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| **Table 1. General post-procedural recommendations per phase of healing** |
| **Phase of healing** | **Timeframe** | **Restrictions/rehabilitation** |
| Phase I: Inflammatory phase | Days 0-5 | * Relative rest
* Avoid excessive loading, consider NWB or PWB
* Consider bracing to minimize ROM and provide protection
* Avoid NSAIDs; use alternative pain management
 |
| Phase II: Proliferative phase | Day 5 – Week 6 | Early proliferative phase (day 5 – week 2)* Full WB with or without protection
* Active ROM
* Initiate gentle stretching program
* Avoid NSAIDs; use alternative pain management

Late proliferative phase (weeks 2-6)* Full WB without protective device
* Stretching program: adding “dynamic” stretching and passive ROM
* Progressive strengthening program starting with high-repetition isometric exercises and progressing to eccentric exercises closer to the end of this phase
* Avoid NSAIDs; use alternative pain management
 |
| Phase III: Remodeling phase | Week 6 and beyond | * Proprioceptive training and sport-specific exercises
* Return to sport/activity
 |
| *NWB*, non-weight bearing;  *PWB*, partial weight bearing; *WB*, weight bearing;  *ROM*, range of motion; *NSAID*, Nonsteroidal anti-inflammatory drug |

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| **Table 2. Achilles tendinopathy (insertional or mid-substance): rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* NWB with crutches in CAM boot
* Avoid stretching into ankle dorsiflexion (for insertional tendinopathy)
 | * Rest
* Begin gentle active ankle ROM
* Gait training with crutches
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* PWB with crutches in CAM boot (pain-limited)
 | * Rest
* Continue gentle active ankle ROM
* Begin core strengthening
* Initiate lower limb strengthening in NWB
* Gait training for PWB with crutches
* Upper body aerobic and strength exercises
 |
| Weeks 2-4 | * No use of NSAIDs or ice for 4 weeks
* Week 2: WBAT, CAM boot for community ambulation
* Avoid Painful exercises with pain >3/10
 | * Continue active ankle ROM and joint mobilization as needed
* Initiate gentle ankle dorsiflexion stretching
* Begin isometric ankle strengthening
* PWB 🡪 WBAT, gait training for WBAT in CAM boot without crutches
* Continue core strengthening
* Begin non-impact aerobic exercise (stationary bike, anti-gravity treadmill or pool for walking once incision is healed and cleared by physician)
 |
| Weeks 4-6 | * Avoid abrupt increases in tendon stress with exercise, lifting, or high-impact activity, such as running, jumping, and heavy weightlifting
* Avoid extreme dorsiflexion (for insertional tendinopathy)
 | * Progressive ankle strengthening with resistance bands
* Gait training progressing to independent
* Global lower limb strengthening: bridges, mini-squat, step-ups
* Double and single limb balance/proprioception exercises
* Continue core strengthening
* Aerobic training: stationary bike, walking program when gait mechanics have returned to normal
 |
| Phase III: Remodeling phase | Weeks 6+ | * Avoid painful activities/exercises of pain >3/10
* Avoid extreme dorsiflexion (for insertional tendinopathy)
 | * Increase loading capacity for lower limb strengthening exercises and core exercises
* Continue balance/proprioceptive training
* Begin double and single limb strengthening on leg press
* Plyometric, agility, and work/sport-specific training
* Gradual return to work/sport progression
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *NWB*, non-weight bearing; *CAM,* Controlled Ankle Movement; P*WB*, partial weight bearing; *ROM*, range of motion |

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| **Table 3. Plantar fasciitis: rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* NWB with crutches in CAM boot
* Avoid stretching into dorsiflexion
 | * Rest, elevate foot above heart
* Begin gentle active ankle ROM
* Day 4: may begin isometric exercises (toe crunches)
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* PWB with crutches in CAM boot (pain limited)
 | * Continue gentle active ankle ROM
* Begin core strengthening
* Initiate lower limb NWB strengthening
* Can begin upper body aerobic and strengthening exercises
 |
| Weeks 2-4 | * No use of NSAIDs or ice for 4 weeks
* Week 3: WBAT in CAM boot, use crutches as needed
 | * Continue active ankle ROM and joint mobilization as needed
* Initiate gentle ankle dorsiflexion stretching
* Begin isometric ankle strengthening
* Lower limb strengthening, PWB 🡪 WBAT
* Begin non-impact aerobic exercise (stationary bike, anti-gravity treadmill or pool for walking once incision is healed and cleared by physician)
* Continue core strengthening
 |
| Weeks 4-6 | * Avoid pain >3/10 during exercise or prolonged walking
 | * Progressive strengthening
* Gait training progressing to independent
* Continue aerobic training
* Begin functional strengthening
* Begin balance and proprioception exercises
* Continue core strengthening
 |
| Phase III: Remodeling phase | Weeks 6+ | * Avoid pain >3/10 during exercise or prolonged walking
 | * Increase loading capacity for lower limb strengthening exercises and core exercises
* Continue balance/proprioceptive training
* Begin double and single limb strengthening on leg press
* Plyometric, agility, and work/sport-specific training
* Gradual return to work/sport progression
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *NWB*, non-weight bearing; *CAM,* Controlled Ankle Movement; *PWB*, partial weight bearing; *WBAT*, weight bearing as tolerated; *ROM*, range of motion |

