

Intramuscular Injection Sites

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Clinical Question:

For patients that receive intramuscular injections, does administering the injection in the ventrogluteal site reduce the risk for complications compared to using the dorsogluteal site?

Summary of Key Evidence:

Study #1

The aim of this literature review by Cocoman and Murray (2008) was to “review the practice of intramuscular injection and administration and also to evaluate injection sites and techniques to evaluate their quality and relevance and overall benefit to improve clinical practice” (p. 424). Forty four articles were reviewed and 16 nursing textbooks. The variables reviewed included: overview of the use of IM injections, the dorsogluteal injection site, the ventrogluteal site, and the rationale for this practice guideline.

Cocoman and Murray (2008) concluded that using the dorsogluteal site increases likelihood of injury to the sciatic nerve, which may lead to problems ranging from foot drop to paralysis of the lower limb, or puncture of the superior gluteal artery. Also potential poor absorption rates owing to the presence of too much fatty tissue and abscess formation. Using this site also increases the likelihood of not achieving a true IM injection and if injected into the subcutaneous tissue, it leads to poor drainage within the fatty subcutaneous tissue and leads to an increased rate of local side effects, such as infection, irritation, abscess and granuloma formations.

Study #2

Small (2004) conducted a review of evidence of “IM injection and sciatic nerve injury adults and measures that nurses may take to prevent such iatrogenic effect, and an examination of factors that may perpetuate faulty practice “ (p 288). This review included a search of legal databases which consisted of court cases with sciatic nerve damage and literature to determine the current information disseminated on injection procedures.

Sixteen different court cases with sciatic nerve injury were reviewed, with six of the court cases found in favor of the plaintiff. One case was settled with the nurse and hospital and the remaining nine cases, sciatic nerve injury occurred after the nurse administered the Im injection but the claims failed due to insufficient evidence or problems with legal procedure.

Small (2004) examined the literature and textbooks on proper IM administration and found few research studies on proper IM administration but found many opinions articles, commentaries and practice guidelines on IM injections. Small found little in the literature on the relationship of IM injection and sciatic nerve injury. Studies reviewed revealed sciatic nerve injury from IM injections may be caused by mechanical or chemical factors, including the volume and character of the medication, and injection location.

Studies reviewed that examined nurses preference of injection sites for IM injections noted the nurses had a lack of confidence in themselves when using the VG site, no knowledge of how to use/find the VG site, or inadequate teaching of how to use the VG site. Although an

overwhelming amount of nurses preferred the DG site, when tested on their knowledge, they inaccurately illustrated the way in which to give an IM injection in the DG site.

Study #3

The purpose of the study by Walsh and Brophy (2010) "was to determine intramuscular injection sites presently being used by acute care nurses in one Canadian province and factors that contribute to site selection" (p. 1034). This study is a descriptive, correlational study. A sample of 264 nurses employed in acute care setting were surveyed on IM site selection, rationale for site selection and knowledge of complications and complications encountered.

Walsh and Brophy (2010) reported that nurses are not using current guidelines for administering IM injections as presented in nursing literature and that 71% of nurses primarily use the DG site for IM injections although they identify the potential for nerve damage with this site.

Bottom Line:

The evidence suggests that the dorsogluteal site for intramuscular injections puts an individual at risk for significant injury and malabsorption of the medication that is given.

Implications for Practice:

Nurses can use this evidence when providing patients with medications that call for an intramuscular site administration. Nurses can encourage policy development by educating those who are employed in the medical field about how to properly find the site and safely administer the medication and also about the safety risks of the dorsogluteal site.

References :

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