Prosthetics II

UOMU0103051

Lab.1
Transfemoral amputation (above-knee amputation)

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Third Stage
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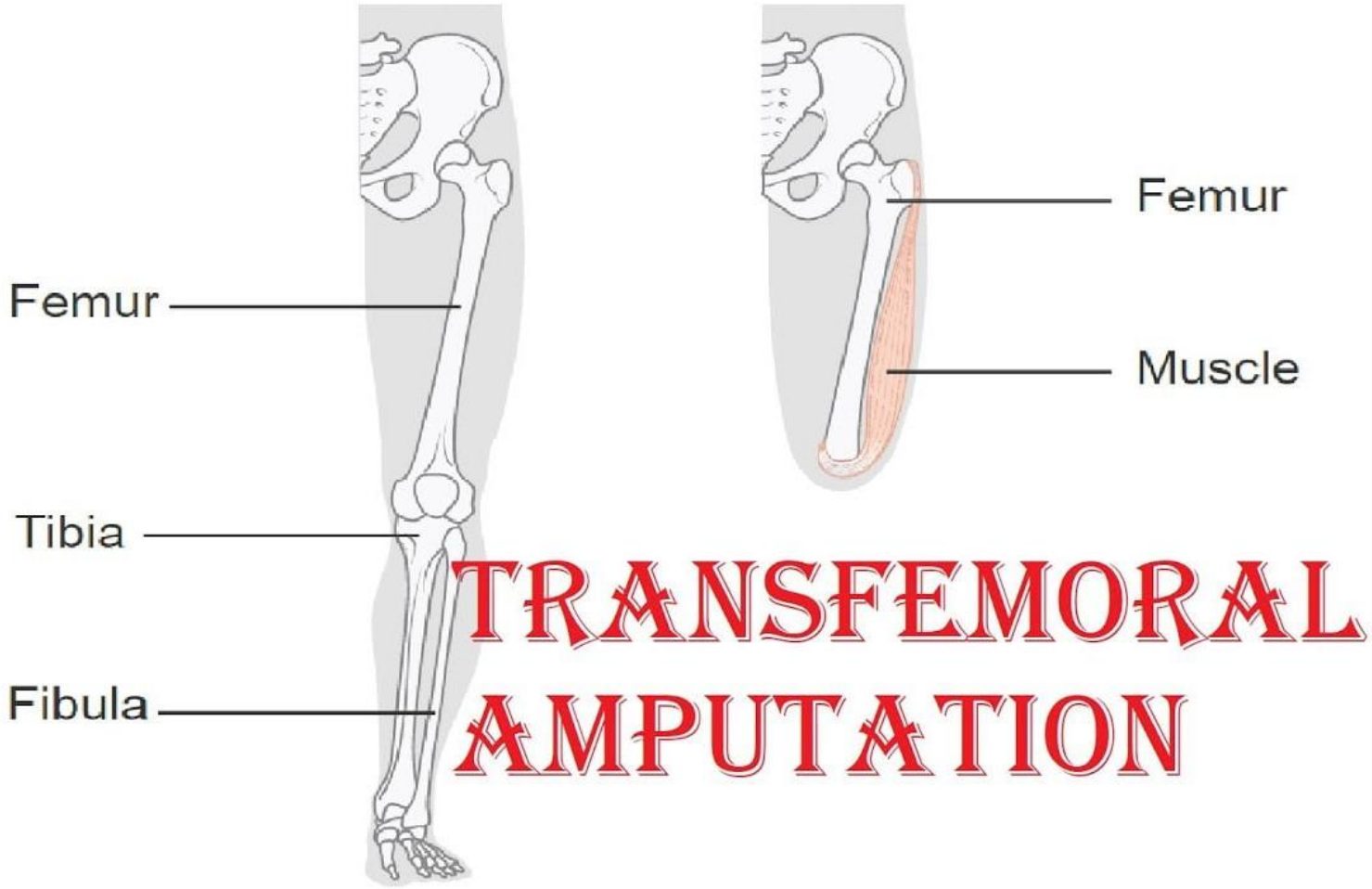
Transfemoral amputation (above-knee amputation)

It is the surgical removal of the lower limb through the femur, above the knee joint.



