Knee Arthritis

SURGICAL MANAGEMENT

COMMON CONDITIONS THAT LEAD TO TKR

- OSTEOARTHRITIS
  - **PRIMARY**
  - **SECONDARY**
- RHEUMATOID ARTHRITIS

Who Is A Candidate For Tkr ???

- QUALITY OF LIFE SEVERELY AFFECTED
- DAILY PAIN
- RESTRICTION OF ORDINARY ACTIVITIES
- EVIDENCE OF SIGNIFICANT RADIOLOGICAL CHANGES IN THE JOINT
- ALL METHODS OF CONSERVATIVE AND MEDICAL MANAGEMENT TRIED BUT NO IMPROVEMENT

WHAT IS THE RIGHT TIME ???

- OLD AGE WITH MORE SEDANTARY LIFE STYLE
- YOUNGER PATIENTS WITH LIMITED FUNCTION
- PROGRESSIVE DEFORMITY
- BEFORE "THINGS GET OUT OF HAND"-

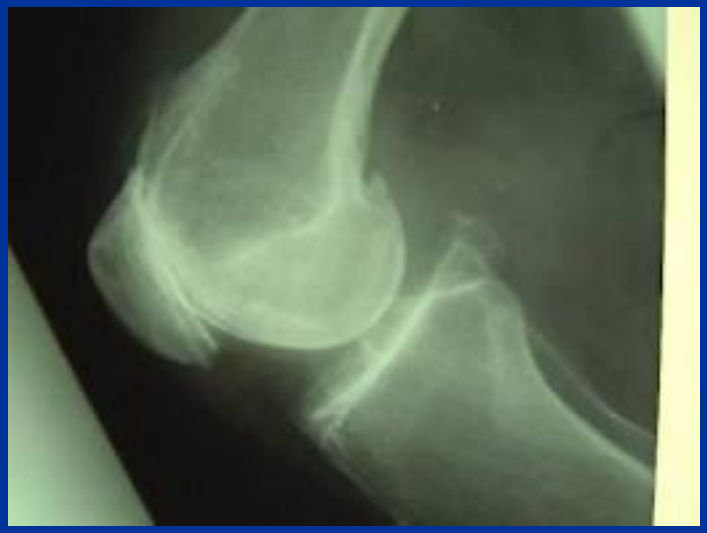
DECREASE IN ROM , DEFORMITY,CONTRACTURE,JOINT INSTABILITY OR MUSCLE ATROPHY.

EVALUATION OF PATIENT BEFORE SURGERY

- A COMPLETE MEDICAL HISTORY
- THOROUGH PHYSICAL EXAMINATION
- LABORATORY WORK UP
- ANAESTHESIA ASSESSMENT

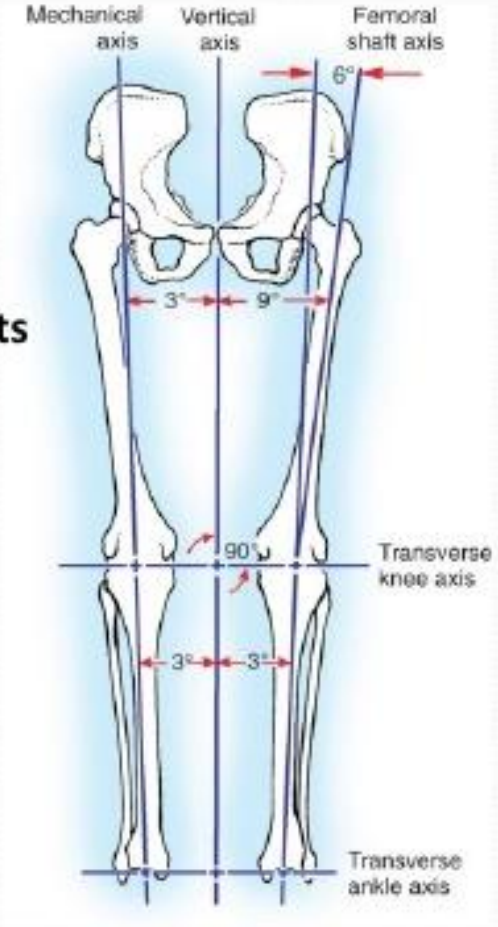
RECOMMENDED PREOP X-RAYS IN TKR

- STANDING FULL LENGTH AP RADIOGRAPH FROM HIP TO ANKLE JOINTS
- AP AND LATERAL VIEWS OF KNEE JOINT



Mechanical Alignment

- TKA aims at restoring the mechanical axis of the lower limb by:
  - **Sequential soft tissue releases**
  - **Correction of bone defects by grafts or prosthetic augments**



