "not frozen" or "never frozen") adj 2 plasma).ti,ab.
15.	(fdsp or fdp or lqp or lhp).ti,ab.
16.	exp *freeze drying/ and plasma.ti,ab,sh.
17.	exp *sodium chloride/
18.	exp *fluid therapy/
19.	exp *rehydration solutions/
20.	exp *plasma substitutes/
21.	exp *isotonic solutions/
22.	(sodium or salin* or hartman* or ringer* or lactate* or acetate* or plasmalyte* or plasma-lyte*).ti,ab.
23.	(crystalloid* or isotonic).ti,ab.
24.	exp *crystalloid/
25.	((balanced or physiologic*) adj2 (fluid* or solution*)).ti,ab.
26.	or/8-25
27.	1 and 7 and 26

#### Cochrane search terms

#1.	<i>standard trauma population (see A.2.1)</i>
#2.	MeSH descriptor: [hemorrhage] this term only
#3.	MeSH descriptor: [exsanguination] this term only
#4.	MeSH descriptor: [shock] this term only
#5.	MeSH descriptor: [shock, traumatic] this term only

#6.	MeSH descriptor: [shock, hemorrhagic] this term only
#7.	MeSH descriptor: [hypovolemia] this term only
#8.	(haemorrhag* or hemorrhag* or hypovolem* or hypovolaem* or shock or exsanguin* or oligem* or oligam* or hypoperfus*):ti,ab
#9.	(coagulopath* or (abnormal* near/2 coagulation) or hyperfibrinolysis):ti,ab
#10.	(bleed* or bloodloss*):ti,ab
#11.	blood* near/3 loss*:ti,ab
#12.	{or #2-#11}
#13.	((red blood cell* or rbc or prbc or red cell* or blood or packed cell* or erythrocyte* or fluid* or volum* or plasma*) near/5 (therap* or transfus* or replac* or resuscita* or substitut* or restor* or deficien* or replenish*)):ti,ab
#14.	MeSH descriptor: [plasma] explode all trees
#15.	((ffp or frozen or thawed or tp or fresh) near/3 plasma):ti,ab
#16.	(albumin or zenalb or octaplas*) .ti,ab.
#17.	((lyophilized or freeze-dried or liquid or "not frozen" or "never frozen") near/3 plasma):ti,ab
#18.	(fdsp or fdp or lqp or lhp):ti,ab
#19.	((balanced or physiologic*) near/2 (fluid* or solution*)):ti,ab
#20.	(crystalloid* or isotonic):ti,ab
#21.	(sodium or salin* or hartman* or ringer* or lactate* or acetate* or plasmalyte* or plasma-lyte*):ti,ab
#22.	MeSH descriptor: [freeze drying] explode all trees
#23.	MeSH descriptor: [sodium chloride] explode all trees
#24.	MeSH descriptor: [fluid therapy] explode all trees
#25.	MeSH descriptor: [rehydration solutions] explode all trees
#26.	MeSH descriptor: [plasma substitutes] explode all trees
#27.	MeSH descriptor: [isotonic solutions] explode all trees
#28.	{or #13-#27}
#29.	#1 and #12 and #28
#30.	MeSH descriptor: [blood transfusion] this term only
#31.	MeSH descriptor: [blood component transfusion] explode all trees
#32.	MeSH descriptor: [exchange transfusion, whole blood] this term only
#33.	MeSH descriptor: [plasma exchange] this term only
#34.	{or #30-#33}
#35.	#29 or #34

#### A.4.15 Haemorrhage protocols

19. What type of major haemorrhage protocol is the most clinically and cost effective for improving outcomes in patients with major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Major haemorrhage protocol	n/a	n/a	See Table 1 Date of last search: 31/03/2015 English only

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
				Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	clinical protocols/
2.	exp hemorrhage/ or exp blood transfusion/
3.	1 and 2
4.	((h?emorrhag* or transfus*) adj4 protocol*).ti,ab.
5.	(mhp* or mtp*).ti,ab.
6.	(strateg* adj3 transfus*).ti,ab.
7.	((target* or empiric*) adj3 (transfus* or h?emorrhag*)).ti,ab.
8.	or/4-7
9.	3 or 8

#### Embase search terms

1.	*clinical protocol/
2.	exp bleeding/ or exp blood transfusion/
3.	1 and 2
4.	((h?emorrhag* or transfus*) adj4 protocol*).ti,ab.
5.	(mhp* or mtp*).ti,ab.
6.	(strateg* adj3 transfus*).ti,ab.
7.	((target* or empiric*) adj3 (transfus* or h?emorrhag*)).ti,ab.
8.	or/4-7
9.	3 or 8

#### Cochrane search terms

#1.	MeSH descriptor: [clinical protocols] this term only
#2.	MeSH descriptor: [hemorrhage] explode all trees
#3.	MeSH descriptor: [blood transfusion] explode all trees
#4.	{or #2-#3}
#5.	#1 and #4
#6.	((haemorrhag* or hemorrhag* or transfus*) near/4 protocol*).ti,ab
#7.	(mhp* or mtp*).ti,ab
#8.	(strateg* near/3 transfus*).ti,ab
#9.	((target* or empiric*) near/3 (transfus* or haemorrhag* or hemorrhag*)).ti,ab
#10.	{or #6-#9}
#11.	#5 or #10

#### A.4.16 Haemorrhage imaging

Searches for the following two questions were run as one search:

20. What is the diagnostic accuracy of imaging strategies for detecting life threatening internal haemorrhage in major trauma patients?

21. What are the most clinically and cost effective imaging strategies for detecting life threatening internal haemorrhage in major trauma patients?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Haemorrhage AND Imaging	n/a	The following filters were used in Medline and Embase only: DIAG, OBS, RCT, SR	See Table 1 Date of last search: 01/04/2015 English only Exclusion filter applied in Medline and Embase

**Medline search terms**

1.	hemorrhage/ or exsanguination/ or shock/ or shock, hemorrhagic/ or shock, traumatic/ or hypovolemia/
2.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus*).ti,ab.
3.	(blood* adj3 loss*).ti,ab.
4.	(bleed* or bloodloss*).ti,ab.
5.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
6.	aortic rupture/
7.	vascular system injuries/
8.	((aort* or arter* or vessel*) adj3 (rupture* or disrupt* or injur* or trans?ct* or tear or torn or dissect*).ti,ab.
9.	((venous or vascular) adj injur*).ti,ab.
10.	or/1-9
11.	radiography/ or tomography/ or exp tomography, x-ray/ or ultrasonography/ or exp ultrasonography, doppler/ or whole body imaging/
12.	(x ray* or xray* or mdct* or ct or radiograph*).ti,ab.
13.	(cat adj (scan* or imag*)).ti,ab.
14.	(compute* adj2 tomograph*).ti,ab.
15.	(fast or sonograph* or ultrasonography* or ultrasound* or efast or e-fast).ti,ab.
16.	or/11-15
17.	10 and 16

**Embase search terms**

1.	exp *hypovolemia/ or *hemorrhagic shock/ or *traumatic shock/ or exp *bleeding/ or *exsanguination/
2.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus*).ti,ab.
3.	(bleed* or bloodloss*).ti,ab.
4.	(blood* adj3 loss*).ti,ab.
5.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
6.	aortic rupture/
7.	vascular system injuries/
8.	((aort* or arter* or vessel*) adj3 (rupture* or disrupt* or injur* or trans?ct* or tear or torn or dissect*).ti,ab.

