SNS COLLEGE OF PHYSIOTHERAPY
COIMBATORE-35

COURSE: BPT

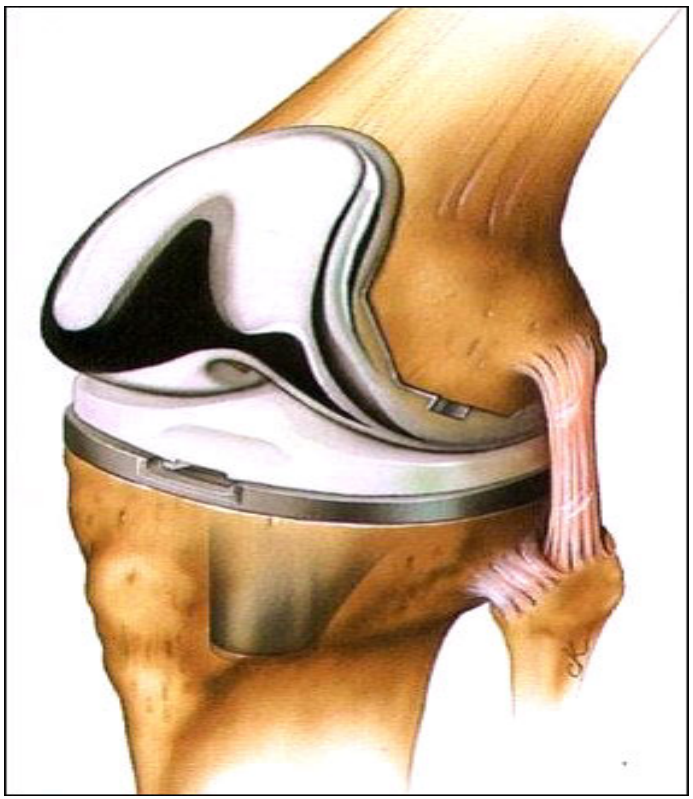
SUBJECT: CLINICAL ORTHOPAEDICS

TOPIC: TOTAL KNEE ARTHROPLASTY (TKR)

UNIT: I

PREPARED BY: ARCHANA K
(ASSISTANT PROFESSOR)

TOTAL KNEE ARTHROPLASTY (TKR)



DEFINITION

- Made up of three bones:
- Femur (thigh bone)
- Tibia (lower leg bone)
- Patella (kneecap)

Introduction

- Total knee arthroplasty is (TKA) is also called as total knee replacement (TKR).
- It is an advance procedure done in older patient having age >70 yrs.
- Patients with knee osteoarthritis under go for TKR.
- The main goals for TKR are to relieve pain and improve a patient’s physical function and quality of life.

Unicompartmental implants

- These are used to replace the opposing articular surfaces of the femur & tibia of either the medial or lateral compartment of knee.
- The opposite compartment & the patello femoral compartment remain into it.
- This implant are all of unconstrained type.

Bi-compartmental implants.

- These are used to replace the opposing articular surfaces of the femur & tibia of both the medial or lateral compartment of knee.
- resurfacing the patello femoral joint.
- This deficit & mechanical loosening of the implant have resulted in rejection of this approach.

Tri-compartmental implant

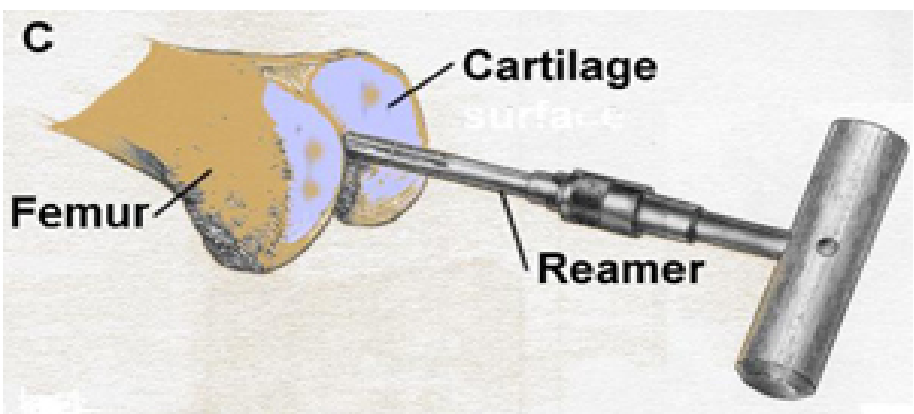
- These implant not only replace the opposing surfaces of the femur & tibia both of the medial & lateral compartment but also provide for resurfacing the patello-femoral articulation.
- Implants can be divided conveniently into 3 groups according to the degree of mechanical constraint provided.

