Nonoperative Knee Osteoarthritis or Meniscus Tear Rehabilitation Protocol

Joseph D. Lamplot, M.D.

Referral for Rehabilitation Services

Patient Name:_____ Diagnosis:_____ PT Duration:_____/ Week _____ Weeks

Phase	Precautions	Treatment Recommendations	Emphasize
Phase 1: Activity Modification (High Irritability) *Criteria for Advancement:* *-Active quadriceps contraction* *-No gross swelling at knee* *-No or minimal pain at rest* *-Pain controlled with ambulation on level surfaces with appropriate assistive device* *-If while following recommendations fails to improve in 4 visits or 2 weeks, refer to MD*	▪ Avoid end range stretching if hard or empty end feel is present ▪ Avoid exercises and activities that are painful or increase swelling	▪ Patient education o Nature of the condition o Activity modification to decrease or eliminate pain o Movement strategies o Management of pain and swelling ▪ Modalities (e.g., ice, compression, TENS) ▪ Soft tissue and low-grade joint mobilization (e.g., patellar, proximal tibiofibular,tibiofemoral) ▪ Gentle knee P/AA/AROM without increasing irritability ▪ Knee isometric and open kinetic chain strengthening ▪ Core stabilization ▪ Proximal and distal strengthening ▪ Proximal and distal stretching ▪ Bike with low resistance ▪ Aquatic therapy if available ▪ Bracing or taping as needed ▪ Gait training with appropriate assistive device	▪ Patient understanding of condition ▪ Control of pain and swelling ▪ Pain-free exercise and activities ▪ Gait normalization with appropriate assistive device
Phase 2: Addressing Impairments (Moderate Irritability) *Criteria for Advancement:* *-Pain-free throughout available knee AROM* *-No quadriceps lag* *-Sit to stand with symmetrical weight bearing and control* *-Single leg stance with good alignment and control*	▪ No end range stretching if hard or empty end feel is present ▪ Avoid exercises and activities that cause pain or swelling ▪ Avoid reciprocal stair climbing until strength and control is apparent ▪ Avoid premature discharge of assistive device ▪ Avoid premature increase in activity level	▪ Modalities to manage swelling as needed ▪ Patient education for activity modification and movement strategies to prevent ▪ provocation of symptoms ▪ Soft tissue and joint mobilizations to restore motion ▪ ROM and stretching exercises avoiding hard or empty end feel ▪ Incorporate foam rolling if indicated ▪ Progression of strengthening to include closed kinetic chain exercises in pain-free arc ▪ of motion ▪ Progression of core, proximal and distal strengthening ▪ NMES for quadriceps contraction if needed ▪ Balance training ▪ Low impact/low resistance activities to build endurance e.g. bike, swimming and/or ▪ Aquatic therapy if available ▪ Forward step ups starting at 2” and progressing as tolerated ▪ Gait training, weaning off assistive device if indicated	▪ Improve motion, strength and flexibility while decreasing irritability

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Phase	Precautions	Treatment Recommendations	Emphasize
Phase 3: Restoration of Function (Low Irritability) *Criteria for Discharge (or advancement if returning to sport):* *-Sufficient strength, motion and flexibility for patient's ADLs* *-Safe in performance of all necessary ADLs* *-Optimized stair negotiation with good control* *-Achievement of functional goals* *-Discharge with independent home exercise program or progress to phase 4 if patient is returning to sport*	▪ Adjust interventions to meet demands of patient's ADLs ▪ Monitor joint and pain response to increasing loads ▪ Avoid rapid increase in activity volume	▪ Continue patient education for pain-free activities without compensations ▪ Functional training ▪ Gait training, weaning off assistive device if indicated ▪ Step up and step down progression ▪ Advance phase 2 core, proximal and distal strengthening ▪ Body weight strengthening with progression as tolerated from: o Double to single leg activities o Concentric to eccentric strengthening o Static to dynamic activities ▪ Continue stretching and foam rolling if indicated ▪ Dynamic balance training and neuromuscular control ▪ Progress endurance training o Elliptical when can forward step up 6" with control and without pain o Run when demonstrates eccentric quad control with forward step down	▪ Restoration of motion, flexibility and strength necessary for ADLs ▪ Normalization of gait on all surfaces ▪ Restoration of patient's ADLs with proper movement strategies
Phase 4: Return to Sport (if applicable) *Criteria for Advancement:* *-Minimal to no swelling and pain* *-Movement patterns, strength, flexibility and motion to meet demands of sport* *-Independent home exercise program*	▪ Avoid returning to sport if inadequate motion, strength and control, or persistent swelling	▪ Patient education regarding returning to sport ▪ Sport-specific activities and movement patterns, e.g.: o For golf- hip and trunk rotation and single leg exercises/activities (for ball placement) o For tennis- deceleration activities ▪ Soft tissue mobilization as needed ▪ Dynamic single leg balance activities ▪ Progressive cardiovascular endurance training ▪ Involve performance coach if appropriate ▪ Monitor volume of training with progressive loading, allowing for recovery time ▪ Bracing/taping if required ▪ Return to sport-specific interval training 2-3x/week	▪ Sport-specific exercises and movement patterns ▪ Progressive return to sport

Protocol adapted from Hospital for Special Surgery Rehabilitation knee osteoarthritis guidelines

I hereby certify these services as medically necessary for the patient's plan of care.

_____ Date_____

Physician's Signature

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