## Appendix 1.

## SEARCH STRATEGY

## PICO 13

**B1.   
Population/problem**Patients requiring anaesthesia or analgesia in the distribution of interscalene brachial plexus block **Intervention**Ultrasound-guided interscalene brachial plexus block **Comparators**Any other technique of interscalene brachial plexus block **Outcomes**Adequacy of anaesthesia for intended surgeryAdequacy of postoperative analgesiaTime to perform blockTime to achieve effective blockDose of local anaesthetic requiredIncidence of complications: Nerve damage Systemic local anaesthetic toxicity Phrenic nerve palsy Inadvertent spinal/epidural PneumothoraxPatient discomfort during procedurePatient satisfaction with procedure **Situation**Any elective situation  
  
Search date: 6. March 2017

#### PubMed

Interscalene[Text Word]

AND

"Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))  
NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])  
Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((Interscalene[Text Word]) AND ("Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [186](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=6) |

#### Embase

1 Interscalene.af. (1705)  
2 exp brachial plexus anesthesia/ or ((exp brachial plexus/ or brachial plexus\*.mp.) and (exp nerve block/ or block\*.mp. or an?esth\*.mp.)) [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (7807)  
3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)  
4 1 and 2 and 3 (440)  
5 exp animal/ not exp human/ (4516428)  
6 4 not 5 (440)  
7 limit 6 to yr="2005 -Current" (429)

#### Central

#1 Interscalene 366  
#2 MeSH descriptor: [Brachial Plexus Block] explode all trees 43  
#3 MeSH descriptor: [Brachial Plexus] explode all trees 924  
#4 Brachial Plexus\* 1210  
#5 #3 or #4 1640  
#6 MeSH descriptor: [Nerve Block] explode all trees 3218  
#7 block\* or an\*esth\* 122871  
#8 #6 or #7 122871  
#9 #5 and #8 1207  
#10 #2 or #9 1207  
#11 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#12 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#13 #11 or #12 27594  
#14 #1 and #10 and #13 96  
#15 #14 Publication Year from 2005 to 2017, in Trials 88

#### Cinahl

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | Interscalene |  |  | 196 |
| S2 | (MH "Brachial Plexus Block") OR ((MH "Brachial Plexus+") OR Brachial Plexus\*) AND ((MH "Nerve Block+") OR block\* OR an\*esth\*)) |  |  | 1,706 |
| S3 | S1 AND S2 |  |  | 126 |
| S4 | (MH "Ultrasonography+") |  |  | 35,830 |
| S5 | TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 47,050 |
| S6 | S4 OR S5 |  |  | 57,337 |
| S7 | S3 AND S6 |  |  | 50 |
| S8 | (MH "Animals+") not (MH "Human") |  |  | 31,176 |
| S9 | S7 not S8 |  |  | 50 |
| S10 | S7 not S8 Published: 20050101-20171231 |  |  | 48 |

**PICO 14**

**B2. Population/problem**

Patients requiring anaesthesia in the distribution of supraclavicular brachial plexus block

**Intervention**

Ultrasound-guided supraclavicular brachial plexus block

**Comparators**

Any other technique of supraclavicular brachial plexus block

**Outcomes**

Adequacy of anaesthesia for intended surgery

Adequacy of analgesia for tourniquet tolerance

Time to perform block

Time to achieve effective block

Dose of local anaesthetic required

Incidence of complications:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Haematoma

Phrenic nerve palsy

Pneumothorax

Patient discomfort during procedure

Patient satisfaction with procedure

**Situation**

Any elective situation

Search date: 6. march 2017

***PubMed***

supraclavicular[Text Word]

AND

"Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((supraclavicular[Text Word]) AND ("Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [168](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=6) |

***Embase***

1 supraclavicular.af. (7286)

2 exp brachial plexus anesthesia/ or ((exp brachial plexus/ or brachial plexus\*.mp.) and (exp nerve block/ or block\*.mp. or an?esth\*.mp.)) [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (7807)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (412)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (412)

7 limit 6 to yr="2005 -Current" (403)

