Knee Disarticulation Prosthetic Course

Patient Assessment & Casting Procedure

Why Assessment?

- To prescribe the right prostheses for the patient
- To determine whether the patient is ready to fit a prosthesis
- To refer patient to other available services
- To get information for future treatment and follow up
- As a legal evidence

Subjective Assessment

- Talking
  - Personal data
  - Social history
  - Medical history
  - Past prosthetic treatment
  - Work and living condition

- Do not forget the patients opinions in the prescription process!

Objective Assessment

- Observation - stump, gait, patient activities, current prosthesis
- Palpation – skin condition, scar, bony prominences, pain neuromas, soft tissue
- Perform tests – MS, ROM, Sensation, Proprioception, joint condition

Stump Condition

- Scar – type of scar
- Edema
- Discoloration
- Skin infections
- Stump shape
- Pain?
- Patella presented?
- End bearing??????????

Muscle Strength

- Oxford scale
- How to assess?
- Why important to know?

Range of Motion

- Hip
- Knee
- Ankle

- Contracture?

Joint Condition

- Hip
  - Sub luxation
  - Luxation
  - X-ray?

Distal End

- Skin condition – healthy
- Scar – type?
- Intercondylar fossa – painful?
- End bearing test
- Patella present? Mobile?
- Suspension areas
- Check the bulbous shape

Introduction to the Casting Procedure

- The main aim to produce a good socket fit
- To copy shape and biomechanical characteristic of the stump
- To shape the stump carefully
  - To allow patient to transfer weight comfortably
  - To provide good suspension
  - To stabilize the stump with socket during walking

KD Stump

- End bearing
- Bulbous
- Self- suspension

End Bearing Stump

- Casting in weight bearing position
- If QL brim shape – 1.5cm below IT
- Commonly QL shape is not needed – oval shape
- Medial wall as high as possible, maximum 5cm below the groin area
- Flattened medial wall
- Mold supracondylar areas

Non End Bearing Stump

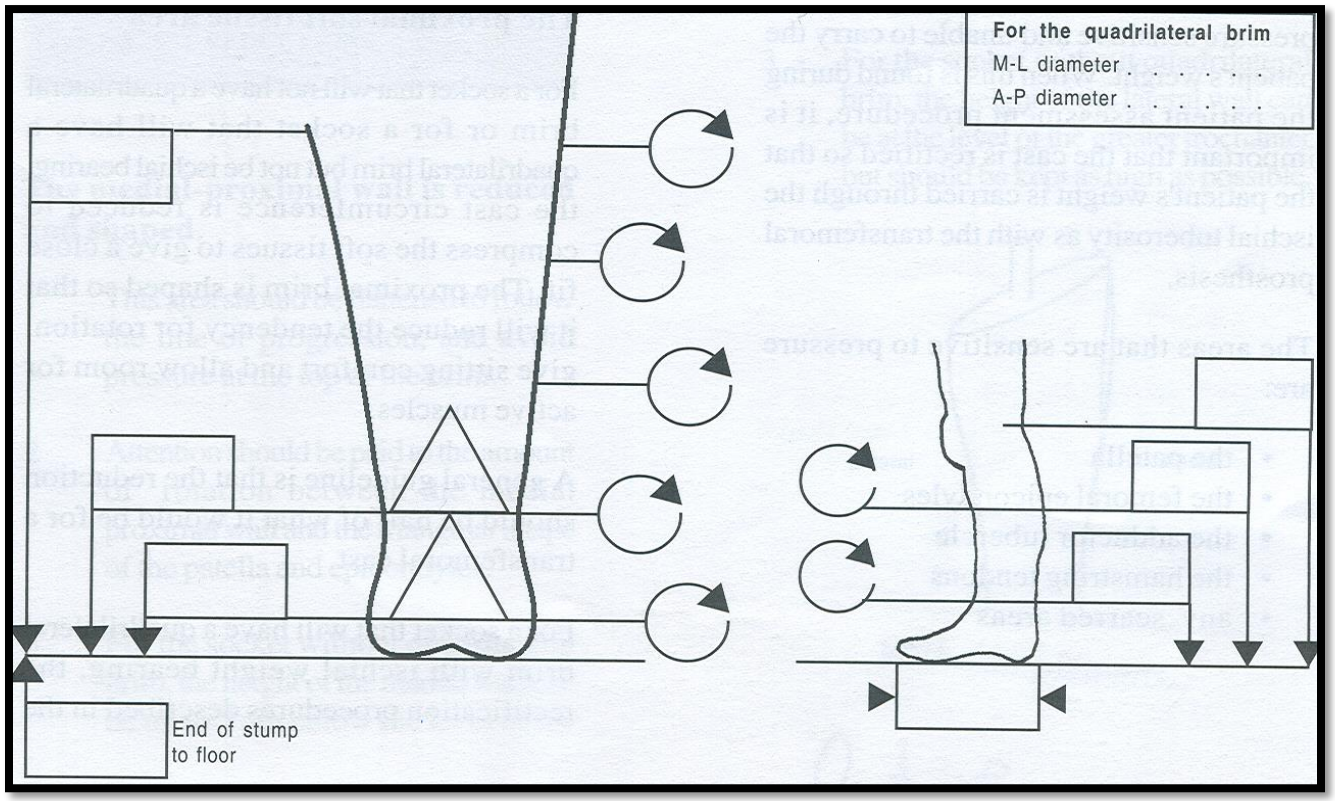
- Cast with non-weight bearing
- Quadrilateral socket is needed
- No supracondylar shape for suspension
- Silesian belt is used

