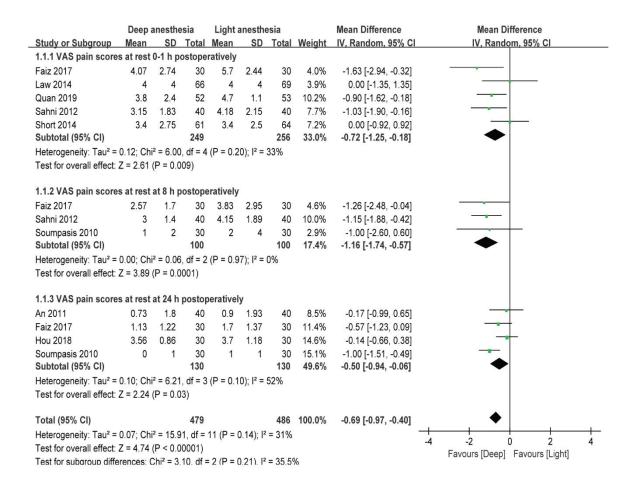
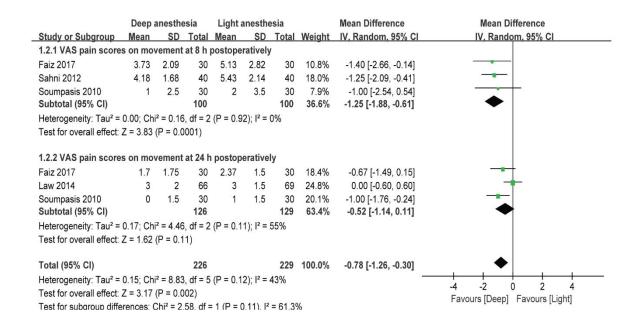


**Supplementary Figure 1:** Risk of bias assessment. (A) risk of bias summary and (B) risk of bias graph.



**Supplementary Figure 2:** Subgroup analysis for pain scores at rest at different postoperative time points. CI: Confidence interval; IV: Inverse variance; SD: Standard deviation.



**Supplementary Figure 3:** Subgroup analysis for pain scores on movement at different postoperative time points. CI: Confidence interval; IV: Inverse variance; SD: Standard deviation.

	Deep anesthesia		Light anesthesia			Risk Ratio		Risk Ratio		
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% C		M-H, Random, 95% CI		
2.1.1 Non-cardiac su	rgery							8		
Chan 2013	109	452	70	450	54.8%	1.55 [1.18, 2.03]				
Evered 2021	74	262	47	253	38.6%	1.52 [1.10, 2.10]		<b>=</b>		
Zhou 2018	11	40	7	41	5.7%	1.61 [0.69, 3.74]		+-		
Subtotal (95% CI)		754		744	99.0%	1.54 [1.26, 1.89]		♦		
Total events	194		124							
Heterogeneity: Tau <sup>2</sup> =	$0.00$ ; $Chi^2 = 0$	0.02, df =	2 (P = 0.99);	$ ^2 = 0\%$						
Test for overall effect:	Z = 4.22 (P <	0.0001)								
2.1.2 Cardiac surger	y									
Kunst 2019	8	40	1	41	1.0%	8.20 [1.07, 62.60]		<u> </u>		
Subtotal (95% CI)		40		41	1.0%	8.20 [1.07, 62.60]				
Total events	8		1							
Heterogeneity: Not ap	plicable									
Test for overall effect:	Z = 2.03 (P =	0.04)								
Total (95% CI)		794		785	100.0%	1.57 [1.28, 1.91]		♦		
Total events	202		125							
Heterogeneity: Tau <sup>2</sup> =	0.00; Chi <sup>2</sup> = 2	2.62, df =	3 (P = 0.45);	$ ^2 = 0\%$			0.001	0.1 1 10	1000	
Test for overall effect: Z = 4.40 (P < 0.0001)							0.001	0.1 1 10 Favors [Deep] Favors [Light]	1000	
Test for subaroup diffe	erences: Chi <sup>2</sup>	= 2.57. dt	f = 1 (P = 0.1	1). $I^2 = 6$	1.1%			ravors [Deep] ravors [Light]		

**Supplementary Figure 4:** Subgroup analysis for POD according to cardiac and non-cardiac surgeries. CI: Confidence interval; M-H: Mantel-Haenszel; POD: Postoperative delirium.