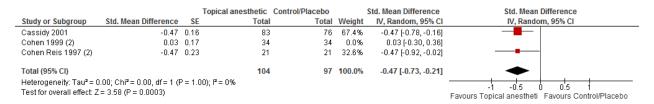
Revman Plots: Topical anesthetics child 0-12 years

Pain

			Topical anesthetic	Control/Placebo		Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Std. Mean Difference	SE	Total	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Cassidy 2001	-0.47	0.16	83	76	36.8%	-0.47 [-0.78, -0.16]	
Cohen 1999 (2)	0.03	0.17	34	34	35.4%	0.03 [-0.30, 0.36]	
Cohen Reis 1997 (2)	-0.47	0.23	21	21	27.7%	-0.47 [-0.92, -0.02]	
Total (95% CI)			138	131	100.0%	-0.29 [-0.64, 0.05]	•
- /	0.06; Chi² = 5.42, df = 2 (l	P = 0.0	17); I² = 63%				-1 -0.5 0 0.5 1
Test for overall effect: Z	Z = 1.67 (P = 0.09)						Favours Topical anestheti Favours Control/Placebo

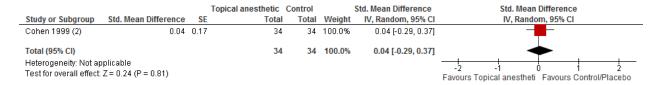
(Without data from study by Cohen 1999)



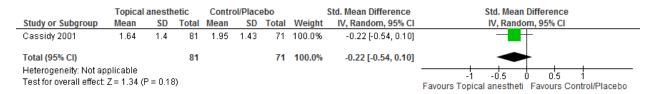
Pain (yes/no)

	Topical anes	thetic	Control/PI	acebo		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Cassidy 2001	14	83	33	76	100.0%	0.39 [0.23, 0.67]	-
Total (95% CI)		83		76	100.0%	0.39 [0.23, 0.67]	•
Total events	14		33				
Heterogeneity: Not ap							0.01 0.1 1 10 100
Test for overall effect	Z = 3.42 (P = 0)	1.0006)					Favours Topical anestheti Favours Control/Placebo

Fear



Distress Pre-procedure



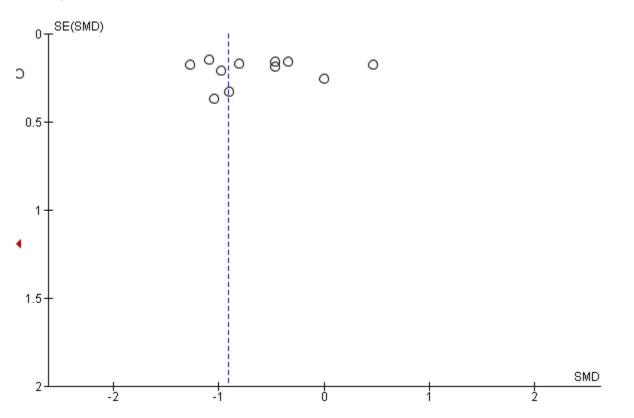
Distress Pre-procedure + Acute

	Topical	l anesth	etic	Contr	ol/Place	ebo		Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Cohen 2006 (3)	5.3	1.63	28	5.05	1.45	28	66.6%	0.16 [-0.36, 0.68]	-
Cohen 2006 (4)	5.08	1.18	14	4.93	1.95	14	33.4%	0.09 [-0.65, 0.83]	-
Total (95% CI)			42			42	100.0%	0.14 [-0.29, 0.56]	•
Heterogeneity: Tau² = Test for overall effect:			•	(P = 0.88	3); I * = 0)%		- Favo	-2 -1 0 1 2

