

ANTERIOR KNEE PAIN

Nonoperative Physical Therapy Protocol



SCAN FOR THE
ONLINE VERSION



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MEDICINE

Dear Colleague,

I appreciate your partnership in the rehabilitation of this very special patient of ours. I have instructed the patient that you will be using this protocol. My belief is that the biggest predictor of success is what the patient does at home and consistently. **They should view you not just as a therapist but as a highly educated and skilled teacher** and the patient *must* be an active participant in the rehab process.

To facilitate this, I have included the protocol I would like the patient to focus on at each stage of their rehab. The patient has also been given a home exercise program to do alongside their therapy. I would be grateful if you could help teach them to perform those exercises correctly and encourage them to stay consistent.

With your help and the active participation of our patient, I know we can have another fantastic knee.

Please do not hesitate to reach out directly to me and my team with any questions at any time.

Respectfully,



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We suggest progressing based on symptom response rather than elapsed time. The patient has a home program of four stretches 5 days per week and eight hip and knee strengthening exercises 3 days per week for 6 to 12 weeks. The recommendations below are meant to complement your clinical judgment.

PHASE	TYPICAL TIMING	FOCUS	CRITERIA TO ADVANCE
I Settle and activate	0-3 weeks	- Load management education. - Isometric quadriceps work and hip abduction and external rotation in pain-free positions. - Weight-bearing exercise limited to 0-45 degrees of knee flexion.	- Pain reliably $\leq 3/10$ during and after exercise. - Able to perform a pain-free partial squat.
II Progressive loading	3-8 weeks	- Progressive hip and knee strengthening. - Advance range and load every 1 to 2 weeks. - Add single-leg work and step-ups as control allows.	- Good frontal-plane control on single-leg tasks. - No knee valgus on step-down. - Symptoms stable with progression.
III Functional and return to activity	8+ weeks	- Higher-load and sport or occupation-specific tasks. - Gradual reintroduction of provocative activities including stairs, hills and running volume.	- Symmetric strength and control. - Tolerating target activity at the intended volume.



Technique Notes

- 1 We favor **combined hip and knee exercise**. Consistent progressive loading, adequate duration and patient education matter more than whether the program is hip-focused or quadriceps-focused.
- 2 A pain-monitoring rule works well: **pain at or below 3 out of 10** during exercise and settling by the next day.
- 3 **Patellofemoral stress is lowest** in weight-bearing between 0 and 45 degrees of knee flexion and in non-weight-bearing between 45 and 90 degrees of knee flexion. Restricting range accordingly while irritability is high is reasonable.
- 4 **Isometrics can help** with pain modulation early, progressing as tolerated.
- 5 **Under-dosing** is a common reason for slow progress.
- 6 **Frontal-plane control on single-leg tasks** is worth addressing, particularly knee valgus on step-down.
- 7 **The home program ends at step-ups**. Deeper squatting, split squats, single-leg squats, step-downs and eventually jumping and landing work are natural next progressions under your supervision.



Adjuncts

-  Consider **foot orthoses** for short-term pain in selected patients. Over-the-counter arch supports are sufficient for most.
-  **Patellar taping** combined with exercise may help short-term pain, though not as a standalone treatment.
-  **Patellar bracing and knee sleeves** are reasonable for symptom relief if the patient finds them helpful but should not substitute for the exercise program.
-  **Soft tissue work and foam rolling** to the lateral thigh are optional adjuncts.
-  In runners with altered mechanics, **increasing step rate by roughly 10 percent** can reduce patellofemoral load.
-  We prefer **load management over rest**, reducing the volume of provocative activity rather than eliminating it. Runners generally do not need to stop.



What to Track, and When to Tell Us

- We find it helpful to track pain scores, hip abduction and external rotation strength, quadriceps strength and single-leg control at reassessments.
- **Please let us know** if there is no meaningful progress by approximately 12 weeks despite consistent participation.
- **Please let us know** if the patient reports locking, giving way or significant effusion, which may suggest a different diagnosis.



Suggested discharge criteria

- ✓ Hip and quadriceps strength adequate for the patient's activity demands, with good single-leg control.
- ✓ Pain controlled at target activity levels.
- ✓ Patient independent with the home program, to continue two to three days per week for maintenance.