Advanced Orthopedics and Sports Medicine
Lateral ankle reconstruction delayed -Treatment Guideline

Phase I: Protection 0-6 weeks

Goals:

1. Maintain integrity of the repair.
2. Diminish inflammation, swelling and pain of the ankle.
3. Initiate gait training when appropriate
4. Minimize deconditioning and initiate proximal muscle strengthening.

Precautions:

1. Immobilization protocol
    a. Non-WB 3 weeks
    b. Progressive WB 3-6 weeks
2. Avoid inversion

Treatment Summary:

1. Modalities include electrical stimulation for pain relief (IFC, TENS) or edema control (HVPG). Ice and compression (elevation) for pain control should also be used as appropriate. Pulsed Ultrasound for promoting healing and pain relief.
2. Mobs/MFR: Initiate manual retrograde massage (efflurage) for swelling, soft tissue massage for muscle guarding and pain, scar tissue massage.
3. Range of motion exercises include but not limited to ankle heel slides, ankle pumps, prone ankle pumps, seated BAPS, seated ankle to taps, toe crunches, marble pick ups starting week 4 (avoid inversion)
4. Stretching for flexibility of lower extremity musculature includes but not limited to the following musculature hamstrings. Initiate NWB gastrocnemius stretches as tolerated at end of phase.
5. Strengthening exercises for hip and core strengthening and upper body strengthening.
6. Gait training: Includes education in weight bearing as tolerated when appropriate Non-WB 3 weeks, Progressive WB 3-6 weeks

Phase II: Range of Motion: 6-8 weeks

Goals:

1. Control Edema and pain
2. Reduce scar tissue adhesions
3. Increased active range of motion of the ankle
4. Increase strength of the ankle musculature
5. Progressive weight bearing and Gait training

Precautions/possible complications:

1. Appropriate intensity of exercise to minimize pain (re-rupture, tendonitis)
2. WB-CAM walker or brace.
3. Care with inversion
4. Pain free exercise

Treatment Summary:

1. Physician/physical therapist will determine when to discontinue the crutches, and brace.
2. Modalities include electrical stimulation for pain relief (IFC, TENS), or edema control (HVPG), ultrasound for deep heating/pain management. Ice and compression (elevation) for pain control should also be used as appropriate.
3. Mobs/MFR: Includes but not limited to subtalar and talocrural joint mobilization for normal ankle joint mobility, manual retrograde massage (efflurage) for swelling, soft tissue massage for muscle guarding and pain, scar tissue mobilization. Initiate rhythmic stabilization with ankle in mid range.
4. Range of motion exercises include but not limited to ankle heel slides, ankle pumps, windshield wipers, prone ankle pumps, seated ankle to taps, toe crunches, marble pick ups.
5. Stretching for flexibility of lower extremity musculature includes but not limited to the following musculature hamstrings, and gastrocnemius. Progress to WB DF stretches as appropriate.
6. Strengthening exercises for ankle and lower extremity strengthening. Progress NWB (elastic bands) to PWB tolerated. Functional strengthening exercises like step ups forwards and sideways and progress to step downs and multihip (contrakicks) to end of phase. FWB bilateral calf raises by 12-16 weeks. Care with inversion exercises.

7. Balance training includes weight shifting, progression to single leg balance (upper extremity and lower extremity movement eg ball throws), balance board. (Use of brace and avoid inversion)
8. Aerobic exercise can include leg bike (initially for ROM progressing to aerobic conditioning).
9. Gait training: in PWB to FWB with CAM walker and brace.

Phase III: Neuromuscular Phase 8-10 weeks

Goals:

1. Achieve full range of motion
2. Achieve 80% of total lower extremity strength
3. Increase proprioception.
4. Normal gait on all surfaces and speeds

Precautions/possible complications

1. Care with inversion
2. Pain free strengthening.

Treatment Summary:

1. Modalities: Ice and compression (elevation) PRN
2. Mobs/MFR: Initiate perturbation training. Use of soft tissue/scar tissue massage as appropriate.
3. ROM and stretching: Continue prior phase.
4. Strengthening exercises : Progressive strengthening with elastic tubing, isotonics and isokinetics of the ankle. Initiate closed chain exercises (CKC) double leg heel raise (PWB to FWB), mini squats, step ups forwards/sideways and backwards, lunges, tubing walks.
5. Balance training includes single leg balance, balance board, BOSU, star balance.
6. Gait training: FWB without assistive devices and increase endurance in ambulation
7. Aerobic exercise can include leg bike, water walking, swimming , elliptical.

Criteria for Progression:

1. Possible return to sports at 6 months.
    a. Balance and proprioception should be within 10% of the uninvolved lower extremity.

Phase IV: Return to Sport 10-18 weeks

Goals:

1. Achieve functional total lower extremity strength
2. Initiate jogging. Progress to cutting and running.
3. Normal gait on all surfaces and speeds
4. 10-15% difference in Isokinetic testing
5. 85% of uninvolved lower extremity on functional tests (one legged distance hop, one-legged timed hop, % limb symmetry)
6. Return to sports safely and with confidence (at 5 months)

Precautions/possible complications

1. Lace up brace initially with performance of plyometric exercises.

Treatment Summary:

1. Modalities: Ice and compression (elevation) PRN
2. Mobs/MFR: Progress perturbation training. Use of soft tissue/scar tissue massage as appropriate.
3. ROM and stretching: Continue prior phase.
4. Strengthening exercises : Progress prior phase especially closed chain exercises (CKC) mini squats, step ups forwards/sideways and backwards, lunges, tubing walks. Single leg calf raises by wk 12 if tolerated. Advanced strengthening exercises can be added on unstable surfaces (eg squats on BOSU or balance board), lunges per patient tolerance. Emphasize single leg exercises to decrease compensation.
5. Balance training includes single leg balance, balance board, BOSU, reaction ball, star balance.
6. Aerobic exercise can include leg bike, water walking, swimming , elliptical.
7. Gentle plyometric exercises on level surfaces double legged by week 13 if < 20% deficits on isokinetic testing. Plyometric training (box hops), sports specific drills if < 15% deficits on isokinetic test.
8. Initiate and progress sports specific training: running/cutting/agility drills. Gradual return to sports drills. Progress from treadmill to track ,flat surfaces to road/field running and finally to hill running.

Criteria for Progression:

1. Possible return to sports at 5 months.(18-20 weeks)
    a. Balance and proprioception should be within 10% of the uninvolved lower extremity.
    b. Functional tests 90% of uninvolved LE