

# Total Hip Replacement Procedure

During the procedure the surgeon replaces diseased and damaged bone and cartilage in the natural hip joint with an artificial joint. As with the natural joint, the artificial joint is in two parts - the 'femoral prosthesis' which forms the ball of the ball and socket joint (called the 'femoral head') and the 'acetabular prosthesis' which replaces the socket ('acetabulum').

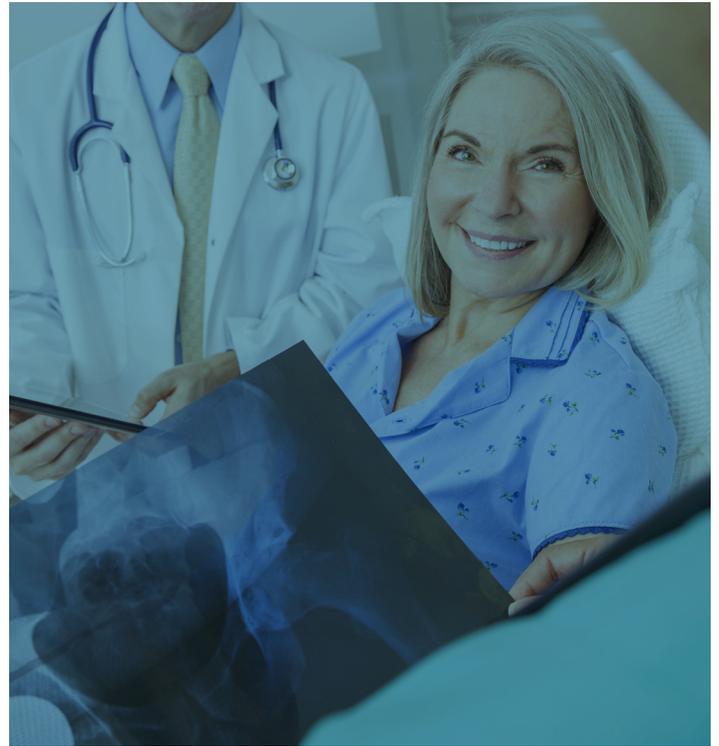
The operation takes around 90 minutes, during which the patient is put under either spinal or general anaesthesia and receives a femoral nerve block to relieve pain during and after the surgery.

Total Hip Replacement can be performed through any of the three approaches – posterior, direct lateral and direct anterior. All of them have their pros and cons. We offer direct anterior approach THR in suitable patients and will discuss the options with you at the time of consultation. This would enable you to make an informed decision and work towards the best possible outcome.

## DIFFERENT APPROACHES TO PERFORM TOTAL HIP REPLACEMENT SURGERY

- **Posterior approach:** Approaching the joint from the back of the hip. Worldwide this is the approach most used by Orthopaedic Surgeons. It is an excellent and reproducible approach but involves detaching the posterior capsule and some muscles and tendons that are repaired later. There is increased incidence of hip dislocation compared to other approaches, some of which require reoperation.
- **Direct lateral approach:** Requires detachment and later reattachment of the hip abductor tendon. Limp and gait abnormalities are more common with this approach which usually resolves with time.
- **Direct anterior approach (DAA):** Though this is not a new approach, its benefits in THR have been more widely realised in the recent few years. A summary of this approach, merits and challenges are discussed further below.

All of the above approaches have a long history and can be safely used to perform THR. The recently popularised DAA - THR has been in use for over 20 years, especially in Europe. Introduction of efficient instrumentation, use of proprietary surgical tables by some surgeons and better surgeon training have allowed its increasing use in hip replacement surgery.



In most cases, where the patient is younger than about 75 years, no form of bone cement is usually needed, as the implants are coated with a special material to allow the prosthesis to integrate naturally with the bone, creating a bond that lasts a long time. This approach is called 'uncemented THR'. Where patients are elderly or suffering from osteoporosis a 'hybrid THR' is performed where surgical cement is used to bond the bone and the femoral implant.

To learn more about postoperative recovery and rehabilitation, see the following guide on **Total Hip Replacement Rehabilitation Protocol**.

## RISKS

As with all surgical procedures there are some risks associated with total hip replacement. These are:

- Infection (0.6% risk)
- Bleeding
- Nerve injury causing numbness or weakness in affected leg
- Blood clot (DVT or embolism).

Risks specific to this procedure include:

- Joint dislocation
- Leg length discrepancy
- Fracture of thigh bone during or after procedure
- Loosening of artificial joint components (where bonding fails or there is wearing of the polyethylene component, or osteolysis).

# Total Hip Replacement Rehabilitation Protocol

Rehabilitation following total hip replacement tends to be less intense compared to total knee replacement. A home exercise regimen can accomplish most of the goals with periodic physiotherapist supervision and input.

## GOALS OF REHABILITATION FOLLOWING THR

- Observe hip precautions for 12 weeks (for posterior approach THR).
- Control pain and swelling.
- Regain normal gait and muscle control/strength.
- Restore proprioception, balance and coordination.

## DAY 1

- Sit at edge of bed and out in chair.
- Begin transfers and short walks with walker for 5-10 minutes twice during the day.
- In bed static quadriceps, ankle pumps, hip abduction and gentle SLR as able.

## DAY 2-3

- Progress with mobility. Aim for 50m walk with walker by day 3.
- Progress with exercises in bed and in chair as advised by therapist.
- Sit out in chair most of the day by day 3. Aim for a single sitting session of 45-60 minutes. All meals sitting in a chair.
- Use toilet or bathroom with assistance for all toileting needs.

## DAYS 3 TO 14: AFTER DISCHARGE HOME OR REHABILITATION CENTRE

- Continue exercises as advised by therapist.
- Progress with walking distance with walker. Aim for 100m.
- Sit out in chair for all meals and most of the day.
- Independent transfers into and out of bed.
- Perform HEP with assistance.
- Negotiate 4-6 stairs with assistance.

## WEEKS 2 TO 6

- Continue home exercises. These aim to improve lower limb strength, proprioception and balance.
- Progress with walking distance
- Can start hydrotherapy if available
- Transition to straight cane or walking stick indoors as able.

## WEEK 6 ONWARDS

- Wean off stick indoors. Gradually progress to unaided ambulation as able and if safe.
- Progress with functional tasks within home environment and then in external environments.