***Central***

#1 supraclavicular 465  
#2 MeSH descriptor: [Brachial Plexus Block] explode all trees 43  
#3 MeSH descriptor: [Brachial Plexus] explode all trees 924  
#4 Brachial Plexus\* 1210  
#5 #3 or #4 1640  
#6 MeSH descriptor: [Nerve Block] explode all trees 3218  
#7 block\* or an\*esth\* 122871  
#8 #6 or #7 122871  
#9 #5 and #8 1207  
#10 #2 or #9 1207  
#11 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#12 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#13 #11 or #12 27594  
#14 #1 and #10 and #13 90  
#15 #14 Publication Year from 2005 to 2017, in Trials 82

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | supraclavicular |  |  | 313 |
| S2 | (MH "Brachial Plexus Block") OR ((MH "Brachial Plexus+") OR Brachial Plexus\*) AND ((MH "Nerve Block+") OR block\* OR an\*esth\*)) |  |  | 1,706 |
| S3 | S1 AND S2 |  |  | 90 |
| S4 | (MH "Ultrasonography+") |  |  | 35,830 |
| S5 | TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 47,050 |
| S6 | S4 OR S5 |  |  | 57,337 |
| S7 | S3 AND S6 |  |  | 55 |
| S8 | (MH "Animals+") not (MH "Human") |  |  | 31,176 |
| S9 | S7 not S8 |  |  | 55 |
| S10 | S7 not S8 Published: 20050101-20171231 |  |  | 54 |

**PICO 15**

**B3. Population/problem**

Patients requiring anaesthesia in the distribution of infraclavicular brachial plexus block

**Intervention**

Ultrasound-guided infraclavicular brachial plexus block

**Comparators**

Any other technique of infraclavicular brachial plexus block

**Outcomes**

Adequacy of anaesthesia for intended surgery

Adequacy of analgesia for tourniquet tolerance

Time to perform block

Time to achieve effective block

Dose of local anaesthetic required

Incidence of complications:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Haematoma

Phrenic nerve palsy

Pneumothorax

Patient discomfort during procedure

Patient satisfaction with procedure

**Situation**

Any elective situation

Search date: 7. March 2017

***PubMed***

infraclavicular\*[Text Word]

AND

"Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((infraclavicular\*[Text Word]) AND ("Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [135](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=6) |

***Embase***

1 infraclavicular\*.af. (1607)

2 exp brachial plexus anesthesia/ or ((exp brachial plexus/ or brachial plexus\*.mp.) and (exp nerve block/ or block\*.mp. or an?esth\*.mp.)) [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (7807)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (261)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (260)

7 limit 6 to yr="2005 -Current" (251)

***Central***

#1 infraclavicular\* 237  
#2 MeSH descriptor: [Brachial Plexus Block] explode all trees 43  
#3 MeSH descriptor: [Brachial Plexus] explode all trees 924  
#4 Brachial Plexus\* 1210  
#5 #3 or #4 1640  
#6 MeSH descriptor: [Nerve Block] explode all trees 3218  
#7 block\* or an\*esth\* 122871  
#8 #6 or #7 122871  
#9 #5 and #8 1207  
#10 #2 or #9 1207  
#11 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#12 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#13 #11 or #12 27594  
#14 #1 and #10 and #13 80  
#15 #14 Publication Year from 2005 to 2017, in Trials 73

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | infraclavicular\* |  |  | 133 |
| S2 | (MH "Brachial Plexus Block") OR ((MH "Brachial Plexus+") OR Brachial Plexus\*) AND ((MH "Nerve Block+") OR block\* OR an\*esth\*)) |  |  | 1,706 |
| S3 | S1 AND S2 |  |  | 68 |
| S4 | (MH "Ultrasonography+") |  |  | 35,830 |
| S5 | TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 47,050 |
| S6 | S4 OR S5 |  |  | 57,337 |
| S7 | S3 AND S6 |  |  | 42 |
| S8 | (MH "Animals+") not (MH "Human") |  |  | 31,176 |
| S9 | S7 not S8 |  |  | 42 |
| S10 | S7 not S8 Published: 20050101-20171231 |  |  | 38 |

