

Vaccination Technique

MARIE COURTNEY

PROFESSIONAL DEVELOPMENT COORDINATOR FOR PRACTICE NURSING

HSE PRIMARY CARE UNIT, CHO 4 (CORK AND KERRY)



Learning Outcomes

Discuss relevant guidelines on administration of PCI

Discuss benefits and risks associated with IM injections

Identify the correct sites of administration of IM injections for each age group

Identify the correct needle length

Discuss how to position children for safe and effective administration

Discuss preparation and administration of PCI

Professional Guidelines

Ch.2 General Immunisation Procedures National Immunisation guidelines (2013) www.immunisation.ie

Guidelines for Vaccinations in General Practice (2015) (2016 Currently under review)

Guidance to Nurses on Medication Management (2007) <http://www.nmbi.ie/StandardsGuidance/MedicinesManagement>

www.immunisation.ie /Healthcare professionals/ Training Slides/Vaccine administration

www.hpra.ie or www.medicines.ie

Professional Guidelines

Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives - [http://www.nmbi.ie/Standards- Guidance/Code](http://www.nmbi.ie/Standards-Guidance/Code)

<http://www.immunisation.ie/en/Professionals/ImmunisationGuidelines>

Recording Clinical Practice: Professional guidance (2002)

<http://www.nmbi.ie/StandardsGuidance/MoreStandardsGuidance/Recording-Clinical-Practice>

Children First: National Guidance for the Protection and Welfare of Children <http://www.dcy.gov.ie>



The Consultation in General Practice Settings

- Introductions – build rapport and discuss Risks and Benefits
Opportunity given to parent to ask questions. Parent will have met PHN and midwife previously and discussed PCI
- Safe Drug administration
- 5 Rights – Patient, drug, dose, route, time
- GP on site
- Documented 6 week check-up with “fit for vaccines” note by GP along with PCI schedule prescribed by GP or Medication Protocol
- Outline immunisations schedule – 5 visits in total (Visits 1-5 at ages 2, 4, 6, 12, 13mths)
- Outline potential Side Effects – tear off pads
- Identify any Contraindications or relevant medical information – temperature, recent illnesses, hospital admissions Check SPC
- Document consent at 1st Visit (2mths) & 4th Visit (12mths) with appropriate guardian
- Give oral vaccination first
- Then IM injections

NIAC guideline age-site-needle size vaccinations

Patients age	Needle size	Site
Infant (Birth -12 months)	25mm needle 23-25 gauge Use 16mm orange needle in infants 2.5- 3kg	Anterolateral aspect middle or upper thigh (Note in infants deltoid - poorly developed & radial nerve more superficial)
Children 12- 36 months	25mm needle 23-25 gauge	Anterolateral aspect middle or upper thigh, until deltoid has developed adequate muscle mass
From 3 yrs onwards	25mm needle 23-25 gauge Use 40mm needle in: females .90kgs, males > 118kg	Most dense portion of deltoid muscle... (NIAC, 2013; Diggle, 2006)

Technique

Administer immunisations according to PCI schedule

Give oral vaccine first

Hand hygiene

Cleaning the injection site conflicting evidence –

...if skin visibly dirty - clean soap & water – no need use alcohol swab (NIAC, 2013)