Procedure

- An incision is made over the front of the knee and tibia.
- Femoral condyles are exposed.
- Bone cuts are made to fit the femoral component.

PROCEDURE CONTD..

- A reamer is passed through a hole near the center of joint surface of lower end of femur and into femur shaft



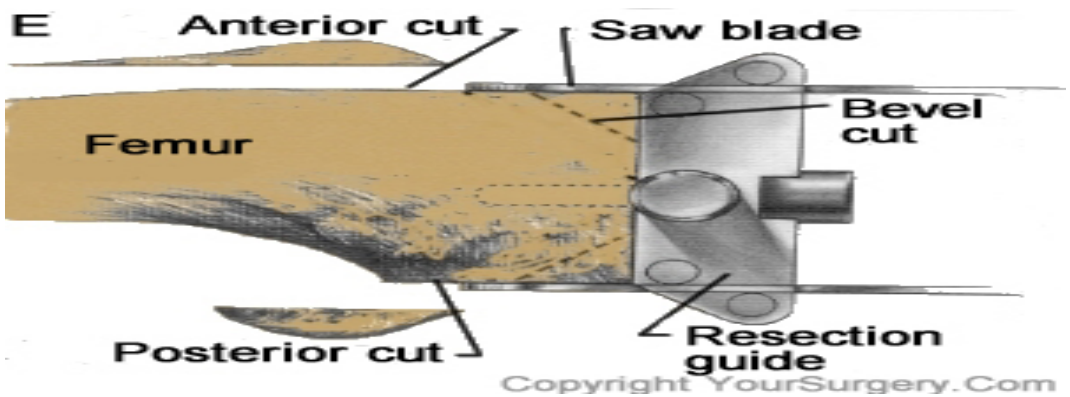
Cutting the Distal Femur

Another resection guide is anchored to end of femur

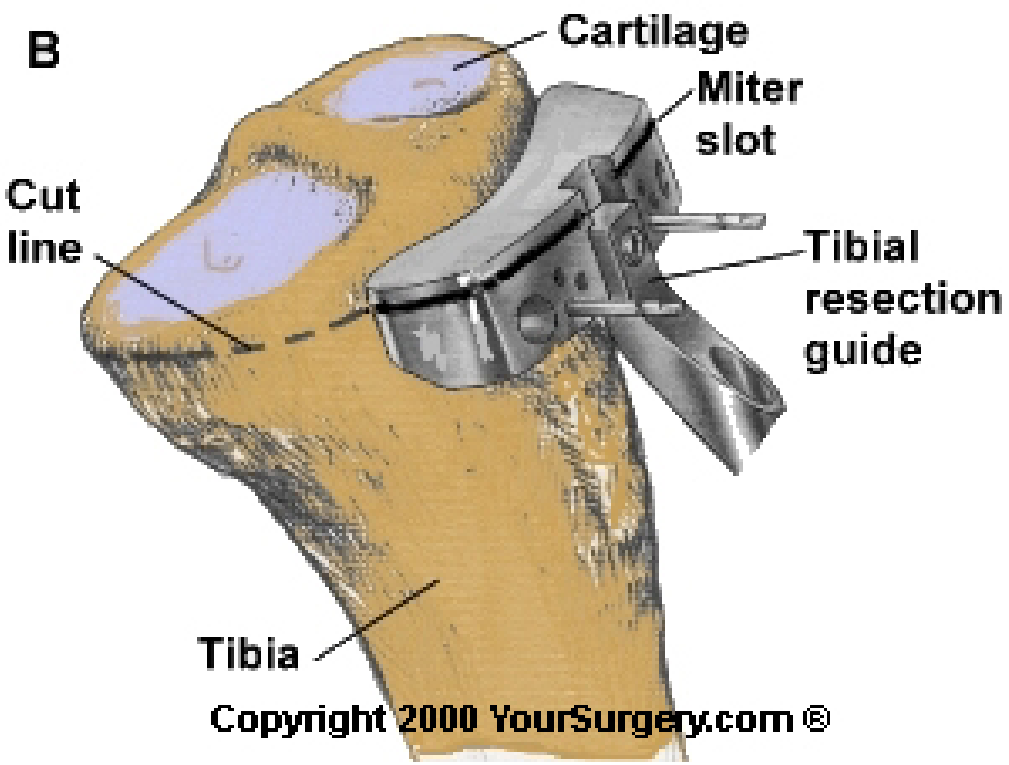
Pieces of femur are cut off the front and back