Casting Equipment

- Cast sock – not too tight
- Elastic strap
- Indelible pencil
- Tube or strip
- Standing frame
- Plaster bandage
- Knife or cast cutter
- Assistant

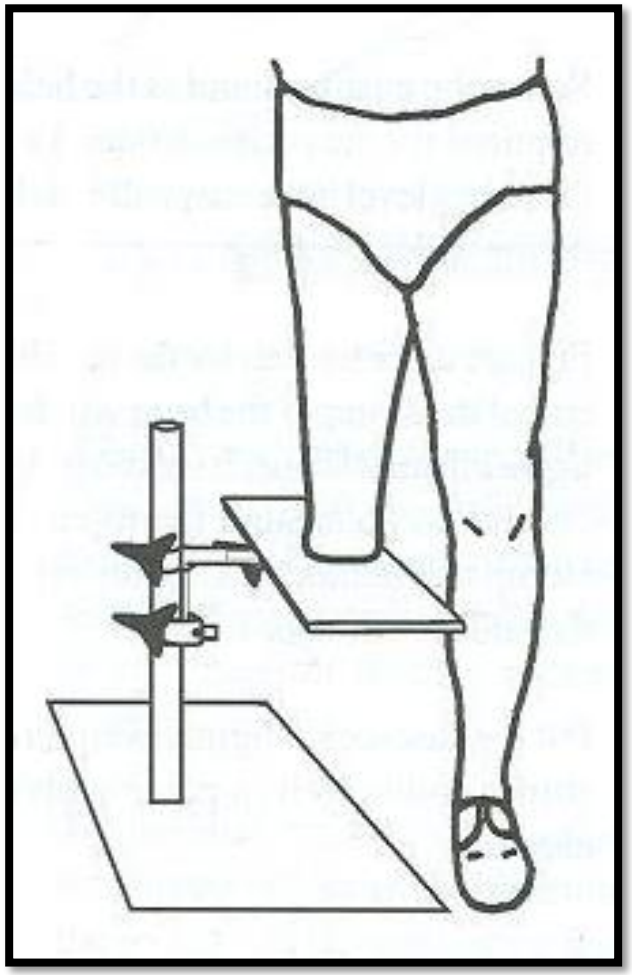
Casting Procedure

- Full assessment of patient
- Take all measurements



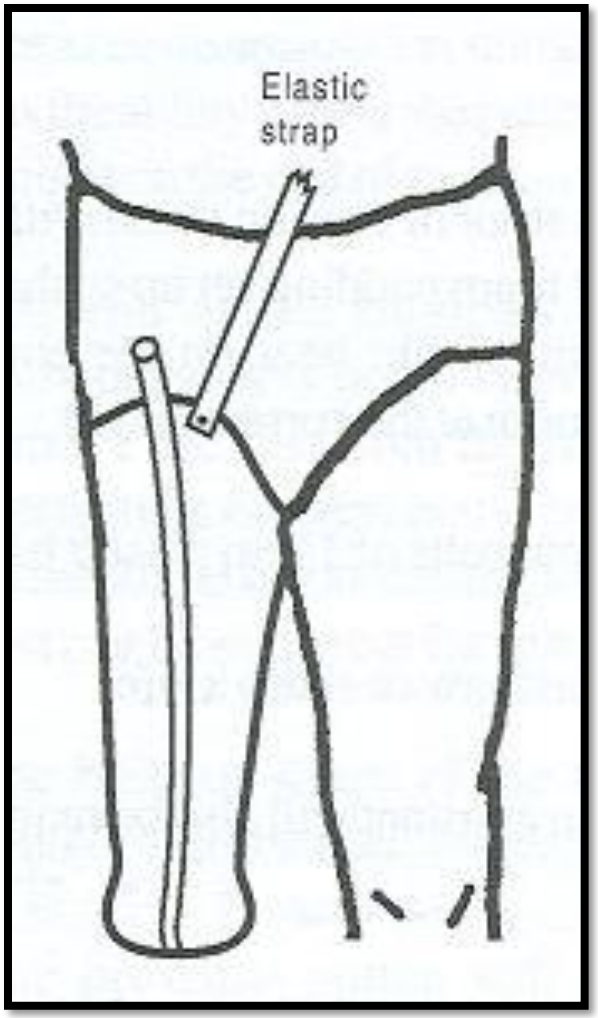
Casting Procedure

- Prepare casting stand
  - Height level
  - Equal weight on both legs
  - Stand comfortably
  - Plastizote for shaping the distal end

