

## MUSCLE STRAIN — HIP &amp; THIGH

## Quadriceps Strain

*Understanding your injury and getting back to full speed*

### WHAT IS IT?

The quadriceps are the four muscles on the front of the thigh that straighten the knee. The rectus femoris — which also flexes the hip — is the most commonly strained, typically during kicking or sprinting.

A **strain** means muscle fibers were overstretched. We grade strains I–III: **Grade I** — mild, microscopic fiber injury; **Grade II** — moderate, a partial tear with strength loss; **Grade III** — severe, complete disruption.

### HOW IT HAPPENS

Kicking, sprinting, or a sudden eccentric load (decelerating, landing). Common in soccer, football, and track.

### WHAT IT FEELS LIKE

Sharp pain in the front of the thigh, pain with straightening the knee against resistance or squatting, swelling, and sometimes bruising above the kneecap.

### HOW LONG RECOVERY TAKES

- **Grade I:** 1–3 weeks
- **Grade II:** 3–6 weeks
- **Grade III:** 2–3 months; complete tears near the kneecap involve the quadriceps tendon and are treated as a separate problem

### TREATMENT

Almost all muscle strains heal without surgery. For the first 72 hours: relative rest, ice 15–20 minutes several times daily, compression, and *gentle* motion — complete rest slows healing. Then a progressive program: pain-free motion → isometrics → strengthening → **eccentric loading** (strengthening the muscle while it lengthens — the phase that prevents re-injury) → sport-specific work.

Progressive knee-extension strengthening from isometrics to eccentrics; restore full kneeling flexibility before return to kicking sports.

### RETURNING TO SPORT

Return when strength is at least **90% of the other side**, motion is full and pain-free, and you can perform your sport's movements at full speed without hesitation. Returning before the muscle is re-strengthened is the main cause of re-injury.

### PREVENTING THE NEXT ONE

Thorough warm-up, hip-flexor and quad flexibility, and progressive sprint/kick loading in preseason.

## WHEN TO CALL US

Inability to straighten the knee or perform a straight-leg raise, or a visible defect above the kneecap — see us promptly; that suggests a tendon injury rather than a muscle strain.

### CALL THE OFFICE RIGHT AWAY

Pain not controlled by medication, fever over 101.5°F, spreading redness or warmth, or new numbness or weakness. Direct office line (513) 441-5639; after hours (513) 354-3700.



#### SCAN FOR THE LATEST VERSION ONLINE

[robertpettitmd.com/handouts/quadriceps-strain.pdf](https://robertpettitmd.com/handouts/quadriceps-strain.pdf)

*This handout is for general patient education and does not replace personalized medical advice. Always follow the specific instructions given by Dr. Pettit and your care team.*