

To aspirate or not to aspirate? The latest evidence on
intramuscular injection techniques

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	ABSTRACT
Rationale	<p>According to the CDC, more than 20 immunizations are recommended for children prior to their eighteenth birthday and adults may receive a number of intramuscular (IM) injections throughout their remaining lifetime. Since many shots are given via IM technique, nurses should know the latest research on methods to make the experience safe, effective, and as painless as possible for patients of all ages. Aspiration, or drawing back on a syringe to check for blood prior giving an injection into muscular tissue, has been a standard practice taught in nursing programs for decades. The authors reviewed current literature to determine if this practice is backed by evidence-based studies. To narrow the scope of research, a focus on aspiration's effect on pain was selected.</p>
Objective	<p>This study was conducted to determine the latest scientific evidence regarding the pain effects of aspirating prior to administering an intramuscular injection to children.</p>
Methods	<p>A meta-analysis literature review of evidence-based practice studies and practice guidelines from the last 10 years was conducted.</p>
Results	<p>A variety of study types were found including meta-analysis, randomized controlled trials, quantitative studies, descriptive studies, and current practice guidelines. These studies all agreed, regardless of study type, that the practice with the best outcome and least amount of pain was quick administration of an intramuscular injection without aspiration. In addition, several studies reviewed current nursing practices to find that many still use the outdated standards of aspiration. It was also found that with proper education, nurses can and will change their injection practice to mirror current guidelines.</p>
Conclusions	<p>Although the authors were most interested in aspiration's effects on injection-related pain, other injection technique evidence-based information was also gathered. Literature review conclusions were:</p> <ul style="list-style-type: none"> • A rapid IM injection technique without aspiration results in less pain. • Aspiration does not confirm correct needle placement. • As a result, aspiration is not a recommended procedure for IM injections in any age group.