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REHABILITATION GUIDELINES FOR ACHILLES TENDON REPAIR Aaron M. Bott, MD

The rehabilitation guidelines are presented in a criterion based progression. General time frames refer to the usual pace of rehabilitation. However, individual patients will progress at different rates depending on their age, associated injuries, pre-injury health status, rehab compliance, tissue quality and injury severity. Specific time frames, restrictions and precautions may also be given to enhance wound healing and to protect the surgical repair/reconstruction.

Phase I Surgery to 2 Weeks

Appointments	Physician: 10-14 days postoperatively
Guidelines	<ul style="list-style-type: none"> • Wound healing is the primary concern during the first two weeks after surgery <ul style="list-style-type: none"> -Ice and elevate the foot and ankle frequently to avoid complications from swelling -Avoid long periods of dependent positioning of the foot -Keep the incision clean and dry -Wiggle your toes frequently to help with blood return • Weightbearing: <ul style="list-style-type: none"> -Touchdown weight bearing using axillary crutches • Splint: <ul style="list-style-type: none"> -A plaster splint will be applied in the operating room -The splint will be applied in 15-20° of plantarflexion. It should be kept clean and dry and not be removed. • Other exercises may be utilized at the therapist's discretion within the restrictions of the protocol
Range of Motion Exercises	<ul style="list-style-type: none"> • Wiggle toes frequently within the splint • Do not attempt to perform ankle ROM
Strengthening Exercises	<ul style="list-style-type: none"> • None necessary during Phase I
Aerobic Conditioning	<ul style="list-style-type: none"> • Upper body circuit training or UBE
Modalities	<ul style="list-style-type: none"> • Cryotherapy
Progression Criteria	<ul style="list-style-type: none"> • Two weeks postop • Healed incision

ACHILLES TENDON REPAIR
Phase II 2 to 6 Weeks Postop
Aaron Bott, MD

Appointments	Physician: 10-14 days and 6 weeks postoperatively Physical Therapy: 1-2x/week
Guidelines	<ul style="list-style-type: none"> • Splint: <ul style="list-style-type: none"> -The splint will be removed at the first postop visit. -Sutures will likely be removed provided the wound is healing appropriately • Boot: <ul style="list-style-type: none"> -A CAM walker boot will be applied at the first postop visit. -It will be fitted in 10° of plantar flexion -Weeks 3-4: WBAT in boot in 10° plantarflexion with ½” heel lifts -Weeks 5-6: WBAT in boot in neutral dorsiflexion with ¼” heel lifts -The boot should be worn continuously except during hygiene and rehab • Weightbearing: <ul style="list-style-type: none"> -WBAT is permitted in the boot using axillary crutches -Weight-bearing should occur through the heel not the forefoot -Crutches may be weaned when the patient is comfortable ambulating in the boot alone • Wound healing complications can still occur <ul style="list-style-type: none"> -Ice and elevate to minimize complications from swelling -Do not soak the incision until 4 weeks after surgery • Other exercises may be utilized at the therapist’s discretion within the restrictions of the protocol
Range of Motion Exercises	<ul style="list-style-type: none"> • Active ankle ROM exercises • All ROM exercises should be pain-free
Strengthening Exercises	<ul style="list-style-type: none"> • SLRs/4 directional leg lifts/hamstring curls while wearing boot • Isometric ankle inversion, eversion, dorsiflexion, and submaximal plantarflexion • OKC hip and core strengthening exercises • All strengthening exercises should be pain-free
Aerobic Conditioning	<ul style="list-style-type: none"> • Upper body ergometer or upper extremity circuit training • Stationary bike (wearing boot)
Modalities	<ul style="list-style-type: none"> • Cryotherapy
Progression Criteria	<ul style="list-style-type: none"> • Six weeks postop • Pain-free active dorsiflexion to neutral

