



ACHILLES TENDON REPAIR PROTOCOL

General Considerations:

Time frames mentioned in this protocol should be considered approximate with actual progression based upon clinical presentation. Physician appointments as well as continued assessment by the treating practitioner should dictate progress.

Avoid forceful active and passive range of motion of the Achilles for 10 - 12 weeks.

Carefully monitor the tendon and incisions for mobility and signs of scar tissue formation. Regular soft tissue treatments (i.e. scar mobilization and friction massage) may be used to decrease fibrosis.

All exercises should be carefully observed for any signs of compensation or guarding.

No running, jumping, or ballistic activities for 6 months.

Aerobic and general conditioning may be done throughout the rehabilitation process.

M.D. appointments at 2 weeks, 6 weeks, 3 months, 6 months, and 1 year post-op.

Ice should be applied to the Achilles/foot/ankle area for 15-20 minutes following each exercise, therapy, or training session.

PHASE I (surgery to 2 weeks after surgery)

Appointments	<ul style="list-style-type: none">• Rehabilitation appointments begin 14-16 days after surgery
Rehabilitation Goals	<ul style="list-style-type: none">• Protection of the surgically repaired tendon• Wound healing
Precautions	<ul style="list-style-type: none">• Continuous use of the boot or splint in locked plantarflexion (20-30°)• Patients should be non-weight bearing (NWB) during this time<ul style="list-style-type: none">○ Keep the incision dry○ Watch for signs of infection

	<ul style="list-style-type: none"> • Avoid long periods of dependent positioning of the foot during the first week to assist in wound healing
Cardiovascular Exercise	<ul style="list-style-type: none"> • Upper Body Ergometer (UBE) circuit training
Progression Criteria	<ul style="list-style-type: none"> • Two weeks after surgery • Minimal joint effusion • Ambulation without assistive device or limp

PHASE II (2 weeks after surgery, when Phase I criteria met)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are 1-2 times per week
Rehabilitation Goals	<ul style="list-style-type: none"> • Normalize gait with weight bearing as tolerated (WBAT) using the boot and axillary crutches • Protection of the post-surgical repair • Active dorsiflexion to neutral
Precautions	<ul style="list-style-type: none"> • Post-operative week 2-3: 30° PF, toe touch weight bearing (TTWB) using the axillary crutches and boot, no active dorsiflexion, sleep in boot • Post-operative week 3-4: 20° PF, TTWB using the axillary crutches and boot, sleep in boot • Post-operative week 4-5: 10° PF. If pt can reach neutral PF/DF comfortably, then neutral boot with 1-2 1/4 inch heel lifts, WBAT (based on pain, swelling and wound appearance) using the axillary crutches and boot, limit active dorsiflexion to neutral sleep in boot
Suggested Therapeutic Exercise	<ul style="list-style-type: none"> • Ankle range of motion (ROM) with respect to precautions • Pain-free isometric ankle inversion, eversion, dorsiflexion and sub-max plantarflexion • Open chain hip and core strengthening
Cardiovascular Exercise	<ul style="list-style-type: none"> • Upper extremity circuit training or UBE
Progression Criteria	<ul style="list-style-type: none"> • Six weeks post-operatively • Pain-free active dorsiflexion to 0° • No wound complications. If wound complications occur, consult with a physician

PHASE III (Usually 6-8 weeks after surgery, when Phase II criteria met)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are once a week
Rehabilitation Goals	<ul style="list-style-type: none"> • Normalize gait on level surfaces without boot or heel lift • Single leg stand with good control for 10 seconds • Active ROM between 5° of dorsiflexion and 40° of plantarflexion
Precautions	<ul style="list-style-type: none"> • Slowly wean from use of the boot: Begin by using 1-2 ¼ inch heel lifts in tennis shoes for short distances on level surfaces then gradually remove the heel lifts during the 6th and 8th week depending on clearance from the surgeon • Avoid over-stressing the repair (avoid large movements in the sagittal plane; any forceful plantarflexion while in a dorsiflexed position; aggressive passive ROM; and impact activities)
Suggested Therapeutic Exercise	<ul style="list-style-type: none"> • Frontal and sagittal plane stepping drills (side step, cross-over step, grapevine step) • Active ankle ROM within ROM precautions • Static balance exercises (begin in 2 foot stand, then 2 foot stand on side-to-side balance board or narrow base of support and gradually progress to single leg stand) • Ankle strengthening with resistive tubing • Low velocity and partial ROM for functional movements (squat, step back, lunge) • Hip and core strengthening • Pool exercises if the wound is completely healed
Cardiovascular Exercise	<ul style="list-style-type: none"> • Upper extremity circuit training or UBE
Progression Criteria	<ul style="list-style-type: none"> • Normal gait mechanics without the boot • Squat to 30° knee flexion without weight shift using heel lifts to keep ankle dorsiflexion to neutral • Single leg stand with good control for 10 seconds

