

James Wylie, MD MHS
Knee Preservation Surgeon
The Orthopedic Specialty Hospital
Intermountain Healthcare
Office: 801-314-4900

KNEE ARTHROSCOPY WITH ACL RECONSTRUCTION
PHYSICAL THERAPY PROTOCOL

The intent of this protocol is to provide guidelines for progression of rehabilitation and is not intended to serve as a substitution for clinical decision-making. Progression through each phase of rehabilitation should take into account tissue-healing time frames, clinical objective findings, and MD approval to ensure structural stability. There will be variability between patients in terms of time frames and it is crucial not to progress through phases until the individual meets the appropriate requirements.

INITIAL PRECAUTIONS

Weight Bearing:

- 0-4 weeks → WBAT
- Crutch weaning and D/C is dependent walking without a limp

Initial ROM Related Restrictions:

- Progress to ROM as tolerated, no forceful passive knee flexion
- Work on regaining terminal extension
- No brace

PHASE 1 – PROTECTION PHASE (1-4 weeks)

Goals:

- Optimize bone and tissue healing and limit scar formation
- Protect surgical repair
- Reduce effusion, swelling and pain
- Restore knee ROM
- Promote normal proprioceptive and neuromuscular control
- Full weight bearing without crutches or limp by 4 weeks

Tissue Healing

- PRICE – Protection, Rest, Ice, Compression, Elevation
- Scar massage after incision is healed

Gait

- 2 crutches at all times until walking without a limp

POW 1-4

- Patella, patella tendon and quadriceps tendon mobilization
- Quad activation working on terminal extension

- Quad/Hamstring/Glute sets
- Straight leg raises (if no lag)
- Open chain quad exercises
- Quadriceps stretching
- Gastrocnemius stretching without weight bearing
- Hip and Core strengthening

PHASE 2 – EARLY STRENGTHENING (5-12 weeks)

Criteria for advancement to Phase 2:

- Near symmetric ROM to contralateral side
- No extensor lag
- Normal joint temperature
- Minimal to no joint effusion

Goals:

- Normalize gait pattern on flat ground
- Maintain trace to no joint effusion
- Tolerate standing and walking activity

Precautions

- Progression of weight bearing and normal gait
- Closed kinetic chain activity preferred
- No cutting/pivoting/plyometrics

Strength, Proprioception and Neuromuscular Re-education

- Progressive balance training
- Calf raises
- Mini squats
- Step-ups
- Leg presses
- Double leg squats
- Core, hip and upper body strengthening as appropriate

Cardio

- Stationary Bike

PHASE 3 – PROGRESSIVE STRENGTHENING (12-24 weeks)

Criteria for Advancement to Phase 3:

- Full weight bearing
- Normalize gait pattern on flat ground
- Maintain trace to no joint effusion
- Tolerate standing and walking activity

Goals:

- Build lower extremity strength, endurance, and balance.
- Quad strength 90% of contralateral side
- Normal gait/form with straight line running

Precautions

- No cutting/pivoting activities

Strengthening, Proprioception and Neuromuscular Re-education

- Double leg squats
- Leg press
- Static lunges
- Dynamic lunges
- Balance training
- Core, hip and upper body strengthening as appropriate

Cardio

- Stationary bike
- Elliptical use and treadmill walking
- Progression from treadmill walking to straight line running

PHASE 4 – RETURN TO SPORT (WEEKS 24+)

Criteria for advancement to Phase 4

- Good form on Phase 3 exercises
- Progressive strength/endurance development
- No joint effusion after phase 3 activities

Goals:

- Build lower extremity muscular strength
- Train balance and power
- Progress to sport specific activities as tolerated

Precautions

- None

Strengthening, Proprioception and Neuromuscular Re-education

- Same as above:
 - Single leg squats
 - Single leg deadlifts
 - Step ups/downs
 - Multidirectional lunges
- Plyometric and cutting and pivoting exercises
 - Progression as tolerated with good form/control

Return to Sport Criteria

- Full active range of motion
- No effusion
- Vertical jump, single leg hop distance, and timed single leg hop over 20 feet >85% contralateral side
- Quadriceps strength: Single leg press >90% contralateral side

General Rule:

- Minimum 6 months for Patellar Tendon (BTB) grafts
- Minimum 7 months for Hamstring grafts