TRANSFEMORAL ASSESSMENT TESTS

1. General Inspection:

Evaluate residual limb condition and skin integrity.
Check for: Wound healing/scar condition
Swelling or edema, skin sensitivity, and temperature.
Redness, discoloration, or infection, tissue volume,
and shape (conical, cylindrical, bulbous)

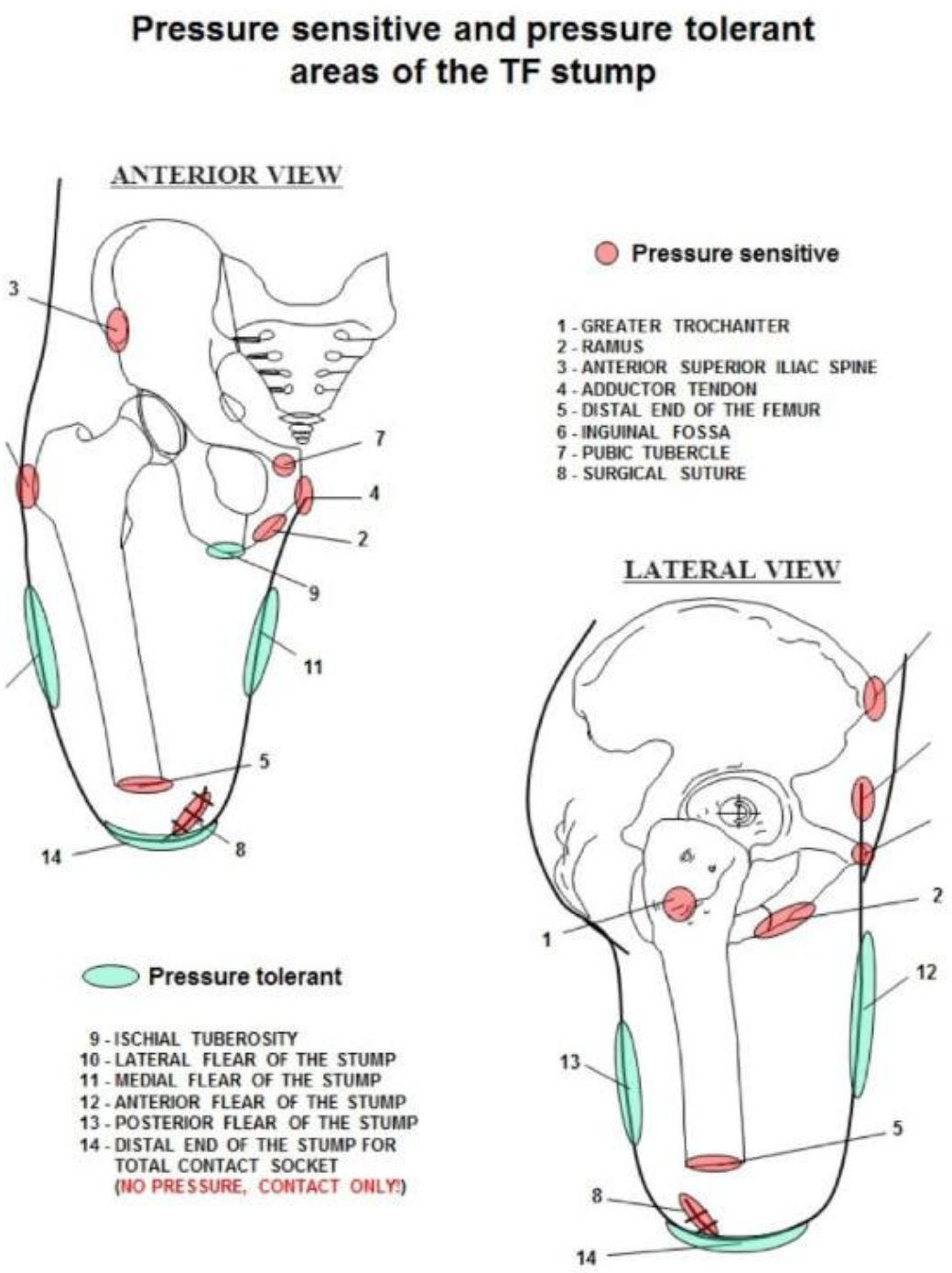
2.Bony Landmarks of the Transfemoral Residual Limb

Weight-bearing landmark: Ischial tuberosity.