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| **Table 4. Quadriceps or patellar tendon: rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* NWB with crutches for 4 days
* Knee immobilizer for 1 week
 | * Rest
* Begin gentle active knee ROM
* Gait training with crutches
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
 | * Rest
* Continue active knee ROM
* Begin core strengthening
* Initiate lower limb strengthening
* Initiate upper body aerobic and strength exercises
 |
| Weeks 2-4 | * No use of NSAIDs or ice for 4 weeks
 | * Continue active knee ROM and joint mobilization as needed
* Begin isometric knee strengthening and lower limb strengthening
* Continue core strengthening
* Begin non-impact aerobic exercise: stationary bike, anti-gravity treadmill, pool once incision is healed and cleared by physician
 |
| Weeks 4-6 | * Avoid exercises where pain >3/10
 | * Progressive knee strengthening with resistance bands
* Gait training progressing to independent
* Global lower limb strengthening: bridges, mini-squat, step-ups
* Double and single limb balance/proprioception training
* Core strengthening
* Aerobic training: stationary bike, walking program when gait mechanics have returned to normal
 |
| Phase III: Remodeling phase | Weeks 6+ | * Avoid exercises that cause pain >3/10, or post-activity soreness lasting >24 hours
 | * Progress to high impact/intensity exercises such as running, jumping, and weightlifting
* Increase loading capacity for lower limb strengthening exercises, with goal of loading knee tendons
* Continue balance/proprioceptive training
* Begin low level plyometric exercises
* Begin double and single limb strengthening on leg press
* Continue core strengthening
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *NWB*, non-weight bearing; *ROM*, range of motion |

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| **Table 5. Hamstring tendinopathy: rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* NWB for 4 days, TTWB using crutches until day 7
 | * Rest
* Begin gentle hip flexion ROM on day 4, perform 4 times per day
* Use a seat cushion for comfort
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* Wean off crutches after day 7
* No eccentric strengthening
* Avoid painful activities/exercises of pain >3/10
 | * Continue AROM and PROM
* Begin isometric exercises
* Begin straight leg raises and heel slides
* Begin core stability exercises
* May use pool once wound has healed and cleared by physician
 |
| Weeks 2-6 | * No use of NSAIDs or ice for 4 weeks
* No eccentric strengthening
* Avoid painful activities/exercises of pain >3/10
 | * Continue AROM as needed
* Progressive strengthening: begin active knee flexion and hip extension strengthening
* Begin gentle hamstring stretching
* Begin balance exercises
 |
| Phase III: Remodeling phase | Weeks 6+ | * Activities as tolerated
* Avoid painful activities/exercises of pain >3/10
 | * Continue strengthening exercises
* Begin sport-specific exercises
* May begin soft tissue work with and without tools
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *NWB*, non-weight bearing; *TTWB*, toe touch weight bearing; *ROM*, range of motion; *AROM*, active range of motion; *PROM*, passive range of motion |

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| **Table 6. Gluteal tendinopathy: rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* NWB for 4 days, progress to TTWB with crutches starting day 4
 | * Rest
* Begin gentle hip flexion ROM on day 4, perform 4 times per day
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* Progress to WBAT using crutches
* Avoid painful activities/exercises of pain >3/10
 | * Continue AROM and PROM
* Begin isometric exercises
* Begin straight leg raises and clam shells
* Begin core stability exercises
* May use pool once wound has healed and cleared by physician
 |
| Weeks 2-6 | * No use of NSAIDs or ice for 4 weeks
* Use crutches as needed
* Avoid painful activities/exercises of pain >3/10
 | * Continue AROM as needed
* Progressive hip abductor strengthening
* May begin stationary bike
 |
| Phase III: Remodeling phase | Weeks 6+ | * Activities as tolerated
* Avoid painful activities/exercises of pain >3/10
 | * Continue strengthening exercises
* Begin sport-specific exercises
* May begin soft tissue work with and without tools (no foam rolling until week 6)
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *NWB*, non-weight bearing; *TTWB*, toe-touch weight bearing; *WBAT*, weight bearing as tolerated; *ROM*, range of motion; *AROM*, active range of motion; *PROM*, passive range of motion |

