

Preparing for Knee Surgery

TCO Complex Knee Injury Clinic – Physical Therapy Team

Pre-Operative Care

Surgery is not always performed immediately after a knee injury, when the knee is still inflamed, because this could cause excessive scar tissue to develop after surgery which could cause knee stiffness. Pre-operative physical therapy (PT) may be recommended to best prepare for a successful surgery. Pre-op PT typically focuses on reducing knee irritability, restoring knee joint range of motion, re-activating muscles inhibited by the injury, and providing patients with education to prepare them for surgery and the post-surgical recovery process.

Pre-operative Physical Therapy Expectations

- The patient will be educated on the continuum of pre- and post-operative rehabilitation for optimum return to activity and sport.
 - Education on post-operative goals and anticipated recovery timelines.
- Any existing impairments following the injury will be addressed (swelling, ROM restriction, muscle weakness, the ability to walk correctly).
- The patient will be instructed on exercises to help prepare for surgery.
 - These are often very similar to the initial post-op PT exercises.
- Pre-operative PT typically ranges from 1-6 visits. This can depend on factors such as time until scheduled surgery or current impairments.

Goals for Pre-Operative PT

1. Resolve pain and swelling from the injury.
2. Restore full joint motion (straightening and bending).
3. Recover maximal level of quadriceps muscle strength (per any precautions).
4. Educate patient on expectations for surgery and recovery.

Knee Extension (Straightening) Stretches

STEP 1



STEP 2



Knee straightening heel prop

REPS: 1 | SETS: 1 | HOLD: 2-3 MINUTES (FINISH WITH QUAD SETS) | DAILY: 3 | WEEKLY: 7

Setup

Begin lying on your back with both legs bent and your feet resting on the floor.

Movement

Place one heel on a towel roll and relax your leg muscles to straighten your knee. Hold this position.

Tip

Make sure to keep your back flat against the floor during the stretch.

STEP 1



STEP 2



Seated Calf Stretch with Strap

REPS: 2 | SETS: 1 | HOLD: 30 SECONDS | DAILY: 3 | WEEKLY: 7

Setup

Begin sitting on the floor with one foot stretched in front of you, your other knee bent, and a strap secured around your foot.

Movement

Slowly pull your foot towards you with the strap until you feel a stretch in your calf.

Tip

Make sure to keep your knee straight during the stretch.

Knee Flexion (Bending) Stretches

Note:
Perform exercises
per instructions of
physical therapist
and as tolerated per
knee symptoms.

STEP 1



STEP 2



Seated Knee Flexion Extension AROM

REPS: 20 | SETS: 1 | DAILY: 3 | WEEKLY: 7

Setup

Begin sitting upright on the edge of a chair and your feet resting flat on the ground.

Movement

Perform the following series of 2 movements:

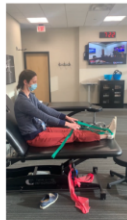
Easy bending<>straightening reps through a comfortable range of motion (slide the foot forward<>back on the floor)

20 reps

Slide your foot forward and straighten knee as much as you comfortably can (squeeze your thigh muscle) - hold briefly then relax and slide back into a slight bend.

Repeat x 10-15 reps

STEP 1



STEP 2



Long Sitting Assisted Knee Bend (flexion): >90 degrees

SETS: 1 | HOLD: 10 WARM-UP REPS THEN 5 HOLDS IN BEST BEND (15 SECONDS EACH) THEN 5 LOOSENING REPS | DAILY: 3 | WEEKLY: 7

Setup

Sit with your legs out straight in front of you and recline comfortably back against a wall, headboard, couch.

Have a long strap looped around the foot of your surgical leg.

Movement

Pull with both hands to slide your foot in toward your hips and bend your surgical knee.

1st: Perform warm-up reps sliding into and out of a comfortable bend

Perform 10 reps

2nd: Pull into your best bend and hold x 10-20 seconds then release.

Perform 10 reps

Quadriceps Muscle Strength Exercises

Note:
Perform exercises
per instructions of
physical therapist
and as tolerated
per knee
symptoms.

