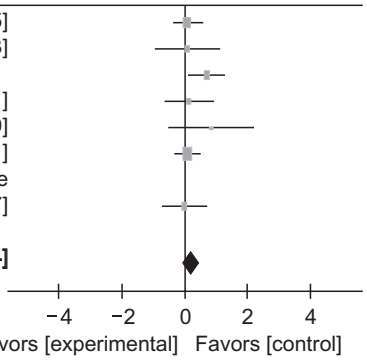
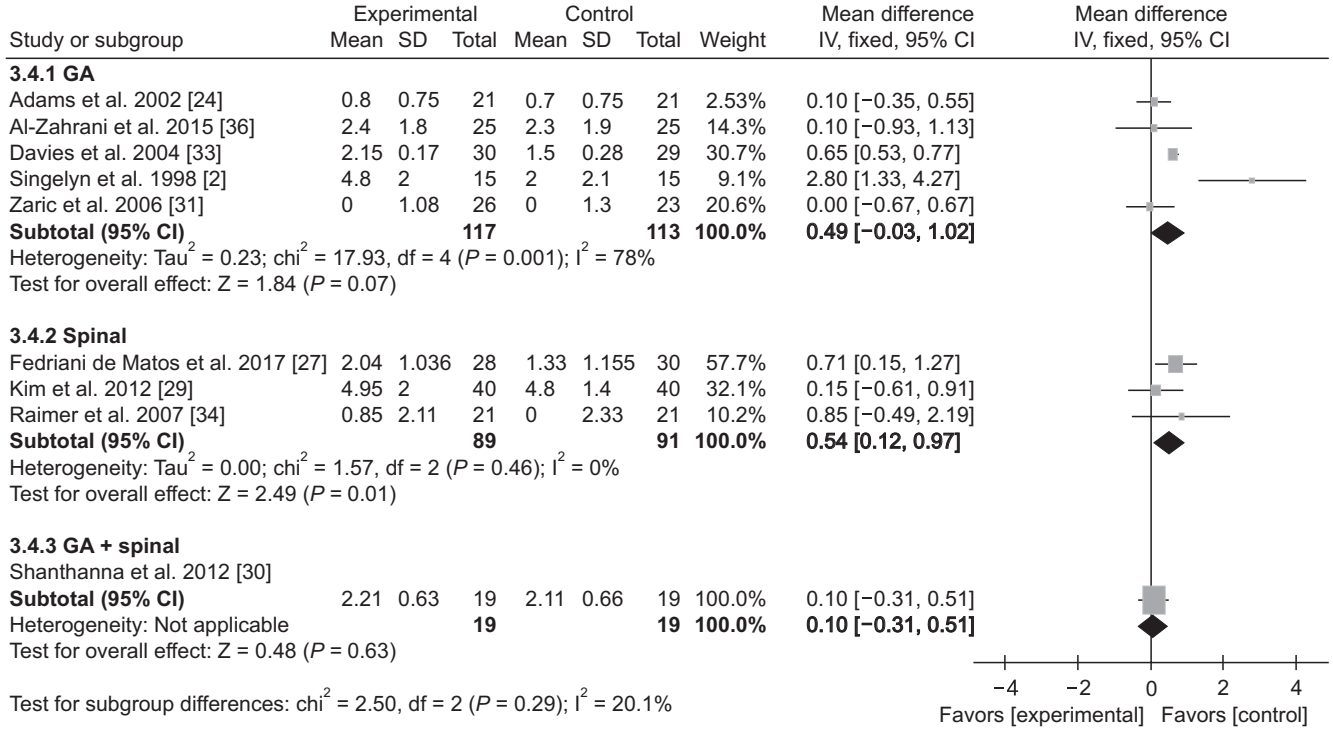
Study or subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean difference IV, fixed, 95% CI
Adams et al. 2002 [24]	0.8	0.75	21	0.7	0.75	21	25.1%	0.10 [−0.35, 0.55]
Al-Zahrani et al. 2015 [36]	2.4	1.8	25	2.3	1.9	25	4.9%	0.10 [−0.93, 1.13]
Fedriani de Matos et al. 2017 [27]	2.04	1.036	28	1.33	1.155	30	16.2%	0.71 [0.15, 1.27]
Kim et al. 2012 [29]	4.95	2	40	4.8	1.4	40	9.0%	0.15 [−0.61, 0.91]
Raimer et al. 2007 [34]	0.85	2.11	21	0	2.33	21	2.9%	0.85 [−0.49, 2.19]
Shanthanna et al. 2012 [30]	2.21	0.63	19	2.11	0.66	19	30.6%	0.10 [−0.31, 0.51]
Singelyn et al. 1998 [2]	4.8	2	15	2	2.1	15		Not estimable
Zaric et al. 2006 [31]	0	1.08	26	0	1.3	23	11.3%	0.00 [−0.67, 0.67]
Total (95% CI)			**180**			**179**	**100.0%**	**0.21 [−0.01, 0.44]**