Pressure-sensitive landmarks: Pubic ramus, distal femur, greater trochanter

Alignment landmarks: ASIS, greater trochanter, adductor longus tendon

Relief areas: Pubic area, distal femur, trochanteric area



Landmark	Location / Description	Clinical Importance in Prosthesis
Ischial Tuberosity	The lower part of the pelvis — the “sit bone” at the inferior portion of the ischium.	🔹 *Main weight-bearing area* in most socket designs. 🔹 Used to establish the **posterior seat (ischial seat)** in quadrilateral sockets. 🔹 In ischial containment sockets, the ischium is *enclosed within* the socket for better medial-lateral stability.
Pubic Ramus / Pubic Symphysis	Front and medial portion of the pelvis; near the groin.	🔹 Important **pressure-sensitive area**. 🔹 Must be relieved or trimmed to avoid groin pain. 🔹 Guides height of the **medial brim** of the socket.
Adductor Longus Tendon	Originates from the body of the pubis, just below the pubic crest.	🔹 Serves as a **medial reference point** for socket alignment. 🔹 Used during casting to shape the **medial wall** and provide relief for soft tissue.
Greater Trochanter	The large prominence on the lateral upper femur.	🔹 Used as a **lateral alignment landmark** for socket height and trimline. 🔹 Area is **pressure-sensitive**, so relief is provided to prevent friction or bursitis.
Lesser Trochanter	Small prominence on the medial side of the femur.	🔹 Palpated indirectly for **femoral rotation alignment**. 🔹 Helps identify correct internal/external rotation of the femur in the socket.
Anterior Superior Iliac Spine (ASIS)	The prominent bone at the front of the pelvis.	🔹 Used to ensure **proper pelvic alignment** during casting. 🔹 Socket brim must be below this to allow **hip flexion**.
Iliac Crest	The top ridge of the pelvis.	🔹 Used as a **reference point** for overall pelvic level. 🔹 Not part of the socket, but helps confirm symmetry and posture.
Distal End of Femur	The cut end of the residual femur bone.	🔹 **Very pressure-sensitive** area. Must always have **relief** in the socket. 🔹 Helps determine the **socket length and distal contour**.
Gluteal Fold *(soft-tissue reference)*	Line at the lower buttock.	🔹 Used to locate **posterior brim height** and guide socket trimlines.

