

KNEE ARTHROSCOPY WITH TIBIAL SPINE FIXATION REHABILITATION PROTOCOL

General notes: "As tolerated" should be understood to include with safety for the reconstruction/repair; pain, limp, swelling, or other undesirable factors are indicators that you are doing too much too soon. If any of these should occur, decrease activity level, ice and elevate the leg.

Ice should be applied to the knee for 15-20 minutes following each exercise, therapy, or training session. The post surgical dressing applied directly after surgery and removed at your first visit with your provider is very thick. Icing through this barrier will be minimally effective.

Return to sport based on provider team (physician, physician assistant, athletic trainer, physical therapist) input and appropriate testing.

All times and exercises are to serve as guidelines. Progression through the protocol should be based upon criteria as opposed to dates listed and will vary depending on each individual patient. Progress should be agreed upon by the patient and his/her team of providers.

POST-OP WEEKS 0-2

Brace:

- To be worn at all times except for bathing and showering. The brace should be locked in extension

ROM:

- 0-40 degrees. ROM activities should be performed with your PT or as directed by your provider

Function:

- Ambulation non weight-bearing with two axillary crutches

Therapeutic Exercises:

- Quad sets with knee straight
 - With Russian/NMES as needed
- No open chain quads
- Hip 4-way SLR (straight leg raise), with brace on
- Theraband ankle strengthening

Manual:

- Scar and soft tissue massage, patella mobilizations, passive knee flexion and extension as needed

Cardio:

- UBE (arm bike)

Modalities:

- NMES (neuromuscular electrical stimulation) for quadriceps atrophy, strengthening as needed
- HVPC (high volt pulsed current) for effusion (swelling) reduction as needed
- Cryotherapy 6-8 times per day for 15 to 20 minutes each

POST-OP WEEKS 2 TO 4

Brace:

- To be worn at all times except for bathing and showering. Gradually opened to 60 degrees by provider as flexion ROM is attained.
 - If full knee extension is not achieved and maintained, keep brace locked in extension at all times.
 - If quad set is poor, brace should be locked in extension for walking and standing activities, however, the brace can be unlocked for sitting or lying down.

ROM:

- 0-60 degrees. ROM activities should be performed with your PT or as directed by your provider

Function:

- Ambulation TDWB (touch-down weight bearing) with two axillary crutches

Therapeutic Exercises:

- Hip 4-way SLR (with brace if poor quad set)
- Clamshells
- No open chain quads

Manual:

- Scar and soft tissue massage, patella mobilizations, passive knee flexion and extension as needed

Cardio:

- UBE

Modalities:

- NMES for quadriceps atrophy, strengthening as needed
- HVPC for effusion reduction as needed
- Cryotherapy 6-8 times per day for 15 to 20 minutes each

POST-OP WEEKS 4-6

Brace:

- To be worn at all times except for bathing and showering. Gradually opened to 90 degrees by provider as flexion ROM is attained.
 - If full knee extension is not achieved and maintained, keep brace locked in extension at all times.
 - If quad set is poor, brace should be locked in extension for walking and standing activities, however, the brace can be unlocked for sitting or lying down.

ROM:

- 0-90 degrees

Function:

- Ambulation: progress to full weight bearing in the brace. Wean off crutches

Therapeutic Exercises:

- Initiate closed chain strengthening within ROM limits
 - Including but not limited to: Squats, lunges, step ups, step downs, heel raises
- Open chain isometrics and isotonic 90° to 60°

Proprioception:

- Single leg stance (SLS), BAPS, unstable surfaces
- RNT (reactive neuromuscular training)

Cardio:

- UBE, stationary bike no resistance

Modalities:

- Cryotherapy after activity for 15 to 20 minutes

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POST-OP WEEKS 6-10

Brace:

- Wean out of brace if extension is full, good quad control, and not limping

ROM:

- full

Function:

- No assistive device or brace if able to ambulate without a limp

Therapeutic Exercises:

- Closed chain strengthening
 - Progress to multiplane

Proprioception:

- SLS, unstable surfaces
- RNT (reactive neuromuscular training)

Cardio:

- UBE, stationary bike, treadmill walking, elliptical

Progression to next phase

- Knee ROM 0°-125°
- No effusion
- Normal gait
- No pain
- Good eccentric control of involved knee
- Isometric quad and hamstring strength 75% of non-involved side at 60° flexion
- Hamstring to quad ratio at least 66%

POST-OP WEEKS 10-24

Therapeutic Exercises:

- Continue strengthening of involved lower extremity with emphasis on hip, quad and hamstring strength
- Initiate running program in straight plane
- Begin jumping activities with a gradual progression from two legged to single leg jumping
- Gradual progression to sport specific activities

Plyometrics:

- Frontal (forward) and sagittal (side) plane double-leg plyometrics
 - Progress to multi-plane plyometrics
 - Progress to single leg plyometrics

Proprioception:

- SLS, unstable surfaces
- RNT (reactive neuromuscular training)

Cardio:

- Stationary bike, treadmill walking/running, elliptical

6 MONTH FOLLOW UP TESTING

- KT 2000 Test to assess tibial translation
- Isokinetic testing to assess strength of hamstring/quadriceps
- Jump and hop testing