... suggest cleaning skin 30 seconds with 70% alcohol swab and allow air dry

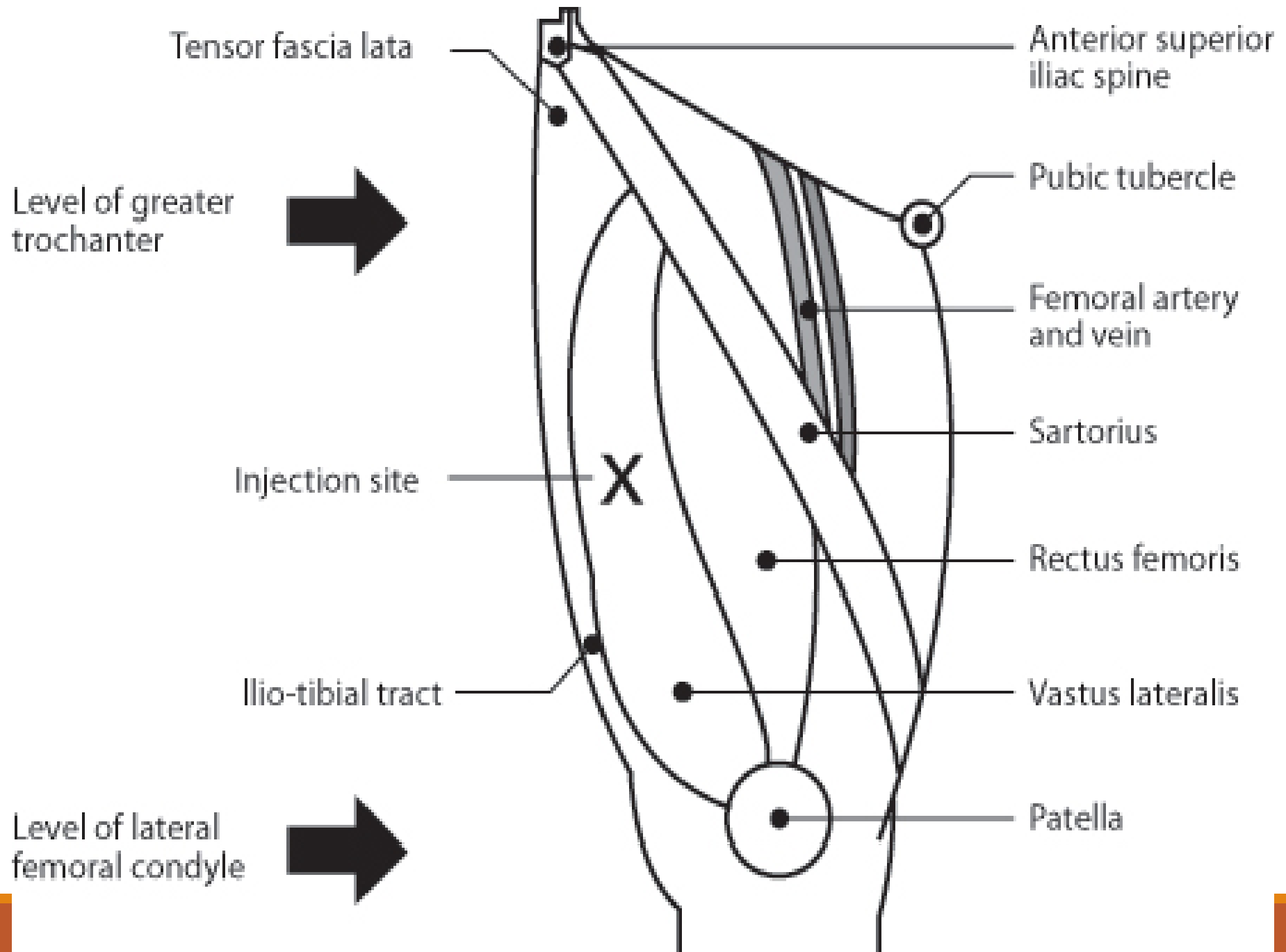
- Reduce pathogens e.g. Staph aureus, haemolytic strep pyogens
- Prevents stinging (Cocoman & Murray, 2007)

