

## Facet joint injections for low back pain

### Appendices

#### Appendix 1. Search strategies

##### Medline (Ovid)

1. Randomized controlled trial.pt.
2. Controlled clinical trial.pt.
3. Comparative study.pt.
4. Clinical trial.pt.
5. randomized.ab.
6. placebo.ab,ti.
7. drug therapy.fs.
8. randomly.ab,ti.
9. trial.ab,ti.
10. groups.ab,ti.
11. or/1-10
12. (animals not (humans and animals)).sh.
13. 11 not 12
14. dorsalgia.ti,ab.
15. exp Back Pain/
16. backache.ti,ab.
17. exp Low Back Pain/
18. (lumbar adj pain).ti,ab.
19. coccyx.ti,ab.
20. coccydynia.ti,ab.
21. sciatica.ti,ab.
22. sciatic neuropathy/
23. spondylosis.ti,ab.
24. lumbago.ti,ab.
25. back disorder\$.ti,ab.
26. or/14-25
27. 13 and 26
28. (facet adj joints).ti,ab.
29. facet joint\*.mp.
30. exp Zygapophyseal Joint/
31. zygapophysial\*.mp.
32. apophyseal\*.mp.
33. z?joint\*.mp.
34. or/28-33
35. exp Injections/
36. inject\*.mp.
37. 35 or 36
38. glucocorticoid\*.mp.
39. exp Glucocorticoids/
40. exp Anti-Inflammatory Agents/
41. anti?inflammatory.mp.

42. steroid\*.mp.
43. corticosteroid\*.mp.
44. or/38-43
45. 27 and 34 and 37 and 44

**Embase (OVID)**

1. Clinical Article/
2. exp Clinical Study/
3. Clinical Trial/
4. Controlled Study/
5. Randomized Controlled Trial/
6. Major Clinical Study/
7. Double Blind Procedure/
8. Multicenter Study/
9. Single Blind Procedure/
10. Phase 3 Clinical Trial/
11. Phase 4 Clinical Trial/
12. crossover procedure/
13. placebo/
14. or/1-13
15. allocat\$.mp.
16. assign\$.mp.
17. blind\$.mp.
18. (clinic\$ adj25 (study or trial)).mp.
19. compar\$.mp.
20. control\$.mp.
21. cross?over.mp.
22. factorial\$.mp.
23. follow?up.mp.
24. placebo\$.mp.
25. prospectiv\$.mp.
26. random\$.mp.
27. ((singl\$ or doubl\$ or trebl\$ or tripl\$) adj25 (blind\$ or mask\$)).mp.
28. trial.mp.
29. (versus or vs).mp.
30. or/15-29
31. 14 and 30
32. exp animals/ or exp invertebrate/ or animal experiment/ or animal model/ or animal tissue/  
or animal cell/ or nonhuman/
33. human/ or normal human/ or human cell/
34. 32 and 33
35. 32 not 34
36. 31 not 35
37. dorsalgia.mp.
38. back pain.mp.
39. exp Low Back Pain/
40. exp Backache/
41. (lumbar adj pain).mp.

42. coccyx.mp.
43. coccydynia.mp.
44. sciatica.mp.
45. exp Ischialgia/
46. spondylosis.mp.
47. lumbago.mp.
48. back disorder\$.ti,ab.
49. or/37-48
50. (facet adj joints).mp.
51. exp zygapophyseal joint/
52. zygapophysial\*.mp.
53. apophyseal\*.mp.
54. z?joint\*.mp.
55. or/50-54
56. exp injection/
57. inject\*.mp.
58. 56 or 57
59. glucocorticoid\*.mp.
60. exp Glucocorticoid/
61. anti?inflammatory agent.mp.
62. exp Antiinflammatory Agent/
63. steroid\*.mp.
64. corticosteroid\*.mp.
65. or/59-64
66. 31 and 36 and 49 and 55 and 58 and 65

