

## Comparison 2.b. Tramadol intramuscular (IM) compared with pethidine (IM)

Source:† Ullman R, Smith LA, Burns E, Mori R, Dowswell T. Parenteral opioids for maternal pain management in labour. Cochrane Database Syst Rev. 2010;(9):CD007396.

No. of studies	Study design	Quality assessment					No. of participants		Effect		Certainty (GRADE)	Importance
		Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Tramadol IM	Pethidine IM	Relative (95% CI)	Absolute (95% CI)		
<b>Pain intensity - women with poor pain relief</b>												
4	RCTs	serious <sup>a</sup>	not serious	not serious	serious <sup>b</sup>	none	47/121 (38.8%)	31/122 (25.4%)	RR 1.56 (1.10-2.21)	142 more per 1000 (from 25 more to 307 more)	⊕⊕○○ LOW	critical
<b>Additional analgesia required</b>												
3	RCTs	serious <sup>a</sup>	not serious	not serious	very serious <sup>c</sup>	none	27/148 (18.2%)	24/147 (16.3%)	RR 1.07 (0.60-1.91)	11 more per 1000 (from 65 fewer to 149 more)	⊕○○○ VERY LOW	critical
<b>Nausea and vomiting</b>												
6	RCTs	serious <sup>a</sup>	serious <sup>d</sup>	not serious	serious <sup>e</sup>	none	37/228 (16.2%)	47/226 (20.8%)	RR 0.97 (0.34-2.76)	6 fewer per 1000 (from 137 fewer to 366 more)	⊕○○○ VERY LOW	critical
<b>Maternal sleepiness</b>												
5	RCTs	serious <sup>a</sup>	serious <sup>d</sup>	not serious	not serious	none	58/205 (28.3%)	113/204 (55.4%)	RR 0.57 (0.33-0.97)	238 fewer per 1000 (from 17 fewer to 371 fewer)	⊕⊕○○ LOW	critical
<b>Assisted vaginal delivery</b>												
3	RCTs	serious <sup>a</sup>	not serious	not serious	very serious <sup>f</sup>	none	1/130 (0.8%)	3/130 (2.3%)	RR 0.56 (0.12-2.56)	10 fewer per 1000 (from 20 fewer to 36 more)	⊕○○○ VERY LOW	critical
<b>Caesarean section</b>												
3	RCTs	serious <sup>a</sup>	not serious	not serious	very serious <sup>f</sup>	none	5/130 (3.8%)	7/130 (5.4%)	RR 0.71 (0.23-2.18)	16 fewer per 1000 (from 41 fewer to 64 more)	⊕○○○ VERY LOW	critical
<b>Low Apgar scores (≤ 7) at 1 and 5 minutes - low scores at 5 minutes</b>												
1	RCT	serious <sup>g</sup>	not serious	not serious	serious <sup>h</sup>	none	0/80 (0.0%)	0/80 (0.0%)	not estimable		⊕⊕○○ LOW	critical
<b>Neonatal resuscitation</b>												
1	RCT	serious <sup>g</sup>	not serious	not serious	serious <sup>h</sup>	none	0/45 (0.0%)	0/45 (0.0%)	not estimable		⊕⊕○○ LOW	critical

† Updated for the purpose of this guideline.

No. of studies	Study design	Quality assessment					No. of participants		Effect		Certainty (GRADE)	Importance
		Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Tramadol IM	Pethidine IM	Relative (95% CI)	Absolute (95% CI)		
<b>Neonatal respiratory distress</b>												
1	RCT	serious <sup>g</sup>	not serious	not serious	very serious <sup>f</sup>	none	7/30 (23.3%)	3/29 (10.3%)	RR 2.26 (0.64-7.89)	130 more per 1000 (from 37 fewer to 713 more)	⊕○○○ VERY LOW	critical

CI: confidence interval; RCT: randomized controlled trial; RR: risk ratio.

<sup>a</sup> Pooled effect estimate derived mainly from studies with a moderate risk of bias.

<sup>b</sup> Small sample size.

<sup>c</sup> Wide confidence interval crossing the line of no effect and small sample size.

<sup>d</sup> Severe unexplained heterogeneity.

<sup>e</sup> Wide confidence interval crossing the line of no effect.

<sup>f</sup> Wide confidence interval crossing the line of no effect, few events and small sample size.

<sup>g</sup> Effect estimate was derived from a single study with a moderate risk of bias.

<sup>h</sup> No events and small sample size.