

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

# REHABILITATION FOR MICROFRACTURE OF THE KNEE

### General Guidelines

- Microfractures are usually performed on day-only basis
- Supervised physical therapy commences immediately post-operatively. Patients should see their physical therapist as soon as practically possible. Supervised therapy continues for 3-6
- Braces are not routinely used for femoral condylar lesions, but are used for patellofemoral lesions
- Dr Awwad may alter time frames when indicated.

### White compression stockings

You may stop wearing the white compression stockings after 2 weeks. 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 paracetamol forte, tramadol, paxipar 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 (femoral condyle lesions)
  - » Right leg surgery 4 weeks (femoral condyle lesions)
- 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: Weeks 0 to 6

Begin physical therapy immediately post-op, meet 1-2x time per week

### Rehabilitation Goals

- Protection of the post-surgical knee
- Restore normal knee range of motion and patellar mobility
- Eliminate effusion
- Restore leg control

### Weight Bearing Femoral Condyle lesions

Use axillary crutches, to follow the weight bearing guidelines below. This is essential for proper healing. For special situations and in winter months a brace may also be used.

- Weeks 0-2 = non-weight bearing
- Weeks 3-4 = touchdown weight bearing
- Weeks 5-6 = weight bearing as tolerated

### Patellofemoral lesions

Use axillary crutches, in locked knee brace for 6 weeks

- Weeks 0-6 = weight bearing as tolerated

The surgeon may modify the weight bearing guidelines for specific situations.

Range of Motion Exercises

- Knee extension on a bolster
- Prone hangs
- Supine wall slides as tolerated without pain
- Passive range of motion off the end of the table as tolerated without pain

NOTE: Range of motion exercises should be carried out frequently throughout the day with high repetitions to help remodel the developing fibrocartilage. The optimal goal during the first 6 weeks is to do 4-8 hours of range of motion exercises per day.

Suggested Therapeutic Exercise

- Quad sets
- Straight leg raises
- Four way leg lifts in standing with brace on for balance and hip strength
- Patellar mobilisations
- Begin pool activity at the start of week 5. Exercises may include gait drills (forward walk, march walk, skate step, step and balance) with depth of water at the level of the axilla. Deep water running, vertical kicking or biking can also be included.

Cardiovascular Exercise

- Upper body circuit training or upper body ergometer

Progression Criteria to Advance to Phase II

- 6 weeks post-op
- No effusion
- Full knee extension

Phase II: Post-operative weeks 6-12:

Approximately Weeks 6-12  
To begin once progression criteria in Phase 1 are met.  
Physical therapy 1 time per every 1-2 weeks

Rehabilitation Goals

- Single leg stand control
- Normalise gait
- Good control and no pain with functional movements, including step up/down, squat, partial lunge (staying less than 60° of knee flexion)

Precautions

- Avoid post-activity swelling
- Avoid loading knee a deep flexion angles
- No impact activities until 12 weeks post-op

Suggested Therapeutic Exercises

- Non-impact balance and proprioceptive drills
- Stationary bike
- Gait drills
- Hip and core strengthening

- Stretching for patient specific muscle imbalances
- Quad strengthening—closed chain exercises short of 60° knee flexion
- Continue pool program—alternating days with land program

Cardiovascular Exercise

- Non-impact endurance training; stationary bike, Nordic track, swimming, deep water run, cross trainer

Progression Criteria to Advance to Phase III

- Normal gait on all surfaces
- Full range of motion
- No effusion
- Ability to carry out functional movements without unloading affected leg or pain, while demonstrating good control
- Single leg balance greater than 15 seconds

Phase III: Post-Operative weeks 12 onwards

Begin after meeting Phase 2 criteria  
About 3 months  
Physical therapy 1 time per every 1-2 weeks.

Rehabilitation Goals

- Good control and no pain with sport and work specific movements, including impact

Precautions

- Post-activity soreness should resolve within 24 hours
- Avoid post-activity swelling
- Avoid knee pain with impact

Suggested Therapeutic Exercises

- Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other and then 1 foot to same foot
- Movement control exercises beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities
- Sport/work specific balance and proprioceptive drills
- Hip and core strengthening
- Stretching for patient specific muscle imbalances

Cardiovascular Exercise

- Replicate sport or work specific energy demands

Return to Sport/Work Criteria

- Dynamic neuromuscular control with multi-plane activities, without pain or swelling



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APPOINTMENTS AND ENQUIRIES

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