

SOP

Bone Marrow Aspiration

Department of Pathology
Faculty of Medicine
UWUSL

Standard Operating Procedure (SOP) on Bone Marrow Aspiration

Title:

Bone Marrow Aspiration Procedure

Issued By:

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(1). Purpose

To provide a standardized and safe method for performing bone marrow aspiration for diagnostic and research purposes, ensuring patient safety and accurate sample collection.

(2). Scope

Applicable to all medical officers, postgraduate trainees, medical students, and laboratory staff involved in hematological investigations and bone marrow procedures.

(3). Responsibilities**(3.1) Students / Trainees**

- Assist in preparation of equipment
- Observe and learn procedural steps
- Maintain aseptic techniques
- Record findings accurately

(3.2) Medical Officer / Operator

- Obtain informed consent
- Perform the procedure safely and aseptically
- Ensure adequate sample collection
- Manage complications if they arise

(3.3) Nursing Staff

- Prepare patient and equipment
- Assist during the procedure
- Monitor patient vitals

(3.4) Laboratory Staff

- Prepare slides promptly
- Label and process specimens correctly

(4). Safety Considerations

- Obtain informed written consent
- Follow strict aseptic techniques
- Use sterile equipment
- Handle sharps carefully (prevent needle-stick injuries)
- Monitor patient for complications (bleeding, pain, vasovagal reactions)
- Ensure proper disposal of biomedical waste

(5). Materials Required

- Bone marrow aspiration needle (e.g., Salah or Jamshidi needle)



Salah Needle



Jamshidi Needle

- Sterile gloves, drapes, and gauze



- Antiseptic solution (e.g., chlorhexidine or povidone-iodine)



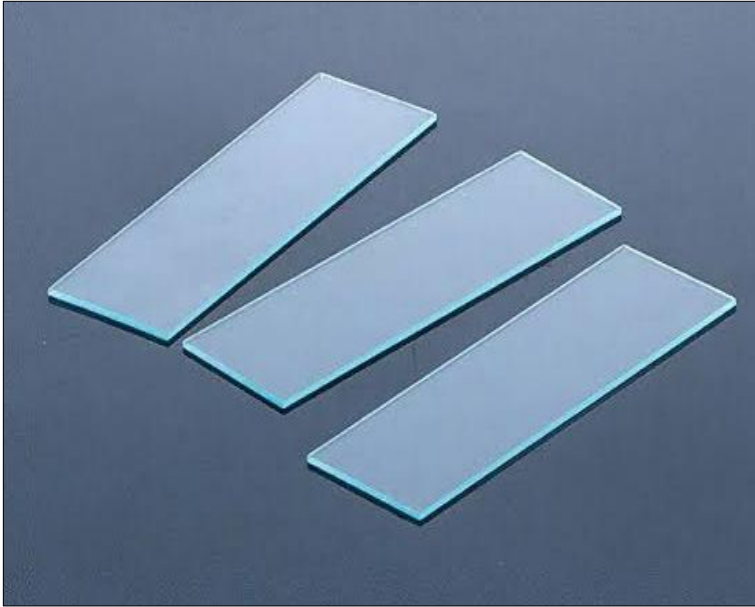
- Local anesthetic (e.g., lignocaine 1% or 2%)