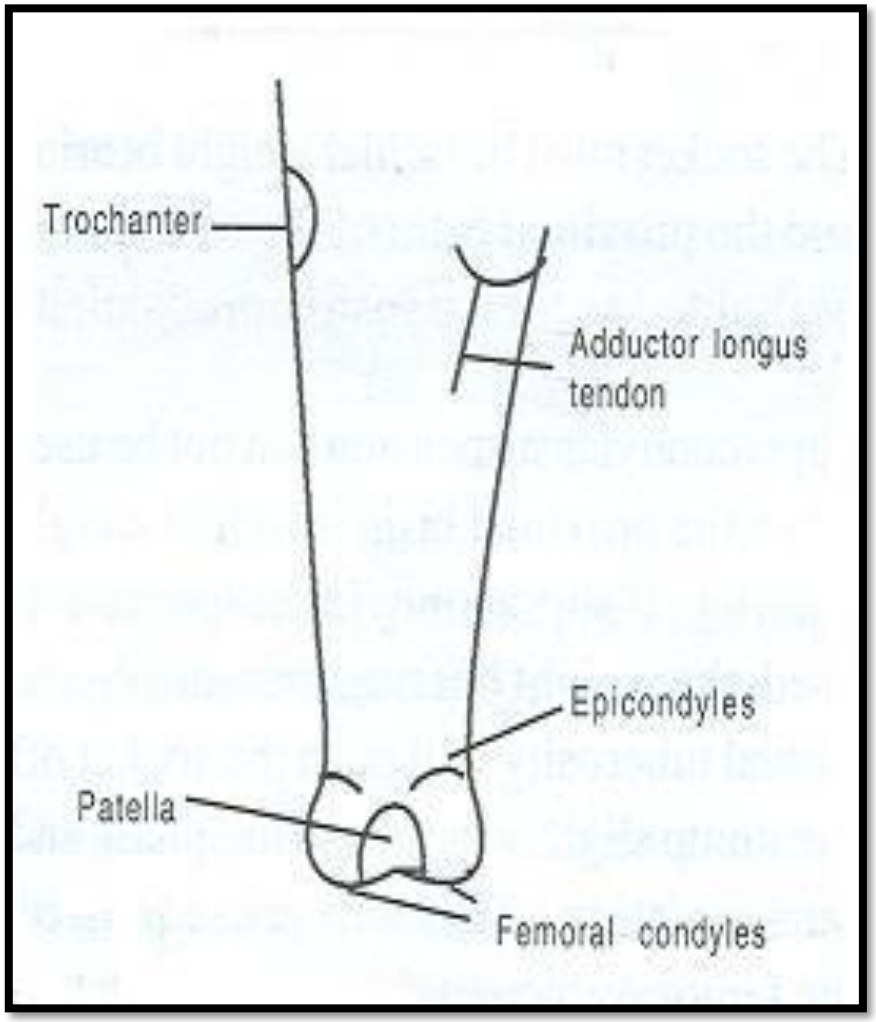


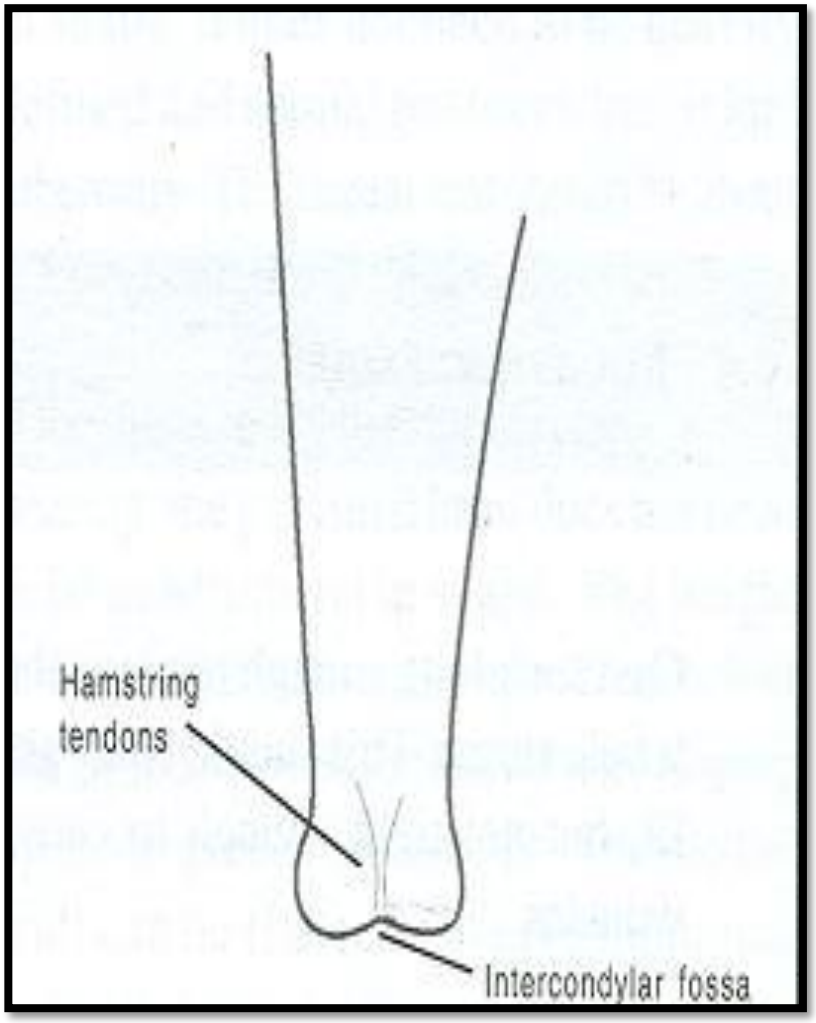
Casting Procedure

- Plaster slap for proximal – non end bearing
- Stump sock on
- Plastic tube anteriorly



