PEDIATRICS – MEDICATION: INTRAMUSCULAR INJECTION: INFANT

SECTION: 20.15

Strength of Evidence Level: 3

PURPOSE:
To administer a prescribed dose of medication into a large muscle.

CONSIDERATIONS:
Medications are given by injection to secure a fairly rapid response and/or to administer medications which cannot be given by another route:

1. The recommended site for administration in infants up to 12 months is the vastus lateralis, as it is the largest muscle mass in an infant. The vastus lateralis can tolerate up to 0.5 mL of fluid. For children older than 12 months, the ventrogluteal and the deltoid may be used as they can tolerate up to 2 mL of fluid.

2. Provide for sufficient help in restraining the child as children are often uncooperative and their behavior can be unpredictable.

3. During the procedure, talk to the infant or child, give the child a toy for distraction or a phrase to say. Give the older child a choice of vaccination site, if possible.

4. Select a method to anesthetize the puncture site:
   a. Apply EMLA on site 2 1/2 hours before intramuscular (IM) injection, or apply LMX on site for at least 30 minutes before injection.
   b. Use a vaporcoolant spray (e.g., Fluori-Methane or ethyl chloride) just before injection or apply ice to numb.

5. Inject the medication slowly to allow the muscle to distend to accommodate the medication into the surrounding tissues.

6. A filter needle must be used to draw up medication from an ampule and then replaced with appropriate size needle for injection.

7. The needle length must be adequate to permeate the subcutaneous tissue and deposit the medication into the body of the selected muscle.

8. Use at least 2 patient identifiers prior to administering medications.

EQUIPMENT:
Disposable, sterile syringe with 22-25 gauge, 5/8 to 1 inch needle
Medication
Alcohol wipes
Gauze or cotton balls
Self-adhesive bandage
Gloves
Topical anesthetic
Impervious trash bag
Puncture-proof container
Extra 22-25 gauge, 5/8 to 1 inch needle
19-gauge filter needle (optional)

PROCEDURE:
1. Adhere to Standard Precautions.
2. Identify the patient and explain procedure to caregiver.
3. Have the medication at room temperature.
4. Check doctor’s order for dosage, frequency and route of administration.
5. Locate the site:
   a. Vastus lateralis: Palpate to find greater trochanter and knee joints, divide vertical distance between these two landmarks into thirds, inject into middle one third.
   b. Ventrogluteal: Palpate to locate greater trochanter, anterior superior iliac tubercle (found by flexing thigh at hip and measuring up to 1-2 cm above crease formed in groin), and posterior iliac crest; place palm of hand over greater trochanter, index finger over anterior superior iliac tubercle, and middle finger along crest of ilium posteriorly as far as possible; inject into center of V formed by fingers.
   c. Deltoid: Locate acromion process; inject only into upper third of muscle that begins about two finger-breadths below acromion but is above axilla.

6. Administer medication:
   a. Check that the needle is securely attached to syringe.
   b. Cleanse top of vial with alcohol wipe or break ampule with gauze.
   c. Draw up correct dosage of medication; expel any air in syringe.
   d. Place infant or child in comfortable position. You may need caregiver to hold infant.
   e. Prepare selected site with alcohol wipe; allow to air dry.

7. Insert needle quickly with dartlike motion. Use the Z track and/or air-bubble technique, as indicated.

8. Avoid any depression of the plunger during insertion of the needle.

[Note: Aspiration of IM is not indicated for immunizations and vaccinations. Aspiration may be indicated for injections that include large molecule injections i.e. Penicillin. If there is no blood aspirated, medication may be injected. If there is blood aspirated, withdraw needle, discard medication and syringe properly and repeat procedure, choosing another injection site.]

9. Inject medication slowly at rate of 1 mL/10 seconds.
10. Withdraw the needle quickly, keeping slight pressure over the area to avoid the tissue from pulling upward as the needle is withdrawn.
12. Discard soiled supplies in appropriate containers.

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AFTER CARE:

1. Encourage caregiver to comfort infant and praise child.
2. Document in the patient's record:
   a. Medication administered, date, dose, time, route and site.
   b. Patient's response to procedure, side effects and management.
   c. Instructions given to caregiver.
   d. Communication with the physician.