**PICO 16**

**B4. Population/problem**

Patients requiring anaesthesia in the distribution of axillary brachial plexus block

**Intervention**

Ultrasound-guided axillary brachial plexus block

**Comparators**

Any other technique of axillary brachial plexus block

**Outcomes**

Adequacy of anaesthesia for intended surgery

Adequacy of analgesia for tourniquet tolerance

Time to perform block

Time to achieve effective block

Dose of local anaesthetic required

Incidence of complications:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Haematoma

Patient discomfort during procedure

Patient satisfaction with procedure

**Situation**

Any elective situation

Search date: 7. March 2017

***PubMed***

axillar\*[Text Word]

AND

"Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((axillar\*[Text Word]) AND ("Brachial Plexus Block"[Mesh Terms] OR (("Brachial Plexus"[Mesh Terms] OR Brachial Plexus\*[Text Word]) AND ("Nerve Block"[Mesh Terms] OR block\*[Text Word] OR anaesth\*[Text Word] OR anesth\*[Text Word])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [220](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=6) |

***Embase***

1 axillar\*.af. (46993)

2 exp brachial plexus anesthesia/ or ((exp brachial plexus/ or brachial plexus\*.mp.) and (exp nerve block/ or block\*.mp. or an?esth\*.mp.)) [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (7807)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (476)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (468)

7 limit 6 to yr="2005 -Current" (454)

***Central***

#1 axillar\* 2987  
#2 MeSH descriptor: [Brachial Plexus Block] explode all trees 43  
#3 MeSH descriptor: [Brachial Plexus] explode all trees 924  
#4 Brachial Plexus\* 1210  
#5 #3 or #4 1640  
#6 MeSH descriptor: [Nerve Block] explode all trees 3218  
#7 block\* or an\*esth\* 122871  
#8 #6 or #7 122871  
#9 #5 and #8 1207  
#10 #2 or #9 1207  
#11 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#12 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#13 #11 or #12 27594  
#14 #1 and #10 and #13 117  
#15 #14 Publication Year from 2005 to 2017, in Trials 106

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | axillar\* |  |  | 2,324 |
| S2 | (MH "Brachial Plexus Block") OR ((MH "Brachial Plexus+") OR Brachial Plexus\*) AND ((MH "Nerve Block+") OR block\* OR an\*esth\*)) |  |  | 1,706 |
| S3 | S1 AND S2 |  |  | 160 |
| S4 | (MH "Ultrasonography+") |  |  | 35,843 |
| S5 | TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 47,059 |
| S6 | S4 OR S5 |  |  | 57,350 |
| S7 | S3 AND S6 |  |  | 44 |
| S8 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S9 | S7 not S8 |  |  | 44 |
| S10 | S7 not S8 Published: 20050101-20171231 |  |  | 42 |

**PICO 18**

**B6. Patients requiring a sciatic block**

**Population/problem**

Patients requiring a sciatic nerve block

**Intervention**

Ultrasound-guided sciatic nerve block using any approach

**Comparators**

Any other technique of sciatic nerve block

**Outcomes**

Adequacy of sciatic nerve block

Time to perform block

Time to achieve effective block

Dose of local anaesthetic required

Incidence of complications:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Haematoma

Patient discomfort during procedure

Patient satisfaction with procedure

Search date: 7. March 2017

***PubMed***

Sciatic\*[Text Word] OR "Sciatic Nerve"[Mesh]

AND

("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((((Sciatic\*[Text Word] OR "Sciatic Nerve"[Mesh]))) AND (("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [352](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=6) |

***Embase***

1 sciatic nerve/ or sciatic\*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (36564)

2 exp regional anesthesia/ or block\*.ti,ab. or ((local\* or regional\*) adj5 an?esth\*).ti,ab. (893853)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (791)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (758)

7 limit 6 to yr="2005 -Current" (739)

