

Activity 3

1. It is immunization day at the health center. The first patient is a 2-month old well female infant who is scheduled for the following vaccinations: pneumococcal conjugate vaccine (PCV), pentavalent vaccine (Penta) and oral polio vaccine. PCV and Penta are given via intramuscular route. *Where are the sites of injection? What muscle is targeted in the injection? Write down its origin, insertion and action. How do you locate this area?*

- **Sites of injection:** Pentavalent injections should be administered on the left thigh and PCV injections should be administered on the right thigh. Both on anterolateral thigh.
- **Muscle Targeted:** Vastus lateralis muscle
- **Origin:** Greater trochanter and linea aspera of femur
- **Insertion:** Patella via quadriceps tendon and then tibial tuberosity via patellar ligament
- **Action:** All four heads extend leg at knee joint; rectus femoris muscle acting alone also flexes thigh at hip joint
- **Area locating:** The infant can be held in a semi-recumbent position on the lap of the parent, or in supine position. Palpate the muscle below the greater trochanter and above the lateral femoral condyle (knee joint), and administer the injection into the middle third of the muscle, in the outer anterolateral aspect, lateral to the midpoint of the thigh.

2. The baby's 65-year-old grandfather also came to the center because influenza vaccine is being offered to senior citizens. The flu vaccine is given intramuscularly. *Which muscle is the preferred site for IM injection in this case? Write down its origin, insertion and action. How do you locate this area?*

- **Preferred site:** Deltoid muscle
- **Origin:** Acromial extremity of clavicle (anterior fibers), acromion of scapula (lateral fibers), spine of scapula (posterior fibers)
- **Insertion:** Deltoid tuberosity of humerus
- **Action:** Lateral fibers abduct arm at shoulder joint; anterior fibers flex and medially rotate arm at shoulder joint; posterior fibers extend and laterally rotate arm at shoulder joint
- **Area locating:** The injection site will be around 2 inches above the axillary fold/armpit and below the acromion process. As the central and thickest section of the muscle should receive the injection, all of the vaccine should be injected into the muscle tissue with the needle injected at a 90-degree angle. Be cautious of the placement to prevent damage.

References:

DEPARTMENT OF HEALTH AND HUMAN SERVICES USA. (2022, January 19).
<https://www.cdc.gov/vaccines/hcp/admin/downloads/IM-Injection-Infants-508.pdf>

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