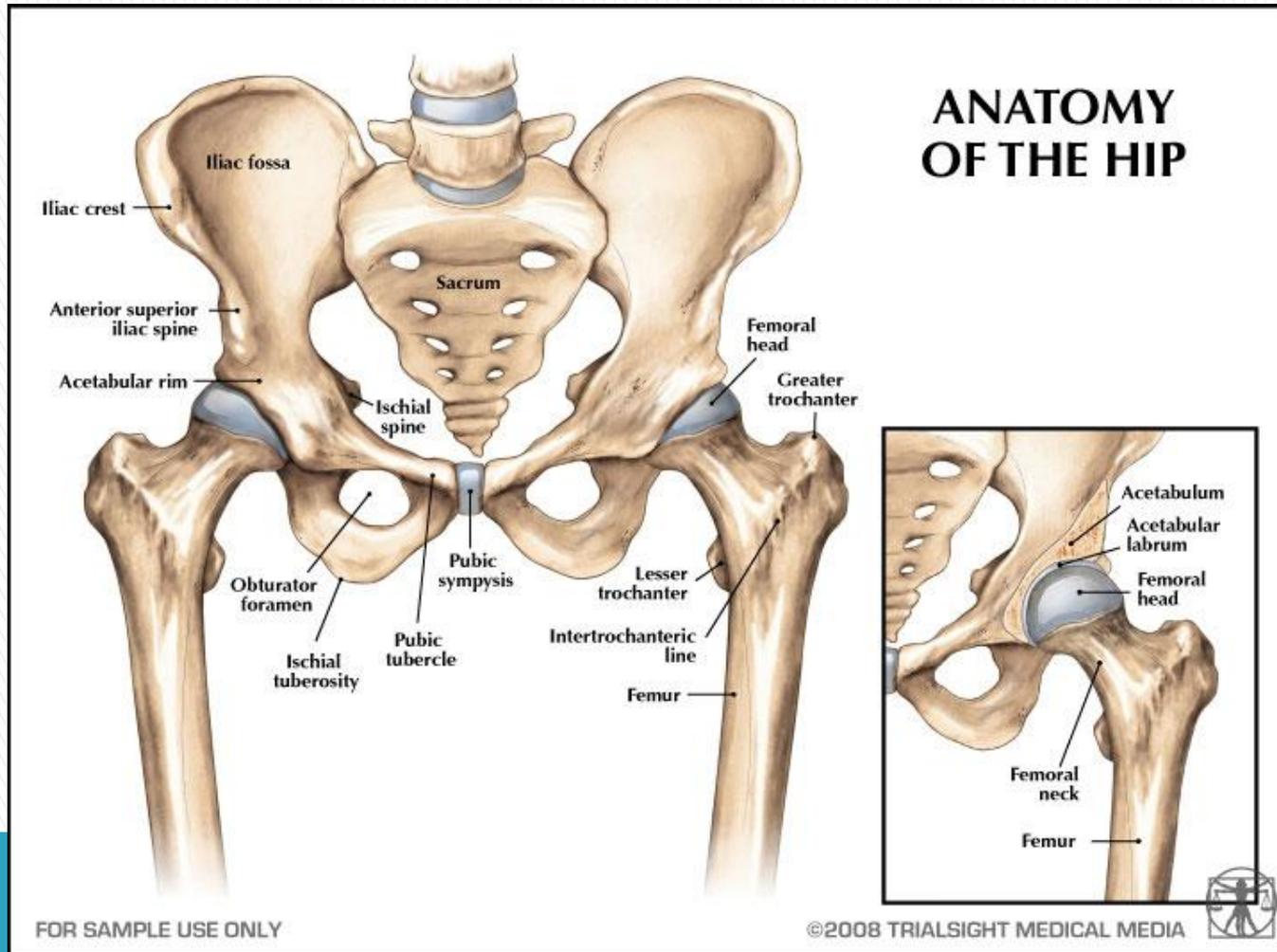


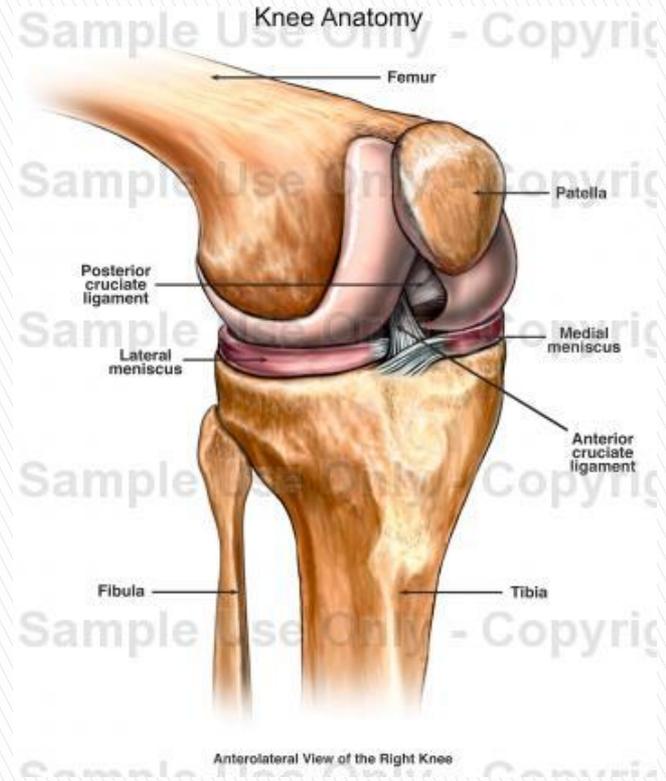
# Total Knee and Hip Replacement Physiotherapy

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June 2012

# Hip Anatomy



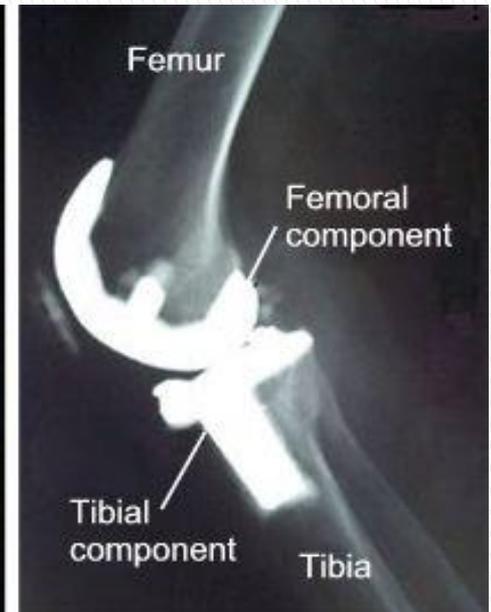
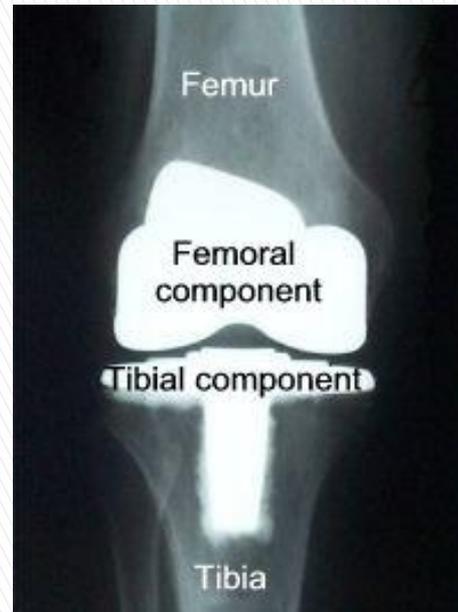
# Knee Anatomy



# Osteoarthritis



# Post Operative X-Ray



# Post Op Physio

- ▶ **Aims:**
- ▶ Early mobilisation
- ▶ Exercising independently
- ▶ Promote independence
- ▶ **Discharge requirements:**
- ▶ Independently mobilising and transferring
- ▶ Independent with exercises
- ▶ Completed stair assessment
- ▶ Knees: SLR and 0–90° ROM



# Hip Precautions

- Bend past 90°
  - Bend to pick things up
  - Sit in a low chair
  - Sit on a normal toilet
  - Dress lower half without aid
- Cross legs
  - In bed
  - Whilst walking
  - In the chair
- Twist
  - When transferring
  - When looking behind



Do not bend your operated hip beyond a 90° angle.



Do not cross your operated leg or ankle.