STEP 1



STEP 2



Supine Quad Set

REPS: 20 | SETS: 1 | DAILY: 3 | WEEKLY: 7

Setup

Begin lying on your back with one knee bent and your other leg straight with your knee resting on a towel roll.

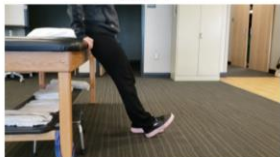
Movement

Gently squeeze your thigh muscles, pushing the back of your knee down into the towel.

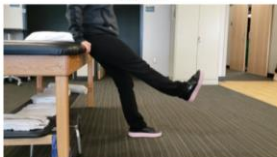
Tip

Make sure to keep your back flat against the floor during the exercise.

STEP 1



STEP 2



Straight Leg Raise - Tall Sitting Position

REPS: 20 | SETS: 2 | DAILY: 2 | WEEKLY: 7

Setup

Lean into a tall stool, chair, or stable surface at home

Movement

Position your surgical leg out to the front slightly, with your heel on the ground and the knee fully straightened.

Squeeze the thigh muscle on the surgical leg to hold the knee perfectly straight.

Raise and lower your surgical leg, keeping your quad muscle squeezed and the knee perfectly straight.

STEP 1



STEP 2



Quad Kicks

REPS: 20 | SETS: 1 | DAILY: 3 | WEEKLY: 7

Setup

Begin sitting upright in a chair.

Movement

Slowly straighten one knee so that your leg is straight out in front of you. Hold, and then return to starting position and repeat.

Tip

Make sure to keep your back straight during the exercise.

Weight Bearing (WB) Status

Weight bearing status (how much weight you can put through your leg) depends on the details of your surgery. A nerve block is typically applied at your surgical limb just prior to surgery for pain management. Immediately after surgery you will be placed in a knee immobilizer and will be non-weight-bearing (with crutches) until the nerve block wears off fully (usually within 24 hours). Ongoing weight bearing limitations will be confirmed at your first post-op PT visit (the morning after surgery) per the details of your surgery. You will be instructed on crutch use for safe walking and stairs.

