

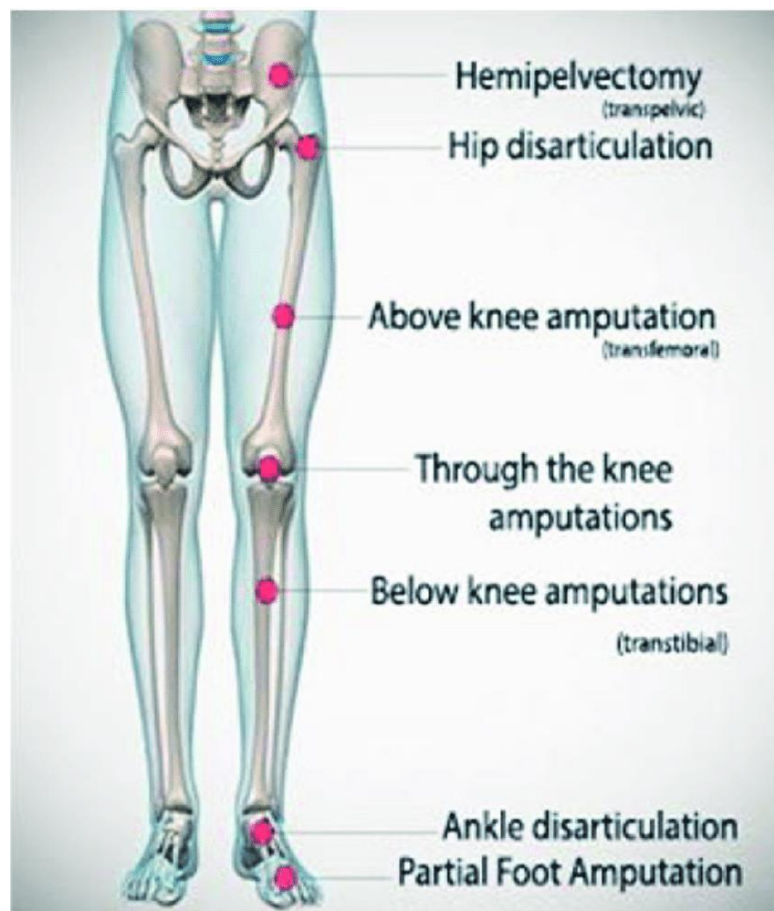
Lecture 2

T.T introduction & Assessment

1. T.T Introduction:

Trans-tibial amputation, or below-knee amputation, is a surgical procedure performed to remove the lower limb below the knee when that limb has been severely damaged or is diseased.

During surgery, the part of the leg below the knee is removed, severing the tibia or shinbone. Because of this, it is also known as BK, or “below the knee.”



Lower limb amputation

2. Type of Trans-tibial socket T.T. Socket

The socket is the primary interface between the amputee's stump and the prosthesis, and is required to:

- Provide a comfortable interface for the transmission of body weight.
- Provide stability during stance phase.
- Allow sufficient control for mobility.
- Protect the residual limb soft tissue.
- Contribute to suspension of the prosthesis.

3. Suspension system

-The socket can be suspended in numerous ways including:

1. Suspension sleeve
2. Supracondylar
3. Elevated
4. Vacuum
5. Locking liner

4. Types of socket

1. T.S.B : Total Surface Bearing.

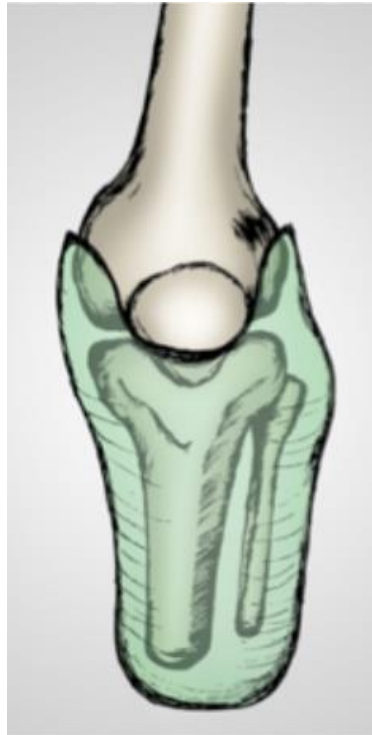
- Uses the entire residual limb to evenly distribute the weight bearing forces.
- Can be combined with various suspension styles.
- Incorporates modern gel liners that are easy to clean and replace.



2. Patella Tendon Bearing

a. Sockets P.T.B

The weight bearing takes place below the patella, at the patellar tendon. The suspension is generated by a belt that is tightened around the distal part of the thigh. The tension of that belt limits the blood and lymphatic circulation; moreover, after long term use results in muscle atrophy and other related problems.



b. Socket PTB SC (Patellar Tendon Bearing Supracondylar)



c. Socket PTB SC SP (Patellar Tendon Bearing Supracondylar Suprapatellar)



3. Hydrostatic socket

5. Assessment and Treatment Techniques– Pre-After-amputation Phase.

This phase of treatment manages the healing process of the amputated limb, prepares the limb for prosthetic use. And helps the patient adapt to physical and emotional changes.

Assessment :

- 1 . Provide the patient with emotional support.
2. Causes of Amputation (trauma, Vascular, disease Infection, Tumors, Neurological disorders, Congenital deformity)
3. Levels of Amputation

4. Residual limb healthy

5. Pain management and stump evaluation

6. Phantom Pain Sensations

7. Manage hygiene and wound healing at the amputation site.

8. Assist to shrink and shape limb in preparation for prosthetic use.