

Table 4. Evidence table of studies meeting scoring cut-off (11/18)

Authors	Location	Mean Age	Male/ Female Ratio	Sample Size	Type of Teeth	Measure ment of Pain	Intervention			
							Technique	Type of Anesthesia	Adjunctive Medication	Control
Remmers et al.	Baylor College and Texas A&M; pts. Scheduled for endo tx or extraction	39 y/o	16:14	30	Md posterior	electric pulp test	Intraflow intraosseous injection	2% lidocaine w/1:100,000 epi; 1.8mL	N/A	2% lidocaine w/1:100,000 epi; 1.8mL; IAN
Srinivasan et al.	India, Tamilnadu Gov't Dental College and Hospital; emergency patients	18-40 y/o	20:20	40	Max 1st PM; Max 1st M	VAS	Mx buccal infiltration	1.7 mL 4% articaine w/1:100,000 epi	N/A	1.7 mL 2% lidocaine (epi)
Claffey and others	College of Dentistry emergency patients, Ohio USA	31 y/o	25/47	72	Md posterior	Heft Parker VAS	standard (IAN)	4% articaine w/1:100,000 epi, 2.2 mL	N/A	2% lidocaine
Lindemann et al.	Emergency Pts at Ohio State University	37 y/o	16:14	58	Md Posterior	Heft Parker VAS	IAN block	2% lidocaine with 1:100,000 epinephrine 3.6 mL	Triazolam	Placebo
Bigby and others	College of Dentistry emergency patients, Ohio USA	31.5 y/o	20:28	48	Md posterior	Heft Parker VAS	standard (IAN and long buccal)	36 mg lidocaine and 36 mg meperidine in 3.6mL	N/A	4% lidocaine
Kennedy et al.	Emergency Pts at Ohio State University	35 y/o	17:15	64	Md posterior	Heft Parker VAS	Bidirectional needle rotation technique using computer assisted Wand II anesthesia technique	2% lidocaine with 1:100,000 epinephrine 2.8 mL	N/A	conventional IAN block

Outcome				Critical Appraisal		
Authors	Assessment Criteria	Results	Author Conclusions	Strength of Study Design	Checklist Score (/18)	Comments
Remmers et al.	two consecutive 80/80 readings	Intraflow - 87% IAN -60% successful N.S; Intraflow-4.6min, IAN-8.5min* (p 0.017)	Intraflow system can be used as primary anesthesia for irreversible pulpitis	I, B	14	Single blinded only. Did not control for age, gender, initial pain, anxiety, tooth type. No side effects were assessed.
Srinivasan et al.	VAS score of 0 or 1	success was 100% using articaine in first PM and M; with lidocaine it was 80% in 1st PM and 30% in 1st M	The efficacy of 4% articaine was superior to 2% lidocaine for maxillary buccal infiltration in mx. post. teeth	I,B	14	No side effects were assessed. Did not control for anxiety and tooth type.
Claffey and others	Heft Parker VAS rating \leq 54mm	articaine 24% successful; lidocaine 23% successful; NS	No improvement in anesthetic success of IAN	I, I	12	Did not control for anxiety and tooth type. Imbalanced male:female ratio.
Lindemann et al.	Heft Parker VAS rating \leq 54mm	Placebo-57% Triazolam-43% N.S	Conscious sedation did not lessen rxn to pain	I, I	12	No side effects were assessed.
Bigby and others	Heft Parker VAS rating \leq 54mm	lidocaine/meperidine 12% successful; lidocaine 26% successful; N.S.	no improvement in anesthetic success of IAN	I, I	11	Single blinded only. Did not control for anxiety. Examined sedation effects of meperidine.
Kennedy et al.	Heft Parker VAS rating \leq 54mm	IAN-50%; Bidirectional-56%; N.S.	No improvement w/ bidirectional vs. IAN	I, I	11	Single blinded only. Did not control for anxiety. No side effects were assessed.