- Syringes and needles



- Glass slides



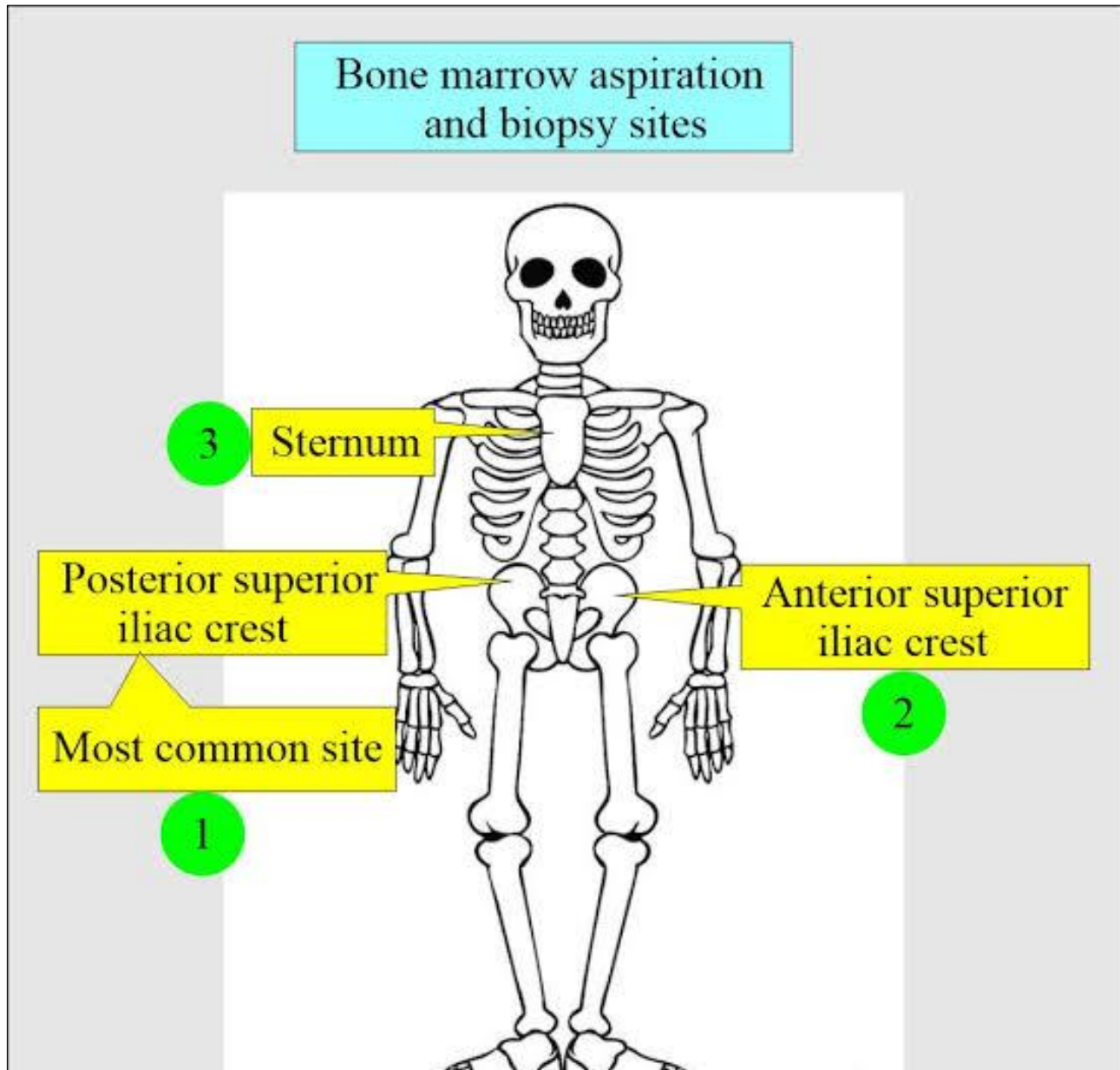
- EDTA tubes



- Sterile dressing
- Scalpel blade (if required)

(6). Principles of Bone Marrow Aspiration

- Bone marrow is aspirated to evaluate hematopoiesis
- Common sites: Posterior superior iliac spine , anterior iliac spine, sternum



- Adequate sample must contain marrow particles
- Immediate smear preparation ensures preservation of morphology

(7). Procedure

(7.1) Patient Preparation

- Explain procedure and obtain consent
- Position patient (lateral/prone for iliac crest)
- Identify and mark site
- Clean area with antiseptic and drape

