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Murdoch

Murdoch Orthopaedic Clinic

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TKR or Partial Rehabilitation

Goals

- Achieve full extension and flexion to 90 degrees by 2 weeks
- Achieve full extension and symmetrical flexion by 6 weeks
- Walking: symmetric gait by 6 weeks (with single crutch if needed)
- Driving: recovery of reflexes by 4 to 6 weeks
- Wean off opiate analgesia by 2 to 4 weeks
- Aim for quiet knee by 3 months: continue RE3 cryotherapy as needed

Pre-op Phase:

- Recover symmetrical quadriceps and hamstring strength
- Improve aerobic exercise tolerance: stationary bike, swimming
- Manage pain and swelling: RE3 cryotherapy pre-operatively
- Nutrition & gut health: Mend nutrition or balanced diet at home: high in fibre and protein.

Phase 1 (0 - 6 weeks): More range, less steps

- Eliminate swelling: RE3 cryotherapy daily
- Regain range of motion: must reach 90 degrees by 2 weeks
- Quadriceps activation: no extensor lag by 4 weeks (knee into bed)
- Isometric hamstrings while supine (heel into bed)
- Immediate weight bearing
- Exercises:
 - Isometric quadriceps
 - Straight leg raise
 - Knee flexion while seated
 - Knee extension with roll under ankle
 - Calf pumps & heel raises
 - Backwards walking from 4 weeks: promote terminal extension with each stride
- Restrict step count to avoid overuse and instigating inflammatory cascade:
 - Week 1: 1000 steps per day maximum
 - Week 2: 2000 steps per day maximum
 - Week 3: 3000 steps per day maximum
 - Week 4: 4000 steps per day maximum
 - Week 5: 5000 steps per day maximum
 - Week 6: 6000 steps per day maximum
- Proprioceptive work from day 1: falls prevention + functional recovery
 - Single leg stance: bar or chair in front for support
 - Step up to single step, pause, step down: must achieve full extension at top and bottom of step



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Phase 2 (6 – 12 weeks): Strength and function

- Open kinetic chain to restrengthen quadriceps and hamstrings: build lifestyle changes so these exercises are incorporated into daily life and avoid any recurrence of knee pain in the future
 - Leg extension: theraband, adjustable resistance
- Squats:
 - 45 degree against wall
 - 90 degree seated to stand with chair in front to support
- Lunges: hands on knee for balance and support. Can progress with dumbbells if progressing well
- Aerobic recovery:
 - Stationary bike: range should have recovered to facilitate
 - Swimming: no risk of wound permeability
- Proprioceptive work – advanced if quadriceps and hamstring strength have recovered to symmetrical

Seek advice if:

- Erythema around wound or discharge: do not start antibiotics, call Dr Sundaram immediately
- Sudden increase in pain and swelling in phase 1: xray, review with Dr Sundaram: RE3 cryotherapy, review step count, rest and recover range.
- Persistent swelling beyond 3 months: call Dr Sundaram for review
- Joint replacement can take up to 12 months to become “forgotten” but most unhappy patients at that 12 month mark will have had an issue with phase 1 range of motion, phase 2 swelling, or a wound concern at any time point.