***Central***

#1 sciatic\* 1357  
#2 MeSH descriptor: [Sciatic Nerve] explode all trees 544  
#3 MeSH descriptor: [Anesthesia, Local] explode all trees 1959  
#4 MeSH descriptor: [Nerve Block] explode all trees 3218  
#5 block\* or ((local\* or regional\*) near/5 an\*esth\*) 63961  
#6 #1 or #2 1655  
#7 #3 or #4 or #5 63961  
#8 #6 and #7 676  
#9 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#10 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#11 #9 or #10 27594  
#12 #8 and #11 213  
#13 #12 Publication Year from 2005 to 2017, in Trials 164

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | (MH "Sciatic Nerve+") or TX (sciatic\*) |  |  | 2,700 |
| S2 | (MM ”Anesthesia, Local“) OR (MM ”Nerve Block“) OR TX (block\* or ((local\* OR regional\*) N5 an\*esth\*)) |  |  | 54,558 |
| S3 | (MH "Ultrasonography+") or TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,350 |
| S4 | S1 AND S2 AND S3 |  |  | 116 |
| S5 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S6 | S4 not S5 |  |  | 115 |
| S7 | S4 not S5 Published: 20050101-20171231 |  |  | 108 |

**PICO 19**

**B7. Patients requiring analgesia of the trunk**

**Population/problem**

Patients requiring postoperative analgesia of the trunk

**Intervention**

Non-neuraxial regional techniques of the trunk dependent on ultrasound guidance, e.g., TAP block, PECS blocks

**Comparators**

Systemic analgesia, neuraxial or paravertebral regional anaesthesia

**Outcomes**

Quality of analgesia

Incidence of complications of regional technique:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Pneumothorax

Haematoma

Dural puncture

Postoperative nausea and vomiting

Incidence of urinary retention

Time to postoperative mobilisation

Time to discharge

Patient satisfaction with procedure

Search date: 9. March 2017

***PubMed***

Trunk\*[Title/Abstract] OR torso\*[Title/Abstract] OR abdom\*[Title/Abstract] OR pelvis\*[Title/Abstract] OR rectus[Title/Abstract] OR PECS[Title/Abstract] OR TAP[Title/Abstract] OR ilio\*[Title/Abstract] OR psoas[Title/Abstract] OR serratus anterior\*[Title/Abstract] OR *transverse abdominal*\*[Title/Abstract] OR "Torso"[Mesh] OR "Abdominal Muscles"[Mesh] OR "Rectus Abdominis"[Mesh] OR "Psoas Muscles"[Mesh]

AND

("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((((Trunk\*[Title/Abstract] OR torso\*[Title/Abstract] OR abdom\*[Title/Abstract] OR pelvis\*[Title/Abstract] OR rectus[Title/Abstract] OR PECS[Title/Abstract] OR TAP[Title/Abstract] OR ilio\*[Title/Abstract] OR psoas[Title/Abstract] OR serratus anterior\*[Title/Abstract] OR transverse abdominal\*[Title/Abstract] OR "Torso"[Mesh] OR "Abdominal Muscles"[Mesh] OR "Rectus Abdominis"[Mesh] OR "Psoas Muscles"[Mesh]))) AND (("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [1019](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=6) |

***Embase***

1 exp trunk/ or rectus abdominis muscle/ or psoas muscle/ or (trunk\* or torso\* or abdom\* or pelvis\* or rectus or PECS or TAP or ilio\* or psoas or serratus anterior\* or transverse abdominal\*).ti,ab. (553707)

2 exp regional anesthesia/ or block\*.ti,ab. or ((local\* or regional\*) adj5 an?esth\*).ti,ab. (893853)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (2409)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (2341)

7 limit 6 to yr="2005 -Current" (2149)

***Central***

#1 trunk\* or torso\* or abdom\* or pelvis\* or rectus or PECS or TAP or ilio\* or psoas or serratus anterior\* or transverse abdominal\* 35103  
#2 MeSH descriptor: [Torso] explode all trees 4771  
#3 MeSH descriptor: [Abdominal Muscles] explode all trees 795  
#4 MeSH descriptor: [Rectus Abdominis] explode all trees 62  
#5 MeSH descriptor: [Psoas Muscles] explode all trees 38  
#6 MeSH descriptor: [Anesthesia, Local] explode all trees 1959  
#7 MeSH descriptor: [Nerve Block] explode all trees 3218  
#8 block\* or ((local\* or regional\*) near/5 an\*esth\*) 63967  
#9 #1 or #2 or #3 or #4 or #5 36937  
#10 #6 or #7 or #8 63967  
#11 #9 and #10 5011  
#12 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#13 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25343  
#14 #12 or #13 27596  
#15 #11 and #14 990  
#16 #15 Publication Year from 2005 to 2017, in Trials 397  
  
