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## Surgery versus Physical Therapy for a Meniscal Tear and Osteoarthritis

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The Physical Therapy protocol is outlined in Appendix, MOOP, Section H, and is summarized in Table Four below. This PT protocol was developed by a panel of physical therapists, under the direction of Clare Safran-Norton, PT, PhD, MS, OCS and Leigh Dechaves, PT, with assistance from surgeons in the participating Clinical Centers and Drs. Anthony Delitto and Alan Jette, Professors of Physical Therapy at University of Pittsburgh and Boston University respectively. Our protocol reflects interventions of established efficacy in patients with OA.<sup>33</sup>

**Table Four: Summary of Physical Therapy Regimen**

Phase	Goals and Criteria for Advancement to next phase	Interventions
Phase I	<u>Goals:</u> --Reduce inflammation, swelling --Restore passive/active ROM --Reestablish quads muscle activity  <u>Advance to Phase II when</u> --ROM > 115 deg flex'n, 0 deg ext'n --Moderate to minimal effusion --Mild to moderate knee pain --Good muscle strength	-- <u>Stretching</u> (hams, quads, psoas, gastrocsoleus) -- <u>Strengthening- Open chain</u> Quads sets, SRL, Hip adduction, abduction Knee extension, active assisted ROM stretching -- <u>Strengthening - Closed chain</u> Weight bearing quad sets with theraband Standing hamstring curls, toe raises, ½ squats Stationary bicycle, no resistance --Balance proprioceptive drills, gait training Modalities: Cryotherapy, ultrasound, electric stim, compression
Phase II	<u>Goals:</u> --Restore strength, endurance --Full, pain free active ROM --Return to functional activities --Minimize gait deviations <u>Advance when</u> --ROM > 135 deg flexion, 0 deg ext'n --No pain, tenderness --Minimal effusion --Grossly normal strength	--Cryotherapy --Stretching (hams, quads, psoas, gastrocsoleus) -- <u>Strengthening - closed chain</u> Bicycle for motion, strength, endurance Lateral lunges, front lunges, ½ squats Lateral step-ups, toe raises --Proprioceptive balance training
Phase III	<u>Goals:</u> Enhance strength and endurance Maintain full ROM Return to sport, recreation, functional activities	<u>Exercises:</u> --Open chain Continue PRE exercise program, LE stretches --Closed chain e.g. leg press, partial squats, total gym --Proprioceptive (jump, hop, figure eights, etc)

Subjects will receive a structured physical therapy treatment protocol, administered at the study center or at another approved center (see D.1.5.3) if the patient prefers. The treating therapist will progress the subject through three phases, with explicit criteria for progression from one stage to the next. The treating therapist will document each patient's progress so that these data can be used in secondary analyses that account for the extent of PT and progression through the program.