GOAL

- PAIN RELIEF
- RESTORATION OF NORMAL LIMB ALIGNMENT
- RESTORATION OF FUNCTIONAL RANGE OF MOTION IN THE JOINT

SUCCESSFUL RESULTS DEPEND ON:

- PRECISE SURGICAL TECHNIQUE
- SOUND IMPLANT DESIGN
- APPROPRIATE IMPLANT MATERIAL
- PATIENT COMPLIANCE WITH REHABILITATION

TECHNICAL GOALS OF TKR

- RESTORATION OF MECHANICAL ALIGNMENT
- PRESERVATION(OR RESTORATION) OF JOINT LINE – BY BALANCING LIGAMENTS
- MAINTAING OR RESTORING THE NORMAL “Q” ANGLE

Knee Replacement

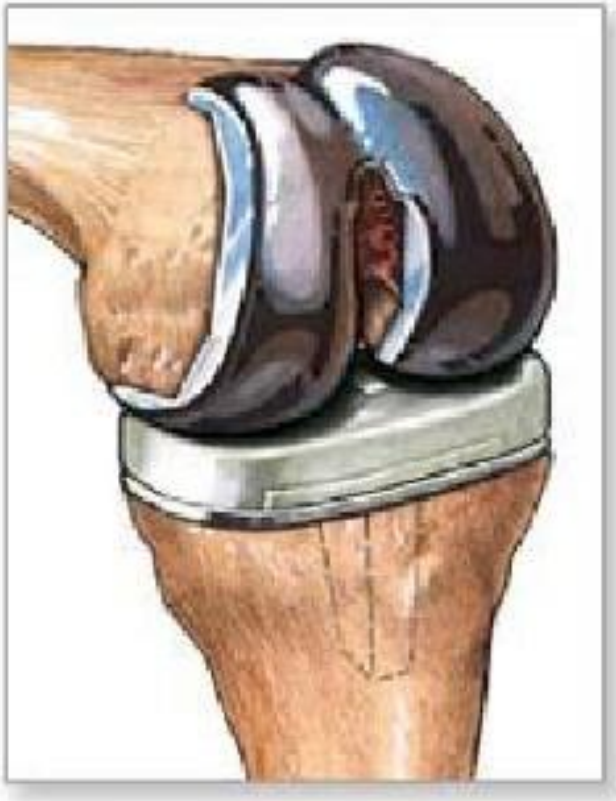
- Partial knee replacement
- Total knee replacement

CLASSIFICATION OF IMPLANT DESIGNS

- **UN CONSTRAINED**
  - Cruciate retaining
  - Cruciate substituting
  - Mobile bearing Knees

- **CONSTRAINED(Hinged)**

Un constrained TKR

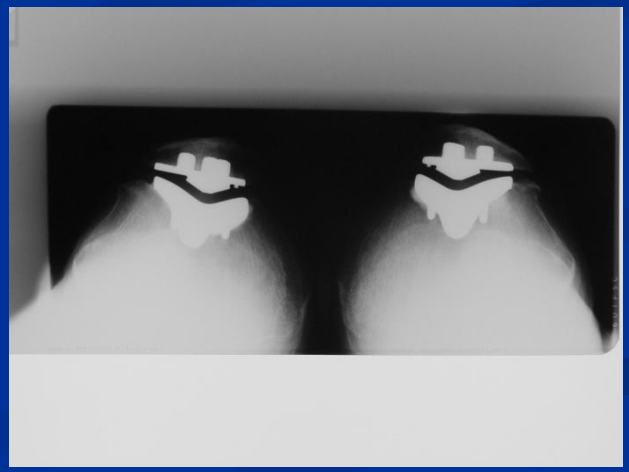


Constrained TKR

Uni condylar TKR

Partial Knee Replacement (Uni compartmental Knee Replacement)

Partial Knee Replacement (Patello-femoral replacement)



TKR TODAY!!!!!!