## CINHAL

- S60 S48 AND S51 AND S54 AND S59
- S59 S55 OR S56 OR S57 OR S58
- S58 corticosteroid\*
- S57 steroid\*
- S56 (MH "Antiinflammatory Agents, Steroidal+")
- S55 (MH "Glucocorticoids+")
- S54 S52 OR S53
- S53 inject\*
- S52 (MH "Injections+")
- S51 S49 OR S50
- S50 (MH "Zygapophyseal Joint") OR zygapophysial OR apophyseal OR z-joint OR z joint
- S49 facet w1 joint
- S48 S35 OR S43 OR S47
- S47 S44 OR S45 OR S46
- S46 "lumbago"
- S45 (MH "Spondylolisthesis") OR (MH "Spondylolysis")
- S44 (MH "Thoracic Vertebrae")
- S43 S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42
- S42 lumbar N2 vertebra
- S41 (MH "Lumbar Vertebrae")

- S40 "coccydynia" OR "back disorder\*"
- S39 "coccyx"
- S38 "sciatica"
- S37 (MH "Sciatica")
- S36 (MH "Coccyx")
- S35 S29 OR S30 OR S31 OR S32 OR S33 OR S34
- S34 lumbar N5 pain
- S33 lumbar W1 pain
- S32 "backache"
- S31 (MH "Low Back Pain")
- S30 (MH "Back Pain+")
- S29 "dorsalgia"
- S28 S26 NOT S27
- S27 (MH "Animals")
- S26 S7 OR S12 OR S19 OR S25
- S25 S20 OR S21 OR S22 OR S23 OR S24
- S24 volunteer\*
- S23 prospectiv\*
- S22 control\*
- S21 followup stud\*
- S20 follow-up stud\*
- S19 S13 OR S14 OR S15 OR S16 OR S17 OR S18
- S18 (MH "Prospective Studies+")
- S17 (MH "Evaluation Research+")
- S16 (MH "Comparative Studies")
- S15 latin square
- S14 (MH "Study Design+")
- S13 (MH "Random Sample")
- S12 S8 OR S9 OR S10 OR S11
- S11 random\*
- S10 placebo\*
- S9 (MH "Placebos")
- S8 (MH "Placebo Effect")
- S7 S1 OR S2 OR S3 OR S4 OR S5 OR S6
- S6 triple-blind
- S5 single-blind
- S4 double-blind
- S3 clinical w3 trial
- S2 "randomi?ed controlled trial\*"
- S1 (MH "Clinical Trials+")

#### CENTRAL

- #1 MeSH descriptor: [Back Pain] explode all trees
- #2 back near pain
- #3 dorsalgia
- #4 back disorder\*
- #5 backache
- #6 MeSH descriptor: [Low Back Pain] explode all trees
- #7 (lumbar next pain)

- #8 (#1 or #2 or #3 or #4 or #5 or #6 or #7)
- #9 MeSH descriptor: [Zygapophyseal Joint] explode all trees
- #10 facet near joints
- #11 zygapophysial\*
- #12 apophyseal\*
- #13 z-joint\*
- #14 z joint\*
- #15 (#9 or #10 or #11 or #12 or #13 or #14)
- #16 (#8 and #15)

### Index to Chiropractic Literature

- S1 , Publication Type:Clinical Trial
- S2 , Publication Type:Controlled Clinical Trial
- S3 , Publication Type:Randomized Controlled Trial
- S4 Subject:"Clinical Trials" OR Subject:"Clinical Trials as Topic" OR Subject:"Controlled Clinical Trials"
- S5 Subject:"Randomized Controlled Trials as Topic" OR Subject:"Prospective Studies" OR Subject:"comparative studies"
- S6 All Fields:random\* OR All Fields:placebo\* OR All Fields:sham\*
- S7 All Fields:versus OR All Fields:vs
- S8 All Fields:"clinical trial" OR All Fields:"controlled trial"
- S9 All Fields:double-blind OR All Fields:"double blind"
- S10 All Fields:single-blind OR All Fields:"single blind"
- S11 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10
- S12 Subject:"back" OR Subject:"back injuries" OR Subject:"back pain"
- S13 Subject:"low back pain" OR Subject:"lumbar" OR Subject:"lumbosacral region"
- S14 Subject:"sciatica" OR All Fields:sciatica
- S15 Subject:"coccyx" OR Subject:"sacroiliac joint" OR Subject:"sacrum"
- S16 S12 OR S13 OR S14 OR S15
- S17 S11 AND S16
- S18 All Fields:"facet joint" OR All Fields:"Zygapophyseal Joint" OR All Fields:"zygapophysial"
- S19 All Fields:"apophyseal" OR All Fields:"z-joint" OR All Fields:"z joint"
- S20 S18 OR S19
- S21 S17 AND S20

