Achilles Repair Rehabilitation Protocol

Key considerations:

1. Avoid creating pain – discomfort is okay but pain should not occur and persist 3 days in a row. If it does, rest the patient until pain level is clearly decreasing. If it does not decrease, have doctor evaluate.
2. Avoid all passive motion into DF for 1st 6 weeks post-op
3. Weight-bearing has been shown in studies to improve strength of healing with no increase in re-rupture rate – just protect from any dorsiflexion forces, especially unexpected ones (therefore the importance of the boot with limiting of DF)
4. CKC exercises can be uncomfortable and fatiguing, but should not cause pain and/or swelling; if this happens back off the amount of stress
5. Major risk of re-rupture occurs at 6 weeks to 4 months, especially when unprotected.
6. Do not expect an athlete to return to competitive situation any earlier than 6 months, and usually not until 9-12 months.
7. Expect some Achilles discomfort (usually insertional) when athlete first resumes competitive participation and the stresses that accompany such participation. Manage with routine anti-inflammatory measures. If necessary, rest and use patches (diclofenac, nitroglycerin).
8. Avoid over stretching the tendon repair. This will result in weakness and loss of athletic ability. It’s better for it to be too tight than too loose.

Weeks 2-6:

ROM
Retrograde edema massage, soft tissue mobilization, scar mobs, etc.
Joint mobilizations, no passive DF, active ROM in all planes and gentle active assisted motion (i.e. the player should be initiating all movement during this time period and particularly avoid DF above neutral to prevent stretching the repair)

Strength
Intrinsics
INV, EV, PF- light theraband, light manual resistance
Supplementary strength: quads, hamstrings, hip abd/add, rotators, gluts
Supplementary cardio: single leg rowing, biking, UBE

**Pool**
Aqua-jogging after week 3, no floor contact

**Gait**
Wean from crutches, continue to wear boot.

**Weeks 6-10:**

**ROM**
Continue with ROM within limits
Mobilizations, assist to get DF to neutral if not already there (prefer to have 10 degrees DF by 8 weeks)
Start bike (very limited resistance and check that ankle does not go into excessive DF on the pedal)

**Strength**
**Intrinsics**
Theraband exercises – all directions and progress resistance as tolerated
BAPS ROM and proprioception/rhythmic stabilization
Manual resistance exercises, but cautious with DF resistance

**Pool**
Walking chest depth
Backwards walking for eccentric control
Aqua jogging, no ground contact

**Gait**
Wean out of boot*
Weight shifting exercises, work on fundamentals of gait, etc.
Supportive shoe with heel lift (usually start with half inch lift and then drop to quarter inch after 2 weeks, eliminate lift after 2 more weeks or when patient comfortable

**Weaning Out of Boot**
1\(^{st}\) week – out of boot for 1 hour in the morning and 1 hour in the afternoon
2\(^{nd}\) week – out of boot for 2 hours in the morning and 2 hours in the afternoon
3\(^{rd}\) week – out of boot for 4 hours in the morning and 4 hours in the afternoon
4\(^{th}\) week – out of boot completely

**Weeks 10-14:**

**ROM**
Regain full DF, beginning to push DF (within tolerance)
Joint mobs if indicated

**Strength**
**Intrinsics, theraband program**
Seated BAPS program
CKC(closed kinetic chain) exercises within tolerance
Seated heel raises, can add appropriate weight, weight should not limit patient’s ability to raise through full range of motion.
Progress to double leg heel raises by week 12
Bike and gradually add resistance, start elliptical trainer as tolerated toward week 12
Pool
Pool walking, if underwater treadmill, begin incline to tolerance

Gait
Emphasize gait pattern as patient weans from boot, and weans from heel lift in shoe
Backwards walking for eccentric control

**Months 4-5:**

**ROM**
Push DF if necessary, regain symmetrical ROM

**Strength**
Unlimited CKC progression if tolerated
Double leg heel raises to tolerance; single leg if patient is able always focusing on smooth concentric and eccentric control
Single leg balance progression

Pool
Squats, Lunges, Single leg heel raises
Fast Pace Walking

Gait
Walking on treadmill, incline
Begin water jogging, floor contact (underwater treadmill)
Start Alter-G if available with weight-bearing pressure started at 50%, add 10% every 4-7 days as tolerated

**Month 5-6**

**ROM**
Any remaining ROM gains

**Strength**
Begin single leg heel raises
Initiate eccentrics
  *begin with prone manual, progress to standing double leg heel raise with single leg eccentric lower to floor
Full CKC program
Lunges, Reverse Lunges, etc.
Initiate movement prep/functional warm-up program
Functional single leg balance exercises, add UE challenges (throwing)

Pool
Eccentrics chest depth
Cont. Running progression in pool with treadmill
Begin initial agilities
Month 6-7+

Strength/Gait
Agilities
Begin running progression
Progress weight in CKC program
Progress to sport specific training