- LARGE VARIETY AVAILABLE

- MAJORITY ARE CONDYLAR REPLACEMENTS

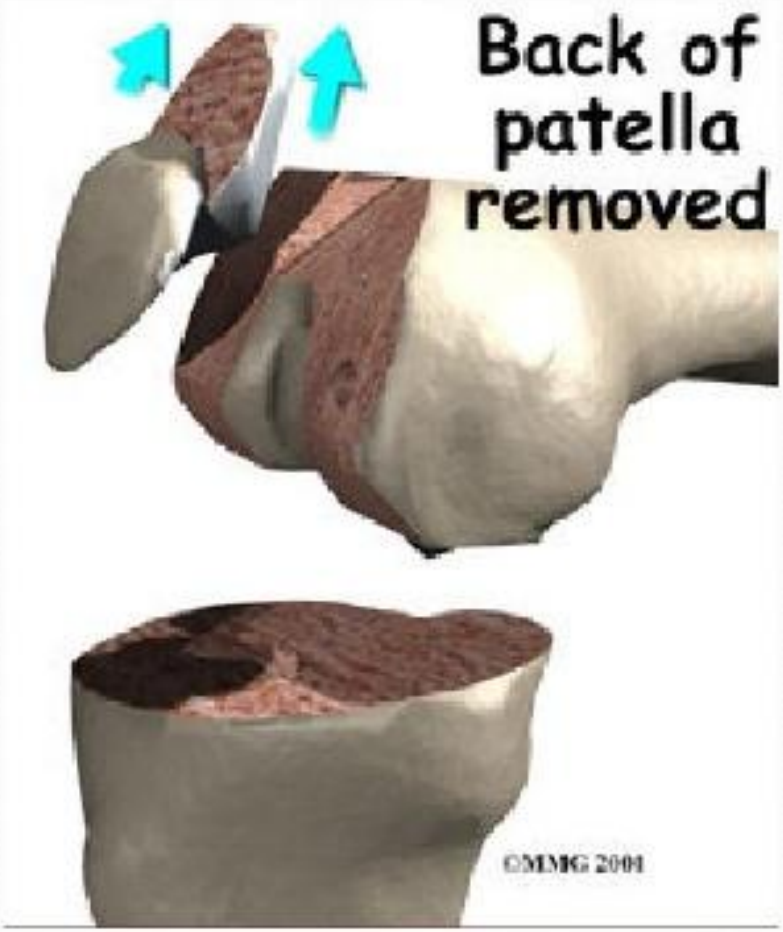
  - **COBALT – CHROME ALLOY FEMORAL COMPONENT**
  - **COBALT – CHROME ALLOY OR TITANIUM TIBIAL TRAY**
  - **UHMWPE TIBIAL BEARING COMPONENT**
  - **UHMWPE PATELLAR COMPONENT**

PROCEDURE- "INCISION"

