

PROXIMAL HAMSTRING TENDINOPATHY

**TENDONS
NEED TO BE
LOADED!**

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HAMSTRING

3 muscles at the back of the thigh:
biceps femoris
semitendinosus
semimembranosus

Actions: bend your knee & extend your hip behind you

TENDONS

Attach muscles to bones

Most likely become painful due to failed healing, microtears and weakness/
inability to handle the load being placed on it (sport, life, etc.)

Adapt slowly, try to be patient.

Proximal hamstring tendinopathy (PHT) is common among runners and athletes performing a lot of sprinting, hurdling or change of direction sports such as football, soccer or hockey, although it can also affect people who do not participate in sport.

Symptoms typically include deep buttocks pain at the top of the hamstring. The pain may decrease after a few minutes of warm up, but become worse after activity or prolonged sitting. Causes can include a rapid increase of volume and/or intensity of training, excessive stretching, increase in extreme yoga/pilates posture, or prolonged sitting/driving.

The key to management is progressive loading (strength) performed with minimum pain, with the goal of reducing pain and restoring function.

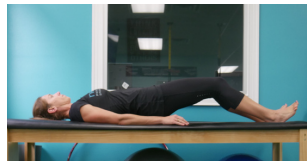
STAGE ONE: ISOMETRIC HAMSTRING LOAD

Exercises consisting of 45-second holds of moderate resistance. Isometric exercises performed at 70% effort. Dosage should be based on symptom severity & exercises can be done as 2-3 sets every other day.

Goal: Exercise in positions without tendon compression to load the muscle tendon and reduce pain.



Single-leg bridge hold



Long-lever bridge hold



Straight-leg pull-down

STAGE TWO: ISOTONIC HAMSTRING LOAD, MINIMAL HIP FLEXION

Exercises include slow, fatiguing, resisted exercises, starting with 15-repetition maximum and progressing to 8 rep maximum (all with 3 sec hold), as 3-4 sets performed every other day.

Goal: Isotonic load may be introduced when there is minimal pain encountered during the exercises. The aim is to restore hamstring strength, bulk, and functional range of motion.



Nordic hamstring exercise



Supine leg curl



Bridging progression

STAGE THREE: ISOTONIC EXERCISES WITH INCREASED HIP FLEXION

Dosage and frequency of loading exercises are the same as stage 2 exercises.

Goal: Continue hamstring muscle strength, and functional position training while progressing into greater hip flexion (hip bending) similar to the athletes sport. This training can start when there is minimal pain with phase two exercises



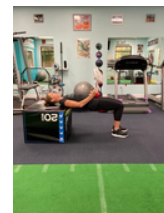
RDL



Step-ups



Walking lunges



Hip thrusts

STAGE FOUR: ENERGY STORAGE LOADING

Exercises are to be performed every third day. A stage 1 day would then follow a stage 4 day to allow the tendon to settle, with the following day being a strengthening (stage 2 to 3) day, to form a 3-day, high/low/medium tendon load cycle twice a week, with a rest day allowed between cycles.

Goal: Reintroduction of power/elastic stimulus for the myotendinous unit & can be started when there is minimal pain and adequate bilateral strength in single-leg stage 2 and 3 exercises.



Split squats



A-skips



Hamstring jump