Distress Acute

			Topical anesthetic	Control/Placebo		Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Std. Mean Difference	SE	Tota	I Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Abuelkheir 2014	-1.09	0.15	10	7 109	8.5%	-1.09 [-1.38, -0.80]	
Achema 2011 (2)	-0.9	0.33	21	20	7.4%	-0.90 [-1.55, -0.25]	
Basiri-Moghadam 2014 (1)	-1.04	0.37	11	3 18	7.1%	-1.04 [-1.77, -0.31]	
Cassidy 2001	-0.81	0.17	8:	3 75	8.4%	-0.81 [-1.14, -0.48]	
Cohen 1999 (2)	0.46	0.18	3-	4 34	8.3%	0.46 [0.11, 0.81]	
Dilli 2009 (2)	-4.77	1.19		7 7	2.6%	-4.77 [-7.10, -2.44]	←
Gupta 2013 (1)	0	0.26	31	30	7.9%	0.00 [-0.51, 0.51]	
Halperin 2000	-0.34	0.16	81	0 80	8.4%	-0.34 [-0.65, -0.03]	
Halperin 2002	-0.46	0.16	7:	3 80	8.4%	-0.46 [-0.77, -0.15]	
Kumar 2014	-2.9	0.23	7:	5 75	8.1%	-2.90 [-3.35, -2.45]	+
O'Brien 2004	-0.46	0.19	6	1 59	8.3%	-0.46 [-0.83, -0.09]	
Taddio 1994	-0.98	0.21	4:	3 47	8.2%	-0.98 [-1.39, -0.57]	
Uhari 1993	-1.27	0.18	7:	9 76	8.3%	-1.27 [-1.62, -0.92]	
Total (95% CI)			714	4 710	100.0%	-0.91 [-1.36, -0.47]	•
Heterogeneity: Tau² = 0.58; C	chi² = 180.10, df = 12 (P	< 0.000	001); I²= 93%				
Test for overall effect: $Z = 4.0$:	2 (P < 0.0001)						Favours Topical anestheti Favours Control/Placebo

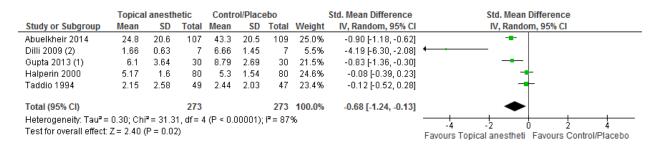
Funnel plot



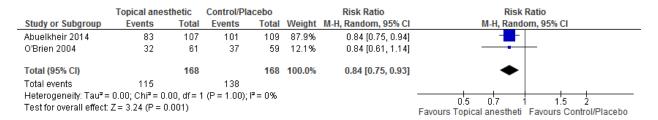
Distress Acute (yes/no)

	Topical anesthetic Contro					Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Dilli 2009 (2)	1	7	7	7	100.0%	0.20 [0.05, 0.86]	
Total (95% CI)		7		7	100.0%	0.20 [0.05, 0.86]	
Total events	1		7				
Heterogeneity: Not ap Test for overall effect		03)					0.01 0.1 1 10 100 Favours Topical anestheti Favours Control/Placebo

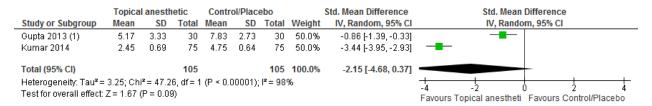
Distress Acute + Recovery



Distress Acute + Recovery (yes/no)



Distress Recovery



Distress Pre-procedure + Acute + Recovery

			Topical anesthetic	Control/Placebo		Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Std. Mean Difference	SE	Total	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Cohen 1999 (2)	0.19	0.17	34	0	100.0%	0.19 [-0.14, 0.52]	-
Total (95% CI)			34	0	100.0%	0.19 [-0.14, 0.52]	→ .
Heterogeneity: Not ap Test for overall effect:	•						-2 -1 0 2 Favours Topical anestheti Favours Control/Placebo

Distress Acute (Observer-rated for child)

	Topica	anesth	etic	Co	ontro	I		Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Cohen Reis 1997 (2)	2.68	2.22	21	4.81	1.4	21	100.0%	-1.13 [-1.78, -0.47]	-
Total (95% CI)			21			21	100.0%	-1.13 [-1.78, -0.47]	•
Heterogeneity: Not app Test for overall effect: Z		= 0.000	8)					- Favo	-2 -1 0 1 2 ours Topical Anestheti Favours Control

