CAREPATHrx™
Specialty Pharmacy & Infusion Solutions

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INTRAMUSCULAR INJECTIONS

Section: Nursing
Compliance: ACHC Infusion Pharmacy
ACHC Standards: DRX2-10D, DRX5-1D, DRX5-5E, DRX7-81 DRX7-21A
TJC Standards: IC.02.01.01, MM.05.01.07, MM.06.01.01, MM.06.01.03, MM.07.01.01, NPSG.01.01.01, PC.02.01.01, PC.02.01.03, PC.02.02.05, PC.02.03.01
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Approved by, Title and Date Approved: Kathleen Patrick, President, 1/1/21, 5/1/21, 12/21/22, 7/1/2023

I. POLICY

An intramuscular injection is a technique of administering medication deep into the muscle. This allows the medication to be absorbed into the bloodstream quickly. Medications administered by intramuscular injection include but are not limited to: antibiotics, immunoglobins, vaccines, toxoids, and hormonal agents. Intramuscular injections are contraindicated in patients with low platelet counts, coagulation defects or muscle atrophy.

II. PROCEDURES

A. Supplies:

1. Gloves
2. Antiseptic wipe
3. Medication (vial or prefilled syringe)
4. Syringe, if withdrawing medication from a vial (appropriate for amount of medication being administered)
5. Needle, for administration:
    a. 22 to 25 gauge, 1 to 1 ½ inches long for adults
    b. 22 to 25 gauge, 5/8 to 1 inch for toddlers and children
6. Needle, if withdrawing medication from a vial
7. Gauze
8. Band-Aid
9. Sharps container

B. Verify patient using 2 identifiers.

C. Review prescriber's order. Verify the medication matches the medication label. Compare medication to prescriber's order and medication label to ensure right patient, right dose, right route of administration, rate of administration, and total volume to infuse.

D. Prior to use, allow medication or solution reach room temperature according to medication label or manufacturer's instructions for use in order to avoid the pain provoked by the injection of a cold

solution.

E. Perform hand hygiene (refer to Hand Hygiene policy).

F. Clean and disinfect work area using an appropriate disinfectant.

G. Explain procedure and educate patient/caregiver:

1. Risks, benefits, and goals of treatment
2. Aseptic technique and hand hygiene
3. Medication preparation
4. Proper administration technique. If patient/caregiver will be doing self-administration, utilize the teach-back method to assess patient/caregiver's understanding of instructions.
5. Signs and symptoms of a reaction
6. Side effects of treatment and management
7. Safe storage of medication and supplies
8. Disposal of medications, supplies and equipment
9. The appropriate provider of treatment (the prescriber OR the pharmacist; BOTH the prescriber and the pharmacist) to contact during business hours, the availability of an answering system to receive calls during evenings, nights, weekends and holidays and the accessibility of a Pharmacist, Nurse, and Dietician 24 hours a day, 7 days a week. Notify pharmacy by calling the number listed at the top of the medication label; (Refer to BEST PRACTICE GUIDELINES, ALGORITHM FOR NOTIFICATION OF PHARMACIST AND PROVIDER).

H. Gather all equipment on a clean, disinfected, aseptic field.

I. Inspect supplies for product integrity and function before use; inspect packaging for damage; inspect vial(s)/syringe for cracks, particulate matter, and clarity of medication. Verify expiration date.

J. Immediately prior to equipment assembly, hand hygiene is repeated, and non-sterile gloves are donned.

K. Prepare medications for injection according to medication label or package insert

L. Refer to Withdrawing Medication from a Vial, policy if medication is supplied in a vial.

M. Place patient in a comfortable position.

N. Select a site:

1. Select areas with intact skin and adequate muscle
2. Deltoid muscle of the arm
3. Ventrogluteal muscle of the hip
4. Dorsogluteal muscle of the buttocks
5. Vastus lateralis muscle of anterolateral thigh (Toddlers and children)
6. Avoid areas where there is bruising, swelling, hardness, irritation, damaged skin, thigh if peripheral edema exists

O. Site recommendations:

1. Separate two injections given in the same muscle by a minimum of 1 inch

2. The deltoid muscle is used for injections of small volume, usually equal to or less than 2 ml
3. The ventrogluteal site on the hip is used for injections which require a larger volume to be administered, up to 3 mls, and for medications which are known to be irritating, viscous, or oily.
4. The dorsogluteal muscle may be used for up to 4 mls.

P. Perform skin antisepsis using a friction scrub for at least 30 seconds and allow to dry for 60 seconds.

Q. Prepare syringe for injection.

R. Insert needle at a 90-degree angle into the muscle. Do not aspirate unless recommended on package insert (Aspirating for blood to rule out injecting into a blood vessel is not recommended by the US CDC, Public Health Agency of Canada, or Norway Institute of Public Health, as the injection sites do not contain large blood vessels and aspiration results in greater pain).

S. If administering by Z-track method, pull the skin and subcutaneous tissue to the side of the injection site before inserting the needle. Slowly inject medication. Once the medication has been administered, wait 10 seconds before removing the needle. Once the needle is removed, release the tissue.

T. Slowly push the plunger of the syringe to inject the medication.

U. Withdraw the needle. DO NOT RECAP.

V. Discard the used needle into a puncture-resistant sharps container.

W. Use gauze to lightly apply pressure to the injection site. Apply Band-Aid if desired.

X. Remove and discard gloves and perform hand hygiene

Y. Adverse Reactions:

1. Pain
2. Abscess at the injection site
3. Nerve injury
4. Bleeding
5. Swelling
6. Redness

Z. Post Injection Monitoring

1. Refer to medication package insert or therapy specific guidelines for post injection monitoring.
2. In the absence of specified instructions for post injection monitoring, the nurse will remain with the patient for at least 30 minutes following first and subsequent medication administration(s) of specialty injections, to monitor vital signs (temperature, pulse, respirations, and blood pressure) and response to therapy.

III. DOCUMENT:

1. Medication name, dose, and route of administration
2. Site of injection
3. Needle gauge and length
4. Patient's response to injection

5. Any adverse events
6. Education provided both verbal and written

REFERENCES

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The Joint Commission. (2022). *Joint Commission Resources E-dition*

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"Vaccine administration practices: Canadian Immunization Guide". *www.canada.ca*. 2020-12-02. Retrieved 2021-05-25. "Aspiration before injection of vaccine is not recommended, as there are no large blood vessels at the recommended immunization sites and not aspirating before injection has been demonstrated to reduce pain."

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"The Royal Children's Hospital Melbourne." *The Royal Children's Hospital Melbourne*, https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Intramuscular_Injections/.

You Call The Shots. Vaccine Administration: Needle Gauge and Length. https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/administration.html

Vallie, Sarah. "Z-Track Injections: When and How to Perform Them." *WebMD, WebMD,* Z-Track Injections: When and How to Perform Them (webmd.com)