Knee Rehab after Regenexx ACL partial tear repair procedures.

	Restrictions	Therapeutic Exercise	Progress to next phase when:
Phase I:  Max Protection, ROM, light strength training, gentle balance training  Week 0-4	ACL brace for 4-6 weeks pending MD recs.  No plyometrics, cutting movements, or lateral movements. No running.	Stationary bike & elliptical in brace. Swimming. Gentle Isometric quad sets, hip abductor and core strengthening.  Pool jogging ok (chest depth) 30-45min 3-5x/wk x 2 months.	At least 4 weeks  Able to perform all exercises with less than minimal 2/10 pain
Phase II:  Advanced training, Balance  Week 4-8	Can discontinue brace per MD recs.  No plyometrics or cutting movements.  Back off any activity that causes more than minimal pain 2/10 during or after exercise or felling of instability.	Begin resistance training: light squats, leg press, core, hip abductor and hamstring strengthening.  Balance board exercises  Can begin straight jogging at 4 wks if not painful  Progress to: Combine strength and balance exercises (ball toss on balance board or trampoline)  Single leg exercises: calf raises, squat, dead lift.  Shuttle jumping	Able to perform all exercises with no more than 2/10 pain and no feeling of instability x 1 week  Single-leg stance 60 sec (eyes closed)  Single-leg squat 20 reps (60° flexion)  MRI showing ligament healing
Phase III: Guided sport specific training. Week 8-16	Back off any activity that causes more than minimal pain 2/10 or instability during or after exercise.  Use brace to start off.	<ol> <li>2 leg to single-leg jumps</li> <li>Progressive plyometrics</li> <li>Speed, agility, and cutting drills</li> <li>Controlled sport specific movements</li> </ol>	Return to sport once MD clearance and progressed to sports specific movements without pain for at least 1 week.
Phase IV: 4-9 months  Return to Sport/ACL prevention program	No strict restrictions.	The Santa Monica Sports Medicine: PEP (Prevent Injury and Enhance Performance) program:  http://smsmf.org/smsf-programs/pep-program  Neuromuscular rehab to demonstrate correct form (good knee, hip, pelvic, and trunk stability) with Step Down, Drop Jump, Lateral Shuffle, Deceleration, Triple jump, and Side step-cut.	Only return to full sport with Dr. clearance after reviewing MRI, checking objective stability, and demonstrating correct neuromuscular control.

Note: Need repeat MRI at 3 months. Pending results may platelet boaster injection or repeat stem cell procedure. If a second procedure then should repeat MRI at 6 months. Need objective ACL stability measurements before and after procedure with rolometer/telos or KT 1000.