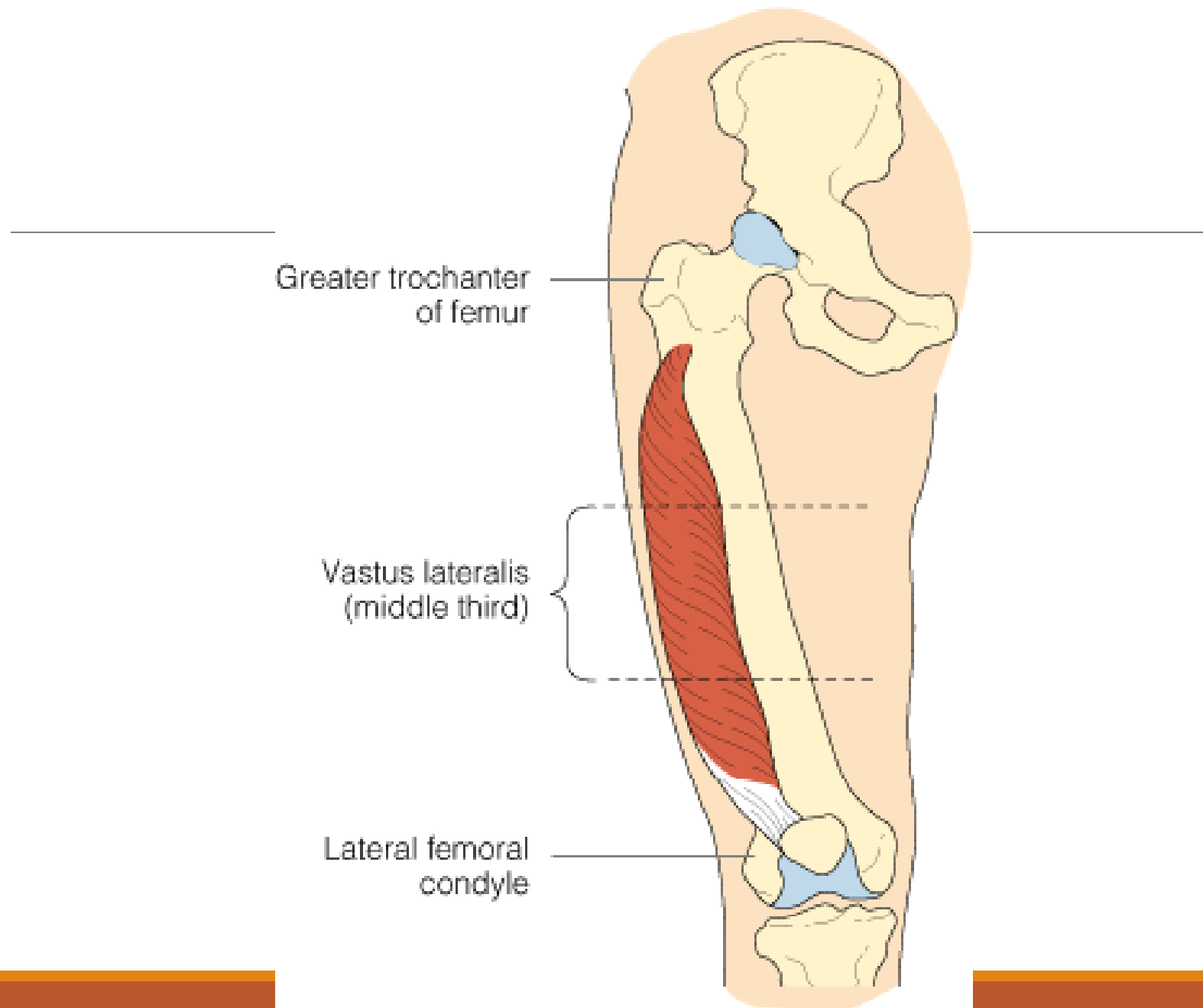
IM route (stretch skin) at 90 degree angle Site – antero lateral thigh 25mm needle

2.5cm apart if 2 immunisation to one limb (PCV to be given to separate limb)

Safe disposal of sharps







Greater trochanter
of femur

Vastus lateralis
(middle third)

Lateral femoral
condyle





Correct positioning
Multiple injection sites

Injection number 3

Injection number 1
Injection sites must be at least 2.5 cm apart

Injection number 2



Patients age	Needle size	Site
Infant (Birth -12 months)	25mm needle 23-25 gauge Use 16mm orange needle in infants 2.5-3kg	Anterolateral aspect middle or upper thigh (Note in infants deltoid - poorly developed & radial nerve more superficial)
Children 12- 36 months	25mm needle 23-25 gauge	Anterolateral aspect middle or upper thigh, until deltoid has developed adequate muscle mass
From 3 yrs onwards	25mm needle 23-25 gauge Use 40mm needle in: females .90kgs, males > 118kg	Most dense portion of deltoid muscle... (NIAC, 2013; Diggle, 2006)

Anterolateral aspect middle or upper thigh

(Note in infants deltoid - poorly developed & radial nerve more superficial)

Anterolateral aspect middle or upper thigh, until deltoid has developed adequate muscle mass

Most dense portion of deltoid muscle...

