

AMIS TOTAL HIP ARTHROPLASTY

(Post-Operative Protocol)

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PLEASE NOTE!

This protocol is designed to serve as a guideline for clinicians and therapists. One should consider the general health, bone quality and anticipated functional demands of each patient. Continual assessment is essential when considering patient progression. Should you have any queries or concerns, please consult with the surgeon or rehabilitation team.

**As with all joint replacement surgery the post-operative rehabilitation is paramount in ensuring a successful outcome.
The patient should be educated and encouraged to actively participate in their rehabilitation**

What is the AMIS Technique?

This is an anatomical approach that preserves the peri-articular muscles. A skin incision of 5-8 cm is made about 2.5 cm lateral to the anterior superior iliac spine, this runs obliquely downwards over the proximal aspect of the thigh. The approach to the hip joint is *intermuscular* and does not damage any of the adjacent muscles. It is for this reason that the patient has improved function following the arthroplasty.

Range of Movement Restrictions:

Minimal to NO hip extension for the 1st 4 weeks
No external rotation greater than 45° / NO FABER position

Weight Bearing / Crutches:

The majority of patients are full weight bearing following surgery. Should you be an exception this will be discussed on an individual basis

Crutches are utilized until the patient re-gains adequate GAIT patterns

As a general rule: 0-2 weeks = 2x crutches

2-4 weeks = 1x crutch in OPPOSITE hand

NOTE: For uncemented Total Hip Arthroplasty - No axial loading / jumping on operated leg allowed for the first 6 weeks! (This is to protect prosthesis-bone interface and allow bone in-growth)

How does AMIS differ from other Total Hip Arthroplasty?

Flexion over 90° is permitted

Normal sitting

Normal toilet height (no need for toilet-seat raiser)

Normal sleeping position, no need for abduction pillow, in case of side sleep, pillow between the legs.

STAGE 1 (0 - 4 weeks)

AIM:

Restore range of movement (within prescribed ROM)

Maintain muscle function, preventing inhibition

Educate patient regarding correct crutch walking, daily functions and home exercise

Allow for bone in-growth into the prosthesis

The average length of stay is 3-5 days

Your hospital-based physiotherapist will provide twice-daily treatment during your hospital stay

Patient will be discharged with a HOME exercise program (refer to end of protocol)

Commence outpatient treatment 7-10 days following surgery

Physiotherapy:

(All therapists must respect the healing phase)

Passive and active hip mobilization

Restore normal gait pattern (using crutches) – some patients may advance to 1 crutch by week 3

Patient education – including day-to-day daily activity

Soft tissue mobilization – hip, thigh and lumbar spine (include spinal mobilization)

Commence stretching (within ROM guidelines)

NOTE: remember that most of patients have experienced chronic pain, and have significant muscle wasting and shortening

Commence stationary cycling with NO resistance

Initiate core muscle exercises (bed, mat programme)

Commence gluteal activation (bed, mat programme)

Swimming exercise and hydrotherapy may commence 4 days after wound check and suture removal (No breaststroke for 3 months)

Driving is allowed as soon proprioception and reflexes are sufficient - especially the right hip

(In case of an automatic car and left hip – one is permitted to drive earlier, average 4th post-operative week)

CRITERIA TO PROGRESS TO STAGE 2:

No pain during active achieved ROM or with Stage 1 exercise

Full weight bearing

Proper muscle firing patterns

No compensatory GAIT patterning

STAGE 2 (4 -12 weeks)

AIM:

Introduce hip extension – this is a gradual process

Maintain / improve ROM

Maintain / improve normal arthrokinematics / GAIT pattern

Maintain / improve muscle function and endurance

Introduce standing proprioception

Introduce cardiovascular endurance

Allow for bone in-growth into the prosthesis

Advance weight bearing status

RESTRICTIONS/PRECAUTIONS:

Still no full force axial loading (if prosthesis is uncemented). Normal walking permitted

Physiotherapy:

Continue / increase hip mobilization

Maintain / improve GAIT pattern (wean from crutches)

Soft tissue mobilization – hip, thigh and lumbar spine (include spinal mobilization)

Advance stretching (focus on hip flexors)

Increase cycling activity (no interval training or spinning)

Advance core muscle exercises

Advance gluteal strength

Maintain / improve proprioception

Assess and treat adjacent joint (remember chronicity and possible other pathologies (SIJ, Lx spine, concomitant OA)

Continue hydrotherapy (if prescribed) - Remember NO breaststroke for 3 months

Optional – Alter-G Anti Gravity Treadmill© may be introduced

CRITERIA TO PROGRESS TO STAGE 3:

Full ROM (especially anatomic hip extension)

No pain during full ROM or with Stage 2 exercise

No GAIT pathology or compensatory patterning during GAIT

Adequate abdominal core and gluteal strength to perform Stage 2 – 3 Functional movement screening

Hip Stage 2- 3 Screening \geq 5 Points (**refer to end of protocol**)

STAGE 3 (3months – 6 months)

AIM:

- Optimize neuromuscular control and proprioception
- Restore muscle endurance and strength
- Increase cardiovascular endurance
- Advanced core stability
- Slow introduction of axial loading activities
- Maintain hip ROM

Biokinetic assessment (*OPTIONAL – should the patient NOT lead a sedentary lifestyle*). The following may be performed:

- a) Postural assessment
- b) Functional movement screening
- c) Isokinetic strength test (**ONLY** if required for manual labor or sporting activity)
 - Concentric vs. concentric – flexion / extension; abduction / adduction
 - Check - Range of movement – SLR, IR, ER, Thomas test

Physiotherapy:

- Maintain full ROM
- Maintain / improve muscle strength and endurance (including abdominal core)
- Re-assess GAIT pattern
- Soft tissue mobilization / spinal mobilization – if required
- Maintain stretching
- Advance cardiovascular training
- Advance neuromuscular control and proprioception with axial loading
- Assess and treat concomitant pathologies
- Full swimming – no restrictions

CRITERIA TO DISCHARGE PATIENT FROM THERAPY:

- Full ROM
- No residual pain
- Full return to active daily function
- Able to perform unsupervised maintenance gym programme
- Hip Stage 2- 3 Screening Full Points (**refer to end of protocol**)

DOCTOR FOLLOW UP:

- **6 weeks** post op, with x-ray – and by member of physiotherapy rehabilitation team
- **6 months** post op, with x-ray
- **1 year** and then **annually**, with x-ray