Stump Landmarks

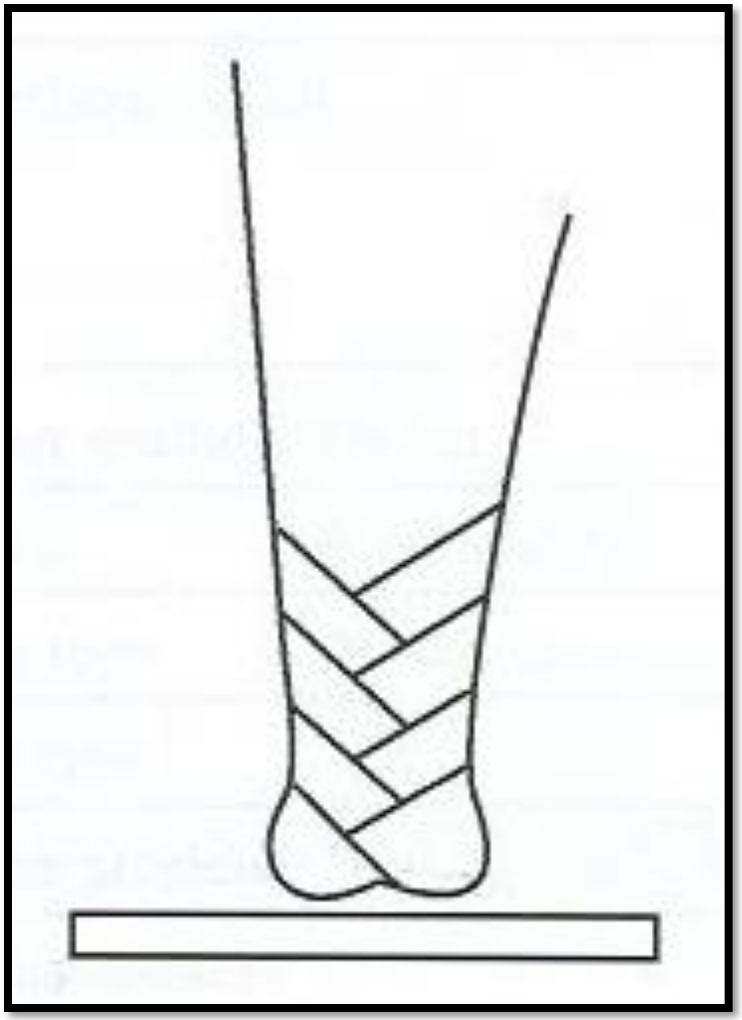




Casting Procedure

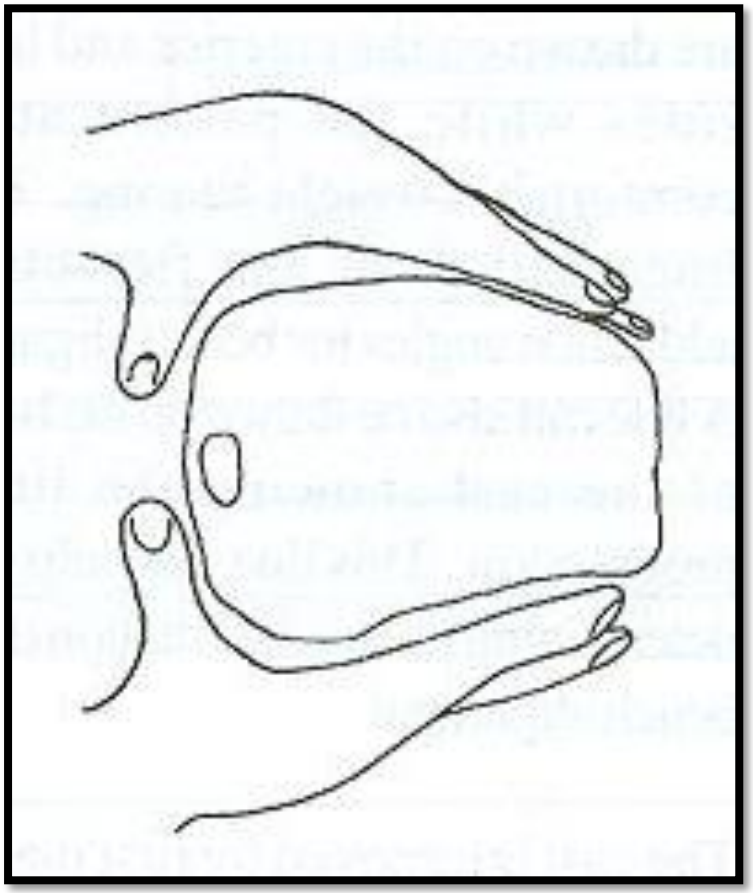
- Apply plaster bandage to distal end of the stump - ask the patient to bear the weight

