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**Question:** Should holding vs lying supine be used for reducing vaccine injection pain in children in the first 3 years of life?

**Settings:** clinic

**Bibliography:** Hallstrom 1968, lpp 2004, Taavoni 2010

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Holding	Lying supine	Relative (95% CI)	Absolute		
Distress Acute <sup>1,2,3</sup> (measured with: validated tools (Modified Behavioural Pain Scale 0-10, Neonatal Facial Coding System 0-300, cry) by researcher; Better indicated by lower values)												
3	randomised trials <sup>3</sup>	serious <sup>1,4</sup>	serious <sup>1</sup>	no serious indirectness	serious <sup>5</sup>	none	109	104	-	SMD 0.72 lower (1.95 lower to 0.51 higher) <sup>1,2,3</sup>	⊕⊕⊕⊕ VERY LOW	CRITICAL
Distress Acute + Recovery (measured with: validated tools (cry duration in seconds) by researcher; Better indicated by lower values)												
1	randomised trials	serious <sup>6,7</sup>	no serious inconsistency	no serious indirectness	serious <sup>5</sup>	none	56	50	-	SMD 0.16 higher (0.22 lower to 0.54 higher)	⊕⊕⊕⊕ LOW	CRITICAL
Procedure Outcomes, Parent Fear, Use of Intervention, Vaccine Compliance, Preference, Satisfaction (assessed with: no data were identified for these important outcomes)												
0	No evidence available					none	-	-	-	-		IMPORTANT
								0%		-		

<sup>1</sup> In 1 study (lpp 2004), there was contamination (some infants in the supine group were picked up immediately after injection) potentially reducing differences between groups.

Removal of the data from this study alters the meta-analytic results; pain scores are statistically lower for the intervention (holding) group (SMD = -1.25 (95% CI -2.05 to -0.46)). In another study (Hallstrom 1968), infants in the supine group were picked up within 15 seconds of injection and the outcome reported was scored in the first 10 seconds which could reduce differences between groups. Removal of the data from lpp (2004) and Hallstrom (1968) leads to the following results: SMD - 1.62 (95% CI -2.14 to -1.10)

<sup>2</sup> Data from 1 study (Hallstrom 1968) included without standardization of scores to the same scale

<sup>3</sup> Additional information and data provided by 1 author (Taavoni 2010)

<sup>4</sup> Immunizers, parents, researchers not blinded; outcome assessor not consistently blinded

<sup>5</sup> Confidence intervals cross the line of nonsignificance and the sample size was below the recommended optimum information size (OIS) of 400 for an effect size of 0.2

<sup>6</sup> Immunizers, parents, researchers not blinded; outcome assessor blinded

<sup>7</sup> In 1 study (lpp 2004), there was contamination (some infants in the supine group were picked up immediately after injection) potentially reducing differences between groups