9.	((venous or vascular) adj injur*).ti,ab.
10.	or/1-9
11.	exp *radiodiagnosis/
12.	(x ray* or xray* or mdct* or ct or radiograph*).ti,ab.
13.	(cat adj (scan* or imag*)).ti,ab.
14.	(compute* adj2 tomograph*).ti,ab.
15.	(fast or sonograph* or ultrasonography* or ultrasound* or efast or e-fast).ti,ab.
16.	or/11-15
17.	10 and 16

#### Cochrane search terms

#1.	MeSH descriptor: [hemorrhage] this term only
#2.	MeSH descriptor: [exsanguination] this term only
#3.	MeSH descriptor: [shock] this term only
#4.	MeSH descriptor: [shock, hemorrhagic] this term only
#5.	MeSH descriptor: [shock, traumatic] this term only
#6.	MeSH descriptor: [hypovolemia] this term only
#7.	(haemorrhag* or hemorrhag* or hypovolem* or hypovolaem* or shock or exsanguin* or oligem* or oligam* or hypoperfus*):ti,ab
#8.	(bleed* or bloodloss*):ti,ab
#9.	blood* near/3 loss*:ti,ab
#10.	(coagulopath* or hyperfibrinolysis):ti,ab
#11.	abnormal* near/2 coagulation:ti,ab
#12.	MeSH descriptor: [aortic rupture] this term only
#13.	MeSH descriptor: [vascular system injuries] this term only
#14.	((aort* or arter* or vessel*) near/33 (rupture* or disrupt* or injur* or trans?ct* or tear or torn or dissect*)):ti,ab
#15.	((venous or vascular) next injur*):ti,ab
#16.	{or #1-#15}
#17.	MeSH descriptor: [radiography] explode all trees
#18.	(x ray* or xray* or mdct* or ct or radiograph*).ti,ab
#19.	(cat near/2 (scan* or imag*)):ti,ab
#20.	(compute* near/2 tomograph*):ti,ab
#21.	(fast or sonograph* or ultrasonography* or ultrasound* or efast or e next fast):ti,ab
#22.	{or #17-#21}
#23.	#16 and #22

#### A.4.17 Whole body CT

22.What is the clinical and cost-effectiveness of whole-body CT in the initial management of major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Whole body imaging	n/a	n/a	See Table 1 Date of last

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
				search: 25/02/2015 English only Exclusion filter applied in Medline and Embase

### Medline search terms

1.	exp tomography, x-ray computed/
2.	(cat adj (scan* or imag*)).ti,ab.
3.	(compute* adj2 tomograph*).ti,ab.
4.	(mdct* or ct).ti,ab.
5.	or/1-4
6.	((full or whole or total or entire or complete or head to toe) adj2 (body or bodies or patient* or casual*)).ti,ab.
7.	pan.ti,ab.
8.	or/6-7
9.	5 and 8
10.	whole body imaging/
11.	fbct.ti,ab.
12.	((full or whole or total or pan or head to toe or entire or complete) adj6 (mdct* or ct or tomograph* or cat scan*)).ti,ab.
13.	or/10-12
14.	9 or 13

### Embase search terms

1.	exp computer assisted tomography/
2.	(cat adj (scan* or imag*)).ti,ab.
3.	(compute* adj2 tomograph*).ti,ab.
4.	(mdct* or ct).ti,ab.
5.	or/1-4
6.	((full or whole or total or entire or complete or head to toe) adj2 (body or bodies or patient* or casual*)).ti,ab.
7.	pan.ti,ab.
8.	or/6-7
9.	5 and 8
10.	whole body imaging/
11.	fbct.ti,ab.
12.	((full or whole or total or pan or head to toe or entire or complete) adj6 (mdct* or ct or tomograph* or cat scan*)).ti,ab.
13.	or/10-12
14.	9 or 13

### Cochrane search terms

#1.	MeSH descriptor: [tomography, x-ray computed] explode all trees
#2.	(cat near/2 (scan* or imag*)).ti,ab

#3.	(compute* near/2 tomograph*):ti,ab
#4.	(mdct* or ct):ti,ab
#5.	{or #1-#4}
#6.	((full or whole or total or entire or complete) near/2 (body or bodies or patient* or casual*)):ti,ab
#7.	pan:ti,ab
#8.	{or #6-#7}
#9.	#5 and #8
#10.	MeSH descriptor: [whole body imaging] this term only
#11.	fbct:ti,ab
#12.	((full or whole or total or pan or entire or complete) near (mdct* or ct or tomograph* or cat scan*)):ti,ab
#13.	{or #10-#12}
#14.	#9 or #13

#### A.4.18 Damage control surgery

23. What are the most clinically and cost effective surgical intervention strategies in the major trauma patient with active haemorrhage (damage control versus definitive surgery)?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Surgical interventions strategy	n/a	The following filters were used in Medline and Embase only: OBS, RCT, SR	See Table 1 Date of last search: 26/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	(damage adj3 control*).ti,ab.
2.	((control* or manag* or stop* or decreas* or minimis* or fix* or reduc* or less* or ease*) adj4 (haemorrhag* or hemorrhag* or bleed* or bloodloss* or blood loss* or coagulopath*) adj4 (lap?rotom* or surg*)):ti,ab.
3.	(abbrev* adj4 (lap?rotom* or surg*)):ti,ab.
4.	(abdom* adj4 (repack* or re-pack* or pack* or clos*)):ti,ab.
5.	or/1-4

#### Embase search terms

1.	(damage adj3 control*).ti,ab.
2.	((control* or manag* or stop* or decreas* or minimis* or fix* or reduc* or less* or ease*) adj4 (haemorrhag* or hemorrhag* or bleed* or bloodloss* or blood loss* or coagulopath*) adj4 (lap?rotom* or surg*)):ti,ab.
3.	(abbrev* adj4 (lap?rotom* or surg*)):ti,ab.
4.	(abdom* adj4 (repack* or re-pack* or pack* or clos*)):ti,ab.
5.	or/1-4

### Cochrane search terms

#1.	damage near/3 control*.ti,ab
#2.	((control* or manag* or stop* or decreas* or minimis* or fix* or reduc* or less* or ease*) near/4 (haemorrhag* or hemorrhag* or bleed* or bloodloss* or blood loss* or coagulopath*) near/4 (lap?rotom* or surg*)):ti,ab
#3.	(abbrev* near/4 (lap?rotom* or surg*)):ti,ab
#4.	abdom* adj4 (repack* or re-pack* or pack* or clos*) .ti,ab.
#5.	{or #1-#4}

### A.4.19 Interventional radiology

24. Is the use of interventional radiology for definitive haemorrhage control in major trauma patients clinically and cost effective?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Haemorrhage or pelvic or abdominal injuries	Interventional radiology	n/a	The following filters were used in Medline and Embase only: OBS, RCT, SR	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

### Medline search terms

1.	<i>standard trauma population (see A.2.1)</i>
2.	hemorrhage/ or exsanguination/ or shock/ or shock, hemorrhagic/ or shock, traumatic/ or hypovolemia/
3.	(hypovol?em* or shock or exsanguin* or olig?em* or h?emorrhag* or hypoperfus*).ti,ab.
4.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
5.	(bleed* or bloodloss*).ti,ab.
6.	(blood* adj3 loss*).ti,ab.
7.	aortic rupture/
8.	vascular system injuries/
9.	((venous or arterial or vascular* or circulat*) adj3 (injur* or problem* or compromise*)):ti,ab.
10.	((aort* or arter* or vessel*) adj3 (rupture* or disrupt* or injur* or trans#ct* or tear or torn or dissect*)):ti,ab.
11.	pelvic bones/ and fractures, bone/
12.	((pelvic or pelvis) adj3 (trauma* or injur* or rupture* or tear*)):ti,ab.
13.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) adj3 (fracture* or break or breaks or broken or crack* or frx)):ti,ab.
14.	abdominal injuries/
15.	spleen/in [injuries]
16.	liver/in [injuries]