Heterogeneity: chi^2 = 4.83, df = 6 (P = 0.57); I^2 = 0%
Test for overall effect: Z = 1.84 (P = 0.07)

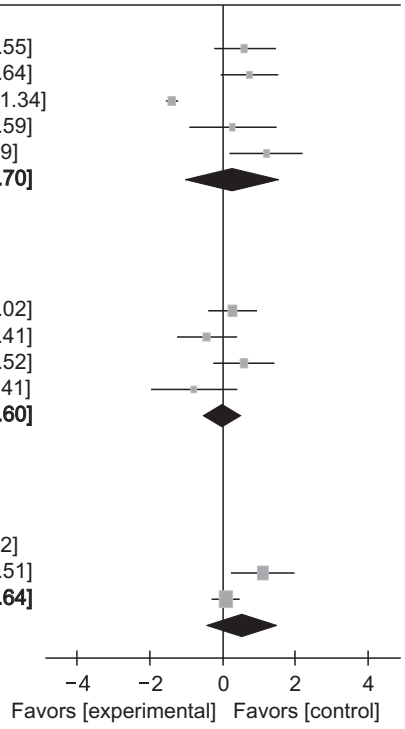


Supplementary Fig. 1. Forest plot for the sensitivity analyses (0-12 hr). SD: standard deviation, IV: inverse variance, CI: confidence interval, df: degree of freedom.

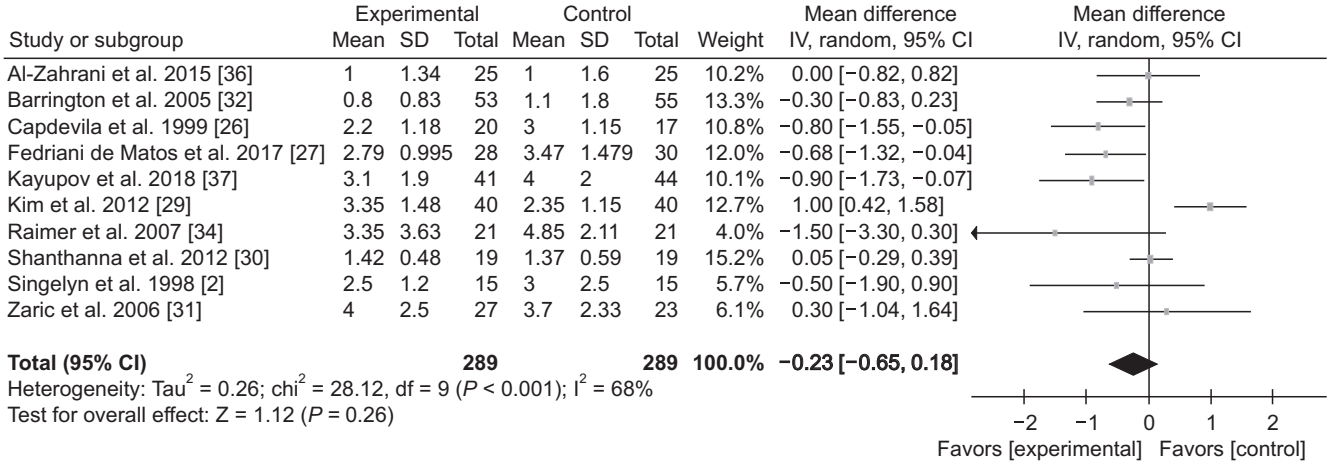


Supplementary Fig. 2. Forest plot for subgroup analyses (0-12 hr). SD: standard deviation, IV: inverse variance, CI: confidence interval, GA: general anesthesia, df: degree of freedom.

