**Thoracolumbar Burst Fractures: A Systematic Review and Meta-Analysis Comparing Posterior-Only Instrumentation versus Combined Anterior-Posterior Instrumentation.**

**Appendix 1 - Full search strategies**

**MeSH / EmTree Terms:**

* Spinal Injuries.
* Spinal Fractures.
* Lumbar Vertebrae.
* Thoracic Vertebrae.
* Randomised Control Trial.
* Single-blind-method.
* Double-blind-method.

**Keywords:**

* Thoracolumbar.
* Burst.
* Burst NEAR fracture.
* Burst NEAR injury.
* Fusion.
* Arthrodesis.
* Spondylodesis.
* Fixation.
* Internal-fixation.
* Instrumentation.
* Stabilisation.
* Randomised Control Trial.

**The Cochrane Library (Wiley Online Library)**

#1 MeSH descriptor: [Spinal Injuries] this term only 96

#2 MeSH descriptor: [Spinal Fractures] this term only 670

#3 (spine NEAR fracture):ti,ab,kw (Word variations have been searched) 1560

#4 (spinal NEAR fracture):ti,ab,kw (Word variations have been searched) 1140

#5 (spine NEAR injur\*):ti,ab,kw (Word variations have been searched) 510

#6 (spinal NEAR injur\*):ti,ab,kw (Word variations have been searched) 3385

#7 #1 OR #2 OR #3 OR #4 OR #5 OR #6 6042

#8 MeSH descriptor: [Thoracic Vertebrae] this term only 458

#9 (thoracic NEAR vertebrae):ti,ab,kw (Word variations have been searched) 644

#10 #8 OR #9 644

#11 MeSH descriptor: [Lumbar Vertebrae] this term only 251

#12 (lumbar NEAR vertebrae):ti,ab,kw (Word variations have been searched) 3022

#13 #11 OR #12 3022

#14 #7 OR #10 OR #13 9113

#15 (thoracolumbar):ti,ab,kw (Word variations have been searched) 630

#16 (thoraco NEXT lumbar):ti,ab,kw (Word variations have been searched) 47

#17 (burst NEAR fracture):ti,ab,kw (Word variations have been searched) 104

#18 (burst NEAR injur\*):ti,ab,kw (Word variations have been searched) 29

#19 (compression NEAR fracture):ti,ab,kw (Word variations have been searched) 832

#20 (compression NEAR injur\*):ti,ab,kw (Word variations have been searched) 128

#21 (burst AND spine):ti,ab,kw (Word variations have been searched) 80

#22 (burst AND spinal):ti,ab,kw (Word variations have been searched) 166

#23 #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 1632

#24 (arthrodesis AND (spine or spinal)):ti,ab,kw (Word variations have been searched) 202

#25 (fusion AND (spine or spinal)):ti,ab,kw (Word variations have been searched) 2759

#26 (non-fusion AND (spine or spinal)):ti,ab,kw (Word variations have been searched) 26

#27 (fixation AND (spine or spinal)):ti,ab,kw (Word variations have been searched) 929

#28 (internal fixation AND (spine or spinal)):ti,ab,kw (Word variations have been searched) 320

#29 (stabilisation AND (spine or spinal)):ti,ab,kw (Word variations have been searched) 1791

#30 #24 OR #25 OR #26 OR #27 OR #28 OR #29 4622

#31 #14 AND #23 AND #30 210

**MEDLINE (Ovid)**

1. Spinal Fractures/

2. (spinal adj1 fracture\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

3. (spine adj1 fracture\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

4. Spinal Injuries/

5. (spinal adj1 injur\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

6. (spine adj1 injur\*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

7. 1 or 2 or 3 or 4 or 5 or 6

8. Thoracic Vertebrae/

9. (Thoracic adj1 Vertebrae).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

10. 8 or 9

11. Lumbar Vertebrae/

12. (lumbar adj1 vertebrae).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

13. 11 or 12

14. 7 or 10 or 13

15. ((thoracolumbar or thoraco) adj1 lumbar).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] 16. ((burst adj1 fracture) or (burst adj1 injur\*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms] 17. ((compression adj1 fracture) or (compression adj1 injur\*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

18. (burst and spine).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

19. 15 or 16 or 17 or 18

20. (fusion and (spine or spinal)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

21. (non-fusion and (spine or spinal)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

22. (fixation and (spine or spinal)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

23. (stabilisation and (spine or spinal)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

24. (stabilization and (spine or spinal)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

25. 20 or 21 or 22 or 23 or 24

26. 14 and 19 and 25

27. Randomized Controlled Trials as Topic/

28. exp Randomized Controlled Trials as Topic/

29. randomised control trial.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

30. randomised control trial\*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

31. controlled clinical trial/

32. controlled clinical trial.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