17.	kidney/in [injuries]
18.	((abdomen or abdominal or stomach or splen* or spleen* or diaphragm* or gastric* or kidney* or renal or liver* or hepatic or organ*) adj3 (trauma* or injur* or rupture* or tear*)).ti,ab.
19.	or/2-18
20.	radiology, interventional/ or embolization, therapeutic/ or radiography, interventional/
21.	((therapeutic* or vascular or surgical) adj3 (radiolog* or radiogra*)).ti,ab.
22.	(intervention* adj3 (radiolog* or radiogra* or therap* or treatment*)).ti,ab.
23.	catheterization/ or balloon occlusion/ or catheterization, central venous/
24.	angioplasty/ or exp angioplasty, balloon/
25.	mechanical thrombolysis/
26.	portasystemic shunt, transjugular intrahepatic/
27.	stents/
28.	(embolization* or embolotherap* or stent* or gelfoam or gel foam* or spongstan or plug* or balloon* or amplatzer or mechanic* occlu* or thrombin* or embolic* or coil or coiling or microcoil* or particle*).ti,ab.
29.	(polyvinyl alcohol or pva or microsphere* or tagm or embosphere* or embozene or bead block* or quadra spheres or hydrogel or n-butyl cyanoacrylate or ethylene vinyl alcohol copolymer).ti,ab.
30.	tae.ti,ab.
31.	(gelatin adj2 sponge*).ti,ab.
32.	percutaneous.ti,ab.
33.	(portasystemic shunt* or tips).ti,ab.
34.	thrombolys*.ti,ab.
35.	angioplast*.ti,ab.
36.	(catheter* or transcatheter* or microcatheter*).ti,ab.
37.	(minimally invasive or non-invasive or noninvasive).ti,ab.
38.	((ct or ultrasound* or image or tomography or mdct or us or fluoroscop*) adj2 guided).ti,ab.
39.	arteriogra*.ti,ab.
40.	angiography/
41.	angiogra*.ti,ab.
42.	endovascular procedures/
43.	endovascular.ti,ab.
44.	((venous or vascular or intravascular) adj3 access).ti,ab.
45.	endovenous.ti,ab.
46.	or/20-45
47.	1 and 19 and 46

#### Embase search terms

1.	<i>standard trauma population (see A.2.1)</i>
2.	exp *hypovolemia/ or *hemorrhagic shock/ or *traumatic shock/ or exp *bleeding/ or *exsanguination/
3.	(h?emorrhag* or hypovol?em* or shock or exsanguin* or olig?em* or hypoperfus*).ti,ab.
4.	(bleed* or bloodloss*).ti,ab.
5.	(blood* adj3 loss*).ti,ab.
6.	(coagulopath* or (abnormal* adj2 coagulation) or hyperfibrinolysis).ti,ab.
7.	*aorta rupture/

8.	*aorta injury/
9.	*blood vessel injury/
10.	((aort* or arter* or vessel*) adj3 (rupture* or disrupt* or injur* or trans#ct* or tear or torn or dissect*)).ti,ab.
11.	((venous or arterial or vascular* or circulat*) adj3 (injur* or problem* or compromise*)).ti,ab.
12.	exp pelvis fracture/
13.	((pelvic or pelvis) adj3 (trauma* or injur* or rupture* or tear*)).ti,ab.
14.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) adj3 (fracture* or break or breaks or broken or crack* or frx)).ti,ab.
15.	*abdominal injury/ or *abdominal blunt trauma/ or *abdominal organ rupture/ or *abdominal penetrating trauma/ or *spleen injury/ or *digestive system injury/ or *digestive system perforation/ or *digestive system rupture/ or *liver injury/ or *stomach injury/ or *kidney injury/
16.	((abdomen or abdominal or stomach or splen* or spleen* or diaphragm* or gastric* or kidney* or renal or liver* or hepatic or organ*) adj3 (trauma* or injur* or rupture* or tear*)).ti,ab.
17.	or/2-16
18.	nonsurgical invasive therapy/ or exp artificial embolism/ or balloon dilatation/ or interventional cardiovascular procedure/ or interventional radiology/
19.	*catheterization/ or *balloon embolectomy/ or exp *blood vessel catheterization/ or exp *endovascular surgery/ or *angiography/ or *arteriography/
20.	*stent/ or exp *cardiovascular stent/ or *metal stent/ or *nitinol stent/ or *plastic stent/ or *self expanding stent/
21.	angioplasty/ or patch angioplasty/
22.	transjugular intrahepatic portosystemic shunt/
23.	blood clot lysis/
24.	central venous catheterization/
25.	vein catheterization/ or blood vessel catheterization/
26.	vascular access/
27.	((therapeutic* or vascular or surgical) adj3 (radiolog* or radiogra*)).ti,ab.
28.	(intervention* adj3 (radiolog* or radiogra* or therap* or treatment*)).ti,ab.
29.	(emboli?ation* or embolotherap* or stent* or gelfoam or gel foam* or spongstan or plug* or balloon* or amplatzer or mechanic* occlu* or thrombin* or embolic* or coil or coiling or microcoil* or particle*).ti,ab.
30.	(polyvinyl alcohol or pva).ti,ab.
31.	(microsphere* or tagm or embosphere* or embozene or bead block* or quadra spheres or hydrogel).ti,ab.
32.	n-butyl cyanoacrylate.ti,ab.
33.	ethylene vinyl alcohol copolymer.ti,ab.
34.	tae.ti,ab.
35.	(gelatin adj2 sponge*).ti,ab.
36.	percutaneous.ti,ab.
37.	(portasystemic shunt* or tips).ti,ab.
38.	thrombolys*.ti,ab.
39.	angioplast*.ti,ab.
40.	(catheter* or transcatheter* or microcatheter*).ti,ab.
41.	(minimally invasive or non-invasive or noninvasive).ti,ab.

42.	((ct or ultrasound* or image or tomography or mdct or us or angiograph* or fluoroscop*) adj2 guided).ti,ab.
43.	arteriogra*.ti,ab.
44.	arteriography/
45.	angiogra*.ti,ab.
46.	angiography/
47.	endovascular.ti,ab.
48.	endovascular surgery/
49.	((venous or vascular or intravascular) adj3 access).ti,ab.
50.	endovenous.ti,ab.
51.	or/18-50
52.	1 and 17 and 51

### Cochrane search terms

#1.	<i>standard trauma population (see A.2.1)</i>
#2.	MeSH descriptor: [hemorrhage] this term only
#3.	MeSH descriptor: [exsanguination] this term only
#4.	MeSH descriptor: [shock] this term only
#5.	MeSH descriptor: [shock, hemorrhagic] this term only
#6.	MeSH descriptor: [shock, traumatic] this term only
#7.	MeSH descriptor: [hypovolemia] this term only
#8.	(haemorrhag* or hemorrhag* or hypovolem* or hypovolaem* or shock or exsanguin* or oligem* or oligam* or hypoperfus*):ti,ab
#9.	(bleed* or bloodloss*):ti,ab
#10.	blood* near/3 loss*:ti,ab
#11.	(coagulopath* or hyperfibrinolysis):ti,ab
#12.	abnormal* near/2 coagulation:ti,ab
#13.	MeSH descriptor: [aortic rupture] this term only
#14.	MeSH descriptor: [vascular system injuries] this term only
#15.	((aort* or arter* or vessel*) near/3 (rupture* or disrupt* or injur* or transect* or transact* or tear or torn or dissect*)):ti,ab
#16.	((venous or arterial or vascular* or circulat*) near/3 (injur* or problem* or compromise*)) .ti,ab
#17.	MeSH descriptor: [pelvic bones] this term only
#18.	MeSH descriptor: [fractures, bone] this term only
#19.	((pelvic or pelvis) near/3 (trauma* or injur* or rupture* or tear*)):ti,ab
#20.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) near/3 (fracture* or break or breaks or broken or crack* or frx)):ti,ab
#21.	MeSH descriptor: [abdominal injuries] this term only
#22.	MeSH descriptor: [spleen] this term only and with qualifier(s): [injuries - in]
#23.	MeSH descriptor: [liver] this term only and with qualifier(s): [injuries - in]
#24.	MeSH descriptor: [kidney] this term only and with qualifier(s): [injuries - in]
#25.	((abdomen or abdominal or stomach or splen* or spleen* or diaphragm* or gastric* or kidney* or renal or liver* or hepatic or organ*) near/3 (trauma* or injur* or rupture* or tear*)):ti,ab
#26.	{or #2-#25}

