

ACL RECONSTRUCTION PROTOCOL

| Name of Protocol/Regime | Consultant | Updated On | Updated By | Review Date |
|-------------------------|------------------------------------|------------|------------|-------------|
| ACL Reconstruction | Mr Dawson, Mr Hage, Mr Dharmarajan | 12/12/18 | Rob Salter | 12/12/2020 |

Please note that surgeons may have different post op instructions which must be adhered to
Inpatients

| WT BEARING STATUS | Therapy Guidelines |
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| <ul style="list-style-type: none"> Normally Immediate FWB unless otherwise stated in post op notes | <ul style="list-style-type: none"> FWB means reduced incidence of AKP, improves quads activity, benefits for cartilage nutrition also Return to driving 6/52 if can emergency stop (if can stamp on floor with no pain) No open chain quads until 16/52 at earliest - pending pain/ROM/goals/loading specifications |

Pre Op / Day of surgery

- Check post-op sheet!
- Provide Initial ACL booklet which includes exercises (advice: stop exercises if increased pain/heat/swelling)
- Advice on no open chain exercises
- Cryotherapy / advice on ice
- Provide Elbow crutches and ensure safe mobility for discharge
- Complete out-patient physiotherapy referral and attach post op notes to referral

On discharge from ward

- Photocopy op. notes to attach to referral.
- Plan for D/C, refer to outpatients and complete D/C summary.
- Refer to OT for ADL's as required.
- Ensure that the patient has the ACL booklet.

Outpatients – Operation notes must be attached

| Post-op 0-2 weeks Phase 1 (Early post op phase) | |
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| Goals | Therapy Guidelines |
| <ul style="list-style-type: none"> Control pain Control swelling Restore full knee extension and maintain | <ul style="list-style-type: none"> Exercises started immediately as reduced strength, pelvic control, LL stability, neuromuscular control and poor technique |

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| ROM | <p>are implicated in early OA or injury.</p> <ul style="list-style-type: none"> • SLR (only if no lag) because increased shear forces at joint if quads weakness • Aim for flexion 90-110 degrees in 1-2/52 • Ax ankle/hip as weakness/reduced ROM can increase load on knee • Encourage VMO activation • Discuss realistic time frames as per protocol • Be aware of hams vulnerability • No open chain quads exercises for 16/52 at the earliest, gradual loading |
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Exercises

- Heel slides flexion /extension
- Static Quads / Patella flicks
- Passive Knee extension (heel on towel to increase extension)
- Resting leg in full extension
- SLR (Only if no lag)
- Knee flexion in sitting
- Core stability – Trans abs activation
- Gastroc. stretches and strengthening

2 – 6 weeks post-op

Goals

1. Increase Control
2. Ensure full extension and near full flexion – full extension crucial for gait and later rehab, no need to force flexion initially, flexion will improve with swelling management and simple AROM
3. Improved Gait pattern – Wean off crutches
4. Early proprioceptive work
5. Restore normal gait pattern – dispense with crutches only once normal gait pattern resumed even if no pain reported

Exercises

2 - 3 weeks

- Closed chain quads – Wall slides / sit to stand / half squat at bar
- Single leg standing (if no lag)
- Core stability – trans abdominus / hip hitching / glute medius
- Prone hangs if struggling for extension
- Mobs for extension

3 - 4 weeks

- Bike High seat
- Step ups unaffected leg first
- Heel Raises – bilateral – aim for good control, avoiding excessive inversion (caused by fatigue)
- Hamstrings in side lying (hip neutral, not flexed)
- Side lying hip ext (leg extended)
- Wobble board work (both feet on board) / wii fit balance
- Walking forwards/backwards/sideways

4 – 5 weeks

- Wobble board tilting forward / back / side
- Prone hamstrings (no resistance for hamstring grafts)
- Prone hamstrings with Theraband (patella tendon graft only – avoid if hamstrings graft)
- Steps ups both legs
- Hip Extension / abduction with Theraband resistance
- Single leg trampette balance

5 – 6 weeks

- Stepper – low speed
- Hams bench (patella tendon only)
- Single leg heel raise (rough guide once can do 3 x 10 bilateral, good control, no inversion)
- Gym ball Hams Curls
- Supine bridge – both legs on ball

6 week communication letter via email to Consultant

| 6-8 weeks post-op | |
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| Goals | Therapy Guidelines |
| <ul style="list-style-type: none"> • Proprioceptive work • Progress gradual loading | <ul style="list-style-type: none"> • Graft is at its weakest between 6-12 weeks as regaining blood supply/can take up to 3 months for graft incorporation: must discuss this with patient as patient will be feeling stronger and more confident at this vulnerable stage • Graft donor site to be treated as a tear, therefore initial exercises need to concentrate on recruitment and regaining length rather than resistance |
| Exercises | |