  
***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | (MH "Torso") OR (MH "Abdomen+") OR (MH "Rectus Abdominis Muscles") OR (MH "Abdominal Muscles+") OR (MH "Psoas Muscles") OR (MH "Serratus Anterior Muscles") OR TX (trunk\* OR torso\* OR abdom\* OR pelvis\* OR rectus OR PECS OR TAP OR ilio\* OR psoas OR serratus anterior\* OR transverse abdominal\*) |  |  | 39,716 |
| S2 | (MM ”Anesthesia, Local“) OR (MM ”Nerve Block“) OR TX (block\* OR ((local\* OR regional\*) N5 an\*esth\*)) |  |  | 54,573 |
| S3 | (MH "Ultrasonography+") OR TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,365 |
| S4 | S1 AND S2 AND S3 |  |  | 182 |
| S5 | (MH "Animals+") not (MH "Human") |  |  | 31,189 |
| S6 | S4 not S5 |  |  | 179 |
| S7 | S4 not S5 Published: 20050101-20171231 |  |  | 141 |

**PICO 20**

**B8. Patients requiring a femoral block**

**Population/problem**

Patients requiring a femoral nerve block

**Intervention**

Ultrasound-guided femoral nerve block

**Comparators**

Any other technique of femoral nerve block

**Outcomes**

Adequacy of femoral nerve block

Time to perform block

Time to achieve effective block

Dose of local anaesthetic required

Incidence of complications:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Haematoma

Patient discomfort during procedure

Patient satisfaction with procedure

Search date: 7. March 2017

***PubMed***

(femoral\*[Text Word] AND nerve\*[Text Word]) OR "Femoral Nerve"[Mesh]  
AND

("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search ((((((femoral\*[Text Word] AND nerve\*[Text Word]) OR "Femoral Nerve"[Mesh]))) AND (("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [322](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=27) |

***Embase***

1 femoral nerve/ or (femoral\* adj5 nerve\*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (6156)

2 exp regional anesthesia/ or block\*.ti,ab. or ((local\* or regional\*) adj5 an?esth\*).ti,ab. (893853)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (700)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (686)

7 limit 6 to yr="2005 -Current" (672)

***Central***

#1 femoral\* near/5 Nerve\* 773  
#2 MeSH descriptor: [Femoral Nerve] explode all trees 323  
#3 MeSH descriptor: [Anesthesia, Local] explode all trees 1959  
#4 MeSH descriptor: [Nerve Block] explode all trees 3218  
#5 block\* or ((local\* or regional\*) near/5 an\*esth\*) 63961  
#6 #1 or #2 773  
#7 #3 or #4 or #5 63961  
#8 #6 and #7 700  
#9 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#10 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#11 #9 or #10 27594  
#12 #8 and #11 166  
#13 #12 Publication Year from 2005 to 2017, in Trials 142

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | (MH "Femoral Nerve") or TX (femoral\* N5 nerve\*) |  |  | 644 |
| S2 | (MM ”Anesthesia, Local“) OR (MM ”Nerve Block“) OR TX (block\* or ((local\* OR regional\*) N5 an\*esth\*)) |  |  | 54,558 |
| S3 | (MH "Ultrasonography+") or TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,350 |
| S4 | S1 AND S2 AND S3 |  |  | 82 |
| S5 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S6 | S4 not S5 |  |  | 81 |
| S7 | S4 not S5 Published: 20050101-20171231 |  |  | 78 |

**PICO 21**

**B9. Patients requiring a popliteal block**

**Population/problem**

**Patients requiring a popliteal block**

**Intervention**

Ultrasound-guided **popliteal** nerve block

**Comparators**

Any other technique of **popliteal** nerve block

**Outcomes**

Adequacy of **popliteal** nerve block

Time to perform block

Time to achieve effective block

Dose of local anaesthetic required

Incidence of complications:

Nerve damage

Vascular puncture

Systemic local anaesthetic toxicity

Haematoma

Patient discomfort during procedure

Patient satisfaction with procedure

Search date: 7. March 2017

***PubMed***

"Popliteal Vein"[Mesh] OR "Popliteal Artery"[Mesh] OR Popliteal\*[Text Word]  
AND

("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search ((((("Popliteal Vein"[Mesh] OR "Popliteal Artery"[Mesh] OR Popliteal\*[Text Word]))) AND (("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [154](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=27) |

***Embase***

1 exp popliteal vein/ or exp popliteal artery/ or popliteal.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (21442)

2 exp regional anesthesia/ or block\*.ti,ab. or ((local\* or regional\*) adj5 an?esth\*).ti,ab. (893853)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (415)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (414)

7 limit 6 to yr="2005 -Current" (393)

***Central***

#1 MeSH descriptor: [Popliteal Artery] explode all trees 335  
#2 MeSH descriptor: [Popliteal Vein] explode all trees 66  
#3 Popliteal\* 1105  
#4 #1 or #2 or #3 1105  
#5 MeSH descriptor: [Anesthesia, Local] explode all trees 1959  
#6 MeSH descriptor: [Nerve Block] explode all trees 3218  
#7 block\* or ((local\* or regional\*) near/5 an\*esth\*) 63961  
#8 #5 or #6 or #7 63961  
#9 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#10 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25341  
#11 #9 or #10 27594  
#12 #4 and #8 and #11 161  
#13 #12 Publication Year from 2005 to 2017, in Trials 90

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Cinahl***  S1 | (MH "Popliteal Vein") OR (MH "Popliteal Artery") or TX Popliteal\* |  |  | 838 |
| S2 | (MM ”Anesthesia, Local“) OR (MM ”Nerve Block“) OR TX (block\* or ((local\* OR regional\*) N5 an\*esth\*)) |  |  | 54,558 |
| S3 | (MH "Ultrasonography+") or TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,350 |
| S4 | S1 AND S2 AND S3 |  |  | 39 |
| S5 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S6 | S4 not S5 |  |  | 39 |
| S7 | S4 not S5 Published: 20050101-20171231 |  |  | 37 |

**PICO 23**

**C1. Paravertebral blocks**

**Population/problem**

Patients requiring paravertebral injection/catheter

**Intervention**

Ultrasound-guided paravertebral block

**Comparators**

Any other technique of paravertebral block

**Outcomes**

Adequacy of analgesia

Time to perform paravertebral

Incidence of complications:

Nerve damage

Vascular puncture

Inadvertent epidural

Systemic local anaesthetic toxicity

pneumothorax

Patient discomfort during procedure

Patient satisfaction with procedure

Search date: 8 march 2017

***PubMed***

paravertebral\*   
AND

("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((paravertebral\*) AND (("Anesthesia, Local"[Mesh]) OR "Nerve Block"[Mesh] OR block\*[Title/Abstract] OR ((regional\*[Title/Abstract] OR local\*[Title/Abstract]) AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [157](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=8) |

***Embase***

1 paravertebral\*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (6109)

2 exp regional anesthesia/ or block\*.ti,ab. or ((local\* or regional\*) adj5 an?esth\*).ti,ab. (893853)

3 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

4 1 and 2 and 3 (422)

5 exp animal/ not exp human/ (4516428)

6 4 not 5 (418)

7 limit 6 to yr="2005 -Current" (408)

***Central***

#1 paravertebral\* 530  
#2 MeSH descriptor: [Anesthesia, Local] explode all trees 1959  
#3 MeSH descriptor: [Nerve Block] explode all trees 3218  
#4 block\* or ((local\* or regional\*) near/5 an\*esth\*) 63966  
#5 #2 or #3 or #4 63966  
#6 #1 and #5 370  
#7 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#8 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25343  
#9 #7 or #8 27596  
#10 #6 and #9 78  
#11 #10 Publication Year from 2005 to 2017, in Trials 62