#27.	MeSH descriptor: [radiology, interventional] this term only
#28.	MeSH descriptor: [embolization, therapeutic] this term only
#29.	MeSH descriptor: [radiography, interventional] this term only
#30.	((therapeutic* or vascular or surgical) near/3 (radiolog* or radiogra*)) .ti,ab.
#31.	(intervention* near/3 (radiolog* or radiogra* or therap* or treatment*)):ti,ab
#32.	MeSH descriptor: [catheterization] this term only
#33.	MeSH descriptor: [balloon occlusion] this term only
#34.	MeSH descriptor: [catheterization, central venous] this term only
#35.	MeSH descriptor: [angioplasty] this term only
#36.	MeSH descriptor: [angioplasty, balloon] explode all trees
#37.	MeSH descriptor: [mechanical thrombolysis] this term only
#38.	MeSH descriptor: [portasystemic shunt, transjugular intrahepatic] this term only
#39.	(emboli?ation* or embolotherap* or stent* or gelfoam or spongstan or plug* or balloon* or amplatzer or thrombin* or embolic* or coil or coiling or microcoil* or particle*):ti,ab
#40.	gel next foam*:ti,ab
#41.	mechanic* next occlu*:ti,ab
#42.	gelatin near/2 sponge*:ti,ab
#43.	percutaneous:ti,ab
#44.	(portasystemic shunt* or tips):ti,ab
#45.	thrombolys*:ti,ab
#46.	angioplast*:ti,ab
#47.	(catheter* or transcatheter* or microcatheter*):ti,ab
#48.	minimally next invasive:ti,ab
#49.	non next invasive:ti,ab
#50.	noninvasive:ti,ab
#51.	((ct or ultrasound* or image or tomography or mdct or us or angiograph* or fluoroscop*) near/2 (guided)):ti,ab
#52.	MeSH descriptor: [stents] this term only
#53.	angiogra*:ti,ab
#54.	arteriogra*:ti,ab
#55.	MeSH descriptor: [angiography] this term only
#56.	endovascular:ti,ab
#57.	MeSH descriptor: [endovascular procedures] this term only
#58.	((venous or vascular or intravascular) near/3 access):ti,ab
#59.	endovenous:ti,ab
#60.	{or #27-#59}
#61.	#1 and #26 and #60

#### A.4.20 Coagulation testing

25. Is the use of point of care coagulation testing versus laboratory coagulation testing clinically and cost effective in patients with major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
------------	--------------------------	------------	---------------------	----------------------------------

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Coagulation testing	n/a	The following filters were used in Medline and Embase only: DIAG, OBS, RCT, SR	See Table 1 Date of last search: 27/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	exp blood coagulation tests/
2.	(coagul* or anticoagul* or act).ti,ab.
3.	(international normali?ed ratio or inr).ti,ab.
4.	(partial thromboplastin time or ptt or aptt or pt).ti,ab.
5.	((prothrombin or bleed* or clot* or thrombin or blood) adj2 time).ti,ab.
6.	platelet count/
7.	(platelet* adj4 (count* or test* or assess* or function* or analys* or analyz* or check* or measure* or detect* or exam* or map*)).ti,ab.
8.	or/1-7
9.	(point of care or poc or poct).ti,ab.
10.	(bedside or bed side or hand-held or handheld or mobile or portable).ti,ab.
11.	((extra or satellite) adj2 (clinic or clinics or lab*)).ti,ab.
12.	(turnaround time or tat or ttat).ti,ab.
13.	on site.ti,ab.
14.	((near* or proxim* or close* or site) adj2 patient*).ti,ab.
15.	or/9-14
16.	8 and 15
17.	(thromboelast* or teg or rotem or rapidteg or r-teg or rteg).ti,ab.
18.	(rapidteg or kaolinteg or fibrinogenteg or ffteg).ti,ab.
19.	impact cone*.ti,ab.
20.	((viscoelastic or visco-elastic) adj4 (test* or assess* or check* or measure* or analys* or analyz* or detect* or exam*)).ti,ab.
21.	(multiplate or pfa-100 or verifynow or sonoclot or hemochron or hemotec or coagucheck or coaguchek or platelet works or coagusense or coagu-sense or hemachron or protime or inratio or actalyke or gem or act ii or hms or rapidpoint).ti,ab.
22.	(aggrogomet* adj4 (test* or assess* or check* or measure* or analys* or analyz* or detect* or exam*)).ti,ab.
23.	or/17-22
24.	16 or 23

#### Embase search terms

1.	*blood clotting/
2.	*blood clotting test/
3.	*blood clotting parameters/ or *bleeding time/ or *blood clotting time/ or *international normalized ratio/ or *partial thromboplastin time/ or *prothrombin time/ or *thrombin time/ or *thromboplastin time/

4.	(coagul* or anticoagul* or act).ti,ab.
5.	(international normali?ed ratio or inr).ti,ab.
6.	(partial thromboplastin time or ptt or aptt or pt).ti,ab.
7.	((prothrombin or bleed* or clot* or thrombin or blood) adj2 time).ti,ab.
8.	thrombocyte count/
9.	(platelet* adj4 (count* or test* or assess* or function* or analys* or analyz* or check* or measure* or detect* or exam* or map*)).ti,ab.
10.	or/1-9
11.	(point of care or poc or poct).ti,ab.
12.	(bedside or bed side or hand-held or handheld or mobile or portable).ti,ab.
13.	((extra or satellite) adj2 (clinic or clinics or lab*)).ti,ab.
14.	(turnaround time or tat or ttat).ti,ab.
15.	on site.ti,ab.
16.	((near* or proxim* or close* or site) adj2 patient*).ti,ab.
17.	or/11-16
18.	10 and 17
19.	(thromboelast* or teg or rotem or rapidteg or r-teg or rteg).ti,ab.
20.	(rapidteg or kaolinteg or fibrinogenteg or ffteg).ti,ab.
21.	impact cone*.ti,ab.
22.	((viscoelastic or visco-elastic) adj4 (test* or assess* or check* or measure* or analys* or analyz* or detect* or exam*)).ti,ab.
23.	(multiplate or pfa-100 or verifynow or sonoclot or hemochron or hemotec or coagucheck or coaguchek or platelet works or coagusense or coagu-sense or hemachron or protime or inratio or actalyke or gem or act ii or hms or rapidpoint).ti,ab.
24.	(aggrogomet* adj4 (test* or assess* or check* or measure* or analys* or analyz* or detect* or exam*)).ti,ab.
25.	or/19-24
26.	18 or 25

#### Cochrane search terms

#1.	MeSH descriptor: [blood coagulation tests] explode all trees
#2.	(coagul* or anticoagul* or act):ti,ab
#3.	(international next normalised next ratio or international next normalized next ratio):ti,ab
#4.	inr:ti,ab
#5.	"partial thromboplastin time":ti,ab
#6.	(ptt or aptt or pt):ti,ab
#7.	((prothrombin or bleed* or clot* or thrombin or blood) near/2 time):ti,ab
#8.	MeSH descriptor: [platelet count] this term only
#9.	(platelet* near/4 (count* or test* or assess* or function* or analys* or analyz* or check* or measure* or detect* or exam* or map*)).ti,ab
#10.	{or #1-#9}
#11.	(point of care or poc or poct):ti,ab
#12.	(bedside or bed side or hand-held or handheld or mobile or portable):ti,ab
#13.	((extra or satellite) near/2 (clinic or clinics or lab*)).ti,ab
#14.	(turnaround time or tat or ttat):ti,ab
#15.	on site:ti,ab
#16.	((near* or proxim* or close* or site) adj2 patient*) .ti,ab

#17.	{or #11-#16}
#18.	#10 and #17
#19.	(thromboelast* or teg or rotem or rapidteg or r-teg or rteg):ti,ab
#20.	(rapidteg or kaolinteg or fibrinogenteg or ffteg):ti,ab
#21.	impact next (cone or cones):ti,ab
#22.	(plate* next (analyzer or analyser)):ti,ab
#23.	((viscoelastic or visco-elastic) near/4 (test* or assess* or check* or measure* or analys* or analyz* or detect* or exam*)):ti,ab
#24.	(multiplate or verifynow or sonoclot or hemochron or hemotec or coagucheck or coaguchek or coagusense or hemachron or protime or inratio or actalyke or gem or hms or rapidpoint):ti,ab
#25.	"platelet works":ti,ab
#26.	"coagu-sense":ti,ab
#27.	"pfa-100":ti,ab
#28.	"act ii":ti,ab
#29.	(aggrogomet* near/4 (test* or assess* or check* or measure* or analys* or analyz* or detect* or exam*)):ti,ab
#30.	{or #19-#29}
#31.	#18 or #30

