



Dr Abay Sundaram - Orthopaedic Surgeon

P 08 6332 6335

E admin@drsundaram.com.au

W drsundaram.com.au



Murdoch

Murdoch Orthopaedic Clinic

Suite 10, 100 Murdoch Drive

Murdoch, WA 6150

Quadriceps/Patellar Tendon Rehabilitation

Goals

- Achieve full extension and flexion to 90 degrees by 6 weeks
- Achieve full extension and symmetrical flexion by 10 weeks
- Walking: symmetric gait by 10 weeks (with single crutch if needed)
- Driving: 6 weeks
- Wean off opiate analgesia by 2 to 4 weeks
- Aim for quiet knee by 3 months: continue RE3 cryotherapy as needed
- Extensor strength:
 - Maintain knee extension against while seated by 4 weeks
 - Supine straight leg raise by 4 weeks
 - Aim to have no extensor lag by 10 weeks

Brace & weight-bearing:

- Hinged knee brace:
 - Locked in extension 2 weeks
 - Unlocked 0 – 90 from 2 weeks to 6 weeks
 - Remove brace at 6 weeks when quadriceps strength is at least 80% of contralateral
 - Brace to be worn at night and in shower for 6 weeks to avoid risk of falling
- Begin weight bearing immediately in hinged knee brace

Phase 1 (0 - 2 weeks):

- Manage pain and swelling: RE3 cryotherapy daily + opiate medication as needed
- Isometric quadriceps while seated (push knee into bed)
- Isometric hamstrings while supine (heel into bed)
- Immediate weight bearing
- Calf pumps, ankle plantar and dorsiflexion
- Restrict step count to avoid overuse and instigating inflammatory cascade:

Phase 2 (2 - 6 weeks): Recover range of motion and extensor mechanism

- Continue RE3 when resting, back into hinged knee brace when ambulating
- Supine roll under heel, push knee down to reach extension
- Prone knee flexion (turn on to stomach and flex knee up) – promotes hamstrings and protects tendon repair
- Seated knee extensions against gravity while wearing brace (avoids any unintentional eccentric forces through repair)

Phase 3 (6 – 12 weeks): Strength and function:

- Brace can be removed when quadriceps and hamstring function returned to 80% of contralateral
- Can begin eccentric exercises
- Can begin resistance exercises to strengthen quadriceps and hamstring: open kinetic chain, low resistance, high repetition
- Heel raises



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Seek advice if:

- Erythema around wound or discharge: do not start antibiotics, call Dr Sundaram immediately
- Sudden increase in pain and swelling: xray, review with Dr Sundaram: RE3 cryotherapy, rest and recover range.
- Persistent swelling beyond 3 months: call Dr Sundaram for review
- Sudden loss in knee extension: call Dr Sundaram for review