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | paravertebral\* |  |  | 314 |
| S2 | (MM ”Anesthesia, Local“) OR (MM ”Nerve Block“) OR TX (block\* or ((local\* OR regional\*) N5 an\*esth\*)) |  |  | 54,558 |
| S3 | (MH "Ultrasonography+") or TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,350 |
| S4 | S1 AND S2 AND S3 |  |  | 26 |
| S5 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S6 | s4 not s5 |  |  | 26 |
| S7 | s4 not s5 Published: 20050101-20171231 |  |  | 24 |

**PICO 24**

**C2. Epidural anaesthesia**

**Population/problem**

Patients requiring siting of an epidural catheter

**Intervention**

Ultrasound-guided epidural

**Comparators**

Any other technique of epidural catheter insertion

**Outcomes**

Adequacy of epidural analgesia

Time to perform epidural

Incidence of complications:

Nerve damage

Vascular puncture

Dural puncture

Systemic local anaesthetic toxicity

Epidural haematoma

Patient discomfort during procedure

Post-procedural back pain

Patient satisfaction with procedure

Search date: 8. march 2017

***PubMed***

"Analgesia, Epidural"[Mesh] OR "Injections, Epidural"[Mesh] OR "Anesthesia, Epidural"[Mesh] OR ((epidural\*[Title/Abstract] OR peridural\*[Title/Abstract] OR extradural\*[Title/Abstract] OR subarachnoid\*[Title/Abstract] OR intrathecal\*[Title/Abstract] OR neuraxial\*[Title/Abstract]) AND (catheter\*[Title/Abstract] OR cannula\*[Title/Abstract]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((("Analgesia, Epidural"[Mesh] OR "Injections, Epidural"[Mesh] OR "Anesthesia, Epidural"[Mesh] OR ((epidural\*[Title/Abstract] OR peridural\*[Title/Abstract] OR extradural\*[Title/Abstract] OR subarachnoid\*[Title/Abstract] OR intrathecal\*[Title/Abstract] OR neuraxial\*[Title/Abstract]) AND (catheter\*[Title/Abstract] OR cannula\*[Title/Abstract]))))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [452](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=7) |

***Embase***

1 exp epidural anesthesia/ or exp epidural analgesia/ or exp epidural drug administration/ or ((epidural\* or peridural\* or extradural\* or subarachnoid\* or intrathecal\* or neuraxial\*) and (catheter\* or cannula\*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading] (51059)

2 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

3 1 and 2 (1753)

4 exp animal/ not exp human/ (4516428)

5 3 not 4 (1735)

6 limit 5 to yr="2005 -Current" (1550)

***Central***

#1 MeSH descriptor: [Anesthesia, Epidural] explode all trees 1932  
#2 MeSH descriptor: [Analgesia, Epidural] explode all trees 1930  
#3 MeSH descriptor: [Injections, Epidural] explode all trees 492  
#4 (epidural\* or peridural\* or extradural\* or subarachnoid\* or intrathecal\* or neuraxial\*) and (catheter\* or ca\*nula\*) 2128  
#5 #1 or #2 or #3 or #4 5385  
#6 MeSH descriptor: [Ultrasonography] explode all trees 9528  
#7 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25343  
#8 #6 or #7 27596  
#9 #5 and #8 236  
#10 #9 Publication Year from 2005 to 2017, in Trials 119

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | (MH "Epidural Catheters") OR (MH "Infusions, Epidural") OR (MH "Analgesia, Epidural") OR (MH "Anesthesia, Epidural") OR TX (epidural\* or peridural\* or extradural\* or subarachnoid\* or intrathecal\* or neuraxial\*) |  |  | 11,320 |
| S2 | (MH "Ultrasonography+") or TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,350 |
| S3 | S1 AND S2 |  |  | 366 |
| S4 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S5 | S3 not S4 |  |  | 359 |
| S6 | S3 not S4 Published: 20050101-20171231 |  |  | 273 |