As directed by the miter slots in guide

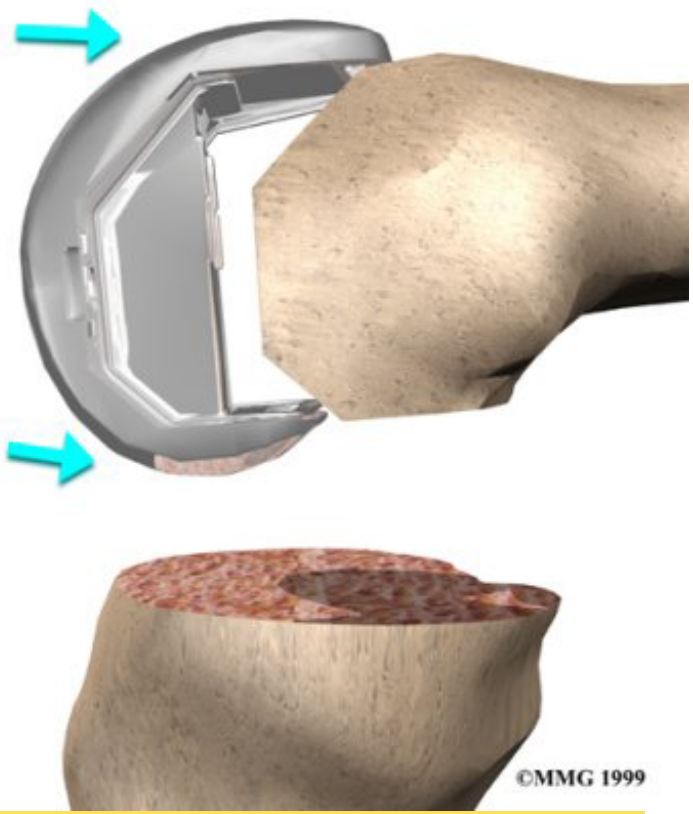
Then cuts are made to bevel the end of femur to fit implant



