



Sources of Heterogeneity

- DIFFERENCES IN STUDY DESIGN/ METHODOLOGY:
- Operators/ Evaluators
- Randomization, Blinding
- Age/ Gender of Subjects, and Sample Size
- Various Dosages and Delivery Techniques
- Different Tooth Selection and Pre-operative Pulpal Status
- Determination of Anesthetic Efficacy, Definition of Success



Implications For Clinical Practice

- **Volume Matters !**
- Articaine - *similar* to other local anesthetics
- Superiority* of Articaine - in 7 of 10 comparative trials
 - studies. *Statistically significant in only 3 of these
- Due to heterogeneity of included studies, further clinical trials are needed



Implications for Future Research

- Optimal quality of randomized controlled trials:
 - Sufficiently blinded and randomized.
 - Proper determination of sample size.
 - Clearly defined outcomes, and description of valid outcomes measurements.
 - Reporting of adverse events.

QUESTIONS?