#### A.4.21 Frequency of blood testing

26.Does greater frequency of monitoring blood tests (including coagulation point of care versus laboratory tests) result in improved outcomes for people with suspected haemorrhage following a major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Blood monitoring tests	n/a	The following filters were used in Medline and Embase only: OBS, RCT, SR	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	exp blood coagulation tests/
2.	blood coagulation/
3.	bleeding time/
4.	((coagul* or anticoagul* or act) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab.
5.	((international normali?ed ratio or inr) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab.
6.	((partial thromboplastin time or ptt or aptt or pt or aptr) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or

	verif* or assay or monitor* or detect*).ti,ab.
7.	((prothrombin or clot* or thrombin or bleed*) adj2 time* adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
8.	((thromboelastography or teg) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
9.	platelet count/
10.	((platelet count or thrombocyte count) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
11.	hemoglobins/
12.	((hemoglobin* or haemoglobin*) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
13.	hematocrit/
14.	(volume* adj2 (red cell or erythrocyte) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
15.	((hematocrit* or haematocrit*) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
16.	lactic acid/
17.	((lactate or lactic) adj3 (analys* or analyze* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay).ti,ab.
18.	acid-base equilibrium/
19.	acid-base imbalance/
20.	blood gas analysis/
21.	(base adj (imbalance or balance or equilibrium or excess or deficit) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
22.	(blood adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
23.	hematologic tests/
24.	((haematolog* or hematolog*) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
25.	hemostasis/
26.	((hemostasis or haemostasis) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*).ti,ab.
27.	or/1-26
28.	time factors/ or (timing or time* or frequency or frequent* or regular* or rate* or constant* or hour* or minute* or sequen* or stage*).ti,ab.
29.	27 and 28

#### Embase search terms

1.	exp *blood clotting test/
2.	*blood clotting/
3.	exp *blood clotting parameters/

4.	*thrombocyte count/
5.	*thromboelastography/
6.	((coagul* or anticoagul* or act) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
7.	((international normali?ed ratio or inr) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
8.	((partial thromboplastin time or ptt or aptt or pt or aprt) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
9.	((prothrombin or clot* or thrombin or bleed*) adj2 time* adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
10.	((thromboelastography or teg) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
11.	((platelet count or thrombocyte count) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
12.	*hemoglobin/
13.	((hemoglobin* or haemoglobin*) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
14.	*hematocrit/
15.	(volume* adj2 (red cell or erythrocyte) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
16.	((hematocrit* or haematocrit*) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
17.	*lactic acid/
18.	((lactate or lactic) adj3 (analys* or analyze* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay)).ti,ab.
19.	*acid base balance/
20.	*"disorders of acid base balance"/
21.	*blood gas analysis/
22.	(base adj (imbalance or balance or equilibrium or excess or deficit) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
23.	*blood examination/
24.	*hemostasis/
25.	(blood adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
26.	((haematolog* or hematolog*) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
27.	((hemostasis or haemostasis) adj3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)).ti,ab.
28.	or/1-27

29.	exp time/ or (timing or time* or frequency or frequent* or regular* or rate* or constant* or hour* or minute* or sequen* or stage*).ti,ab.
30.	28 and 29

### Cochrane search terms

#1.	MeSH descriptor: [blood coagulation tests] explode all trees
#2.	MeSH descriptor: [blood coagulation] this term only
#3.	MeSH descriptor: [bleeding time] this term only
#4.	((coagul* or anticoagul* or act) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#5.	((thromboelastography or teg) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#6.	((international normali?ed ratio or inr) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#7.	((partial thromboplastin time or ptt or aptt or pt or aptr) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#8.	((prothrombin or clot* or thrombin or bleed*) near/2 time* near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#9.	MeSH descriptor: [platelet count] this term only
#10.	((platelet count or thrombocyte count) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#11.	MeSH descriptor: [hemoglobins] this term only
#12.	((hemoglobin* or haemoglobin*) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#13.	MeSH descriptor: [hematocrit] this term only
#14.	(volume* near/2 (red cell or erythrocyte) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#15.	((hematocrit* or haematocrit*) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#16.	MeSH descriptor: [lactic acid] this term only
#17.	((lactate or lactic) near/3 (analys* or analyze* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay)):ti,ab
#18.	MeSH descriptor: [acid-base equilibrium] this term only
#19.	MeSH descriptor: [acid-base imbalance] this term only
#20.	MeSH descriptor: [blood gas analysis] this term only
#21.	((base) next (imbalance or balance equilibrium or excess or deficit) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#22.	(blood near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#23.	MeSH descriptor: [hematologic tests] this term only
#24.	((haematolog* or hematolog*) near/3 (analys* or analyz* or test* or investigat* or evaluat* or

	examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#25.	MeSH descriptor: [hemostasis] this term only
#26.	((hemostasis or haemostasis) near/3 (analys* or analyz* or test* or investigat* or evaluat* or examin* or check* or assess* or measur* or diagnos* or identif* or verif* or assay or monitor* or detect*)):ti,ab
#27.	{or #1-#26}
#28.	(timing or time* or frequency or frequent* or regular* or rate* or constant* or hour* or minute* or sequen* or stage*):ti,ab
#29.	MeSH descriptor: [time factors] explode all trees
#30.	{or #28-#29}
#31.	#27 and #30

#### A.4.22 Lactate levels

27.Does monitoring of lactate levels to guide management of hypovolaemic shock improve outcomes?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1) AND Haemorrhage (A.2.2)	Monitoring lactate levels	n/a	n/a	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	lactic acid/
2.	(lactic* or lactate*).ti,ab.
3.	or/1-2

#### Embase search terms

1.	lactic acid/
2.	(lactic* or lactate*).ti,ab.
3.	or/1-2

#### Cochrane search terms

#1.	MeSH descriptor: [lactic Acid] this term only
#2.	(lactic* or lactate*):ti,ab
#3.	{or #1-#2}

#### A.4.23 Warming

28.Is warming clinically and cost effective in people who have experienced major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Warming	n/a	The following filters were used in Medline and Embase only: RCT, SR	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	rewarming/
2.	(rewarm* or re-warm* or warm*).ti,ab.
3.	1 or 2

#### Embase search terms

1.	(rewarm* or re-warm* or warm*).ti,ab.
2.	*warming/
3.	1 or 2

#### Cochrane search terms

#1.	MeSH descriptor: [rewarming] this term only
#2.	(rewarm* or warm* or re next warm or re-warm):ti,ab
#3.	{or #1-#2}

### A.4.24 Pain assessment

29.What is the most appropriate pain assessment tool (pre-hospital and hospital) in patients with major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Pain assessment tools	n/a	The following filters were used in Medline and Embase only: OBS, RCT, SR	See Table 1 Date of last search: 26/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	pain measurement/
2.	((((illustrative or faces or numeric or visual or pictorial or verbal or nonverbal or multidimensional or behaviour* or behavior* or subjective or numeric* or visual) adj4 (scale* or score* or scoring or rating or rate* or tool* or instrument* or question*)) and pain).ti,ab.
3.	(pain adj4 (assess* or evaluat* or measur* or scoring or score* or scale* or rating* or tool* or instrument* or testing or test or tests or question* or checklist* or inventor*).ti,ab.

4.	(pain adj4 (self report* or patient* report*)).ti,ab.
5.	((wong-baker or "wong and baker") and pain).ti,ab.
6.	numeric pain intensity.ti,ab.
7.	((color analog scale* or color analogue scale* or colour analogue scale* or colour analog scale*) and pain).ti,ab.
8.	((alder hey triage or ahttps) and pain).ti,ab.
9.	brief pain inventory.ti,ab.
10.	(functional activity score* and pain).ti,ab.
11.	or/1-10

#### Embase search terms

1.	pain assessment/
2.	(pain adj4 (assess* or evaluat* or measur* or scoring or score* or scale* or rating* or tool* or instrument* or testing or test or tests or question* or checklist* or inventor*)).ti,ab.
3.	((illustrative or faces or numeric or visual or pictorial or verbal or nonverbal or multidimensional or behaviour* or behavior* or subjective or numeric* or visual) adj4 (scale* or score* or scoring or rating or rate* or tool* or instrument* or question*)) and pain).ti,ab.
4.	(pain adj4 (self report* or patient* report*)).ti,ab.
5.	((wong-baker or "wong and baker") and pain).ti,ab.
6.	numeric pain intensity.ti,ab.
7.	((color analog scale* or color analogue scale* or colour analogue scale* or colour analog scale*) and pain).ti,ab.
8.	((alder hey triage or ahttps) and pain).ti,ab.
9.	brief pain inventory.ti,ab.
10.	(functional activity score* and pain).ti,ab.
11.	or/1-10