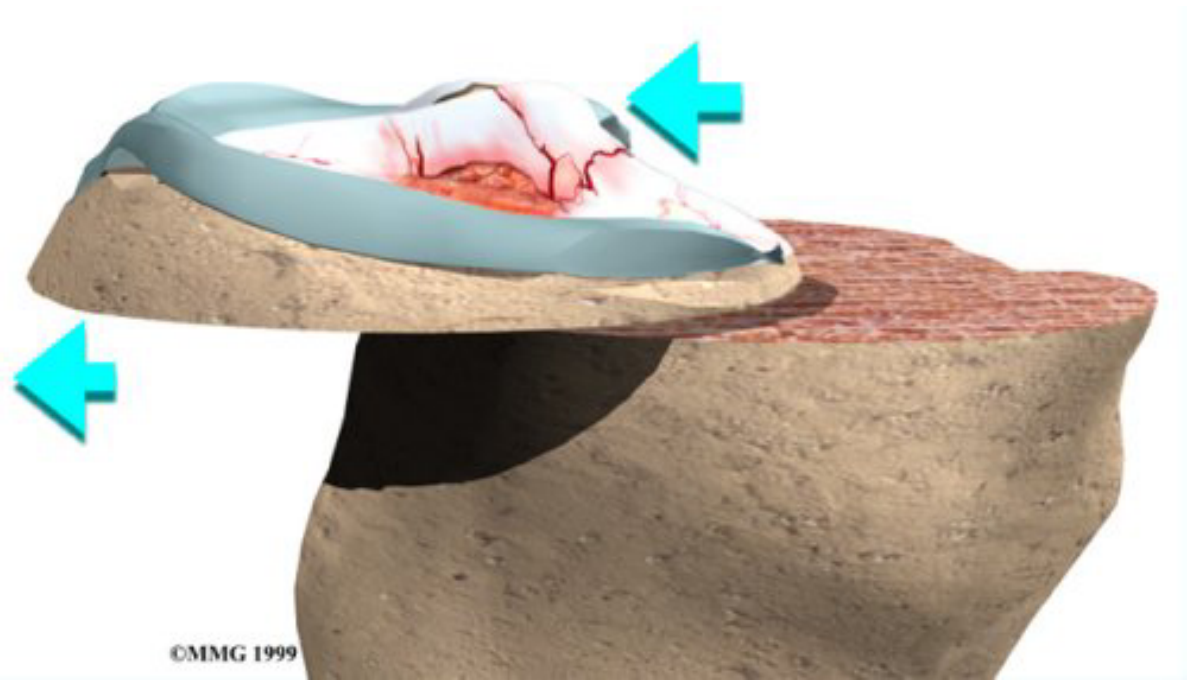
Cutting the Tibial Bone



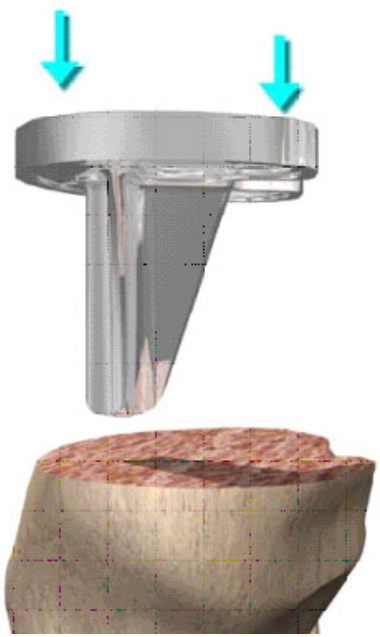
Placing the Femoral Component

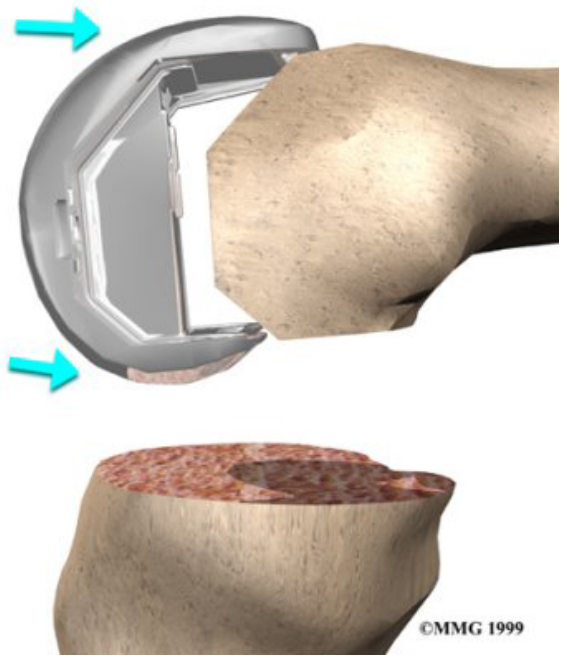


Cutting the Tibial Bone (cont’d)