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| **Table 7. Lower extremity joint: rehabilitation protocol post-orthobiologics** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No NSAIDs and ice for 4 weeks
* WBAT, use crutches as needed for days 1-2
* No submerging under water for 72 hours post-procedure
 | * Gentle ROM as tolerated during days 1-2
* Day 3: Can begin low-grade closed chain program including light squats and lunges (body weight only)
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No NSAIDs and ice for 4 weeks
* Avoid excessing loading of the joint and impact activities including heavy weightlifting
 | * Continue ROM
* Continue squats/lunges, can add resistance as tolerated starting week 1
* May begin light open kinetic chain exercises including leg curls and leg extensions with light weight starting week 1
* May begin swimming and biking (low resistance) starting week 1
 |
| Weeks 2-4 | * No NSAIDs and ice for 4 weeks
* Avoid impact activities
 | * Can increase light aerobic activities such as biking, swimming, and walking
* Weightlifting and strength training as tolerated
* Light agility training
* Proprioceptive exercises
 |
| Weeks 4-6 | * No use of NSAIDs or ice for 4 weeks
* Avoid painful activities/exercises of pain >3/10
 | * Establish long-term HEP focusing on injury prevention and long-term functional goals
* Correct biomechanical issues that contributed to the original joint pain/injury
 |
| Phase III: Remodeling phase | Weeks 6+ | * Activities as tolerated
 | * Establish long-term HEP focusing on injury prevention and long-term functional goals
* Correct biomechanical issues that contributed to the original joint pain/injury
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *WBAT*, weight bearing as tolerated; *ROM*, range of motion; HEP, home exercise program |

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| **Table 8. Elbow tendinopathy: rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* Use sling for 3 days, no driving in sling
* May lift up to 5 pounds
 | * Rest and elevation
* Day 3: Begin gentle active ROM 4 times per day
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* May lift up to 10 pounds
* Avoid repetitive elbow and hand activities
* No sustained gripping (such as opening a jar)
 | * Continue rest and elevation
* Regain full range of motion: perform ROM 3-5 times per day
 |
| Weeks 2-4 | * No use of NSAIDs or ice for 4 weeks
* May lift up to 20 pounds
 | * Continue active ROM as needed
* May begin isometric wrist and elbow strengthening
* Week 3: Can add light weight to wrist flexion and extension (starting with 2 pounds)
 |
| Weeks 4-6 | * Activities as tolerated
 | * Progressive isotonic strengthening
* May begin integrated strengthening (chest press, rows, and hammer curls)
* Begin eccentric training
 |
| Phase III: Remodeling phase | Weeks 6+ | * Activities as tolerated
 | * Continue strengthening
* Begin sport-specific activities
* Begin progressive loading exercises
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *ROM*, range of motion |

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| **Table 9. Shoulder tendon: rehabilitation protocol post-procedure (tenotomy or orthobiologics)** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* Safe use of sling for first 3 days, including when sleeping, then wean out as tolerated
* No sleeping on procedure side
* No lifting > 5 pounds
* Avoid overhead activity for 2 weeks
* No sustained gripping (such as opening a jar)
* Discontinue exercise if pain becomes >3/10
 | * Rest
* Begin gentle active ROM (pendulum exercises)
* Begin strengthening with scapular pinch
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* No sleeping on procedure side
* No lifting > 10 pounds
* Avoid overhead activity for 2 weeks
* Discontinue exercise if pain becomes >3/10
 | * Continue AROM and PROM
* Begin isometric exercises
* Begin thoracic mobility exercises
 |
| Weeks 2-6 | * No use of NSAIDs or ice for 4 weeks
* May lift up to 10 - 20 pounds
* Avoid eccentric exercises
* Discontinue exercise if pain becomes >3/10
 | * Continue active ROM as needed, goal of full active ROM
* Progressive strengthening
 |
| Phase III: Remodeling phase | Weeks 6+ | * Activities as tolerated
* Discontinue exercise if pain becomes >3/10
 | * Begin eccentric training/loading
* Continue strengthening exercises
* Begin sport-specific exercises
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *ROM*, range of motion; *AROM*, active range of motion; *PROM*, passive range of motion |

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| **Table 10. Shoulder joint: rehabilitation protocol post-orthobiologics** |
| **Phase of Healing** | **Timeframe** | **Restrictions** | **Rehabilitation** |
| Phase I: inflammatory phase | Days 0-5 | * No use of NSAIDs or ice for 4 weeks
* Safe use of sling for first 3 days, including when sleeping, then wean out as tolerated
* No sleeping on procedure side
* No lifting > 5 pounds
* Avoid overhead activity for 2 weeks
* May return to work the following day as tolerated
* Discontinue exercises if pain becomes >3/10
 | * Rest
* Begin gentle active ROM (pendulum exercises)
 |
| Phase II: Proliferative phase | Day 5 – Week 2 | * No use of NSAIDs or ice for 4 weeks
* No sleeping on procedure side
* No lifting > 10 pounds
* Avoid overhead activity for 2 weeks
* Discontinue exercise if pain becomes >3/10
 | * Continue AROM and PROM
* Begin isometric exercises
* Begin thoracic mobility exercises
 |
| Weeks 2-6 | * No use of NSAIDs or ice for 4 weeks
* May lift up to 10-20 pounds
* Avoid eccentric exercises
* Discontinue exercise if pain becomes >3/10
 | * Continue active ROM as needed, goal of full active ROM
* Progressive strengthening
 |
| Phase III: Remodeling phase | Weeks 6+ | * Activities as tolerated
* Discontinue exercise if pain becomes >3/10
 | * Begin eccentric training/loading
* Continue strengthening exercises
* Begin sport-specific exercises
 |
| *NSAID*, Nonsteroidal anti-inflammatory drug; *ROM*, range of motion; *AROM*, active range of motion; *PROM*, passive range of motion |