American Health Network Bone and Spine

Lateral Collateral Ligament Reconstruction Protocol

Dr. Aaron Coats

LCL PROTOCOL

<u>PHASE ONE</u> (Weeks 1-6)

The patient will be in a post-op IROM brace with a 30° extension limit that will be maintained for at least 3 weeks and up to 6 weeks, at the physician's discretion. The brace is to be worn at all times.

The patient will be NWB until the extension limit is released.

Keys during phase one:

***Protect the new graft**

***Neuro-muscular quad control – use biofeedback on VMO**

EXERCISES

ROM

30-90° Week 4

30-110° Week 6

Manual patella mobs – especially superior/inferior

Seated heel slides using towel

Supine heel slides at wall if needed

STRENGTH AND NM CONTROL

***Perform in brace**

Quad sets (10 X 10sec)– the more the better – at least 100/day

Glut and Hamstring isometrics

LAQ (90-30°)

Seated hip flexion

Multi-hip

STRETCHING

Hamstring stretch – hold 30 seconds; perform in brace

Gastroc stretch with towel – hold 30 seconds; in brace

MODALITIES

EMS may be needed to facilitate quad if contraction cannot be voluntarily evoked

EGS may be needed to help control swelling and increase circulation

Ice should be used following exercise and initially every hour for 20 minutes

***Perform HEP 3X/Day**

<u>PHASE TWO</u> (Weeks 6-12)

By end of this phase, the patient should ambulate with N gait, have good quad control, controlled swelling, and be able to ascend/descend stairs.

EXERCISES

ROM

Work slowly to full extension

Knee flexion 0-120 by 8 weeks. Full range by week 12

Heel slides – seated and/or supine

STRENGTH

Quad sets are continued until swelling is gone and quad tone is good

SLR (3 way) add ankle weights when ready

Shuttle/Total gym – 30-100° - bilateral and unilateral; focus on weight distribution more on heel than toes to avoid overload on Patella tendon

Multi-hip – increase intensity as able

Closed chain terminal knee extension (TKE)

Leg Press

Step-ups – forward

Step-overs

Hamstring curls

Wall squats

Calf raises

CARDIO

Cycle when 110° of flexion is reached

STRETCHING

Continue with HS and calf stretching

BALANCE

Weight shifting – med/lat

Single leg stance – even and uneven surface – focus on knee flexion

Plyoball – toss

GAIT

Cone walking – forward, lateral

MODALITIES

Continue to use ice following exercise

***Pt may be measured for medial unloader that protects against varus and hyperextension**

<u>PHASE THREE</u> (Weeks 12-36)

ROM

Full ROM should work to be achieved

STRETCHING

Continue with HS and calf stretch

Initiate quad stretch

STRENGTH

Continue with above exercises, increasing intensity as able

Step-ups – forward and lateral; add dumbbells to increase intensity; focus on slow, controlled movement during the ascent and descent

Squats – Smith press or standing (wk 8)

Lunges – forward and reverse; add dumbbells or med ball

T-band hip flexion

Single leg squats

Single leg wall squats

Cycle – increase intensity; single leg cycle maintaining 80 RPM

BALANCE

Plyoball – toss – even and uneven surface

Squats on balance board/foam roll/airex

Steamboats – 4 way; even and uneven surface

Strength activities such as step-ups and lunges on airex

CARDIO

Cycle and EFX – increase intensity

MODALITIES

Continue to use ice after exercise

***Continue with HEP at least 3X/week**

<u>PHASE FOUR</u> (Weeks 12-36)

Exercises for strengthening should continue with focus on high intensity and low repetitions (6-10) for increased strength.

Initiate lateral movements and sports cord: lunges, forward, backward, or side-step with sports cord, lat step-ups with sports cord, step over hurdles.

Jogging/Plyos:

When cleared by the physician, the patient can begin light plyos and jogging at a slow to normal pace focusing on achieving normal stride length and frequency. Initiate jogging for 2 minutes, walking for 1 until this is comfortable for the patient and then progress the time as able. Jogging should first be performed on a treadmill or track (only straight-aways) and then progressed to harder surfaces such as grass and then asphalt or concrete. It is normal for the patient to have increased swelling as well as some soreness but this should not persist beyond one day or the patient did too much.

Jump rope and line jumps can be initiated when the patient is cleared to jog.

This can be done for time or repetitions and should be done bilaterally and progressed to unilateral.

Jogging and plyos should be performed with brace on.

Advanced Plyos can include squat jumps, tuck jumps, box jumps, depth jumps, 180 jumps, cone jumps, broad jumps, scissor hops

Leg circuit: squats, lunges, scissor jumps on step, squat jumps

Power skipping

Bounding in place and for distance

Quick feet on step – forward and side-to-side – use sports cord

Progress lateral movements – shuffles with sports cord; slide board

Ladder drills

Swimming – all styles

Focus should be on quality, NOT quantity

Landing from jumps is critical – knees should flex to 30° and should be aligned over second toe. Controlling valgus will initially be a challenge and unilateral hops should not be performed until this is achieved.

Initiate sprints and cutting drills.

Progression: Straight line, figure 8, circles, 45° turns, 90° cuts

Carioca

Sports specific drills

Biodex test

Single leg hop test

Biodex goals:

	Peak Torque/BW Males	Pk T/BS females
60°/s (%)	**110-115**	**80-95**
180°/s (%)	**60-75**	**50-65**
300°/s (%)	**30-40**	**30-45**