Orthopaedics SA
BONE & JOINT SPECIALISTS

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**Sports Injury and Joint Replacement Surgery for the Hip and Knee**

# DISTAL FEMORAL OSTEOTOMY REHABILITATION PROTOCOL

## General Guidelines

- Supervised physical therapy commences immediately post-operatively. Patients should see their physical therapist as soon as practically possible. Supervised therapy continues for 6-12 months
- Braces are routinely used
- Dr Awwad may alter time frames when indicated.

## White compression stockings

You may stop wearing the white compression stockings after 24-48 hours . This compression stocking helps prevent a blood clot from forming in your legs. Once you are walking frequently you will no longer need the stocking . If you develop lower leg swelling, tenderness, and/or redness, please contact Dr Awwad's office or the hospital.

## Dressings

The bulky encircling dressings (crepe bandage, velband and pads) may be removed the day after surgery. The small adhesive dressings should be left intact. To shower, cover the surgical knee and dressings with plastic cling wrap. Prior to discharge from hospital, an appointment will be made to see a nurse for a dressing change and wound check between 1-2 weeks post-operatively.

## Ice and Elevation

The leg should be intermittently elevated and an ice pack used for 72 hours post-operatively to assist with swelling and pain. Ice packs should be applied for 20-30mins/hr. After 72 hrs, ice packs are no longer required, although can be safely continued and their use is very helpful for pain and swelling.

## Pain Medications

The anaesthetist will individualise and organise the appropriate pain relief for patients. Commonly required medication are panadeine forte, tramadol and endone.

The routine use of anti-inflammatories is not recommended post-operatively, unless directed by Dr Awwad.

## General Progression of Activities of Daily Living

- Driving
  - » Left leg surgery 1 week for automatic cars 4 weeks for manual cars
  - » Right leg surgery 6 weeks
- Return to work as directed by Dr Awwad based on work demands.

## Precautions

Patients should contact Dr Awwad's office or the hospital the operation was performed in, if they develop high temperatures, worsening skin redness, worsening calf, knee or thigh pain and swelling and excessive bleeding or ooze from the incision sites.

## Phase I - Immediately Post-Operatively to 6 Weeks:

Goals:

- Protect osteotomy
- Minimise effects of immobilisation
- Control inflammation/swelling

Weight-Bearing Status:

- Touch weight-bearing as tolerated immediately post-op with crutches

ROM:

- 0-90 degrees out of brace
- Active flexion/passive extension

Bracing:

- Worn continuously, except for hygiene purposes
- Brace set on 0-90 degrees

Exercises:

- Heel slides
- Isometric Quad contractions (consider NMES for poor quad control)
- Prone assisted knee flexion
- Gastroc/Soleus, Hamstring stretches

- Gastroc/Soleus strengthening

## Phase II - Post-Operative Weeks 6 to 12:

Criteria for advancement to Phase II:

- Osteotomy united on Xray
- Full extension/hyperextension
- Minimum of 90° of flexion
- Minimal swelling/inflammation

Goals:

- Restore normal gait with stair climbing
- Maintain full extension, progress toward full flexion range of motion
- Protect graft and graft fixation
- Increase hip, quadriceps, hamstring and calf strength
- Increase proprioception

Brace:

- Set on full range
- Wean when strength and stability allows

Weight Bearing:

- May WBAT
- No running/jumping

Exercises:

- Continue with range of motion/flexibility exercises as appropriate for the patient
- Stairmaster (begin with short steps, avoid hyperextension)
- Elliptical machine for conditioning.
- Stationary biking- progress time and resistance as tolerated
- Continue hamstring, gastroc/soleus stretches
- Continue to progress hip, hamstring and calf strengthening
- If available, begin walking in the pool (waist deep) at 8 weeks

## Phase III - Post-Operative Weeks 12 to 26:

Criteria to advance to Phase III:

- No patellofemoral pain
- Minimum of 120 degrees of flexion
- Minimal swelling/inflammation

Goals:

- Improve strength, endurance and proprioception of the lower extremity to prepare for sport activities
- Full range of motion

Exercises:

- Continue flexibility and ROM exercises as appropriate for patient
- Begin swimming if desired
- Progressive hip, quadriceps, hamstring, calf strengthening
- Cardiovascular/endurance training via Stairmaster, elliptical, bike
- Advance proprioceptive activities

## Phase IV: Post-Operative Months 6 through 9:

Criteria for advancement to Phase IV:

- No significant swelling/inflammation.
- Full, pain-free ROM
- No evidence of patellofemoral joint irritation
- Strength approximately 70% of uninvolved lower extremity per isokinetic evaluation

Exercises:

- May begin running
- Continue and progress flexibility and strengthening program based on individual needs and deficits.
- Initiate plyometric program as appropriate for patient's athletic goals
- Agility progression including, but not limited to:
  - Side steps
  - Crossovers
  - Figure 8 running
  - Shuttle running
  - One leg and two leg jumping
  - Cutting Acceleration/deceleration/sprints
  - Agility ladder drills
- Continue progression of running distance based on patient needs.
- Initiate sport-specific drills as appropriate for patient

## Phase V: Begins at approximately 9 months post-op. Aim for full return to sports at 12 months post-op:

Criteria for advancement to Phase V:

- No patellofemoral or soft tissue complaint
- Necessary joint ROM, strength, endurance, and proprioception to safely return to work or athletics
- Physician clearance to resume partial or full activity

Goals:

- Safe return to athletics/work
- Maintenance of strength, endurance, proprioception
- Patient education with regards to any possible limitations

Exercises:

- Gradual return to sports participation
- Maintenance program for strength, endurance on an individual basis.

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APPOINTMENTS AND ENQUIRIES
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Ask Dr Awwad to clarify your restrictions prior to surgery to avoid disappointment.