#### Cochrane search terms

#1.	MeSH descriptor: [pain measurement] explode all trees
#2.	(pain near/4 (assess* or evaluat* or measure* or scoring or score* or scale* or rating* or tool* or instrument* or testing or test or tests or question* or checklist* or inventor*)):ti,ab
#3.	((illustrative or faces or numeric or visual or pictorial or verbal or nonverbal or multidimensional or behaviour* or behavior* or subjective or numeric* or visual) near/4 (scale* or score* or scoring or rating or rate* or tool* or instrument* or question*)) and pain):ti,ab
#4.	(pain near/4 (self next report*)):ti,ab
#5.	(pain near/4 (patient* next report*)):ti,ab
#6.	"wong-baker" and pain:ti,ab
#7.	"wong and baker" and pain:ti,ab
#8.	"numeric pain intensity":ti,ab
#9.	((functional next activity next score*) and pain):ti,ab
#10.	"alder hey triage" and pain:ti,ab
#11.	ahttps and pain:ti,ab
#12.	((color next analog next scale* or color next analogue next scale* or colour next analogue next scale* or colour next analog next scale*) and pain):ti,ab
#13.	{or #1-#12}

#### A.4.25 Pain management

30. What are the most clinically and cost effective first line pharmacological pain management strategies (pre-hospital and hospital) in patients with major trauma?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Pain management	n/a	The following filters were used in Medline and Embase only: RCT, SR	See Table 1 Date of last search: 24/03/2015 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	fentanyl/
2.	(fentanyl or durosic or sublimaze or instanyl or pecfent or actiq or abstral or effentora or fentora or matrifen or haldid or onsolis or lazanda).ti,ab.
3.	heroin/
4.	(diamorphine or heroin or diamorf or diacetylmorphine or diagesil).ti,ab.
5.	alfentanil/
6.	(alfentanil or rapifen or alfenta).ti,ab.
7.	ketamine/
8.	(ketamine or ketalar or calipsol or ketanest or ketaset or calypso or kalipsol).ti,ab.
9.	nitrous oxide/
10.	(nitrous oxide or nitronox or entonox or equanox or "gas and air" or laughing gas).ti,ab.
11.	acetaminophen/
12.	(paracetamol or panadol or perfalgan or acetaminophen or tylenol or acamol).ti,ab.
13.	or/1-12

#### Embase search terms

1.	fentanyl/
2.	(fentanyl or durosic or sublimaze or instanyl or pecfent or actiq or abstral or effentora or fentora or matrifen or haldid or onsolis or lazanda).ti,ab.
3.	diamorphine/
4.	(diamorphine or heroin or diamorf or diacetylmorphine or diagesil).ti,ab.
5.	alfentanil/
6.	(alfentanil or rapifen or alfenta).ti,ab.
7.	ketamine/
8.	(ketamine or ketalar or calipsol or ketanest or ketaset or calypso or kalipsol).ti,ab.
9.	nitrous oxide/
10.	(nitrous oxide or nitronox or entonox or equanox or "gas and air" or laughing gas).ti,ab.
11.	paracetamol/
12.	(paracetamol or panadol or perfalgan or acetaminophen or tylenol or acamol).ti,ab.
13.	or/1-12

### Cochrane search terms

#1.	MeSH descriptor: [morphine] this term only
#2.	(morphine or oramorph or sevredol or minijet or cyclimorph or filnarine or morphgesic or continus or zomorph or mxl or morphia or duramorph):ti,ab
#3.	MeSH descriptor: [fentanyl] this term only
#4.	(fentanyl or durogesic or sublimaze or instanyl or pecfent or actiq or abstral or effentora or fentora or matrifen or haldid or onsolis or lazanda):ti,ab
#5.	MeSH descriptor: [heroin] this term only
#6.	(diamorphine or heroin or diamorf or diacetylmorphine or diagesil):ti,ab
#7.	MeSH descriptor: [alfentanil] this term only
#8.	(alfentanil or rapifen or alfenta):ti,ab
#9.	MeSH descriptor: [ketamine] this term only
#10.	(ketamine or ketalar or calipsol or ketanest or ketaset or calypso or kalipsol):ti,ab
#11.	MeSH descriptor: [nitrous oxide] this term only
#12.	(nitrous oxide or nitronox or entonox or equanox):ti,ab
#13.	MeSH descriptor: [acetaminophen] this term only
#14.	(paracetamol or panadol or perfalgan or acetaminophen or tylenol or acamol):ti,ab
#15.	{or #1-#14}

#### A.4.26 Documentation

31. What aspects of the injury and patient's clinical course must be documented within the patient record? (pre-hospital and in hospital – transfer of information).

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Patient documentation	n/a	The following filters were used in Medline* and Embase only: OBS, QUAL, RCT, SR  *Medline In Process database was also searched without any filters	Medline and Embase 2004 – 01/04/2015 Cochrane Reviews 2004 to 2015 Issue 3 of 12 CENTRAL 2004 to 2015 Issue 2 of 12 DARE, HTA and NHSEED 2004 to 2015 Issue 1 of 4 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	((standard* or universal* or uniform* or harmoni?ed or structured) adj4 (form* or record* or report* or document* or checklist* or handover* or handoff* or proforma* or pro forma* or data*)).ti,ab.
2.	(transfer* adj2 information*).ti,ab.
3.	patient handoff/

4.	documentation/
5.	documentation/st
6.	*"forms and records control"/
7.	"forms and records control"/st
8.	exp *medical records/
9.	exp medical records/st
10.	*medical record linkage/
11.	medical record linkage/st
12.	exp *medical records systems, computerized/
13.	exp medical records systems, computerized/st
14.	*nursing records/
15.	nursing records/st
16.	*databases factual/
17.	databases factual/st
18.	*health information systems/
19.	health information systems/st
20.	*hospital information systems/
21.	hospital information systems/st
22.	(minimum adj2 (data set* or dataset)).ti,ab.
23.	clinical audit/ or medical audit/
24.	((clinical or medical or data) adj2 audit).ti,ab.
25.	or/1-24

#### Embase search terms

1.	((standard* or universal* or uniform* or harmoni?ed or structured) adj4 (form* or record* or report* or document* or checklist* or handover* or handoff* or proforma* or pro forma* or data*)).ti,ab.
2.	exp *clinical handover/
3.	(transfer* adj2 information*).ti,ab.
4.	exp *documentation/
5.	*factual database/
6.	*medical information system/
7.	*hospital information system/
8.	(minimum adj2 (data set* or dataset)).ti,ab.
9.	*medical audit/
10.	((clinical or medical or data) adj2 audit).ti,ab.
11.	or/1-10

#### Cochrane search terms

#1.	((standard* or universal* or uniform* or harmoni?ed or structured) near/4 (form* or record* or report* or document* or checklist* or handover* or handoff* or proforma* or pro forma* or data*)):ti,ab
#2.	MeSH descriptor: [patient handoff] this term only
#3.	transfer* near/2 information*:ti,ab
#4.	MeSH descriptor: [documentation] this term only
#5.	MeSH descriptor: [documentation] explode all trees and with qualifier(s): [standards - st]
#6.	MeSH descriptor: [forms and records control] this term only

#7.	MeSH descriptor: [forms and records control] explode all trees and with qualifier(s): [standards - st]
#8.	MeSH descriptor: [medical records] this term only
#9.	MeSH descriptor: [medical records] explode all trees and with qualifier(s): [standards - st]
#10.	MeSH descriptor: [medical record linkage] this term only
#11.	MeSH descriptor: [medical record linkage] explode all trees and with qualifier(s): [standards - st]
#12.	MeSH descriptor: [medical records systems, computerized] this term only
#13.	MeSH descriptor: [medical records systems, computerized] explode all trees and with qualifier(s): [standards - st]
#14.	MeSH descriptor: [nursing records] this term only
#15.	MeSH descriptor: [nursing records] explode all trees and with qualifier(s): [standards - st]
#16.	MeSH descriptor: [databases, factual] this term only
#17.	MeSH descriptor: [databases, factual] explode all trees and with qualifier(s): [standards - st]
#18.	MeSH descriptor: [health information systems] this term only
#19.	MeSH descriptor: [health information systems] explode all trees and with qualifier(s): [standards - st]
#20.	MeSH descriptor: [hospital information systems] this term only
#21.	MeSH descriptor: [hospital information systems] explode all trees and with qualifier(s): [standards - st]
#22.	((standard* or universal* or uniform* or harmoni?ed or structured) near/4 (form* or record* or report* or document* or checklist* or handover* or handoff* or proforma* or pro forma* or data*)):ti,ab
#23.	MeSH descriptor: [patient handoff] this term only
#24.	transfer* near/2 information*:ti,ab
#25.	(minimum near/2 (data set* or dataset)):ti,ab
#26.	MeSH descriptor: [clinical audit] explode all trees
#27.	MeSH descriptor: [medical audit] explode all trees
#28.	((clinical or medical or data) near/2 audit):ti,ab
#29.	{or #1-#28}

#### A.4.27 Information and support

32.What information and support do people with major trauma and their families/carers want in hospital/on discharge from ED?

