



UNION GENERAL ORTHOPEDICS & SPORTS MEDICINE

AFFILIATE OF: UNION GENERAL HEALTH SYSTEM

Jacob B. Stirton, MD

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KNEE MICROFRACTURE PHYSICAL THERAPY

Philosophy

This protocol is to be utilized as a guideline. There will always be individual differences amongst patients regarding progression and tolerance of specific activities. Progression through the protocol will depend on successful accomplishments of set milestones as assessed by the physician and the physical therapist/athletic trainer.

The patient's home exercise program is of utmost importance and should be monitored and emphasized. Initially, patients should be performing their exercises several times a day to regain motion. Due to the importance of regaining early motion, Dr. Stirton's patients are to be seen 3x/week for the first month.

Rehabilitation should create the optimal environment for the natural process of healing to occur. Initially, there should be a strong emphasis on minimizing swelling and pain as well as motion restoration. If a patient's progress is significantly delayed, please contact the physician office to keep them informed.

If you have any questions regarding this protocol, please contact the UGH Orthopedics and Sports Medicine Department at (706) 439-6858.

CAUTION: Return to intense activities such as impact loading, jogging, deep knee flexion, or pivoting and shifting early post-operatively may increase the overall chance of cartilage injury and symptoms of pain, swelling, or instability should be closely monitored and avoided by the patient.



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Phase I: Weeks 0- 6

TREATMENT GOALS:

- Control pain and effusion.
- Achieve adequate quad/VMO contraction, no extensor lag.
- Independent in HEP.
- ROM 0-90 deg by week 1, then 0-120 deg by week 6.

PRECAUTIONS:

- Brace locked in full extension when weight bearing (if patella microfracture) and brace locked at 30 degrees of flexion and toe-touch weight bearing (if condyle microfracture).
- May remove brace to perform NWB exercises and ROM.
- **NWB ROM only** (0-90 deg by week 1, then 0-120 deg by week 6).

MANUAL THERAPY:

- Patient **MUST** work on motion and patellar mobility at least 2-3 times daily on days when not in rehab.
- Active and Passive full knee flexion.
- Patellar mobilizations.

SUGGESTED EXERCISES:

- **No loading until 6 wks.**
- Ankle pumps.
- Gastoc/soleus stretch.
- Hamstring/ITB stretch.
- Prone hangs to facilitate extension.
- Heel slides for flexion.
- Quad sets with E-stim.
- SLR in 4 planes, supine/side lying hip circles.
- SAQ, prone knee extensions/TKEs.
- Multi-hip machine in 4 planes.
- Hip flexion-seated.
- Multi-angle isometrics 0-60.

FOR ADVANCED PATIENT/ATHLETES: UBE, UE weight lifting, core strengthening may be done if it does not load LEs.

MODALITIES:

- E-stim and cryotherapy as needed.



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Phase II: Weeks 7-12

TREATMENT GOALS:

- Be aware of changes in condition (such as pain and effusion) and modify program as indicated.
- Full ROM.
- Adequate quad/VMO contraction.
- Control pain and effusion.
- PWB to FWB with quad control. Brace as referred by physician.
- Ambulate with good control of knee and no deviations.

PRECAUTIONS:

- No Impact.
- No loading past 90 degrees until 12 weeks.

MANUAL THERAPY:

- Patellar mobilization.
- Continue stretches as previous.
- Scar Massage.

SUGGESTED EXERCISES:

- Continue previous exercises as indicated.
- Monster walk add variations.
- Heel-toe walking, cone stepping to Dynamic warm-up.
- Leg Press, Total gym (0-60) or Reformer.
- Wall squats.
- Lateral step down.
- Stationary bike.
- Mini-squats/squats (0-90).
- Hamstring curl (0-90).
- Leg Press (0-90).
- Lunges-knee not to migrate over toe.
- Begin light circuit training - Stepper, NordicTrack, treadmill, ladder drills.

BALANCE TRAINING:

- Cone walking.
- Mini squat with UE or LE reach (rock around the clock).
- Single leg balance with plyotoss or other challenge.
- Sports cord agility work.
- Wobble board work.

MODALITIES:

- Cryotherapy as needed.



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Phase III: Weeks 13+

TREATMENT GOALS:

- Enhance neuromuscular control.
- Perform selected sports specific activity and release per MD to unrestricted sporting activity.
- Achieve maximal strength and endurance.

FUNCTIONAL TRAINING:

- Initiate light plyometric/sports metric type program (as released by MD for impact loading).
- box jumps, level, double-leg, rope jumping, star jumps, hopping.
- Sport specific drills.
- Intensify circuit training - Stepper, elliptical, treadmill, ladder drills, rope jumping, reaction drills.

RUNNING PROGRAM:

- Water walking.
- Swimming (kicking).
- Backward run.
- Return to jogging if patient is tolerating plyometrics.

CUTTING PROGRAM:

- Lateral shuffle.
- Carioca, figure 8's.
- LEFTest run.

MODALITIES:

- As needed.

*Advanced weight training and sports specific drills are advised to maintain a higher level of competition.