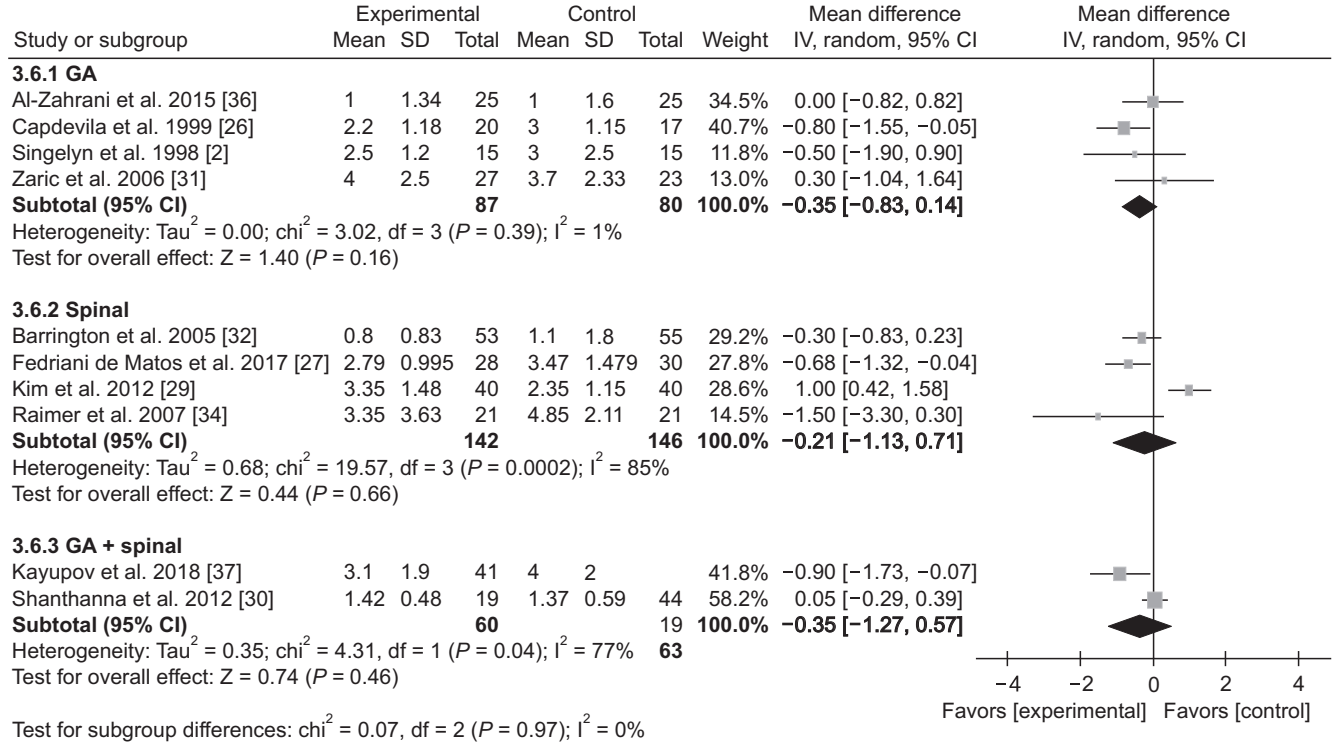
Study or subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean difference IV, random, 95% CI
3.5.1 GA								
Al-Zahrani et al. 2015 [36]	2.45	1.65	25	1.8	1.6	25	20.1%	0.65 [−0.25, 1.55]
Capdevila et al. 1999 [26]	2.7	1.35	20	1.9	1.25	17	20.3%	0.80 [−0.04, 1.64]
Davies et al. 2004 [33]	4	0.28	30	5.5	0.35	29	21.8%	−1.50 [−1.66, −1.34]
Singelyn et al. 1998 [2]	3.6	1.1	15	3.3	2.3	15	18.5%	0.30 [−0.99, 1.59]
Zaric et al. 2006 [31]	4	2	26	2.7	1.88	23	19.4%	1.30 [0.21, 2.39]
Subtotal (95% CI)			**116**			**109**	**100.0%**	**0.27 [−1.15, 1.70]**
Heterogeneity: Tau^2 = 2.43; chi^2 = 75.75, df = 4 (*P* < 0.00001); I^2 = 95%								
Test for overall effect: Z = 0.38 (*P* = 0.71)								
3.5.2 Spinal								
Barrington et al. 2005 [32]	2	1.95	53	1.7	1.85	55	31.8%	0.30 [−0.42, 1.02]
Fedriani de Matos et al. 2017 [27]	3.57	1.069	28	4.03	2.173	30	26.2%	−0.46 [−1.33, 0.41]
Kim et al. 2012 [29]	4.48	2.37	40	3.85	1.65	40	25.5%	0.63 [−0.26, 1.52]
Raimer et al. 2007 [34]	4	2.22	21	4.85	1.93	21	16.5%	−0.85 [−2.11, 0.41]
Subtotal (95% CI)			**142**			**146**	**100.0%**	**−0.00 [−0.61, 0.60]**
Heterogeneity: Tau^2 = 0.17; chi^2 = 5.36, df = 3 (*P* = 0.15); I^2 = 44%								
Test for overall effect: Z = 0.02 (*P* = 0.99)								
3.5.3 GA + spinal								
Kayupov et al. 2018 [37]	4.1	2.5	44	2.9	1.8	41	42.7%	1.20 [0.28, 2.12]
Shanthanna et al. 2012 [30]	2.21	0.63	19	2.11	0.66	19	57.3%	0.10 [−0.31, 0.51]
Subtotal (95% CI)			**63**			**60**	**100.0%**	**0.57 [−0.50, 1.64]**
Heterogeneity: Tau^2 = 0.47; chi^2 = 4.57, df = 1 (*P* = 0.03); I^2 = 78%								
Test for overall effect: Z = 1.05 (*P* = 0.30)								
Test for subgroup differences: chi^2 = 0.87, df = 2 (*P* = 0.65); I^2 = 0%								