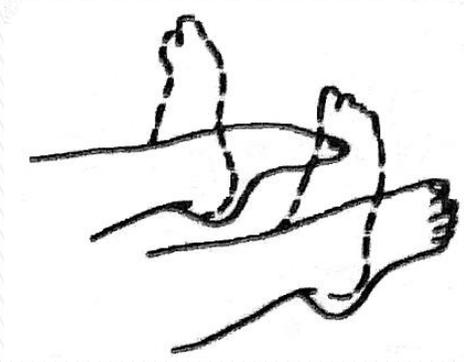


Do not turn your operated leg inward in a pigeon-toed position.

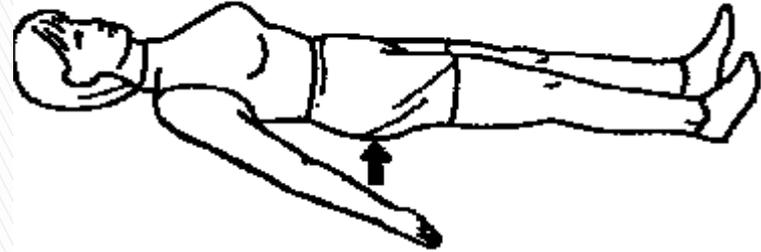
# Transfers

- ▶ Encourage patient to do as much as possible even on day 1.
- ▶ When helping lower limb, try just to support the weight of the limb whilst pt moves it to the edge of the bed
- ▶ TKR pts may need assistance lowering the foot to the floor but THR should be able to do independently.
- ▶ Once standing, ensure the pt can straighten their knee when standing on the operated leg.
- ▶ Step round rather than pivoting round.
- ▶ Ensure the chair is high enough for THR
- ▶ May assist pt bringing operated foot forward as they sit

# Hip Exercises



Lying with your legs out in front, pull your ankles towards you and then away briskly



Lying on your back. Squeeze your buttocks firmly together. Hold for 5–10 seconds.



Pull your toes towards you and tighten your thigh muscle, straightening the knee firmly against the bed.

Hold 5 seconds- relax

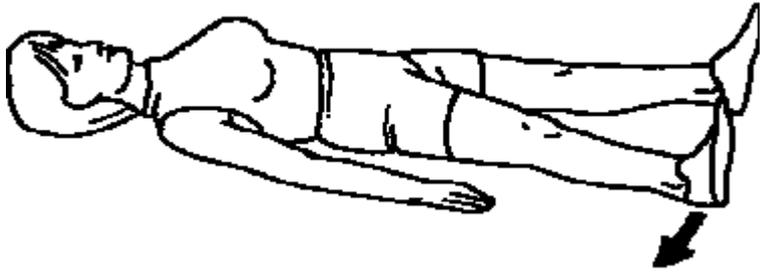
Place a rolled towel under your knee on your operated leg. Pull your foot and toes up, tightening your thigh muscles and straightening the knee (keep your knee on the cushion).

Hold 5 seconds - relax



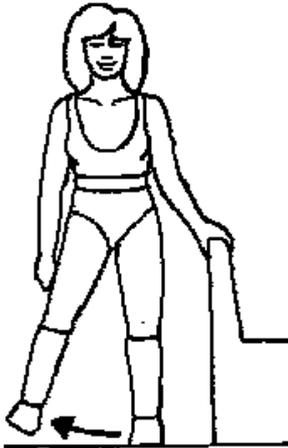
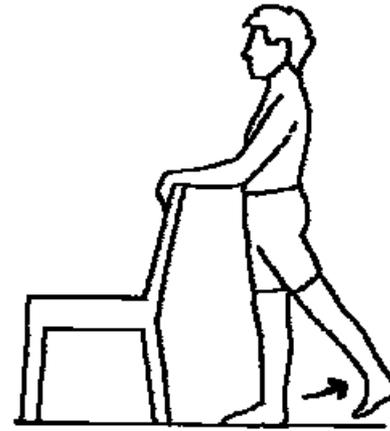
Bend and straighten your operated leg. Do not bend past 90 degrees.





Take your operated leg out to the side and then back to mid position.

Stand straight holding onto a chair. Bring your leg back keeping your knee straight. Do not lean forward.