33. Random Allocation/

34. random allocation.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

35. Double-Blind Method/

36. double-blind method.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

37. single-blind method/

38. single-blind method.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

39. 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38

40. exp clinical trial/

41. clinical trial.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

42. (clinical adj1 trial).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

43. ((tripl\* or trebl\*) adj1 blind).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

44. triple-blind.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

45. 40 or 41 or 42 or 43 or 44

46. comparative study/

47. Comparative Study.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

48. evaluation studies/

49. Evaluation Stud\*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

50. Follow-Up Studies/

51. follow-up stud\*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

52. Prospective Studies/

53. prospective stud\*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]

54. 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53

55. 39 or 45 or 54

56. 26 and 55

**EMBASE**

#48: #47 AND 'randomized controlled trial'/de 50

#47. #28 AND #46 929

#46. #36 OR #45 4,760,132

#45. #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43 3,434,819

#44. 'follow-up study':ti,ab,de 48,400

#43. 'evaluation study':ti,ab,de 212,159

#42. 'prospective study':ti,ab,de 623,024

#41. 'comparative study':ti,ab,de 897,791

#40. 'follow up'/exp 1,482,753

#39. 'prospective study'/exp 563,409

#38. 'evaluation study'/exp 230,419

#37. 'comparative study'/exp 1,380,838

#36. #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 1,831,703

#35. 'triple blind procedure'/exp OR 'triple 912

blind':ti,ab,de,kw

#34. 'single blind procedure'/exp OR 'single blind 37,136

method':ti,ab,de,kw

#33. 'double blind procedure'/exp OR 'double blind 167,547

method':ti,ab,de,kw

#32. 'controlled clinical trial'/exp OR 'controlled 1,793,717

clinical trial (topic)'/exp OR 'controlled

clinical trial' OR 'clinical trial'/exp OR

'clinical trial':ti,ab,de,kw

#31. 'randomized controlled trial'/exp OR 'randomized 759,922

controlled trial(topic)'/exp OR 'randomized

controlled trial'

#30. 'randomised controlled trial' 29,939

#29. 'randomized controlled trial' 759,531

#28. #13 AND #18 AND #27 2,064

#27. #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR 62,296

#26

#26. 'stabilization':ti,ab,de AND spine:ti,ab,de OR 14,474

(stabilization:ti,ab,de AND spinal:ti,ab,de)

#25. 'stabilisation':ti,ab,de AND spine:ti,ab,de OR 1,218

(stabilisation:ti,ab,de AND spinal:ti,ab,de)

#24. 'internal-fixation':ti,ab,de AND spine:ti,ab,de 2,689

OR ('internal fixation':ti,ab,de AND

spinal:ti,ab,de)

#23. 'spondylodesis':ti,ab,de AND spine:ti,ab,de OR 1,595

(spondylodesis:ti,ab,de AND spinal:ti,ab,de)

#22. 'arthrodesis':ti,ab,de AND spine:ti,ab,de OR 4,751

(arthrodesis:ti,ab,de AND spinal:ti,ab,de)

#21. 'fixation':ti,ab,de AND spine:ti,ab,de OR 17,982

(fixation:ti,ab,de AND spinal:ti,ab,de)

#20. 'non-fusion':ti,ab,de AND spine:ti,ab,de OR 335

('non-fusion':ti,ab,de AND spinal:ti,ab,de)

#19. fusion:ti,de,ab AND spine:ti,de,ab OR 42,604

(fusion:ti,ab,de AND spinal:ti,ab,de)

#18. #14 OR #15 OR #16 OR #17 14,046

#17. (compression NEXT/1 fracture\*) OR (compression 8,978

NEXT/1 injur\*)

#16. burst:ti,ab,de AND spine:ti,ab,de OR 3,688

(burst:ti,ab,de AND spinal:ti,ab,de)

#15. (burst NEXT/1 fracture\*) OR (burst NEXT/1 injur\*) 1,877

#14. (thoracolumbar OR thoraco) NEXT/1 lumbar 1,616

#13. #6 OR #9 OR #12 89,039

#12. #10 OR #11 5,610

#11. thoracic NEXT/1 vertebra\* 5,610

#10. 'thoracic vertebra'/exp 1,707

#9. #7 OR #8 25,751

#8. lumbar NEXT/1 vertebra\* 25,751

#7. 'lumbar vertebra'/exp 20,393

#6. #1 OR #2 OR #3 OR #4 OR #5 62,441

#5. spine NEXT/1 injur\* 18,572

#4. spinal NEXT/1 injur\* 10,043

#3. spinal NEXT/1 fracture\* 2,477

#2. spine NEXT/1 fracture\* 30,961

#1. 'spine fracture'/exp OR 'spine injury'/exp 54,602