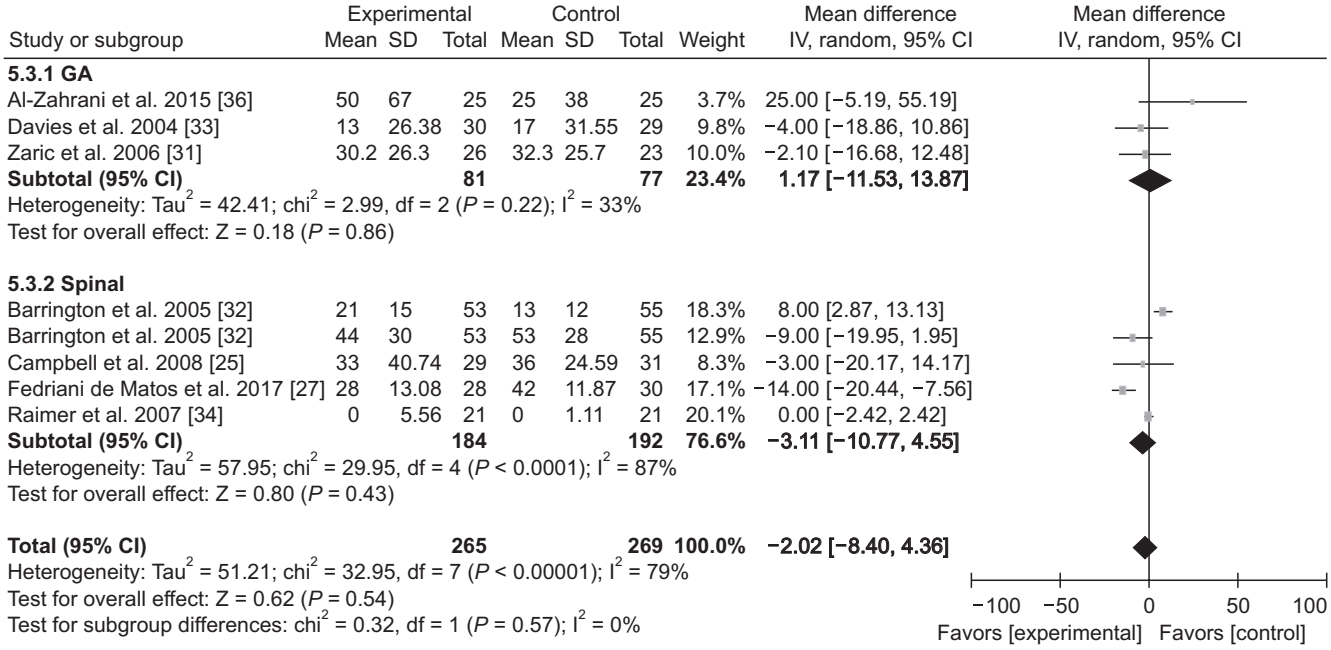
Supplementary Fig. 3. Forest plot for subgroup analyses (12-24 hr). SD: standard deviation, IV: inverse variance, CI: confidence interval, GA: general anesthesia, df: degree of freedom.