Typical Early Rehab Restrictions by Surgery Type

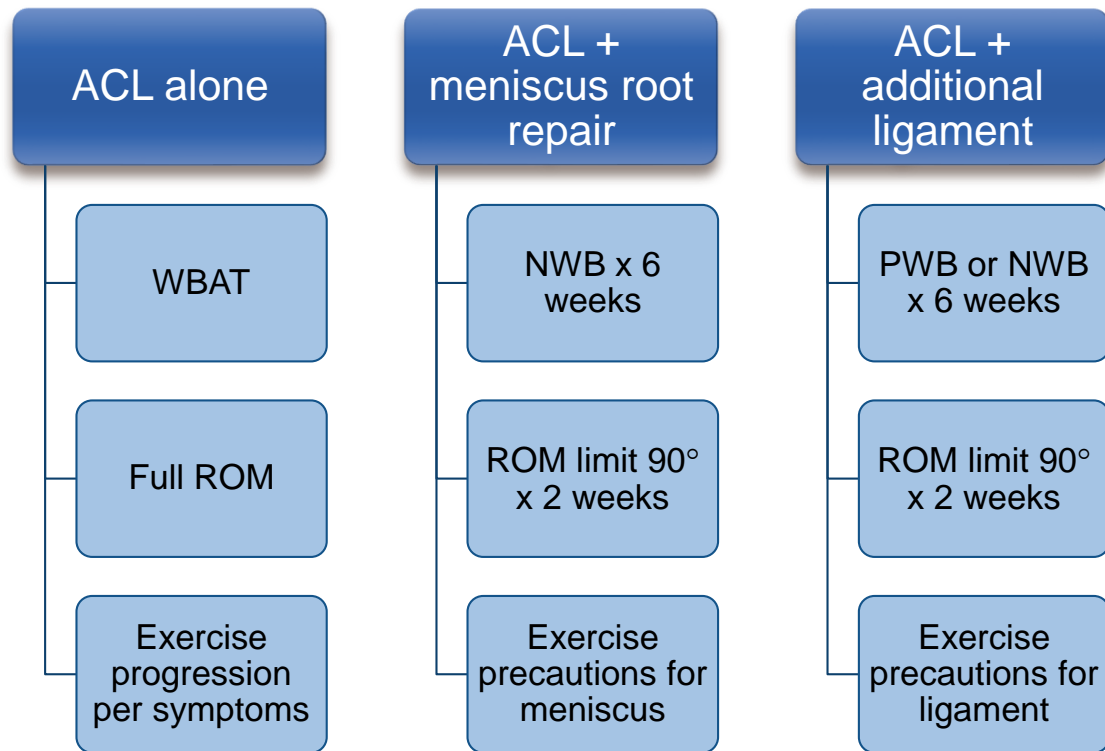
Abbreviations

NWB: non-weight bearing

PWB: partial weight bearing

ROM: range of motion

WBAT: weight bearing as tolerated







General Recovery Phases & Timelines

Phase	Recovery Phase	Transition Phase	Rebuild Phase	Restore Phase
Timelines	0 - 4/6 Weeks →	6 - 8 Weeks →	8 - 24 Weeks →	24+ Weeks
Goals	Symptom control Early muscle activation Joint protection Early ROM	Wean into loading and exercise progressions Recover full knee motion	Build strength Recover cardio fitness Improve stability, balance, confidence	Top level strength training Increase training exposure time & intensity Progress athletic training (speed, power, direction change, reaction, etc.)

ACL Alone (No Other Meniscus or Ligament Surgery): Expectations for Symptoms & Basic Function

	2 Weeks	4 Weeks	6 Weeks	8 Weeks	10 Weeks	12 Weeks
Sleep through the night	✓					
Discontinue crutches	✓					
Walk without a limp		✓				
Perform stairs normally		✓				
Return to driving		✓				
Full knee motion			✓			
Swelling mostly resolved					✓	

ACL + Additional Ligament and/or Meniscal Repair: Expectations for Symptoms & Basic Function

	2 Weeks	4 Weeks	6 Weeks	8 Weeks	10 Weeks	12 Weeks
Sleep through the night						
Discontinue crutches				✓		
Walk without a limp				✓		
Perform stairs normally						
Return to driving			✓			
Full knee motion						
Swelling mostly resolved						

Expectations for Higher Level Function

	16 Weeks	20 Weeks	24 Weeks	28 Weeks	32 Weeks	36+ Weeks
Introduce ACE group training class	✓					
Earliest return to run consideration	✓					
Earliest return to jump consideration		✓				
Introduce sport/athletic drills depending strength			✓			
Earliest introduction of practice activities					✓	
Earliest introduction of competition activities						✓

Expectations for brace use

	16 Weeks	20 Weeks	24 Weeks	28 Weeks	32 Weeks	36+ Weeks
ACL alone						
ACL + meniscus repair						
ACL + additional ligament reconstruction						

Note:

- Consistent brace use for the first 6 months following surgery is common.
- Brace use upon return to sport may be recommended for the first competitive season per MD recommendations and details of injury/surgery.

Share Important Goals & Timelines with PT Team

Your care team will help determine safe timelines for returning to important life events and your efforts with PT will prepare you for success.

- Return to school and/or work
- Important upcoming life events or travel
- Important sport season or tryout dates
- Important camp or clinic dates

Communication is the Key to Success!

Thank you for trusting us with your care. **Communication is the key for a successful recovery** after surgery. Please communicate with your PT provider to ensure you feel knowledgeable and empowered throughout the recovery process. This includes understanding the following:

- **PT Visits:** How often should I come and when does this change?
- **Post-Op Precautions:** Why do I avoid certain things and for how long?
- **Home Exercise Program:** What should I be doing and how often?
- **Additional Services** (ACE, nutrition, sports psych, etc.): When do I need these, how do I sign up/start?
- **Returning to Activity/Sport:** When is it safe, why do I need to wait, what goals/targets do I need to hit to show I'm ready?

GOOD LUCK!

**WE'LL BE SUPPORTING YOU
ALL THE WAY!**