ACL REHAB - PHASE 1

Goals:
- Control pain and effusion
- Terminal extension ASAP
- Preserve patellofemoral mobility
- Aim for 130° flexion within 6/52
- Normal gait and movement patterns

Immediately post-op (O/P physio arranged for 1/52)
- Swelling management (Cryocuff/elevation/optimal loading).
- NB: cryotherapy only influences pain, not effusion.
- Gentle active-assisted knee flexion and extension.
- Patella mobilisation (superior/inferior, medial/lateral).
- TAQ’s, SLR. Remove cricket splint once able to SLR.
- WBAT: use EC’s until able to walk without a limp.
- Monitor for evidence of distal neurovascular deficit and infection.

Strength:
- Consider electrostimulation if patient unable to voluntary contract quadriceps.
- CKC (e.g. leg press, squats, step ups) between 0-60° with no more than body weight.
- OKC knee extension (90-45°) without weight for HS-graft, with weight for BPTB from week 4.
- Increase OKC extension by 10° each week from week 5 (i.e. 90-0° by week 8)
- Concentric and eccentric training of the gluteal, hamstrings and calf muscles.
- Monitor for increasing temperature, effusion or pain; if required consider NSAIDs.

Neuromuscular training:
- Double legged proprioceptive ex’s (e.g. Bosu balance forwards and backwards).
- Increase difficulty by adding perturbation, progressing to single leg once FWB.
- Correct alignment of trunk and lower limb during exercises and gait.

Cycling:
- Static bike with no resistance once able to fully rotate on pedals.

Criteria for progressing to Phase 2:
- Closed wound
- No pain with Phase 1 exercises
- Minimal synovitis/effusion
- Normal patellofemoral mobility, tibiofemoral ROM 0-120°
- Voluntary quadriceps contraction
- Normal gait and correct movement patterns with exercises.
Anterior Cruciate Ligament (ACL) Reconstruction Protocol

ACL REHAB - PHASE 2

Goals:
- Maintain patellofemoral and tibiofemoral ROM
- Increase strength
- Increase difficulty of neuromuscular and perturbation training
- Maintain good quality movement patterns
- Start jogging and sports specific training

Strength:
- Start CKC exercises through ROM and add weight from week 8, progress to one legged ex’s
- OKC ex’s through ROM without weight for HS-graft, with weight for BPTB from week 8.
- Add weight/resistance to OKC for HS-graft from week 12
- Increase load on the gluteal, hamstrings and calf muscles.
- Decrease repetitions and increase resistance for all strength exercises.

Neuromuscular training:
- Increase difficulty of proprioceptive ex’s (e.g. Bosu balance sideways).
- Increase intensity of perturbation, progressing to single leg once FWB.
- Correct alignment of trunk and lower limb during exercises, walking and jogging.

Cycling and ambulation:
- Outdoor cycling
- Cyclic exercises (e.g. cross trainer or rower)
- Start jogging in week 10-12 if competent and no increase in pain, effusion or temperature
- Increase cardiovascular training (mainly aerobic)
- Start sports specific agility work

Criteria for progressing to Phase 3:
- Correct qualitative performance of phase 2 exercises
- Limb symmetry index (LSI) >80% for quads and hamstrings strength
- LSI >80% for hop battery tests
- Patient questionnaires will be automatically emailed to patient
ACL REHAB - PHASE 3

Goals:
• Return to sport or physically demanding work

Strength:
• Intensify sports specific strength training

Neuromuscular training:
• Increase difficulty of neuromuscular and perturbation training with single legged jumps and emphasis on sports specific movements
• Maintain quality of movement/performance during strength and sports exercises

Cycling and ambulation:
• Increase cycling or jogging intensity and duration
• Build sports specific load regarding energy expenditure (aerobic, anaerobic)
• Build sports specific load regarding surface (grass, court etc)

Sports Specific Training
• Increase intensity of agility training
• Restart training with patient’s team

Criteria for returning to play:
• No knee pain with sports specific activities
• No giving way or fear of giving way during sports specific activities
• Active dynamic gait pattern and symmetrical jogging pattern
• Correct quality of performance with all sports specific activities
• Limb symmetry index (LSI) >90% for quads and hamstrings strength
• LSI >90% for hop battery tests
• Drop test with analysis of movement (trunk, knee valgus and knee flexion when landing)
• Use ACL-RSI to measure patient’s psychological readiness/confidence in return to sports
• Minimal 6 months since surgery

Returning to sports >9 months post-op, and ensuring the patient has completed the return to sport criteria significantly reduces knee re-injury rate.
REFERENCES:


