

KNEE TENDONITIS

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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This is a staged loading program with progression between stages based on criteria rather than time. Their home sheet covers all four stages and the patient is to complete it independently between visits and after discharge. We would appreciate your help setting starting loads and confirming technique. The recommendations below are meant to complement your clinical judgment.

STAGE	LOADING	PARAMETERS	FREQUENCY
1 Isometric	- Sustained quadriceps holds for analgesia and load tolerance. - Wall sit or resisted knee extension.	60 degrees knee flexion. 70-80% MVIC. 5 holds of 30-45 seconds, 1-2 minutes rest. - Total time under tension matters more than individual hold length.	4-5 days per week
2 Isotonic	- Heavy slow resistance through 0-90 degrees of knee flexion. - Squat, leg press and knee extension. - Decline squat optional.	4 sets per exercise. 3 seconds concentric and 3 seconds eccentric. - Load by descending RM: 15RM week 1, 12RM weeks 2-3, 10RM weeks 4-5, 8RM weeks 6-8, 6RM weeks 9-12.	3 days per week
3 Energy storage	- Plyometric and jump-landing loading. - Progress from hopping in place to bounding and drop landings.	- Volume guided by symptom response. - Recovery days between sessions are required for tendon adaptation.	Every 2-3 days
4 Sport-specific	Graded reintroduction of sport demands, with Stage 1 isometrics continued on non-sport days.	Return to competition when all sport activities are tolerated at VAS ≤ 3.	Every 2-3 days

➡ **Suggested progression rule for each stage: at least one week at the current stage and pain of 3 out of 10 or less on a single-leg squat provocation test.**

**Technique Notes**

- 1 We favor **pain monitoring over pain avoidance**. Pain up to 3 out of 10 during loading is acceptable if it settles by the next morning, and complete pain avoidance tends to under-dose the tendon.
- 2 Tempo is a useful load variable. We suggest a **3-second concentric and 3-second eccentric cadence**.
- 3 **Isometrics work well early and in season** for pain management, with progression to isotonic and energy-storage loading for durable results.
- 4 **Under-dosing is common**. If the last repetitions are not difficult, the load is likely too light.
- 5 **Limited ankle dorsiflexion and hip weakness** increase demand on the patellar tendon and may be worth addressing alongside the loading program.

**Adjuncts**

-  **Patellar strap and sports taping** give short-term pain relief during and after activity. Reasonable for getting an athlete through training.
-  **Extracorporeal shockwave therapy** is reasonable when progress stalls.
-  We **avoid corticosteroid injection** because of symptom relapse and intratendinous rupture risk.
-  **Blood flow restriction** is a low-load option for patients who cannot tolerate heavy loading.

**In-Season Management**

- Isometric and isotonic loading **can be continued in season** without stopping play, though some reduction in competitive load is usually needed.
- We suggest **avoiding eccentric-dominant or energy-storage loading during competition** and reserving the full staged progression for the off-season where possible.

**What to Track, and When to Tell Us**

- **Please let us know** if the patient cannot progress past Stage 1 or 2 after several weeks of consistent loading.
- **Please let us know** if VISA-P is static or declining despite good adherence.

**Suggested discharge criteria**

- ✓ All Stage 4 sport activities tolerated at VAS 3 or less.
- ✓ Patient independent with maintenance loading: isotonic work 3 days per week plus isometrics before training or competition.