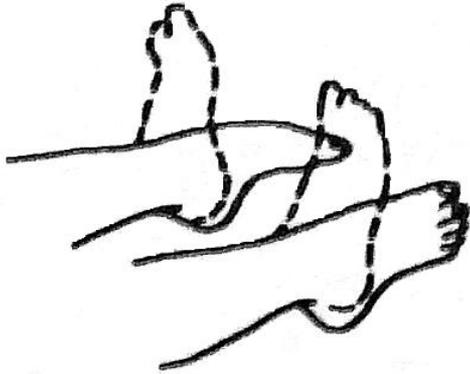
Stand straight holding onto a support. Lift your leg sideways and then return to the midline, keeping your trunk straight throughout the exercise.



Stand straight holding onto a chair. Lift your leg up in front, bending your knee. Do not lift past 90°

- ▶ Standing exercises are only started once pt mobilising well.
- ▶ Should be performed at end of bed or holding onto cotside.
- ▶ All exercises should be performed 3xday

# Knee Exercises



Lying with your legs out in front, pull your ankles towards you and then away briskly

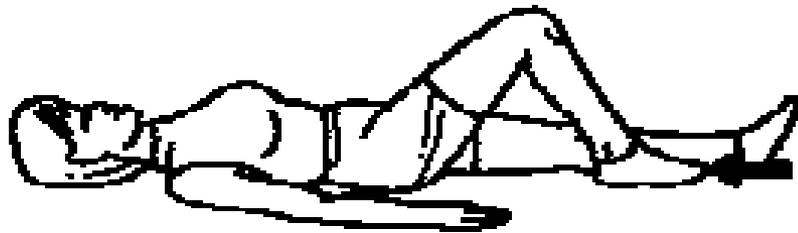


Pull your toes towards you and tighten your thigh muscle, straightening the knee firmly against the bed.



Place a rolled towel under your knee on your operated leg. Pull your foot and toes up, tightening your thigh muscles and straightening the knee (keep your knee on the cushion). Hold 5 seconds – relax

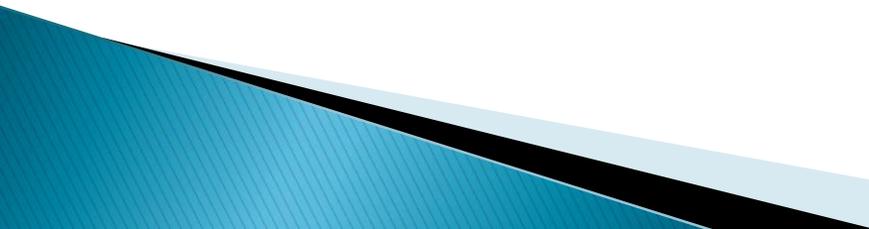
Lying on your back, pull your toes towards you and tighten your thigh muscle. With a straight knee lift your heel off the bed approximately 20 cm. Hold for 5–10 seconds



Lying on your back, bend and straighten your operated leg.

- ▶ Pt MUST be able to SLR with no quads lag. This means lifting the leg straight of the bed with no bend in the knee.
- ▶ Pt MUST have 0° extension and at least 75° flexion.
- ▶ All pts get followed up in Out Pt Physio

# Mobility

- ▶ Most important is for the pt to straighten their knee as they bring the weight onto the foot.
  - ▶ Pt will have a step to gait initially
  - ▶ Should progress in 2–3 days to a step through gait
  - ▶ If confident with frame but started on crutches by PT, to mob with frame independently but if time nursing staff to assist with crutches.
- 

# Stairs

- ▶ Going up
- ▶ Easy to remember – good leg goes to heaven – up first

- Hold onto rail, place crutch in other hand making a cross
- Step un-operated leg up
- Follow with operated leg
- Then bring the crutch
- Repeat

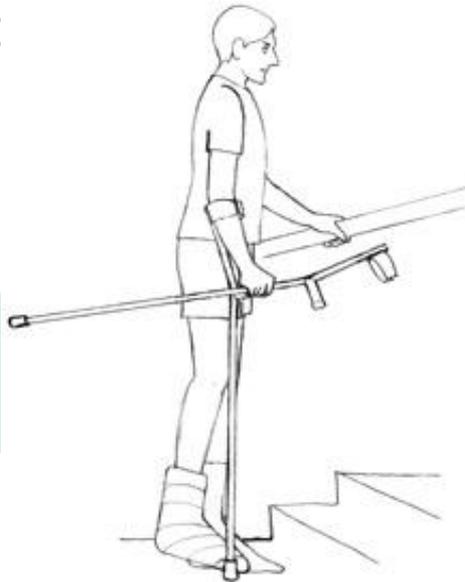
Remember heaven!