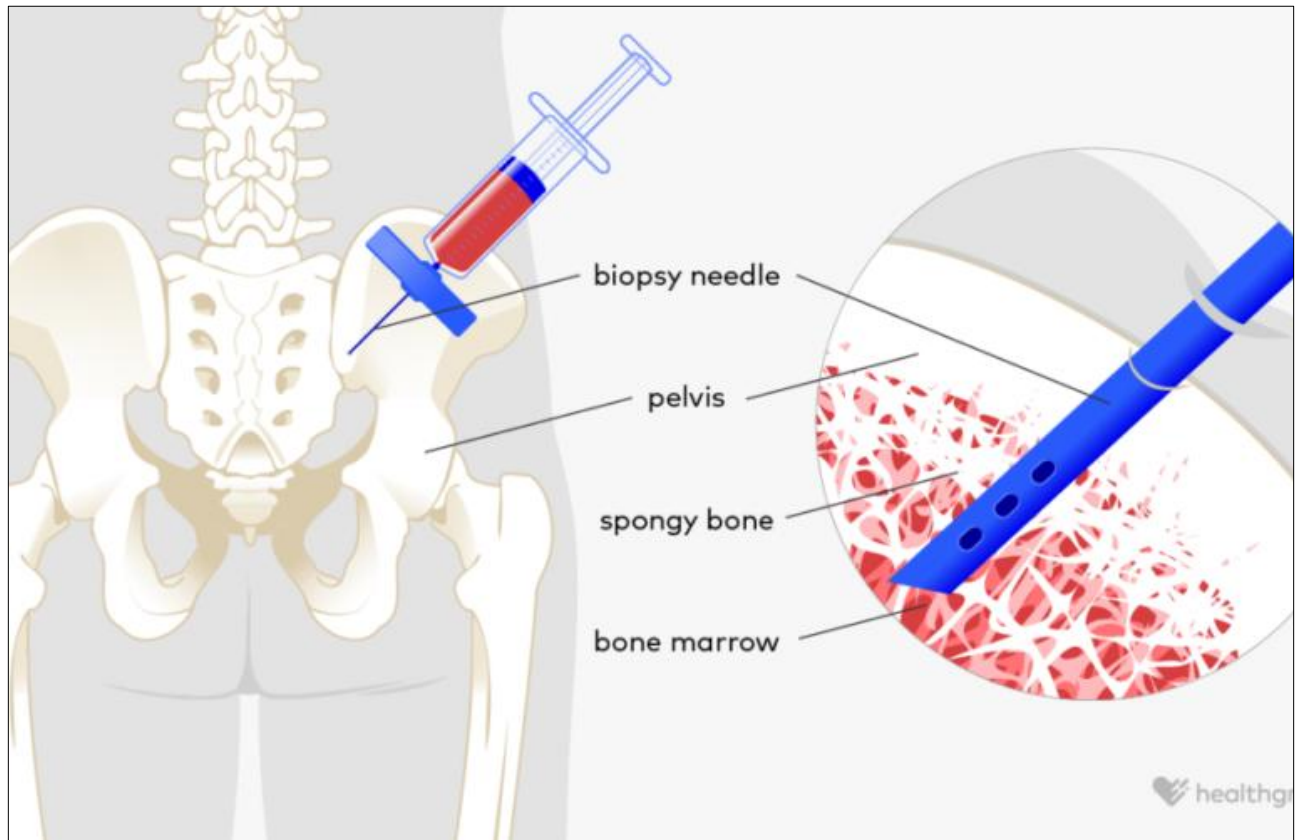


(7.2) Local Anesthesia

- Infiltrate skin, subcutaneous tissue, and periosteum with lignocaine
- Wait for adequate anesthesia

(7.3) Needle Insertion

- Insert aspiration needle perpendicular to bone



- Advance with steady pressure and slight rotation
- Feel “give way” when entering marrow cavity

(7.4) Aspiration

- Attach syringe and apply negative pressure
- Aspirate 0.2–0.5 mL marrow (to avoid dilution with blood)
- Patient may feel brief sharp pain

(7.5) Sample Handling

- Prepare smears immediately
- Place samples in EDTA tubes if required
- Label specimens properly

(7.6) Post-Procedure Care

- Remove needle and apply pressure to site
- Apply sterile dressing
- Observe patient for bleeding or complications

(8). Recording Observations

- Document procedure details (site, indication)
- Note quality of sample
- Record any complications
- Ensure proper labeling and request forms
- Keep site clean and dry
- Advise patient to report bleeding, swelling, or severe pain
- Avoid strenuous activity for 24 hours

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Date:01/05/2026

[1st may 2026]