Search constructed by combining the columns in the following table using the AND Boolean operator. Exclusion filter applied using NOT Boolean operator.

Population	Intervention or exposure	Comparison	Study design filter	Date parameters and other limits
Major trauma (A.2.1)	Information and support	n/a	The following filters were used in Medline, Embase and CINAHL only: QUAL	See Table 1 Date of last search: 01/04/2015 English only Exclusion filter applied in Medline, Embase and CINAHL only

#### Medline search terms

1.	patients/ or inpatients/ or outpatients/
2.	caregivers/ or exp family/ or exp parents/ or exp legal-guardians/
3.	(patient* or carer* or famil*).ti,ab.
4.	or/1-3
5.	popular-works-publication-type/ or exp information-services/ or publications/ or books/ or pamphlets/ or counseling/ or directive-counseling/
6.	4 and 5
7.	(patient* adj3 (education or educate or educating or literature or leaflet* or booklet* or pamphlet* or information)).ti,ab.
8.	patient education as topic/
9.	consumer health information/
10.	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat* or barrier*)).ti,ab.
11.	(discharge* adj3 (information* or advice)).ti,ab.
12.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver* or next of kin) adj2 (information* or educat* or learn* or train* or program* or advi?e* or instruct* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*)).ti,ab.
13.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver* or next of kin) adj2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*)).ti,ab.
14.	((information* or educat* or learn* or train* or program* or advi?e* or instruction* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*) adj2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*)).ti,ab.
15.	((information* or educat*) adj2 (model* or program* or need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
16.	exp consumer-satisfaction/ or personal-satisfaction/ or exp patient-acceptance-of-health-care/
17.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform*)).ti,ab.
18.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (knowledge or awareness or misconception* or understanding or misunderstanding)).ti,ab.
19.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (experience or experiences or opinion* or concern* or belief* or feeling* or idea* or satisfaction or anxiet* or fear* or acceptance or denial or stigma* or label* or behaviour* or behavior*)).ti,ab.
20.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (need* or requirement* or support* or communication* or involvement)).ti,ab.
21.	or/6-20

**Embase search terms**

1.	patient/ or hospital patient/ or outpatient/
2.	caregiver/ or exp family/ or exp parent/
3.	(patient* or carer* or famil*).ti,ab.
4.	or/1-3
5.	information service/ or information center/ or publication/ or book/ or counseling/ or directive counseling/
6.	4 and 5
7.	patient attitude/ or patient preference/ or patient satisfaction/ or consumer attitude/

8.	patient information/ or consumer health information/
9.	patient education/
10.	(patient* adj3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet*)).ti,ab.
11.	(information* adj3 (need* or requirement* or support* or seek* or access* or disseminat* or barrier*)).ti,ab.
12.	(discharge* adj3 (information* or advice)).ti,ab.
13.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform*)).ti,ab.
14.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (knowledge or awareness or misconception* or understanding or misunderstanding)).ti,ab.
15.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (experience or experiences or opinion* or concern* or belief* or feeling* or idea* or satisfaction or anxiet* or fear* or acceptance or denial or stigma* or label* or behaviour* or behavior*)).ti,ab.
16.	((patient* or user* or carer* or famil* or parent* or father* or mother*) adj3 (need* or requirement* or support* or communication* or involvement)).ti,ab.
17.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver* or next of kin) adj2 (information* or educat* or learn* or train* or program* or advi?e* or instruct* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*)).ti,ab.
18.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver* or next of kin) adj2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*)).ti,ab.
19.	((information* or educat* or learn* or train* or program* or advi?e* or instruction* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*) adj2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*)).ti,ab.
20.	((information* or educat*) adj2 (model* or program* or need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
21.	or/6-20

### Cochrane search terms

#1.	MeSH descriptor: [popular works] this term only
#2.	MeSH descriptor: [information services] explode all trees
#3.	MeSH descriptor: [publications] this term only
#4.	MeSH descriptor: [books] this term only
#5.	MeSH descriptor: [pamphlets] this term only
#6.	MeSH descriptor: [counseling] this term only
#7.	MeSH descriptor: [directive counseling] this term only
#8.	{or #1-#7}
#9.	(patient* near/3 (education or educate or educating or literature or leaflet* or booklet* or pamphlet* or information)):ti,ab
#10.	#8 and #9
#11.	MeSH descriptor: [patient education as topic] this term only
#12.	MeSH descriptor: [consumer health information] this term only
#13.	(information* near/3 (patient* or need* or requirement* or support* or seek* or access* or disseminat* or barrier*))):ti,ab
#14.	(discharge* near/3 (information* or advice)):ti,ab

#15.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver*) near/2 (information* or educat* or learn* or train* or program* or advi?e* or instruct* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*)):ti,ab
#16.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver*) near/2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*)):ti,ab
#17.	"next or kin" near/2 (information* or educat* or learn* or train* or program* or advi?e* or instruct* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*):ti,ab
#18.	"next of kin" near/2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*):ti,ab
#19.	((information* or educat* or learn* or train* or program* or advi?e* or instruction* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*) near/2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*)):ti,ab
#20.	((information* or educat*) near/2 (model* or program* or need* or requirement* or support* or seek* or access* or disseminat*)):ti,ab
#21.	MeSH descriptor: [consumer satisfaction] explode all trees
#22.	MeSH descriptor: [personal satisfaction] this term only
#23.	MeSH descriptor: [patient acceptance of health care] explode all trees
#24.	((patient* or user* or carer* or famil* or parent* or father* or mother*) near/3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform*)):ti,ab
#25.	((patient* or user* or carer* or famil* or parent* or father* or mother*) near/3 (knowledge or awareness or misconception* or understanding or misunderstanding)):ti,ab
#26.	((patient* or user* or carer* or famil* or parent* or father* or mother*) near/3 (experience or experiences or opinion* or concern* or belief* or feeling* or idea* or satisfaction or anxiet* or fear* or acceptance or denial or stigma* or label* or behaviour* or behavior*)):ti,ab
#27.	((patient* or user* or carer* or famil* or parent* or father* or mother*) near/3 (need* or requirement* or support* or communication* or involvement)):ti,ab
#28.	{or #10-#27}

### Cinahl search terms

S1.	(MM "patient education") or (MM "patient discharge education")
S2.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver* or next of kin*) n2 (information* or educat* or learn* or train* or program* or advi?e* or instruct* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*))
S3.	((client* or patient* or user* or carer* or consumer* or customer* or famil* or parent* or father* or mother* or caregiver* or next of kin*) n2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*))
S4.	((information* or educat* or learn* or train* or program* or advi?e* or instruction* or teach* or knowledge or understanding or misunderstanding or communicat* or involvement or support*) n2 (pamphlet* or leaflet* or booklet* or manual* or brochure* or publication* or handout* or website* or web site* or web page* or webpage* or video* or dvd*))
S5.	((information* or educat*) n2 (model* or program* or need* or requirement* or support* or seek* or access* or disseminat*))
S6.	S1 or S2 or S3 or S4 or S5

S7.	MH patients or MH inpatients or MH outpatients or MH caregivers or MH family+ or MH parents+ or MH guardianship, legal
S8.	MH information services+ or MH books+ or MH pamphlets or MH counseling
S9.	S7 and S8
S10.	((patient* or user* or carer* or famil* or parent* or father* or mother*) n3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform or knowledge or awareness or misconception* or understanding or misunderstanding or experience or experiences or opinion* or concern* or belief* or feeling* or idea* or satisfaction or anxiet* or fear* or acceptance or denial or stigma* or label* or behaviour* or behavior* or need* or requirement* or support* or communication* or involvement))
S11.	MH consumer satisfaction+ or MH consumer attitudes or MH personal satisfaction
S12.	(MH "patient attitudes") or (MH "family attitudes+")
S13.	(information* n3 (need* or requirement* or support* or seek* or access* or disseminat* or barrier*))
S14.	(discharge* n3 (information* or advice))
S15.	S10 or S11 or S12 or S13 or S14
S16.	S6 or S9 or S15

## A.5 Health economics searches

### A.5.1 Health economic (HE) reviews

Economic searches were conducted in Medline, Embase, HEED and CRD for NHS EED and HTA.