- ▶ Going down
- ▶ Easy to remember, operated (bad leg) goes down to hell first.

- Hold onto rail, place crutch in other hand making a cross
- Place the crutch on the next step

Put the operated leg down  
then un-operated leg down  
Repeat

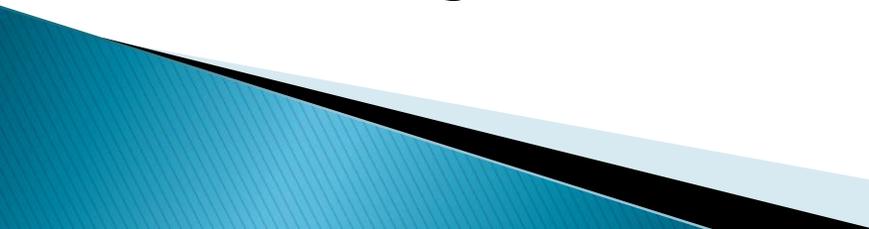
Remember hell!



# Out Patient Follow Up

- ▶ Main aims
  - Gait re-education
  - Walking aid progression
  - Range of Movement (ROM)
  - Swelling management
  - Muscle Strengthening
  - Balance and Proprioception
  - Functional Based
  - Outcome Measures

# Gait Re-education and Walking Aid Progression

- ▶ Equal Weight Bearing
  - ▶ Heel to toe
  - ▶ Leg length discrepancy
  - ▶ Trendelenburg
    - Gluteus medius strengthening
  - 2 elbow crutches to 1 elbow crutch
  - 1 elbow crutch to 1 walking stick
  - Outdoor and indoor mobility
  - 1 walking stick to independent
- 

# Range of Movement

- ▶ Active ROM
  - ▶ Passive ROM
  - ▶ Scar
  - ▶ Knee ROM
  - ▶ Treatment
    - Active movements
    - Passive movement
    - Swelling management
    - Soft Tissue Work
      - Glutes, hamstring and hip flexor
- ▶ Active ROM
  - ▶ Passive ROM
  - ▶ Scar
  - ▶ Hip and Ankle ROM
  - ▶ Treatment
    - Active movements
    - Accessory mobilisations
    - PPMs and METs
    - Swelling management
    - Static bike
    - Prone lying
    - Soft Tissue work
      - Quads, hamstrings and gastroc

Hip

Knee

# Swelling Management

- ▶ Ice
- ▶ Compression
- ▶ Elevation
- ▶ Mobility
- ▶ ROM exercises



# Muscle Strengthening

- ▶ Hip Flexors
- ▶ Hip Extensors
- ▶ Hip Abductors
- ▶ Hip Adductors
- ▶ Knee
- ▶ Surgical approach will affect which muscles will be most weakened.
- ▶ Knee Flexors
- ▶ Knee Extensors

Hip

Knee

# Muscle Strengthening Treatments

- ▶ Bed based
  - SG, SQ, hip flex and abd
- ▶ Chair exercises
  - Hip flex, knee ext
- ▶ Standing
  - Hip flex, abd, ext
- ▶ Resisted
  - Theraband, static bike

- ▶ Bed based
  - SQ, IRQ, SLR, SG, knee flex
- ▶ Chair exercises
  - Knee ext
- ▶ Standing
  - Squats, SLS, step ups
- ▶ Resisted
  - Theraband, static bike, leg press

Hip

Knee

# Balance and Proprioception

- ▶ SLS
- ▶ Wobble board
- ▶ Heel-toe gait
- ▶ Backward walking
- ▶ Tandem stance



# Functional Based

- ▶ Stairs
- ▶ Gait
- ▶ Patient goal based
- ▶ Driving
- ▶ Hobbies/ sport



# Outcome Measures

- ▶ ROM
  - ▶ Oxford Muscle Grading
  - ▶ Gait
  - ▶ Others
- 