- Continue to wrap plaster proximally



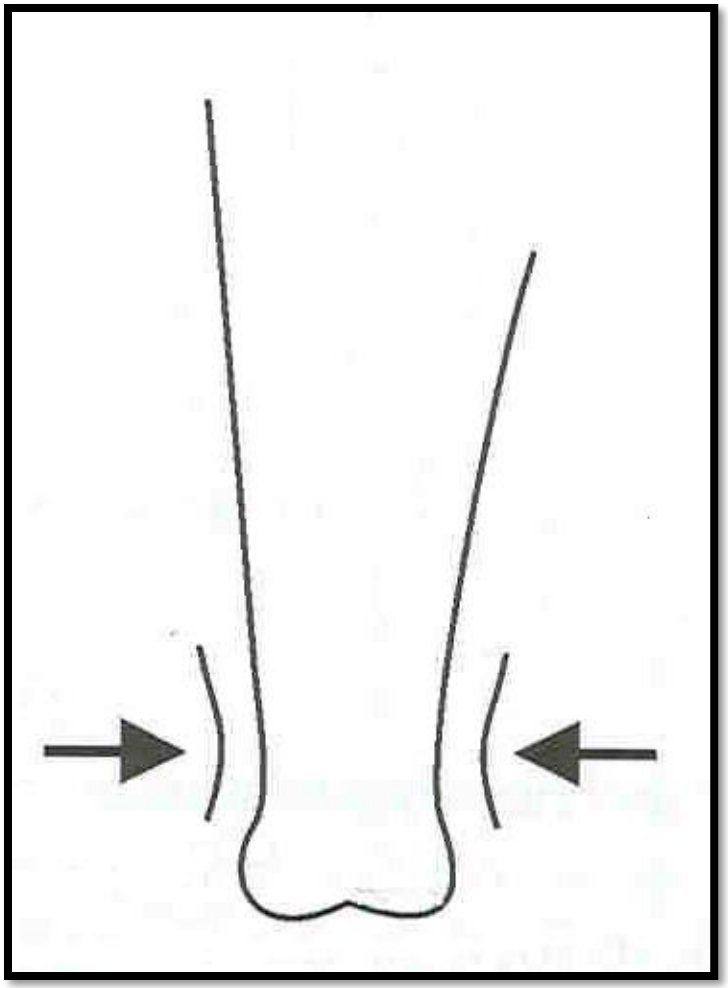
Casting Procedure

- Non-end bearing – apply proximal slab
  - Position the cut out part on the adductor longus tendon
  - Hand position as in TF casting



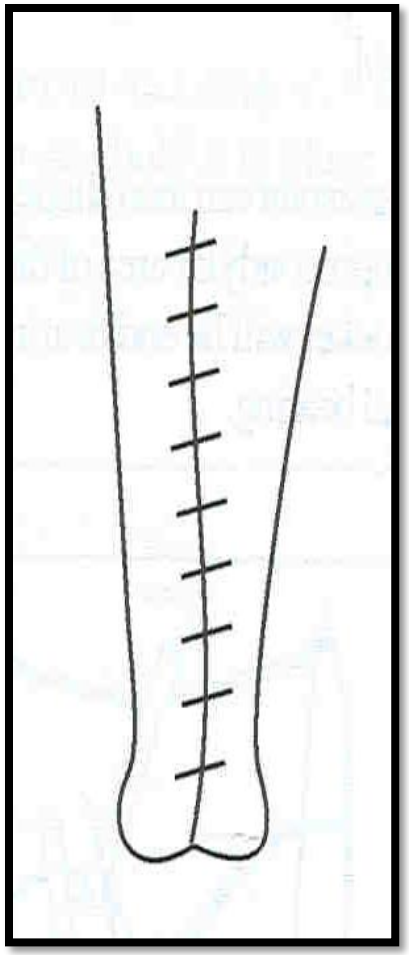
Casting Procedure

- Flatten medial wall to follow LoP
- Mould the supracondylar area – non-end bearing?
- Plumb lines – anterior, posterior, LoP



Casting Procedure

- Cut and take of the cast carefully
- Check
  - Shape
  - Strength
  - Marks



After taking the cast….

- Modify negative cast if non-bearing stump
- Assist cleaning patient
- Appoint for fitting
- Fill the cast – tube follows the plumb lines

Any Questions???

Thank you