6 – 7 weeks

- Stepper – increasing speed only as able
- Single leg dips ¼- ½ ROM – only when good control/equal loading with wall slides and/or squats
- Wheely Chair Pulls forwards (patella tendon graft only – if pain free)
- Rower
- Prone Hamstrings with theraband (hamstring graft) – careful with resistance, low to moderate initially
- Step ups holding weight – moderate weight, gauge pt symptoms re pain & swelling

7 – 8 weeks

- Treadmill walking – small incline
- Straight lunges
- Wheely Chair pulls forwards (hamstring graft – if pain free)
- Single leg trampette + ball throw and catch
- Static single leg bridge – contralateral limb held straight

| 8-12 weeks post-op | |
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| Goals | Therapy Guidelines |
| <ul style="list-style-type: none"> • Proprioceptive work • Progress loading of recovering leg | <ul style="list-style-type: none"> • Graft is at its weakest between 6-12 weeks as regaining blood supply/can take up to 3 months for graft incorporation: must discuss this with patient as patient will be feeling stronger and more confident at this vulnerable stage • Graft donor site to be treated as a tear, therefore initial exercises need to concentrate on recruitment and regaining length rather than resistance |
| Exercises | |
| <p>8 – 10 weeks</p> <ul style="list-style-type: none"> • Hams bench (hamstring graft, low to moderate weight, gradually progress weight) • Gym ball - bridge with heel raise and lateral shift • Step on bench jump off bilateral (ensuring controlled landing) – small step • Dribble ball around cones • Single leg wobble board / Hedgehog • Straight shuttle runs • Skip • Progress dips to single leg squats into greater range – aiming for good control • Single leg bridge – progress to full range from static + heel for hamstring focus – gradually build rep range • Single leg bridge with heel (hamstring focus) – gradually build rep range <p>10 – 12 weeks</p> <ul style="list-style-type: none"> • Side Lunges • Wobble board Eyes closed • Squat to touch floor and spring up • Trampette jog and jump off (no twist) • Two footed jump off higher step – (re-assess calf strength if necessary/calf crucial for impact) | |

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| 12-15 weeks post-op |
| <p>Goals: return to light jogging treadmill – criteria below a guide to indicate appropriate strength & control for return to running</p> <ul style="list-style-type: none"> • FROM, no swelling or pain • 3 x 15 single leg calf raises – FROM, good eccentric control, no inversion • 3 x 15 Single leg bridge – FROM, good control • 3 x 10 single leg bridge heel into floor (hamstring bias) • X 10 single leg squats – good control to 90 degrees |
| <p>12 - 13 weeks</p> <ul style="list-style-type: none"> • Commence open chain quads – gradually build up (see guide below), check op notes re specific instructions, contact consultant if any queries • Single leg squat – full range to 90 degrees • Gym Ball bridging – Leg extension non-operated leg, balance and heel raise operated leg <p>14 & 15 weeks</p> <ul style="list-style-type: none"> • Wheely chair pulls backwards • Mini trampette and twist |

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| 16-17 weeks post-op | |
| Goals | Therapy Guidelines |
| <ul style="list-style-type: none"> • Commence open chain exercises if not already started – continue slow increase in weight • Increase strength / proprioception / control to facilitate discharge | <ul style="list-style-type: none"> • Increase resistance gradually with open chain (0.5kg weekly) • Need 5/5 MRC quads to return to high level activity • Patient must not experience pain or show signs of limping at any time whilst running • Pain and swelling must be abolished as they can inhibit muscle activation |
| Exercises | |
| <ul style="list-style-type: none"> • Start Quads bench • Bench pulls backwards • Running around cones • Hopping • Trampette jog and jump off with twist | <ul style="list-style-type: none"> • Grapevines • Bounding forwards • Step overs • Gym Ball bridging alternate legs • Jog and floor touches side |

Return to Activities – General Guidelines:

- Driving 6/52 – able to demonstrate good leg control
- Swimming 6-8/52 straight leg kicking only (3-4 months for breast stroke)
- Cycling indoor -3-4/52
- Running – see above

RETURN TO SPORT AT CONSULTANTS CONSENT (email relevant consult if unsure of status)

ALWAYS CHECK WITH CONSULTANT IF UNSURE OF LOADING STATUS, ALWAYS CHECK POST-OP INSTRUCTIONS