(NIAC, 2013; Diggle, 2006)

When to change sites?

Patient's age Site & Needle size (see illustrations in NIAC guidelines)

Birth to 12 months - Vastus lateralis muscle in anterolateral aspect of mid- or upper thigh - 25 mm needle, 23-25 gauge

*Use a 16 mm length needle in infants under 2.5- 3 kg.

12 to 36 months - Vastus lateralis or deltoid muscle - 25 mm needle, 23-25 gauge

From 3 years upwards - Densest portion of deltoid muscle – between acromion and muscle insertion - 25 mm needle 23-25 gauge

**For General Information In Adults:

Use 38 mm length needle in women >90 kg, men >118 kg

Safe Positioning Deltoid injection for older children



Child is held in parent's lap or stands in front of the seated parent

Parent's arms embrace the child during the process

Both legs are held firmly between parent's legs

The Deltoid site.

Use; small volume non-irritating medication, immunizations

Risks;

Injury to brachial artery & radial nerve

Limit volume of medication based upon size of muscle 0.5 – 1 ml

Ensure rapid absorption of medication

Location

Ensure arm is FULLY exposed.

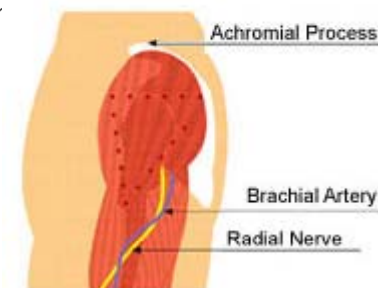
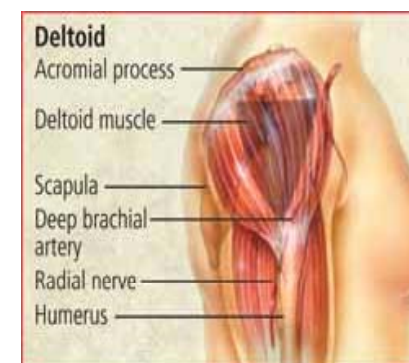
Ask patient to flex arm across chest. Locate the acromion process landmark.

Draw an imaginary horizontal line 2.5-5cms (2-3 finger breaths) below lower edge acromion process. Identify the deltoid tuberosity ie in line with the axilla as the lower marker.

Create an inverted triangle. Inject below the lower edge of acromion process in the centre of the triangle at or immediately below the midpoint of muscle.

NB injection site is NEVER below the level of the axilla (armpit)

Incorrect landmarking risks injury to radial nerve/brachial artery



Parental Advice

Antipyretics not be administered pre immunisations (exception Men B vaccine)

Mother may breastfeed as it may reduce child's discomfort

May have some sucrose fluids pre immunisations

Check immunisations with parent against official PCI records and check age of child

Post Vaccination

Safe disposal of sharps and waste as per local and HSE policy

Documentation – computer, paper and immunisation passport if available

All vaccine details : Name, manufacturer, expiry date, dose, route, location and temperature of child

DO NOT remove vaccines from boxes unless ready to use – codes & safety.

Administer Returns – electronic via local and regional administration staff

Practice Log – ensures high uptake rates

Follow up defaulters

Liaise with GP, PHN and Immunisation Specialist PHNs

Record those who decline vaccination or address those who have vaccine hesitancy

Thank you

Thanks to Ms Anna O Donoghue, Practice Nurse, Killarney and
Ms Elizabeth Heffernan, Director CNME KUH
fo their assistance with this presentation