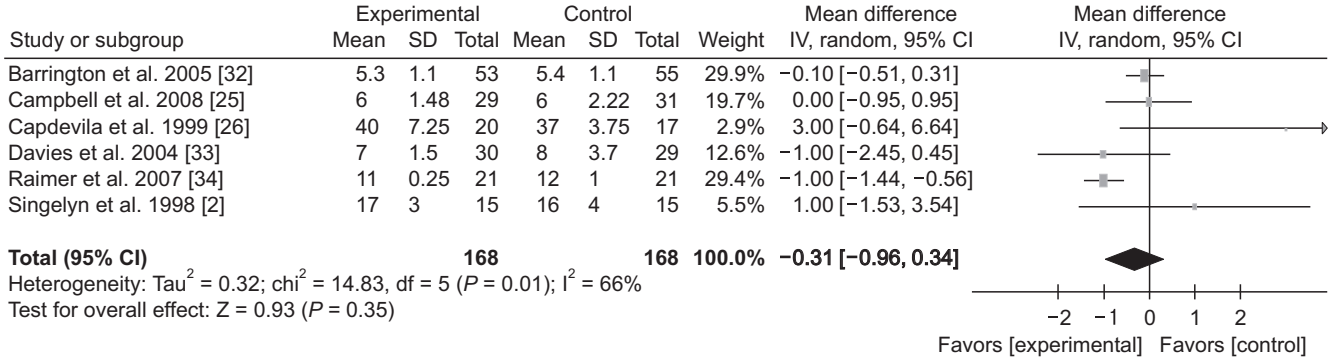
Supplementary Fig. 4. Forest plot for visual analogue scale score during 24-48 hours after surgery after nerve block *vs.* epidural block. SD: standard deviation, IV: inverse variance, CI: confidence interval, df: degree of freedom.



Supplementary Fig. 5. Forest plot for the subgroup analyses (24-48 hrs). SD: standard deviation, IV: inverse variance, CI: confidence interval, GA: general anesthesia, df: degree of freedom.

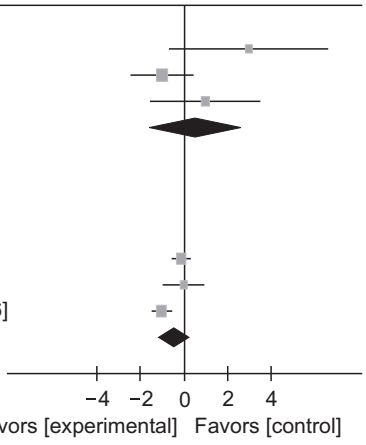


Supplementary Fig. 6. Forest plot for the length of hospital stay after nerve block *vs.* epidural block. SD: standard deviation, IV: inverse variance, CI: confidence interval, GA: general anesthesia, df: degree of freedom.