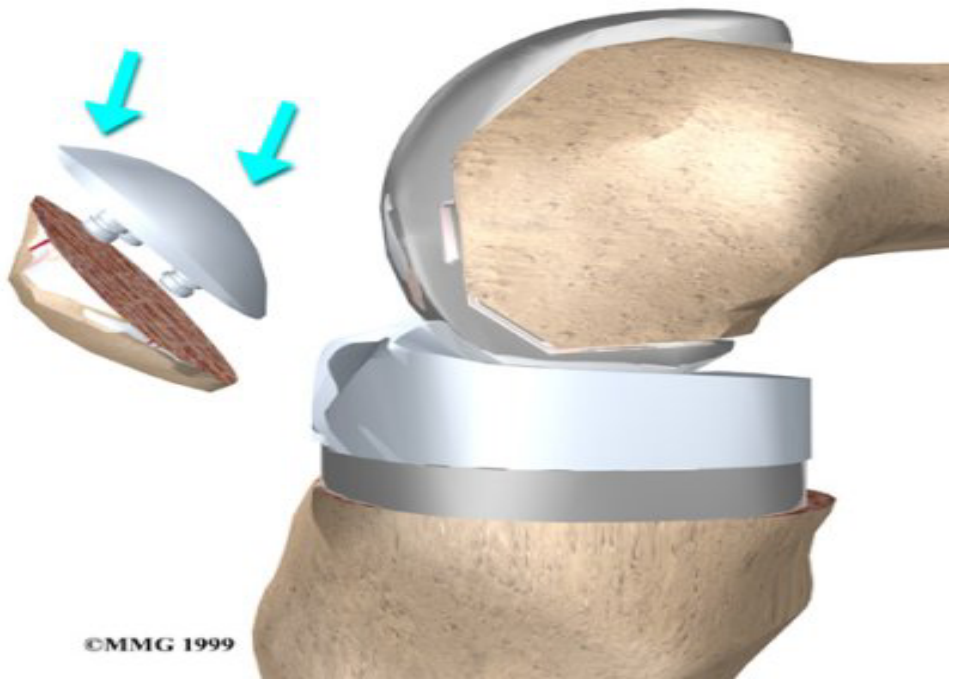


Placing the Tibial and femoral Component

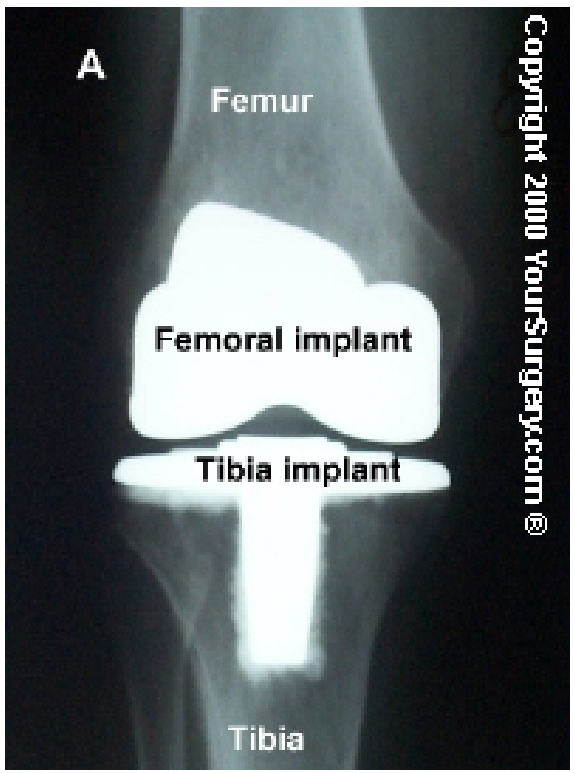




Placing the Patella Component



Completed Knee Replacement



THANK YOU...