	<ul style="list-style-type: none"> Active ROM between 0° of dorsiflexion and 40° of plantarflexion
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PHASE IV (Usually 12 weeks after surgery, when Phase III criteria met)

Appointments	<ul style="list-style-type: none"> Rehabilitation appointments are once every 1 - 2 weeks
Rehabilitation Goals	<ul style="list-style-type: none"> Normalize gait on all surfaces without boot or heel lift Active ROM between 15° of dorsiflexion and 50° of plantarflexion Good control and no pain with functional movements, including step up/down, squat and lunges
Precautions	<ul style="list-style-type: none"> Avoid forceful impact activities Do not perform exercises that create movement compensations
Suggested Therapeutic Exercise	<ul style="list-style-type: none"> Frontal and transverse plane agility drills (progress from low velocity to high, then gradually adding in sagittal plane drills) Active ankle ROM Gastroc/soleus stretching Multi-plane proprioceptive exercises – single leg stand 1 foot standing nose touches Ankle strengthening – concentric and eccentric gastroc strengthening Functional movements (squat, step back, lunge) Hip and core strengthening
Cardiovascular Exercise	<ul style="list-style-type: none"> Stationary bike, Stair Master, swimming
Progression Criteria	<ul style="list-style-type: none"> Normal gait mechanics without the boot on all surfaces Squat and lunge to 70° knee flexion without weight shift Active ROM between 15° of dorsiflexion and 50° of plantarflexion

PHASE V (Usually 4 months after surgery, when Phase IV criteria met)

Appointments	<ul style="list-style-type: none"> • Rehabilitation appointments are once every 1 - 2 weeks
Rehabilitation Goals	<ul style="list-style-type: none"> • Good control and no pain with sport/work specific movements, including impact
Precautions	<ul style="list-style-type: none"> • Post-activity soreness should resolve within 24 hours • Avoid post-activity swelling • Avoid running with a limp
Suggested Therapeutic Exercise	<ul style="list-style-type: none"> • Impact control exercises beginning 2 feet to 2 feet, progressing from 1 foot to other and then 1 foot to same foot • Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities • Sport/work specific balance and proprioceptive drills • Hip and core strengthening • Stretching for patient specific muscle imbalances
Cardiovascular Exercise	<ul style="list-style-type: none"> • Replicate sport/work specific energy demands
Progression Criteria	<ul style="list-style-type: none"> • Patients will be allowed to return to sport based on strength testing, movement control, balance testing, and jump and landing mechanics

PHASE VI (When Phase V criteria met)

In addition to ongoing strength, balance, agility, and cardio conditioning, initiate sport-specific plyometric activities as tolerated such as:

Soccer/Football: 2 foot ankle hop, double-leg hop, front barrier hop, lateral barrier hop, single-leg hop, power skip, backward skip, double-arm alternate-leg bound, and cycled split squat jump

Basketball/Volleyball: 2 foot ankle hop, double-leg hop, squat jump, double-leg vertical jump, single-leg hop, single-leg vertical jump, power skip, backward skip, double-arm alternate-leg bound, alternate-leg push off box drill, and side-to-side push-off box drill



Baseball/Softball/Overhead throwing sports: 2 foot ankle hop, double-leg hop, front barrier hop, lateral barrier hop, single-leg hop, power skip, backward skip, double-arm alternate-leg bound, cycled split squat jump, and return to throwing program