

## **Dr. Petre's Achilles Non-Operative Rehab Protocol**

### **Thanks To Dr Thomas Clanton, Vail CO for this protocol**

#### **Key considerations per Dr. Petre:**

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 1<sup>st</sup> 6 weeks when coming out of cast/boot when treated non-operatively.
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 8-12:**

##### 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. Progress to full weight bearing in boot as tolerated.

## Weeks 12-16:

### 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

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<sup>st</sup> week – out of boot for 1 hour in the morning and 1 hour in the afternoon

2<sup>nd</sup> week – out of boot for 2 hours in the morning and 2 hours in the afternoon

3<sup>rd</sup> week – out of boot for 4 hours in the morning and 4 hours in the afternoon

4<sup>th</sup> week – out of boot completely

## **Weeks 16-24:**

### 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 low weight, 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

## **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 balance progression

### Pool

Squats, Lunges, Single leg heel raises

Fast Pace Walking

Eccentrics at shoulder depth

### 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 activity