Pallor or Erythema or other

	Topical anes	thetic	Control/Pla	acebo		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Gupta 2013 (1)	6	30	5	30	47.7%	1.20 [0.41, 3.51]	
Taddio 1994	45	50	6	49	52.3%	7.35 [3.45, 15.64]	
Total (95% CI)		80		79	100.0%	3.09 [0.51, 18.59]	
Total events	51		11				
Heterogeneity: Tau ² =			(P = 0.006)	; I² = 879	%		0.2 0.5 1 2 5
Test for overall effect:	Z= 1.23 (P= 0	.22)					Favours Control/Placebo Favours Topical anestheti

Pallor

(includes data from 1 study in adults – Taddio 1992)

	Topical anes	thetic	Control/Pla	acebo		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Abuelkheir 2014	31	107	5	109	13.2%	6.32 [2.55, 15.63]	
Cassidy 2001	52	83	33	78	21.2%	1.48 [1.09, 2.01]	-
Halperin 2000	39	80	8	80	16.0%	4.88 [2.43, 9.77]	_
Halperin 2002	15	82	10	82	15.4%	1.50 [0.72, 3.14]	+-
O'Brien 2004	29	61	16	59	18.9%	1.75 [1.07, 2.87]	
Taddio 1992	21	29	6	31	15.2%	3.74 [1.76, 7.94]	
Total (95% CI)		442		439	100.0%	2.59 [1.56, 4.29]	•
Total events	187		78				
Heterogeneity: Tau ² = Test for overall effect			5 (P = 0.00)	06); I² = 7	77%		0.01 0.1 1 10 100
1 COLIOI OVERAII EIIECL	. 2 - 3.30 (1 - 0	,.0002)					Favours Control/Placebo Favours Topical anestheti

Erythema

(includes data from 1 study in adults – Taddio 1992)

	Topical anes	thetic	Control/Pla	icebo		Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% CI
Abuelkheir 2014	0	107	0	109		Not estimable	
Cassidy 2001	14	83	15	78	16.9%	0.88 [0.45, 1.70]	
Halperin 2000	40	80	32	80	29.0%	1.25 [0.88, 1.77]	+-
Halperin 2002	16	82	6	82	11.5%	2.67 [1.10, 6.47]	
O'Brien 2004	52	61	26	59	30.9%	1.93 [1.42, 2.63]	-
Taddio 1992	7	29	8	31	11.7%	0.94 [0.39, 2.25]	
Total (95% CI)		442		439	100.0%	1.42 [0.99, 2.03]	•
Total events	129		87				
Heterogeneity: Tau ² =	0.08; Chi ² = 9.	07, df = 4	4 (P = 0.06);	l² = 56%			0.01 0.1 1 10 100
Test for overall effect:	Z=1.93 (P=0	.05)					0.01 0.1 1 10 100 Favours Control/Placebo Favours Topical anestheti

Parent Fear

	Topica	l anesth	etic	C	ontrol			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Cohen Reis 1997 (2)	1.21	1.85	21	2.21	2.09	21	100.0%	-0.50 [-1.11, 0.12]	-
Total (95% CI)			21			21	100.0%	-0.50 [-1.11, 0.12]	•
Heterogeneity: Not app Test for overall effect: Z		= 0.11)						Favo	-2 -1 0 1 2 ours Topical anestheti Favours Control

Parent Preference

	Topica	l anesth	etic	C	ontrol			Std. Mean Difference	Std. Mean Difference
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Cohen Reis 1997 (2)	2.25	3.15	21	3.12	3.47	21	100.0%	-0.26 [-0.87, 0.35]	-
Total (95% CI)			21			21	100.0%	-0.26 [-0.87, 0.35]	•
Heterogeneity: Not app Test for overall effect: Z		= 0.41)						Fav	-2 -1 0 1 2 ours Topical anestheti Favours Control