Supplementary Fig. 7. Forest plot for subgroup analyses of the length of hospital stay. SD: standard deviation, IV: inverse variance, CI: confidence interval, df: degree of freedom.

Study or subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean difference IV, random, 95% CI
4.3.1 GA								
Capdevila et al. 1999 [26]	40	7.25	20	37	3.75	17	22.2%	3.00 [−0.64, 6.64]
Davies et al. 2004 [33]	7	1.5	30	8	3.7	29	45.4%	−1.00 [−2.45, 0.45]
Singelyn et al. 1998 [2]	17	3	15	16	4	15	32.4%	1.00 [−1.53, 3.53]
Subtotal (95% CI)			**65**			**61**	**100.0%**	**0.54 [−1.67, 2.75]**
Heterogeneity: $Tau^2 = 2.25$; $chi^2 = 4.98$, df = 2 ($P = 0.08$); $I^2 = 60\%$								
Test for overall effect: Z = 0.48 ($P = 0.63$)								
4.3.2 Spinal								
Barrington et al. 2005 [32]	5.3	1.1	53	5.4	1.1	55	38.2%	−0.10 [−0.51, 0.31]
Campbell et al. 2008 [25]	6	1.48	29	6	2.22	31	24.2%	0.00 [−0.95, 0.95]
Raimer et al. 2007 [34]	11	0.25	21	12	1	21	37.6%	−1.00 [−1.44, −0.56]
Subtotal (95% CI)			**103**			**107**	**100.0%**	**−0.41 [−1.11, 0.28]**
Heterogeneity: $Tau^2 = 0.28$; $chi^2 = 9.55$, df = 2 ($P = 0.008$); $I^2 = 79\%$								
Test for overall effect: Z = 1.17 ($P = 0.24$)								
Test for subgroup differences: $chi^2 = 0.65$, df = 1 ($P = 0.42$); $I^2 = 0\%$								



Supplementary Fig. 8. Forest plot for subgroup analyses of intraoperative opioid use. SD: standard deviation, IV: inverse variance, CI: confidence interval, GA: general anesthesia, df: degree of freedom.

Supplementary Table 1. GRADE evidence summary table of side effects

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Experimental	Control	Relative (95% CI)	Absolute		
Nausea and vomiting												
10	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	None[a]	36/262 (13.7%)	59/264 (22.3%) 18.8%	RR 0.62 (0.44 to 0.88)	85 fewer per 1,000 (from 27 fewer to 125 fewer) 71 fewer per 1,000 (from 23 fewer to 105 fewer)	⊕⊕⊕⊕ HIGH	IMPORTANT
Hypotension												
12	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	Reporting bias	51/350 (14.6%)	80/355 (22.5%) 20.5%	RR 0.64 (0.48 to 0.85)	81 fewer per 1,000 (from 34 fewer to 117 fewer) 74 fewer per 1,000 (from 31 fewer to 107 fewer)	⊕⊕⊕O MODERATE	IMPORTANT
Urinary retention												
8	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	Reporting bias	11/185 (5.9%)	41/185 (22.2%) 15.5%	RR 0.3 (0.17 to 0.53)	155 fewer per 1,000 (from 104 fewer to 184 fewer) 108 fewer per 1,000 (from 73 fewer to 129 fewer)	⊕⊕⊕O MODERATE	IMPORTANT
Pruritus												
5	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	Reporting bias[a]	0/135 (0%)	12/131 (9.2%) 5.9%	RR 0.14 (0.03 to 0.59)	79 fewer per 1,000 (from 38 fewer to 89 fewer) 51 fewer per 1,000 (from 24 fewer to 57 fewer)	⊕⊕⊕O MODERATE	IMPORTANT
Sedation												
4	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	Reporting bias[a]	3/114 (2.6%)	1/110 (0.9%) 0%	RR 2.02 (0.32 to 12.92)	9 more per 1,000 (from 6 fewer to 108 more)-	⊕⊕⊕O MODERATE	IMPORTANT

GRADE: Grading of Recommendations Assessment, Development and Evaluation, CI: confidence interval, RR: risk ratio.