ACHILLES TENDON REPAIR
Phase III 6 to 12 Weeks Postop
Aaron Bott, MD

Appointments	Physician: 6 weeks and 12 weeks postoperatively Physical Therapy: 1x/1-2weeks
Guidelines	<ul style="list-style-type: none"> • Boot: <ul style="list-style-type: none"> -The boot may be slowly weaned from use once the patient tolerates ambulation in neutral dorsiflexion (weeks 7-8) -The ¼” heel lifts should be transitioned to the patient’s shoes once the boot has been discontinued -The heel lifts can be weaned from use during weeks 9-10 • Avoid overstressing the repair <ul style="list-style-type: none"> -Avoid large movements in the sagittal plane -Avoid forceful plantar flexion while in a dorsiflexed position -Avoid aggressive passive dorsiflexion -Avoid impact activities • Utilize ice/elevation to minimize post-activity swelling • Other exercises may be utilized at the therapist’s discretion within the restrictions of the protocol
Range of Motion Exercises	<ul style="list-style-type: none"> • Active ankle ROM • Gentle gastroc-soleus stretching
Strengthening Exercises	<ul style="list-style-type: none"> • Weeks 7-8: <ul style="list-style-type: none"> -Light Theraband strengthening (proceed slowly with plantar flexion) -Frontal and sagittal plane stepping drills -Lower extremity, hip, and core strengthening • Weeks 9-12: <ul style="list-style-type: none"> -Increase Theraband strengthening exercises -Double leg heel raises -Frontal and sagittal plane stepping drills -Low velocity and partial ROM for functional movements -Lower extremity, hip, and core strengthening
Balance Training	<ul style="list-style-type: none"> • Static balance exercises <ul style="list-style-type: none"> -Start in two foot stance -Progress to narrow base of support then to single leg stance • Two foot standing nose touches
Aerobic Conditioning	<ul style="list-style-type: none"> • Upper body ergometer or upper extremity circuit training • Stationary bike (keep heel on pedal to avoid forced plantarflexion) • Deep water pool therapy
Modalities	<ul style="list-style-type: none"> • Cryotherapy
Progression Criteria	<ul style="list-style-type: none"> • Normal gait mechanics in normal shoe wear • Single leg stance with good control for 10 seconds • ROM 15° dorsiflexion/40° plantarflexion

ACHILLES TENDON REPAIR
Phase IV 12 Weeks to 6 Months Postop
Aaron Bott, MD

Appointments	Physician: 12 weeks and 6 months postoperatively Physical Therapy: 1x/1-2weeks
Guidelines	<ul style="list-style-type: none"> • Avoid forceful impact activities and exercises that create movement compensations • Running program may be initiated at the beginning of Phase IV • Return to competitive sports is typically delayed for 6 months • Isokinetic testing will occur at 6 months postop • Other exercises may be utilized at the therapist's discretion within the restrictions of the protocol
Range of Motion Exercises	<ul style="list-style-type: none"> • Active ankle ROM exercises • Stretching for patient specific muscle imbalances
Strengthening Exercises	<ul style="list-style-type: none"> • Ankle strengthening exercises-Concentric and eccentric gastroc strengthening • Frontal and transverse plane agility drills <ul style="list-style-type: none"> -Progress from low velocity to high velocity -Gradually add in sagittal plane drills • Functional movements (squat, step back, lunge) • Impact control exercises <ul style="list-style-type: none"> -Start at 4 months -Begin 2 feet to 2 feet/Progress to 1 foot to other and then 1 foot to same foot • Movement control exercises <ul style="list-style-type: none"> -Start at 4 months -Begin with low velocity, single plane activities -Progress to higher velocity, multi-plane activities • Lower extremity, hip, and core strengthening
Balance Training	<ul style="list-style-type: none"> • Multi-plane proprioceptive exercises-progress from two leg to single leg stance • Single leg stance nose touches • Sport/work-specific balance and proprioceptive drills
Aerobic Conditioning	<ul style="list-style-type: none"> • Stationary bike • Stairmaster/Elliptical/Treadmill • Initiate running program <ul style="list-style-type: none"> -Progress from jogging to running to sprinting to cutting/pivoting throughout Phase IV
Modalities	<ul style="list-style-type: none"> • Cryotherapy
Progression Criteria/Return to Sports	<ul style="list-style-type: none"> • Full ROM symmetric to contralateral side • Biodex strength testing within 85-90% of contralateral side • Dynamic neuromuscular control with multi-plane activities, without pain or swelling