### ClinicalTrials.gov

Basic search: "facet joints" and back pain

### WHO ICTRP

Basic search: "facet joints" and back pain

Appendix 2. Excluded studies

<b>Table 2: Excluded studies and reason for exclusion</b>	
<b>Beliveau 1971[1]</b>	Used epidural anaesthesia
<b>Breivik 1976[2]</b>	Used epidural injections
<b>Lie 1984[3]</b>	Cohort study in Norwegian, not an RCT
<b>Lau 1985[4]</b>	No control group, not an RCT
<b>Sonne 1985[5]</b>	Steroid vs Saline but injections at iliolumbar ligament, not facet joints
<b>Lynch 1986[6]</b>	Sham control group selected on basis of missed injection, not an RCT
<b>Garvey 1989[7]</b>	Intervention was injections at trigger points, not facet joints
<b>Rocco 1989[8]</b>	Epidurals
<b>Collee 1991[9]</b>	Intervention was a local anaesthetic, not a steroid injection
<b>Marks 1992[10]</b>	Facet joint injection vs facet nerve block
<b>Serrao 1992[11]</b>	Intrathecal midazolam vs epidural steroid
<b>Gallagher 1994[12]</b>	Radiofrequency denervation
<b>Revel 1999[13]</b>	Lidocaine vs saline
<b>van Kleef 1999[14]</b>	Radiofrequency denervation
<b>Mauro 2000[15]</b>	Intramuscular B12 injection
<b>Leclaire 2001[16]</b>	Radiofrequency denervation
<b>Manchikanti 2001[17]</b>	Lumbar facet joint nerve block, not intraarticular facet joint injection
<b>Aldrete 2003[18]</b>	Used epidural injections
<b>Geurts 2003[19]</b>	Radiofrequency lesioning of dorsal root ganglia
<b>Lierz 2004[20]</b>	Epidural anaesthetic
<b>Fuchs 2005[21]</b>	Intraarticular hyaluronic acid vs glucocorticoid injections
<b>Shih C 2005[22]</b>	Controls injected with corticosteroid but selected based on poor response
<b>Takada 2005[23]</b>	Epidural
<b>van Wijk 2005[24]</b>	Radiofrequency denervation
<b>Hayes 2006[25]</b>	Structured abstract only
<b>Gorbach 2006[26]</b>	No control group
<b>Manchikanti 2007[27]</b>	Lumbar nerve blocks vs local anaesthetic
<b>Tekin 2007[28]</b>	Radiofrequency denervation
<b>Ackerman 2008[29]</b>	Intra-articular vs medial branch nerve block
<b>Manchikanti 2008[30]</b>	Lumbar nerve blocks vs local anaesthetic
<b>Nath 2008[31]</b>	Radiofrequency neurotomy
<b>Manchikanti 2010[32]</b>	Lumbar nerve blocks vs local anaesthetic
<b>Maas 2012[33]</b>	Cost-effectiveness study with no pain or disability outcome
<b>Yun 2012 [34]</b>	Comparison of two injection techniques (fluoroscopy and ultrasonography).
<b>Lakemeier 2013 [35]</b>	Comparator radiofrequency denervation
<b>Kennedy 2013[36]</b>	Abstract only, no manuscript available

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