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Knee Arthroscopy/Lateral Release Rehabilitation

This rehabilitation protocol is designed for patients who have undergone knee arthroscopy or arthroscopic lateral release. The intensity allowed and the time frame required for the rehabilitation process is dependent upon the surgical procedure and the clinical assessment of Dr. Stein. The protocol is divided into phases. Each phase is adaptable based on the individual patient and special circumstances.

The **overall goals** of the surgical procedure and rehabilitation are to:

- Control pain, swelling, and hemarthrosis
- Regain normal knee range of motion
- Regain a normal gait pattern and neuromuscular stability for ambulation
- Regain normal lower extremity strength
- Regain normal proprioception, balance, and coordination for daily activities
- Achieve the level of function based on the orthopedic and patient goals

The physical therapy should be initiated within 3 to 5 days post-op. It is extremely important for the supervised rehabilitation to be supplemented by a home fitness program where the patient performs the given exercises at home or at a gym facility.

Important post-op signs to monitor:

- Swelling of the knee or surrounding soft tissue
- Abnormal pain response, hypersensitive
- Abnormal gait pattern, with or without assistive device
- Limited range of motion
- Weakness in the lower extremity musculature (quadriceps, hamstring)
- Insufficient lower extremity flexibility

Return to activity requires both time and clinical evaluation. To safely and most efficiently return to normal or high level functional activity, the patient

requires adequate strength, flexibility, and endurance. Isokinetic testing and functional evaluation are both methods of evaluating a patient's readiness to return to activity. Return to intense activities following a knee scope may increase the risk of an overuse injury or the possibility of compounding prior articular cartilage damages and symptoms such as pain, swelling, or instability should be closely monitored by the patient.

Phase 1: Week 1-2 Knee Scope

WEEK EXERCISE GOAL

1-2 **ROM 0-90°**
Passive, 0-90°
Patellar mobs
Ankle pumps
Gastroc/soleus stretch
Prone hang if needed to reach goal
Heel/Wall slides if needed to reach goal

STRENGTH

Quad sets with E-stim/biofeedback
Isometric hip adduction
SLR in 4 planes
Hip flexion
Total gym (0-45°)
Heel raises/Toe raises

WEIGHT BEARING PWB-WBAT

PWB to WBAT according to Dr. Stein
Crutches post-op if needed

BALANCE TRAINING

Weight shift (side/side, fwd/bkwd)
Single leg balance

MODALITIES

E-stim/biofeedback as needed
Ice 15-20 minutes

GOALS OF PHASE:

- ROM 0-90°
- Adequate quad/VMO contraction
- Independent in HEP
- Control pain, inflammation, and effusion
- PWB to WBAT as noted by Dr. Stein

Phase 2: Week 2-6 Knee Scope

WEEK EXERCISE GOAL

2-6 ROM 0-120°
Passive, 0-120°
Patellar mobs
Ankle pumps
Gastroc/soleus/hamstring stretch
Prone hang if needed to reach goal
Heel/Wall slides if needed to reach goal

STRENGTH

Multi-angle isometrics (0-60°)
Quad sets with biofeedback
SLR in a 4 planes
Knee extension (90-10°)
Heel raises/Toe raises
Mini-squats (0-30°)
Leg Press-single leg eccentric
Multi-hip machine in 4 planes
Reverse lunges-knee not to migrate over toe
Lateral/Forward step-up/down

BICYCLE

May initiate bike when 110° flexion is reached
DO NOT use bike to increase flexion

WEIGHT BEARING FWB

FWB with quad control

BALANCE TRAINING

Single leg balance with plyotoss
Sports cord balance/agility work
Wobble board work
½ Foam roller work

MODALITIES

Ice 15-20 minutes

GOALS OF PHASE:

- ROM 0-120°
- Adequate quad/VMO control
- Control pain, inflammation, and effusion
- Full weight bearing
- Increase lower extremity strength and endurance
- Enhance proprioception, balance, and coordination
- Complete readiness for sport specific activity

Phase 3: Week 6-12
Knee Scope

WEEK EXERCISE GOAL

6-12 **ROM 0-135°**

Passive, 0-135°
HS/Gastroc/Soleus stretch
ITB/Quad stretch
Patella mobs

STRENGTH

SLR in 4 planes with ankle wt/tubing
Heel raise/Toe raise
Leg Press-single leg eccentric
Knee extension (90-10°) with resistance
Lateral/Forward step-up/downs
Reverse lunges-knee not to migrate over toe
Hamstring curls with resistance (0-90°)
Multi-hip machine in 4 planes
Mini-squats with resistance (0-45°)
Stool crawl
Straight leg deadlift

BALANCE TRAINING

Two-legged balance board with plyotoss
Initiate single leg steamboats with band
½ Foam roller work
Wobble board work
Sports cord single-leg agility/balance

AEROBIC CONDITIONING

Bicycle with resistance
EFX/StairMaster
Walking program
Swimming (kicking)

RUNNING PROGRAM

Initiate running on minitramp, progress to treadmill when tolerable
Increase walking program
Backward running

MODALITIES

Ice 15-20 minutes as needed

GOALS OF PHASE:

- ROM 0-135°
- Full weight bearing with quad control
- Increase strength and endurance
- Control pain and swelling

Phase 4: Week 12-24
Knee Scope

WEEK EXERCISE

12-24

ROM

Continue all stretching from previous phases

STRENGTH

Continue all strengthening activities from previous phases increasing weight and repetitions

BALANCE TRAINING

Continue all single-leg activities increasing difficulty

RUNNING/CONDITIONING PROGRAM

Bicycle with resistance for endurance

EFX/StairMaster for endurance

Increase running program

Increase walking program

Swimming for endurance

Backward running

CUTTING/AGILITY PROGRAM

Lateral shuffle

Carioca

Figure 8's

FUNCTIONAL TRAINING

Initiate plyometric training

Sport specific drills

MODALITIES

Ice 15-20 minutes as needed

GOALS OF PHASE:

- Increase and maximize function
- Maximize strength and endurance
- Return to previous activity level
- Return to sport specific functional level