

What are Skeletal Landmarks and Surface Anatomy?

Worksheet

A skeletal landmark is a recognizable, palpable bony point (e.g., the xiphoid process or iliac crest) used as a fixed reference to locate nearby muscles, organs, vessels, and nerves on a living patient.

Questions

1. Which landmark marks the level of the 2nd rib?

- A) Xiphoid process
- B) Sternal angle
- C) Jugular notch
- D) Costal margin

2. The ASIS is a landmark of which bone?

- A) Femur
- B) Ilium
- C) Sacrum
- D) Tibia

3. Which landmark helps avoid the sciatic nerve during gluteal injection?

- A) Iliac crest alone
- B) Greater trochanter-PSIS line
- C) Xiphoid process
- D) Ischial tuberosity alone

4. What is the clinical use of the tibial tuberosity?

- A) Landmark for gluteal injections
- B) Attachment site of the patellar ligament, palpated below the knee
- C) Marks the tracheal bifurcation
- D) Landmark for the sciatic nerve

5. A nurse needs to find a safe site for an intramuscular gluteal injection. Which landmarks define it?

6. How is the sternal angle (angle of Louis) used clinically?

7. A clinician palpates the iliac crest to perform a bone marrow biopsy. Which specific point is used and why?

8. Define: What is a skeletal landmark?

9. Define: What does the sternal angle mark?

10. Define: What is the greater trochanter used for?

Answer Key

1. B) Sternal angle - The sternal angle (angle of Louis) is where the 2nd costal cartilage attaches.
2. B) Ilium - The anterior superior iliac spine is a projection of the ilium, part of the hip bone.
3. B) Greater trochanter-PSIS line - The imaginary line between these two points defines the safe upper-outer quadrant.
4. B) Attachment site of the patellar ligament, palpated below the knee - The tibial tuberosity is the patellar ligament's insertion, palpable just below the patella.
5. Palpate the greater trochanter and the posterior superior iliac spine (PSIS) Draw an imaginary line between them The safe injection zone lies superior and lateral to this line (ventrogluteal/dorsogluteal site) This avoids the sciatic nerve, which runs medial and inferior to the trochanter
6. Palpate the bony ridge where the manubrium meets the body of the sternum This landmark marks the level of the 2nd costal cartilage Count ribs from here to locate heart borders and lung fissures It also marks the tracheal bifurcation and aortic arch level (T4/T5)
7. The posterior iliac crest is thick and easily accessible The posterior superior iliac spine (PSIS) marks the biopsy site This area is far from major vessels and nerves It overlies dense trabecular marrow ideal for sampling
8. A palpable bony point used as a fixed reference for locating nearby structures.
9. The level of the 2nd rib, the tracheal bifurcation, and the start/end of the aortic arch (T4/T5).
10. A landmark for hip injections, gait assessment, and locating the sciatic nerve's path.

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