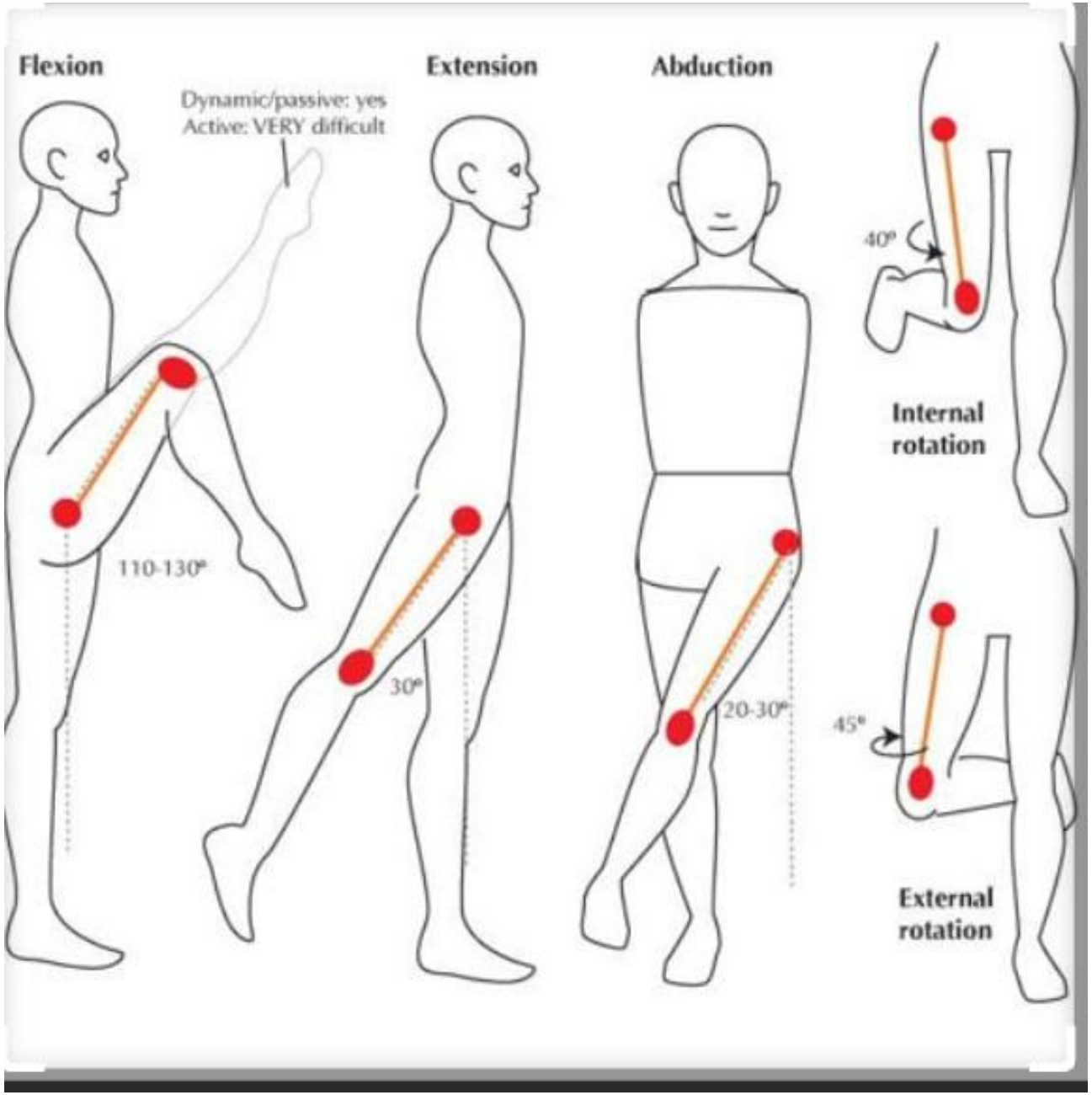
3. Range of Motion (ROM) Test

Movements Tested:

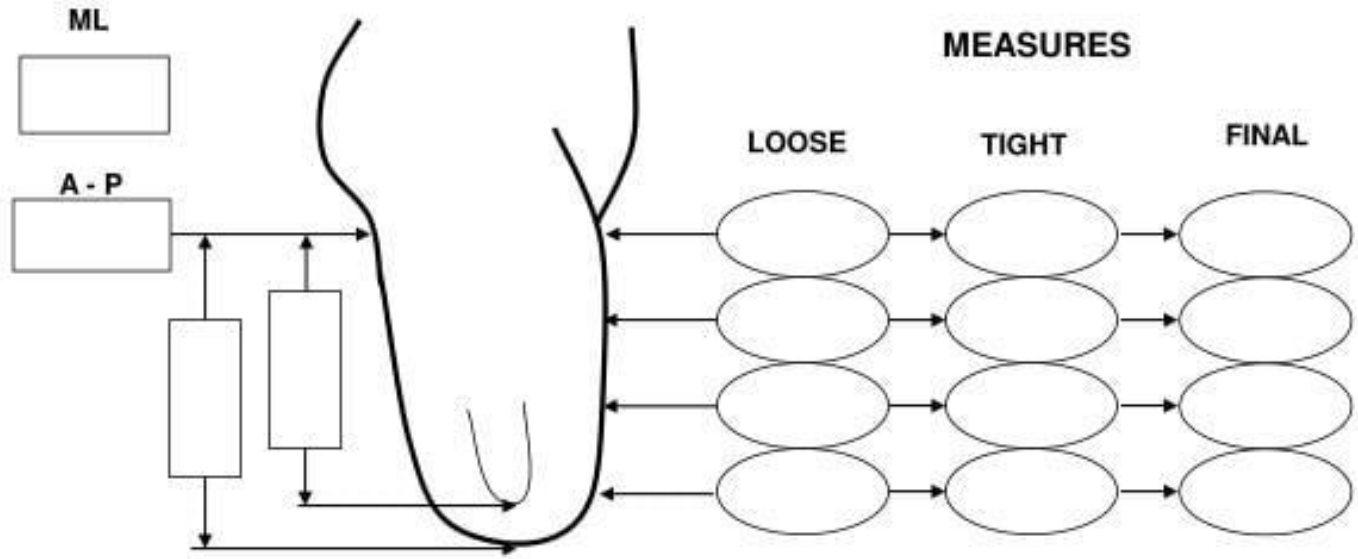
- Flexion (0–120° normal)
- Extension (0–30° normal)
- Abduction (0–45°)
- Adduction (0–30°)
- Internal/External rotation (~45° each)

Hip **flexion contracture** is common — measure with a goniometer (Thomas Test).

Q/ What is Thomas Test?



TRANS-FEMORAL MEASUREMENTS



KNEE HEIGHT →

FLEXION →

CIRCUMFERENCE CALF →

FOOT SIZE →

ISCHIAL HEIGHT →

ABDUCTION →

CIRCUMFERENCE ANKLE →

SIDE R L

HEEL HEIGHT