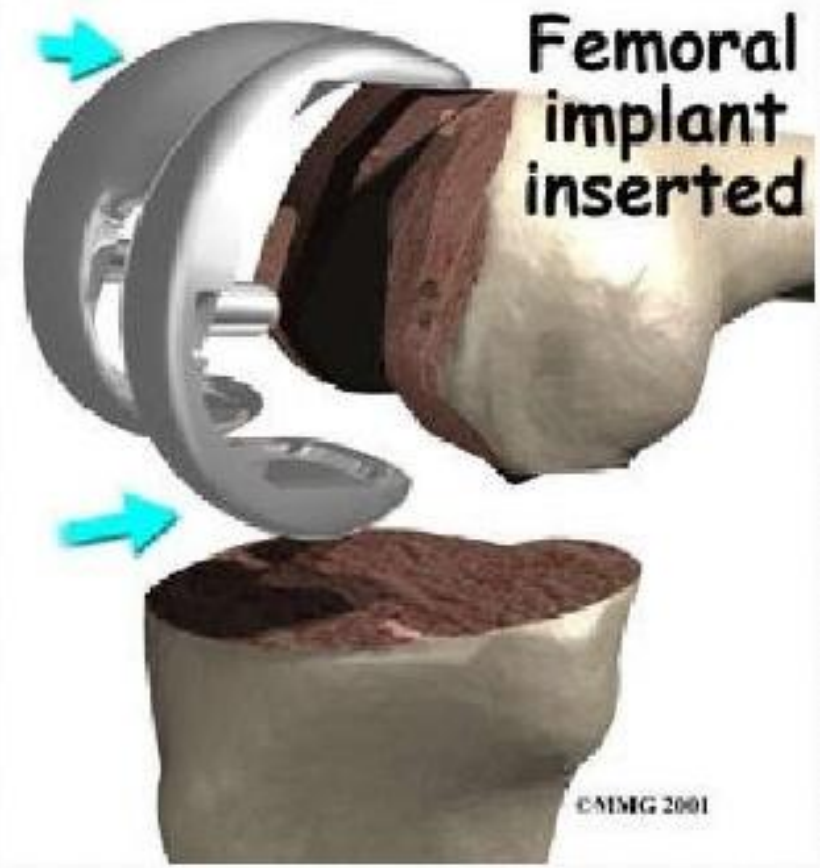
Procedure

Procedure

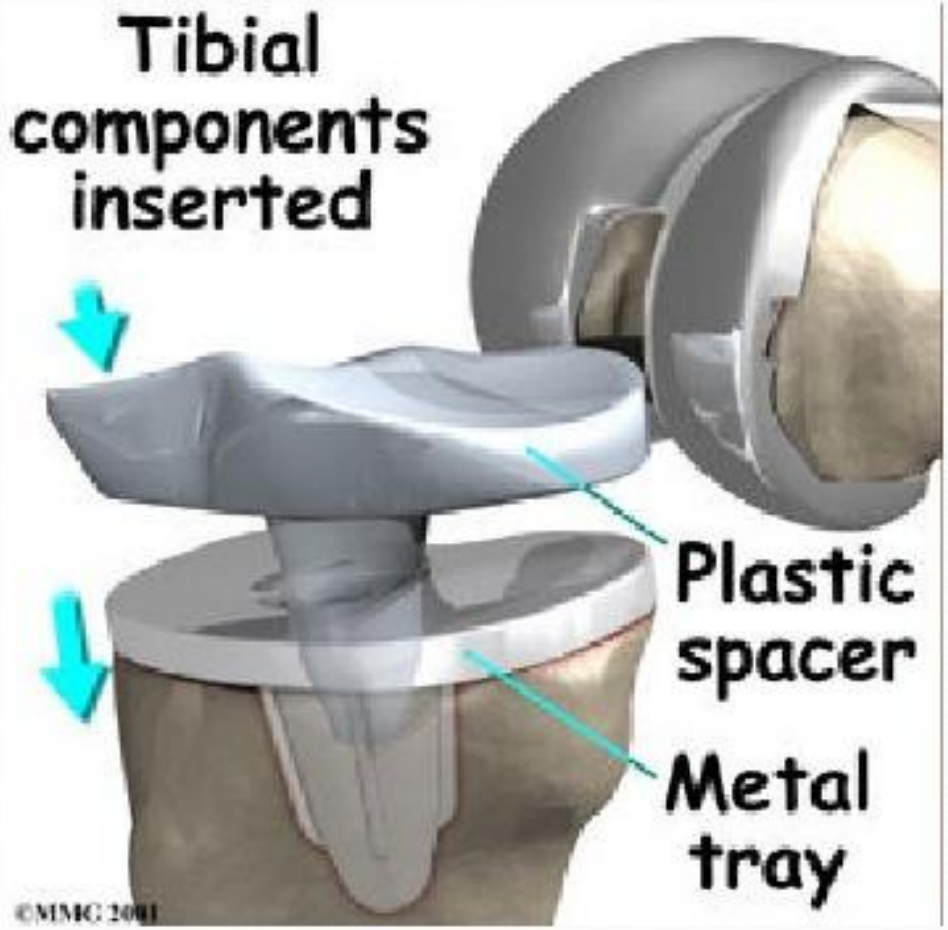
Procedure



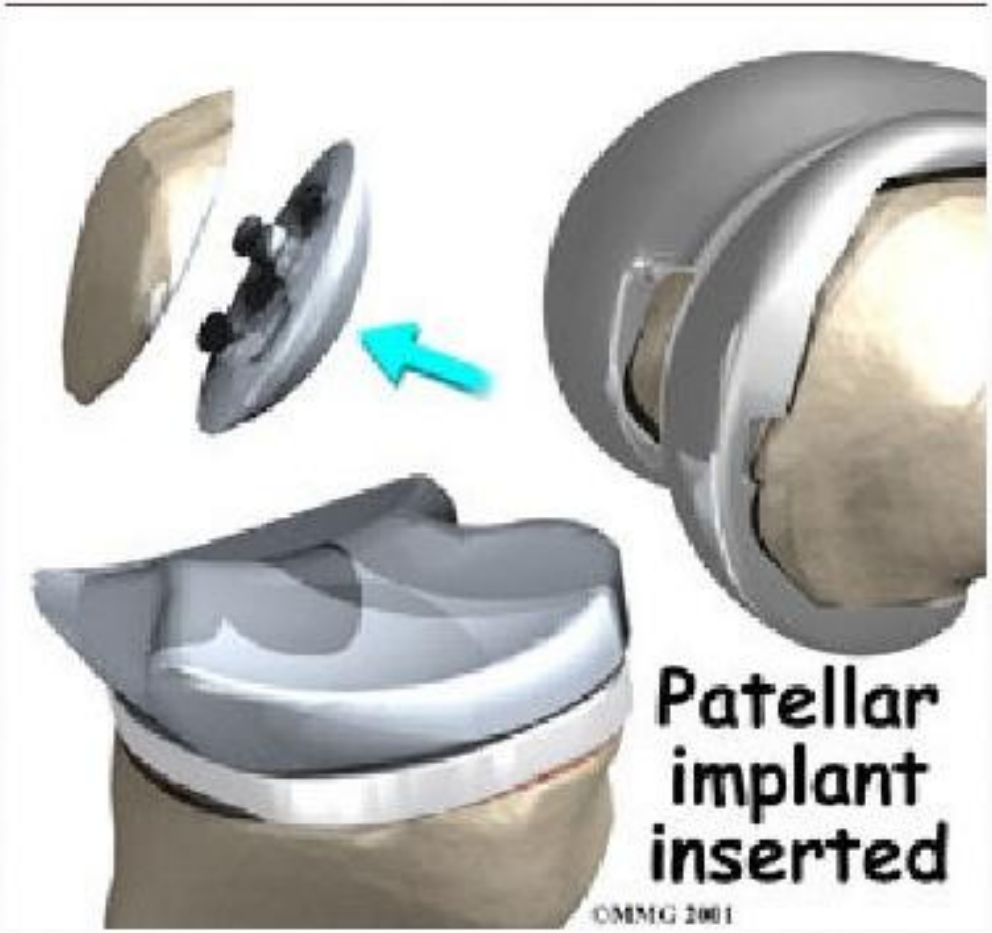
Procedure



Procedure

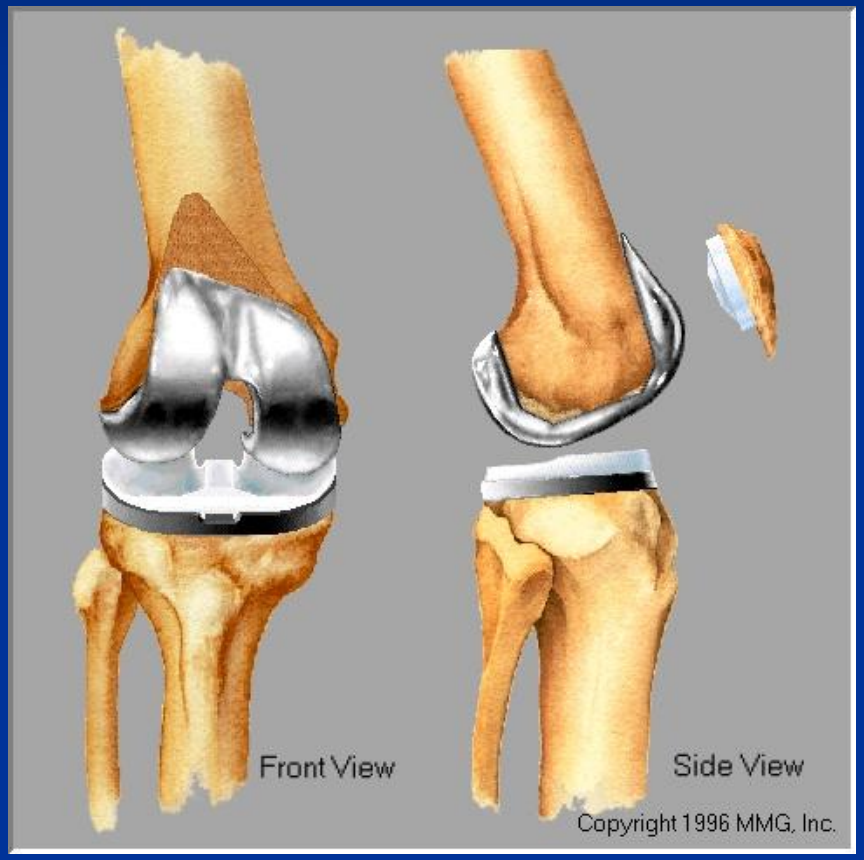

Tibial components inserted
Plastic spacer
Metal tray
©MMG 2001

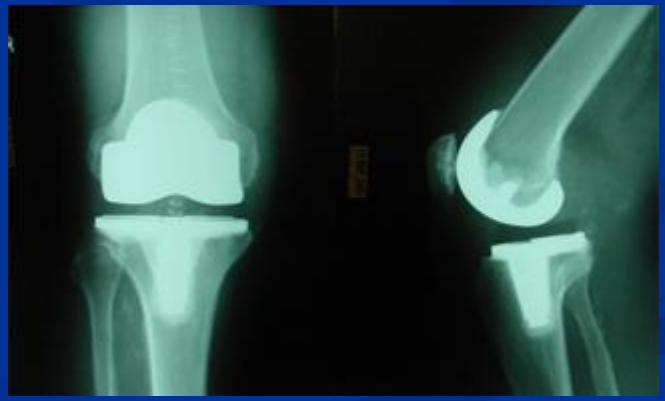
Procedure



Procedure

Total Knee Replacement





Total Knee Replacement

POST OP PROTOCOL

- RAPID POST –OP MOBILISATION
- RANGE OF MOTION EXERCISES STARTED
- CPM
- PASSIVE EXTENSION BY PLACING A PILLOW
- FLEXION-BY DANGLING THE LEGS ALONG THE SIDE OF BED
- MUSCLE STRENGTHENING EXCERCISES
- WEIGHT BEARING ALLOWED ON FIRST POST OP DAY

PROSTHESIS - SURVIVAL???

- **RANAWAT et al –(CORR)**
  - 95% --15 years
  - 91% -- 21 years
- **GILL AND JOSHI et al _(Am J Knee Surg)**
  - 96% -- 15 years
  - 82% -- 23 years
- **FONT AND RODRIGUEZ (CORR)**
  - 98% -- 14 years.

What to expect after Knee Replacement Surgery?

- It is a major surgery with an average recovery time of 6 to 8 weeks.
- The patient typically starts walking 2 days after surgery
- Needs the help of a walker for 5 to 10 days, followed by a walking stick for 2 to 4 months
- The stitches are usually removed between 2 to 3 weeks after surgery.

What to expect after Knee Replacement Surgery?

- Most patients get knee bending of more than 120 degrees, but complete bending like a normal knee is not possible.

- They can walk, sit on a low stool, do all daily activities, and even sit cross legged once in a while if required (although this is not recommended).

SUMMARY

- Knee replacement is an extremely successful operation when done well in indicated cases.
- Most patients are very happy with the new knee after they recover from surgery.
- Recovery period is long and varies from patient to patient
- Gratifying surgery as immediate alleviation of pain