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## East Coast Orthopaedics

### HAMSTRING REATTACHMENT REHABILITATION PROTOCOL

Please note that the timeframes mentioned are general and will vary from patient to patient depending on their individual presentations, pre-injury activity levels, delay in presentation, goals, sciatic nerve involvement etc. They are meant to be guidelines only. **Please check with the surgeon if there are any major variances** during the rehab journey.

#### Phase 1: Acute Phase (0 – 2 weeks)

##### Goals:

- Reduce pain and swelling
- Wound care
- Restore standing posture and weight bearing
- Maintain sciatic nerve mobility

##### Guidelines:

- Physiotherapy intervention is at a minimum
- No muscle tension passive or active – i.e. hip flexion must only occur with simultaneous knee flexion
- Gentle neural mobilisations (*off-loading – not stretching*)



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### Phase 2: Continued Healing and repair (2 – 6 weeks)

#### Goals:

- Scar management and protection
- Restore normal gait pattern and full weight bearing status
- Pain free, non-resisted full hip AROM with the knee >90° flexion
- Pain free, non-resisted full knee AROM with the hip at 0° in supine or side lying.
- Dynamic core stability and gluteal strengthening
- No scar massage until 4 weeks post-op. Use Micropore tape and other scar management treatments such as Cica Care or Kelocote)

#### Guidelines:

- **Lying:** Supine heel slides – hip and knee flexion to hip and knee extension: progression = gradually sit up as doing the heel slides
- **Supine** crook lying single leg press against theraband: progression= supporting leg can hover or be raised whilst affected leg performs the leg press motion
- **Supine** over the bed Knee extensions – open chain progressive resistance for quads strengthening and neural mobilisation. **NB: Not sitting**
- **Standing:** Double leg calf raises: progression = single leg calf raises
- Glute strengthening: standing hip hitching and standing to side-lying straight leg abduction



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### Phase 3: Continued Repair Phase (6 – 12 weeks)

#### Goals:

- Begin gravity-only resisted hamstring strengthening in neutral hip position
- Start gentle proprioception/balance workout

#### Guidelines:

- **Standing:** Walking on flat ground as able but not as form of exercise. (Comfortable pace for 10 mins, progressing to 30min by week 12)
- ¼ squats with light hand-weights adding up to < ¼ of body weight
- Standing theraband exercises (hip Abd/Ext). Theraband attached to ankle, pulling involved leg out to side and backwards against a gentle resistance
- Exercise bike as tolerated
- **Lying:** Double leg bridging in crook lying with feet on the floor. Progression:
  - *Decrease arm support from by side to across chest*
  - *Add a box under feet then progress to legs on chair*
- Lumbar spine mobility with lower legs on a Swiss ball. Rolling the ball forward and back and side-to-side.
- Core stability progressions: Pilates reformer leg press (light springs)
- Prone leg curls, no added weight resistance. Progression = standing leg curls – (No weights until 12 weeks)



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### Phase 4: Remodeling Stage (12 – 16 weeks)

#### Goals:

- Increase strength of hip/knee/ankle and kinetic chain
- Full range of motion at hip and knee
- Begin hamstring stretches
- Begin strengthening Hamstring with added weight resistance
- Progress proprioception/balance work

#### Guidelines:

- **Standing:** Fast walking (flat ground – no hills)
- Walk and balance on mini-tramp/foam balance
- Pilates scooter and home scooter with Theraband. Slow and controlled with progressive increase in resistance
- **Lying:** Continue standing Theraband exercises (increase resistance)
- Stretching: Straight leg raise or sitting knee extension to a gentle discomfort (2/10 VAS)
- Hamstring strengthening with added resistance. Progression – prone – standing – machine leg curls
- Swiss ball double leg bridges with core pre-activation
- Single leg ¼ squats holding up to ¼ body weight
- Progress gluteal strengthening: Supine theraband hamstring pull downs
- Leg press: initially double leg and progress to single leg. Progressive resistance



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### Phase 5: continued remodeling and strengthening stage (16 – 24 weeks)

#### Goals:

- 60-70% hamstring strength of involved side vs. non-involved side
- Progress to eccentric hamstring strengthening
- Jogging to 75% pace
- Progress hamstring resisted weight training

#### Guidelines:

- **Lying:** Swiss Ball bridges: Progression – Double leg on Swiss ball, pull heels towards buttock, slow and controlled. Maintain a stable pelvis and slowly decrease arm support.
- Increasing core stability exercises (advanced Pilates)
- **Sitting:** Continue leg press > body weight
- Hamstring curls in positions gradually increasing hip flexion
- **Standing:** Fast walking up hills
- Progress hamstring resisted weight training: suggestions – double leg – single leg – 2 up concentric and 1 down eccentric. Gradually increase the speed.
- Balance on involved straight leg; bend over to touch the floor in front of you, then to the left, right and with alternate hands. Return to standing and repeat.
- Scooter: resistance on pilates reformer machine or with theraband
- Plyometrics: jumping, hops and landing with  $\frac{1}{4}$  –  $\frac{1}{2}$  turns
- Sciatic neural mobilisation: Swinging leg and head nods
- Light jogging on flat surface, starting with intervals of 100m with walking in between. Eg: 30m acceleration / 40m jog at 50% / 30m deceleration. Increase intensity as appropriate
- Backwards striding. Increase speed gradually, focusing on deceleration control.

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### **Phase 6: Sports Specific phase (24 weeks plus)**

#### Goals:

- Return to sport
- Running to sprinting
- >80% hamstring strength of involved side vs non-involved side by 24 weeks
- >85% hamstring strength of involved side vs non-involved side by 18-24 months
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#### Guidelines:

- Sport specific drills
- Plyometrics: alternate jump/split/scissor mini squats and mini lunges.  
Progression: add hand weights
- Running drills: increase speed work and multi-directional
- Straight leg dead lifts
- Nordic Hamstring curls (eccentric then concentric and eccentric)