**PICO 25**

**Epidural anaesthesia**

**Population/problem**

Patients requiring siting of **Spinal anaesthesia**

**Intervention**

Ultrasound-guided epidural

**Comparators**

Any other technique of epidural catheter insertion

**Outcomes**

Adequacy of epidural analgesia

Time to perform epidural

Incidence of complications:

Nerve damage

Vascular puncture

Dural puncture

Systemic local anaesthetic toxicity

Epidural haematoma

Patient discomfort during procedure

Post-procedural back pain

Patient satisfaction with procedure  
  
Search date: 8 march 2017

***PubMed***

"Anesthesia, Spinal"[Mesh] OR "Infusions, Spinal"[Mesh] OR "Injections, Spinal"[Mesh] OR (spinal\*[Text Word] AND (anaesth\*[Text Word] OR anesth\*[Text Word] OR analg\*[Text Word] OR infusion\*[Text Word] OR injection\*[Text Word] OR catheter\*[Text Word] OR cannula\*[Text Word]))

AND

"ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract]))

NOT (“animals"[MeSH Terms] not “humans"[MeSH Terms])

Filters: Publication date from 2005/01/01 to 2017/12/31

|  |  |
| --- | --- |
| Search (((("Anesthesia, Spinal"[Mesh] OR "Infusions, Spinal"[Mesh] OR "Injections, Spinal"[Mesh] OR (spinal\*[Text Word] AND (anaesth\*[Text Word] OR anesth\*[Text Word] OR analg\*[Text Word] OR infusion\*[Text Word] OR injection\*[Text Word] OR catheter\*[Text Word] OR cannula\*[Text Word]))))) AND ("ultrasonography"[MeSH Terms] OR ultrasound\*[Title/Abstract] OR ultrasonograph\*[Title/Abstract] OR ultra sound\*[Title/Abstract] OR (echograph\*[Title/Abstract] AND (anaesth\*[Title/Abstract] OR anesth\*[Title/Abstract])))) NOT ((“animals"[MeSH Terms] not “humans"[MeSH Terms])) Filters: Publication date from 2005/01/01 to 2017/12/31 | [830](https://www.ncbi.nlm.nih.gov/pubmed/?cmd=HistorySearch&querykey=7) |

***Embase***

1 spinal anesthesia/ or exp intraspinal drug administration/ or (spinal and (an?esth\* or analg\* or infusion\* or injection\* or catheter\* or cannula\*)).ti,ab. (96102)

2 exp ultrasound/ or (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an?esth\*)).ti,ab. (433159)

3 1 and 2 (2422)

4 exp animal/ not exp human/ (4516428)

5 3 not 4 (2364)

6 limit 5 to yr="2005 -Current" (2085)

***Central***

#1 MeSH descriptor: [Infusions, Spinal] explode all trees 9

#2 MeSH descriptor: [Anesthesia, Spinal] explode all trees 2152

#3 MeSH descriptor: [Injections, Spinal] explode all trees 1472

#4 (spinal and (an\*esth\* or analg\* or infusion\* or injection\* or catheter\* or can\*ula\*)) 9371

#5 #1 or #2 or #3 or #4 9715

#6 MeSH descriptor: [Ultrasonography] explode all trees 9528

#7 (ultrasound\* or ultra sound\* or ultrasonograph\* or (echograph\* and an\*esth\*)) 25343

#8 #6 or #7 27596

#9 #5 and #8 540

#10 #9 Publication Year from 2005 to 2017, in Trials 263

***Cinahl***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S1 | (MH "Anesthesia, Spinal") OR TX (spinal and (an\*esth\* or analg\* or infusion\* or injection\* or catheter\* or cannula\*)) |  |  | 26,557 |
| S2 | (MH "Ultrasonography+") or TX (Ultrasound\* OR ultra sound\* OR ultrasonograph\* OR (echograph\* AND an\*esth\*)) |  |  | 57,350 |
| S3 | S1 AND S2 |  |  | 625 |
| S4 | (MH "Animals+") not (MH "Human") |  |  | 31,182 |
| S5 | S3 not S4 |  |  | 615 |
| S6 | S3 not S4 Published: 20050101-20171231 |  |  | 471 |