Anterior Cruciate Ligament Reconstruction Protocol

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If you have any questions about this protocol or about the patient, do not hesitate to email Dr. Metzler at: ametzler@orthonky.com

PHILOSOPHY

The following is an outline of the post-operative rehabilitation program for anterior cruciate ligament reconstructions by Dr. Metzler. This protocol is to be utilized as a guideline. There will always be individual patient differences regarding progression and/or tolerance of specific activities.

Progression through the protocol will depend on successful accomplishments of set milestones as assessed by the physician and the physical therapist's confidence level. The therapist and patient must constantly be aware of changes in condition, including but not limited to signs and symptoms of patellofemoral irritation, extension lag, instability, effusion, joint pain, and gait deviation. The patient's home exercise program is of utmost importance and should be monitored and emphasized.

Remember, rehabilitation is nothing more than creating the optimal environment for the natural process of healing to occur.

If you have any questions regarding this protocol, or the rehabilitation status of ACL reconstruction patients, please contact the offices of Dr Adam Metzler at OrthoCincy, Orthopaedics and Sports Medicine.

WEEKS 1-2 (PROTECTIVE PHASE)

GOALS: REDUCE SWELLING, WORK TOWARD FULL EXTENSION, TOLERATE WT BEARING, ACHIEVE QUAD ACTIVATION, REDUCE POSTOPERATIVE PAIN.
NOTE: IT IS ESSENTIAL TO CUE FOR GOOD CORE STABILIZATION AND POSTURAL CONTROL WITH EXERCISES THROUGHOUT ALL REHABILITATION STAGES. POOR CORE CONTROL MAY INDICATE AN EXERCISE IS TOO ADVANCED FOR THE PATIENT.
PATIENT MUST HAVE FULL EXTENSION BY 2 WEEKS.
BRACE SHOULD BE REMOVE FOR SLEEP, WHEN SEATED
PATIENT MUST BE DOING HEP 7 DAYS A WEEK.

PRECAUTIONS:

1. Brace will remain locked for 4 weeks with weight bearing activities, and then unlocked for four weeks. SEE BELOW
    a. **IF PATIENT HAS GOOD QUAD CONTROL, THERAPIST SHOULD UNLOCK THE BRACE WHEN WALKING BEFORE 4 WEEKS.**
    b. **Please try and wean patient off of crutches by 2 weeks.**
2. If ACL repair with large meniscus repair then ROM is limited to 0-90 degrees for 4 weeks.
3. patient is advised to remove brace and perform ROM 3-5/day on own out of brace

EXERCISES: Patellar mobilizations
Isometrics (quadricep, gluteals, hamstrings)
Ankle pumps-> heel raises
SLR's
Heelslides (seated or supine)
Long sit hamstring stretch
Prone TKE
weight shifting/ Box steps
gait activities (if appropriate quad control)
Prone and/or sidelying leg circles with emphasis on trunk stabilization and hip disassociation
Trunk stabilization exercises
MODALITIES: E-stim, cryo, biofeedback

WEEKS 2-4 (CONTROLLED STABILIZATION)
GOALS: MOVING TO CLOSED CHAIN/ PROPRIOCEPTIVE ACTIVITIES. ACHIEVE FULL KNEE EXTENSION, NORMALIZE GAIT FREE OF ASSISTIVE DEVICES, FLEXION >=90 DEGREES, NO ACTIVE EXTENSOR LAG.
EXERCISES: Stationary cycling (when ROM allows)
In line heel to toe walking (forward and back, cueing as needed to achieve normal gait pattern)
Cone stepping
Single leg standing
Wobble or BAPS board, half styrofoam roller
Mini squats
Band resisted: Standing knee extension (closed chain, band behind knee)
Side stepping (straight, diagonals, circles)
Heel slides (or rolling stool pulls)
Seated hip internal and external rotation

4 way stabilization kicks (if good quad control present)

Leg press to 45 degrees

Leg curls

** Continue to progress previous exercises, however explain to the patient if an exercise is being D/C'ed or replaced by a higher level activity so they have a clear understanding of their core home program. Activities to maintain general conditioning (upper body strengthening, cardiovascular endurance) may be initiated once post operative pain and side effects are under control. These activities may include UBE, upper body weight lifting without stressing leg, pool therapy (after 4 weeks). HOWEVER, the patient should not shift their primary focus from rehabilitating the operative limb

MODALITIES: Continue e-stim until good quadricep control achieved, cryotherapy, cross friction massage over adhesed scars (when healed)

WEEKS 4-6 (FUNCTIONAL STRENGTHENING)

GOALS: FULL FLEXION, COMFORTABLE RECIPROCAL STAIR CLIMBING, NORMAL SPEED WITH GAIT. NOTE- IF FULL EXTENSION HAS NOT BEEN ACHIEVED BY 4 WEEKS, NOTIFY PHYSICIAN. BRACE IS SHORTENED AND UNLOCKED AT 4 WEEKS OR EARLIER IF GOOD QUAD CONTROL

EXERCISES: Progressive squats

Progressive step ups (forward, side, back, 4-8" step)

¼ Lunges

Single leg balance with opposite leg reaches

Fast form walking (start in clinic with therapist and progress gradually)

Retrograde treadmill walking

Stationary bike, ski machine, &/or stepper

Sport cord resisted walking

Swiss ball or foam roller dynamic stabilization exercises

Continue to progress previous exercises as indicated

MODALITIES: Cryotherapy, others PRN

WEEKS 6-8

Continue as previous, progressing volume and intensity as tolerated.

Monitor and address signs of patellofemoral pain.

EXERCISES:.

5-point agility drills (star drills)

QUADS, QUADS QUADS

leg presses and squats to 90 degrees, increase weight as patient tolerates.

Sliding board

ELYPTICAL

WEEKS 8-12

EXERCISES: PRE squats, lunges, step ups

Long distance fast form walking 2-4 miles

Circuit training drills for 20 minutes (15-20 stations, 45 seconds work/ 15 seconds rest)

WEEKS 12-16

EXERCISES: Begin low intensity vertical plyometrics

Carioca drills (walking-> ½ speed-> ¾ speed)

Figure 8 jogging progression

Begin functional sport specific training in controlled environment with trainer or therapist

Functional testing to include: Single leg vertical leap
Single leg 6 m timed hop
Single leg hop for distance
Single leg 6 m cross over hop
Single leg triple jump for distance
Sport specific testing

May begin walk/jog progression starting with 1 ½ mile walk with ½ mile jog straight forward. Progress increasing jog and decreasing walk distances by ½ mile as tolerated. When patient can jog 2 miles without pain or swelling, he/she may begin straight ahead running at ½ speed

WEEKS 16-24

Continue total body fitness, strengthening, and endurance training. Consider release to full activity upon MD and PT approval. Repeat functional tests. Begin ¾ speed sprints if progressed as above on smooth surface and advance to full sprints

IN GENERAL JOG AT 4 MONTHS, RUN AT 5 MONTHS, and AGGRESSIVE LATERAL MOVEMENTS AT 6 MONTHS.

Return to play is 6 months minimum, and must pass functional evaluation!!!!!!!! No compromising. Most athletes will not be ready for 9-12 months.