

Altru Advanced Orthopedics ACL Non-Operative Protocol

The intent of this protocol is to provide the therapist with a guideline for the rehab of a patient who has had an ACL tear and is being treated non-operatively. It is not intended to be a substitute for appropriate clinical decision making regarding the progression of a patient's rehab. The actual therapy plan of care must be based on the physical exam and findings, individual progress, any complications, and/or co-morbidities. If a therapist needs assistance or has questions regarding the progression of a patient they should consult the referring provider.

Contraindications/Precautions for Treatment:

- Avoid activities that cause locking of the knee
- Avoid open chain exercises that may cause excessive anterior translation of the tibia on the femur (limit arc of motion from 100° of knee flexion to 30° of knee flexion)
- Avoid continued or worsening pain with progression of PT treatments

PHASE I: Week 0-3

PRECAUTIONS:

- Emphasize static stability control initially

GOALS:

- Reduce edema
- Reduce pain and inflammation
- Improve ROM
- Reestablish quad muscle firing
- Initiate static control exercises standing
- Gait Training

IMMOBILIZATION:

- ACL brace worn with all functional activities

WEIGHT BEARING:

- Weight bearing as tolerated/WBAT

THERAPEUTIC EXERCISE:

1. ROM
 - Progress knee flex/ext ROM, overpressure as tolerated
 - Heel slides, supine wall slides, prone hang
 - Stretches: quad, ham, calf, ITB, hip flexor, hip rotators
2. Strengthening:

- Knee flexion: prone and standing
 - SLR: flex, ext, abd, add
 - Theraband hip strengthening
 - Standing heel raises
 - Core strengthening
 - Stationary bike
 - Starting at low resistance
 - Progress time and resistance as tolerated
3. Balance/Proprioception:
- Standing weight shifts
 - Single leg stance

MANUAL THERAPY:

- Patellar mobs
- Soft tissue mobilization

MODALITIES:

- Cryotherapy
- E-stim for quad tone facilitation (VMO) and hamstring co-contraction

PHASE II: Weeks 4-6

GOALS:

- Improve knee ROM to full flexion and extension
- Improve strength
- Improve static and dynamic control standing

IMMOBILIZATION:

- Continue hinged brace with ADLs

WEIGHT BEARING:

- Full weight bearing/FWB

THERAPEUTIC EXERCISE:

1. ROM
 - Stationary bike
 - Therapist intervention to increase knee ROM as needed
2. Strengthening
 - Continue Phase I exercises
 - Progress with weight as control improves

- Advance core strengthening exercises
 - Wall squat: 1/2 depth
 - Leg press ≤ 90° knee flex
 - Lateral and forward step-ups: 2-8 inches
 - Step overs
 - Leg curl: limited range 10-90° flex initially
 - Leg extension: full ROM, no weight initially
 - Terminal knee extension
3. Balance/Proprioception
- BAPs, Air-ex, 1/2 foam roll, BOSU, wobble board
 - Perturbation training
 - Progress functional control, dynamic balance, and agility activities as able
4. Running progression:

<p>Running Progression:</p> <ul style="list-style-type: none"> • Trace or less effusion, 80% or > strength, understand soreness rules (below) 	<ol style="list-style-type: none"> 1. Treadmill/track walking 2. Treadmill walk/run intervals 3. Treadmill running/track: run straights walk turns 4. Track: run straights and turns 5. Run outside on path/road 	<ul style="list-style-type: none"> • Progress until 2 miles tolerated without increased pain and swelling. • No more than 4 times/week and only every other day. • Do not progress more than 2 levels in 7 days.
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Soreness Rules

Criterion	Action
1. Soreness during warm-up that continues	2 days off, drop down 1 step
2. Soreness during warm-up that goes away	Stay at step that led to soreness
3. Soreness during warm-up that goes away but redevelops during session	2 days off, drop down 1 step
4. Soreness the day after lifting (Not muscle soreness)	1 day off, do not advance program to the next step
5. No soreness	Advance 1 step per week or as instructed by healthcare professional

PHASE III: WEEKS 7-12

GOALS:

- Full knee flex/extension strength vs uninvolved side
- Good control with static and dynamic weight bearing activities
- Good dynamic balance/proprioception with routine ADLs
- Knee Outcome Survey Score $\geq 80\%$

THERAPEUTIC EXERCISE:

1. ROM
 - Continue with previous exercises as needed
 - Continue warm-up and stretching routine
2. Strengthening
 - Continue Phase II exercises as needed
 - Advance core and hip strengthening exercises
3. Advance Proprioception and dynamic balance activities
 - Single leg stance short knee bend
 - Single leg stance squat/reach with uninvolved LE
 - SLS ball toss/Rebounder
 - Incorporate lateral and diagonal motions
 - Incorporate various surfaces to increase difficulty
 - Incorporate trunk motions to enhance core stability
 - Incorporate plyometric training and agility activities

RETURN TO SPORT CRITERIA:

- Complete return to sport assessment
- Knee Outcome Survey sports ($\geq 80\%$)
- Cybex Isokinetic testing
- Functional Hop Testing (limb symmetry of $>90\%$)

CRITERIA FOR D/C FROM THERAPY:

- **All patient and therapist goals met**
- **Pt able to return to all ADLs, and full work/sport activities**
- **Pt is independent with a HEP**