

Appendix 1 PubMed search strategy

Search number, Query, Sort By, Filters, Search Details, Results, Time

7, #6 AND #5, Most Recent, ("vertebroplasties"[All Fields] OR "vertebroplasty"[MeSH Terms] OR "vertebroplasty"[All Fields]) AND "osteopor"[All Fields] AND ("placeboes"[All Fields] OR "placebos"[MeSH Terms] OR "placebos"[All Fields] OR "placebo"[All Fields] OR "conservative treatment"[All Fields]), 271, 11:42:09

6, #1 AND #4, Most Recent, ("vertebroplasties"[All Fields] OR "vertebroplasty"[MeSH Terms] OR "vertebroplasty"[All Fields]) AND "osteopor"[All Fields], 3,049, 11:41:17

5, #2 OR #3, Most Recent, "placeboes"[All Fields] OR "placebos"[MeSH Terms] OR "placebos"[All Fields] OR "placebo"[All Fields] OR "conservative treatment"[All Fields], 312,302, 11:40:59

4, osteopor*, Most Recent, "osteopor"[All Fields], 118,781, 11:40:32

3, "conservative treatment", Most Recent, "conservative treatment"[All Fields], 40,201, 11:39:34

2, placebo, Most Recent, "placeboes"[All Fields] OR "placebos"[MeSH Terms] OR "placebos"[All Fields] OR "placebo"[All Fields], 272,403, 11:39:20

1, vertebroplasty, Most Recent, "vertebroplasties"[All Fields] OR "vertebroplasty"[MeSH Terms] OR "vertebroplasty"[All Fields], 5,437, 11:39:14

Appendix 2 Web of Science search strategy

Entitlements	#	Search Query	Database	Results	Date Run
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	1	TS=(vertebroplasty)	All Databases	7,977	Fri Feb 23 2024 17:44:37 GMT+0100 (hora estándar de Europa central)
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	2	TS=(placebo)	All Databases	410,470	Fri Feb 23 2024 17:45:18 GMT+0100 (hora estándar de Europa central)
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	3	TS=("conservative treatment")	All Databases	52,179	Fri Feb 23 2024 17:45:34 GMT+0100 (hora estándar de Europa central)
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	4	TS=(osteopor*)	All Databases	211,811	Fri Feb 23 2024 17:45:51 GMT+0100 (hora estándar de Europa central)
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	5	#2 OR #3	All Databases	462,089	Fri Feb 23 2024 17:46:25 GMT+0100 (hora estándar de Europa central)
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	6	#1 AND #4	All Databases	4,273	Fri Feb 23 2024 17:46:42 GMT+0100 (hora estándar de Europa central)
- WOS: 1900 to 2024 - CCC: 1998 to 2009 - DIIDW: 1980 to 2009 - GRANTS: 1953 to 2024 - KJD: 1980 to 2024 - MEDLINE: 1950 to 2024 - PQDT: 1637 to 2024 - SCIELO: 2002 to 2024	7	#5 AND #6	All Databases	431	Fri Feb 23 2024 17:46:56 GMT+0100 (hora estándar de Europa central)

Appendix 3 EMBASE search strategy

No.,Query,Results,Date

#7, "#5 AND #6", 1008, 23 Feb 2024
#6, "#1 AND #4", 4931, 23 Feb 2024
#5, "#2 OR #3", 1279089, 23 Feb 2024
#4, "osteopor*", 212158, 23 Feb 2024
#3, "'conservative treatment'/exp OR 'conservative treatment'", 770530, 23 Feb 2024
#2, "'placebo'/exp OR placebo", 542147, 23 Feb 2024
#1, "'vertebroplasty'/exp OR vertebroplasty", 9587, 23 Feb 2024

Appendix 4 Sensitivity analysis

PRIMARY OUTCOME: 'INCIDENCE OF NEW FRACTURES'

Influential analysis (random effects model)

Study	RR	95% CI	P value	tau ²	tau	I ² (%)
Omitting Blasco <i>et al.</i> (2012) (26)	0.9192	[0.6720; 1.2574]	0.5982	0.0687	0.2621	26.1
Omitting Buchbinder <i>et al.</i> (2009) (11)	0.9957	[0.6399; 1.5494]	0.9848	0.2693	0.5190	55.1
Omitting Carli <i>et al.</i> (2023) (17)	10.403	[0.6813; 1.5884]	0.8549	0.2547	0.5047	58.4
Omitting Chen <i>et al.</i> (2010) (27)	10.334	[0.6950; 1.5366]	0.8711	0.2308	0.4804	57.6
Omitting Chen <i>et al.</i> (2014) (28)	11.075	[0.7376; 1.6630]	0.6225	0.2272	0.4767	56.1
Omitting Chen <i>et al.</i> (2015) (33)	10.371	[0.6870; 1.5654]	0.8625	0.2448	0.4948	58.3
Omitting Clark <i>et al.</i> (2016) (31)	11.129	[0.7457; 1.6609]	0.6004	0.2190	0.4680	55.4
Omitting Farrokhi <i>et al.</i> (2011) (30)	11.129	[0.7606; 1.6284]	0.5818	0.1940	0.4405	53.0
Omitting Firanescu <i>et al.</i> (2018) (12)	10.423	[0.6498; 1.6717]	0.8637	0.3344	0.5783	58.5
Omitting Hansen <i>et al.</i> (2016) (32)	10.653	[0.7022; 1.6163]	0.7660	0.2483	0.4983	58.3
Omitting Klazen <i>et al.</i> (2016) (24)	11.848	[0.8094; 1.7344]	0.3831	0.1519	0.3897	41.0
Omitting Rousing <i>et al.</i> (2009) (25)	10.233	[0.6868; 1.5246]	0.9099	0.2295	0.4790	57.2
Omitting Yang <i>et al.</i> (2016) (29)	10.451	[0.6895; 1.5840]	0.8355	0.2486	0.4986	58.5
Pooled estimate	10.531	[0.7131; 1.5553]	0.7947	0.2227	0.4720	54.7

Details on meta-analytical method:

- Inverse variance method

- DerSimonian-Laird estimator for tau²

PRIMARY OUTCOME: 'SERIOUS ADVERSE EFFECTS'

Influential analysis (random effects model)

Study	RR	95% CI	P value	tau ²	tau	I ² (%)
Omitting Buchbinder <i>et al.</i> (2009) (11)	0.5046	[0.2913; 0.8743]	0.0147	0.0000	0.0000	0.0
Omitting Carli <i>et al.</i> (2023) (17)	0.5410	[0.3167; 0.9244]	0.0246	0.0000	0.0000	0.0
Omitting Chen <i>et al.</i> (2015) (33)	0.5439	[0.2989; 0.9897]	0.0462	0.0000	0.0000	0.0
Omitting Clark <i>et al.</i> (2016) (31)	0.5087	[0.2937; 0.8809]	0.0158	0.0000	0.0000	0.0
Omitting Kallmes <i>et al.</i> (2009) (23)	0.5227	[0.3052; 0.8953]	0.0181	0.0000	0.0000	0.0
Omitting Yang <i>et al.</i> (2016) (29)	0.6546	[0.2947; 1.4539]	0.2980	0.0000	0.0000	0.0
Pooled estimate	0.5338	[0.3148; 0.9052]	0.0198	0.0000	0.0000	0.0