[a]Bias.

The second line of data under the "No. of patients" section indicates the median control group risk from the studies included in a meta-analysis.

Supplementary Table 2. GRADE evidence summary table of visual analogue scale (VAS) score

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Experimental	Control	Relative (95% CI)	Absolute		
VAS 0-12 h (Better indicated by lower values)												
7	Randomised trials	No serious risk of bias	Serious[a]	No serious indirectness	No serious imprecision	Reporting bias[b]	180	179	-	MD 0.21 higher (0.01 lower to 0.44 higher)	⊕⊕OO LOW	CRITICAL
VAS 12-24 h (Better indicated by lower values)												
10	Randomised trials	No serious risk of bias	Serious[a]	No serious indirectness	No serious imprecision	Reporting bias[b]	288	289	-	MD 0.16 higher (0.09 lower to 0.41 higher)	⊕⊕OO LOW	CRITICAL
VAS 24-48 h (Better indicated by lower values)												
9	Randomised trials	No serious risk of bias	Serious[a]	No serious indirectness	No serious imprecision	Reporting bias[b]	249	249	-	MD 0.27 lower (0.49 to 0.05 lower)	⊕⊕OO LOW	CRITICAL

GRADE: Grading of Recommendations Assessment, Development and Evaluation, CI: confidence interval, MD: mean difference.
[a]Heterogeneity. [b]Funnel plot.

Supplementary Table 3. GRADE evidence summary table of patient satisfaction

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Experimental	Control	Relative (95% CI)	Absolute		
Patient satisfaction												
4	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	Reporting bias[a]	148/178 (83.1%)	107/138 (77.5%) 78.1%	RR 1.06 (0.94 to 1.18)	47 more per 1,000 (from 47 fewer to 140 more) 47 more per 1,000 (from 47 fewer to 141 more)	⊕⊕⊕O MODERATE	IMPORTANT

GRADE: Grading of Recommendations Assessment, Development and Evaluation, CI: confidence interval, RR: risk ratio.

[a]Funnel plot.

The second line of data under the "No. of patients" section indicates the median control group risk from the studies included in a meta-analysis.

Supplementary Table 4. GRADE evidence summary table of opioids consumption

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Experi-mental	Control	Relative (95% CI)	Absolute		
Opioids (Better indicated by lower values)												
6	Randomised trials	No serious risk of bias	Serious[a]	No serious indirectness	Serious[b]	Reporting bias[c]	265	269	-	MD 2.02 lower (8.4 lower to 4.36 higher)	⊕OOO VERY LOW	IMPORTANT

GRADE: Grading of Recommendations Assessment, Development and Evaluation, CI: confidence interval, RR: risk ratio.
[a]Heterogeneity. [b]No explanation was provided. [c]Bias.

Supplementary Table 5. GRADE evidence summary table of rehabilitation indices

Quality assessment							No. of patients		Effect		Quality	Importance
No. of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Experimental	Control	Relative (95% CI)	Absolute		
Length of hospital stay (Better indicated by lower values)												
5	Randomised trials	No serious risk of bias	Serious[a]	No serious indirectness	Serious[b]	None	147	147	-	MD 0.09 lower (0.45 lower to 0.27 higher)	⊕⊕OO LOW	IMPORTANT
Active knee flexion (Better indicated by lower values)												
5	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Serious[b]	None	143	142	-	MD 1.81 higher (1.17 lower to 4.78 higher)	⊕⊕⊕O MODERATE	IMPORTANT

GRADE: Grading of Recommendations Assessment, Development and Evaluation, CI: confidence interval, MD: mean difference.
[a]Heterogeneity. [b]Small sample size and large CI.