

## Knee Rehabilitation Post-Regenerative Medicine Treatment

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- First Days Post Treatment
  - **Use the crutches and remain non-weight bearing for the prescribed number of days.** This period typically lasts 2 days to 2 weeks depending on the specific treatment as well as the type and severity of the knee injury.
  - It is best if you can attend pre-treatment physical therapy evaluation for training in walking with crutches or walker on level surfaces and steps while maintaining non-weight bearing.
  - It is very important during this time not step on the affected leg. This includes even a single step to grab something. **If you feel you are at risk for falling, please use treated leg to stand. It is much more important to avoid a fall, and the treatment will still work.**
  - The concept for not putting body weight on the knee is that the regenerative treatment (PRP, Lipogems, etc.) was precisely placed into the tear or injury site, and loading the knee during this critical phase, may displace the treatment. When muscles or tendons are loaded, they squeeze tightly together: picture wringing out a wet dishcloth (which we want to avoid during this phase).
  - Before you leave the office, make sure the crutches fit you properly. You may gently flex and extend your knee several times a day.
  - Be careful on stairs. Consider sliding down stairs on your bottom. For sleeping, it may be more comfortable to place a pillow under your knees.
  
- Once off the crutches; for the next 2 to 3 weeks begin these exercises:
  - Walk normally. Although your knee may be sore, it is ok to walk. If you feel better using your crutches to partially bear weight for a few additional days, you may use the crutches.
  - Range of motion
    - Heel Slides: Lie on back, legs out straight, gently bend knee pulling heel towards bottom then push back out to straight. Keep heel supported on surface. Use a belt or strap looped around foot to assist for gentle range of motion. Gently flex and extend the knee 20- 30 repetitions, 4 times per day. Gentle stretch is ok.
  - Thigh Control
    - Thigh Sets: Sitting with both legs straight out in front of you, push back of both knees into the floor or mat by contracting thighs. Hold for 5 seconds for 20 repetitions, 4 times per day.
    - Short thigh flexing: Lie on back with leg over pillow (about a 30-degree bend), straighten knee, hold for 2-3 seconds for 20 repetitions, 4 times per day.
    - Straight leg Raise (Flexion): Lie on back with opposite knee bent and involved knee straight, lock knee out straight and lift leg (do not

- allow to bend). Slowly raise to the opposite knee and lower back to surface, slowly. 20 repetitions, 4 times per day.
- Hip Control
    - Bridge: Lie on back with knees bent, lift bottom from surface squeezing butt cheeks, hold for 2-3 seconds for 20 repetitions, 4 times per day.
    - Straight Leg Raises (Abduction): Lie on uninvolved side, bottom knee bent, top knee locked out straight, slowly lift leg towards ceiling (shoulder, hip and knee in a line), lower slowly. Hold for 2-3 seconds for 20 repetitions, 4 times per day.
  - Two weeks from treatment
    - Easy spinning (low resistance) on an exercise bike, either recumbent or sitting upright. Start at 20 minutes every other day and work up to 30 minutes every day. Gradually increase the resistance over 3 weeks. Do not stand and peddle.
  - Start Formal Knee Physical Therapy (PT)
    - You will start knee PT at two to three weeks. The initial goals will be to restore normal gait (walking stride), slowly restore full range of motion to the knee, and re-establish proprioceptive control of limb (knowing spatially where your leg is without looking at it). Your therapist will prescribe and guide you through strengthening exercise for knee, hip and core stability. Some brief (10 minutes or less) period of heat or ice therapy will not hurt the regenerative treatment. Avoid modalities such as any form of laser, electrical stimulation, ultrasound or iontophoresis. Dry needling is fine if needed.
  - During this time, avoid aggravating activities. Exercise is vital to good health and finding a way to cross train around your injury is important not only for your physical health, but for your mental health as well. Ask me about cross training options for your injury