Population	Intervention or exposure	Comparison	Study design filters	Date parameters and other limits
Major trauma (A.2.1)	n/a	n/a	The following filters were used in Medline and Embase only: HE	Medline and Embase 2012 – 02/04/2015 CRD EED and HTA Inception – 02/04/2015 HEED Inception – 05/11/2014 English only Exclusion filter applied in Medline and Embase

#### Medline and Embase search terms

See A.2.1

#### CRD search terms

#1.	MeSH descriptor multiple trauma
#2.	MeSH descriptor wounds, gunshot
#3.	MeSH descriptor wounds, stab
#4.	MeSH descriptor accidents, traffic
#5.	MeSH descriptor accidental falls
#6.	MeSH descriptor blast injuries
#7.	MeSH descriptor accidents, aviation

#8.	((trauma* or polytrauma*))
#9.	((serious* or severe* or major or life threaten*) near3 (accident* or injur* or fall*))
#10.	((mvas or mva or rtas or rta))
#11.	((stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger))
#12.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike*) near3 (accident* or crash* or collision* or smash*))
#13.	(#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12)

#### HEED search terms

1.	TI=serious* or severe* or major or life threatening or multiple
2.	AB=serious* or severe* or major or life threatening or multiple
3.	CS=1 or 2
4.	TI=accident* or injur* or fall or blood loss or bleeding or hemorrhag* or haemorrhag* or hematoma* or haematoma*
5.	AB=accident* or injur* or fall or blood loss or bleeding or hemorrhag* or haemorrhag* or hematoma* or haematoma*
6.	CS=4 or 5
7.	CS=3 and 6
8.	TI=trauma* or polytrauma*
9.	AB=trauma* or polytrauma*
10.	TI=stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger
11.	AB=stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger
12.	TI=motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike*
13.	AB=motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike*
14.	CS=12 or 13
15.	TI=accident* or crash* or collision* or smash*
16.	AB=accident* or crash* or collision* or smash*
17.	CS=15 or 16
18.	CS=14 and 17
19.	CS=7 or 8 or 9 or 10 or 11
20.	CS=18 or 19

### A.5.2 Quality of life (QoL) reviews

Economic searches were conducted in Medline and Embase

Population	Intervention or exposure	Comparison	Study design filters	Date parameters and other limits
Major trauma (terms included below)	n/a	n/a	The following filters were used in Medline and Embase only: QOL	Medline 1946 – 04/11/2013 Embase 1974 – 04/11/2013 English only Exclusion filter applied in Medline and

Population	Intervention or exposure	Comparison	Study design filters	Date parameters and other limits
				Embase

#### Medline search terms

1.	trauma*.ti,ab.
2.	multiple trauma/
3.	wounds, gunshot/ or wounds, stab/ or accidents, traffic/ or accidental falls/ or blast injuries/ or accidents, aviation/
4.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike* or head on or pile up) adj2 (accident* or crash* or collision* or smash*)).ti,ab.
5.	(mvas or mva or rtas or rta).ti,ab.
6.	(stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger).ti,ab.
7.	or/1-6

#### Embase search terms

1.	trauma*.ti,ab.
2.	multiple trauma/
3.	gunshot injury/ or stab wound/ or traffic accident/ or falling/ or blast injury/ or aircraft accident/
4.	((motor* or motorbike* or vehicle* or road or traffic or car or cars or cycling or bicycle* or automobile* or bike* or head on or pile up) adj2 (accident* or crash* or collision* or smash*)).ti,ab.
5.	(mvas or mva or rtas or rta).ti,ab.
6.	(stabbed or stabbing or stab or gunshot* or gun or gunfire or firearm* or bullet* or knife* or knives or dagger).ti,ab.
7.	or/1-6

### A.5.3 Pelvic binders

Economic searches were conducted in Medline, Embase, HEED and CRD for NHS EED and HTA.

Population	Intervention or exposure	Comparison	Study design filters	Date parameters and other limits
Pelvic fractures (terms included below)	Pelvic binders	n/a	The following filters were used in Medline and Embase only: HE	Medline and Embase 2012 – 02/04/2015 CRD EED and HTA Inception – 02/04/2015 HEED 1981 – 15/11/2013 English only Exclusion filter applied in Medline and Embase

#### Medline search terms

1.	exp pelvic bones/
2.	fractures, bone/

3.	1 and 2
4.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) adj3 (fracture* or break or breaks or broken or crack* or frx)).ti,ab.
5.	3 or 4
6.	(binding* or binder* or pccd or inflatable garment* or niecs or sheet* or c clamp*).ti,ab.
7.	((circumferen* or external or compression) adj5 (device* or belt* or sling*)).ti,ab.
8.	(brim or pelvigrip or pelvicbinder or t pod or tpod).ti,ab.
9.	(mast or pasg or pneumatic anti-shock garment*).ti,ab.
10.	(sam adj3 sling*).ti,ab.
11.	or/6-10
12.	5 and 11

### Embase search terms

1.	exp pelvis fracture/
2.	((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney or iliac wing or acetabul* or cotyloid) adj3 (fracture* or break or breaks or broken or crack* or frx)).ti,ab.
3.	or/1-2
4.	(binding* or binder* or pccd or inflatable garment* or niecs or sheet* or c clamp*).ti,ab.
5.	((circumferen* or external or compression) adj5 (device* or belt* or sling*)).ti,ab.
6.	(brim or pelvigrip or pelvicbinder or t pod or tpod).ti,ab.
7.	(mast or pasg or pneumatic anti-shock garment*).ti,ab.
8.	(sam adj3 sling*).ti,ab.
9.	or/4-8
10.	3 and 9

### CRD search terms

#1.	MeSH descriptor pelvic bones explode all trees
#2.	((((pelvi* or ilium or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney)))
#3.	(#1 or #2)
#4.	(((((binding* or binder* or pccd or inflatable or niecs or sheet* or clamp*)))
#5.	(((((circumferen* or external or compression) near5 (device* or belt* or sling*))))
#6.	(((((brim or pelvigrip or pelvicbinder or t pod or tpod)))
#7.	(( (sam near3 sling*)))
#8.	(#4 or #5 or #6 or #7)
#9.	(#3 and #8)

### HEED search terms

1.	TI=(pelvi* or ilium or ring or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney)
2.	AB=(pelvi* or ilium or ring or ischium or pubis or pubic or hip bone or sacrum or coccyx or innominate or coxal or duverney)
3.	CS=1 or 2
4.	TI=(binding* or binder* or pccd or niecs or sheet* or clamp*)
5.	AB=(binding* or binder* or pccd or niecs or sheet* or clamp*)
6.	TI=(circumferen* or external or compression)

7.	AB=(circumferen* or external or compression)
8.	TI=(brim or pelvigrip or pelvicbinder or t pod or t pod).ti,ab.
9.	AB=(brim or pelvigrip or pelvicbinder or t pod or t pod).ti,ab.
10.	CS=4 or 5 or 6 or 7 or 8 or 9
11.	CS=3 and 10

## A.6 References

- 1 National Institute for Health and Clinical Excellence. The guidelines manual. London: National Institute for Health and Clinical Excellence; 2012. Available from: <http://publications.nice.org.uk/the-guidelines-manual-pmg6/>