

Strong hammies

Understanding, assessing, and building resilient hamstrings with Dr Shane Williams

Hamstring fundamentals

The hamstrings are a group of muscles on the back of your thigh that help you bend your knee, straighten your hip, and control movement when you walk, run, jump, or lift. They work together with your glutes to create power, slow your leg down during movement, and protect your knees and hips. Strong, flexible hamstrings are essential for performance, balance, and injury prevention.

Understanding hamstring pain

Not all hamstring pain is the same. Pain high in the butt is often related to the hamstring tendon where it attaches to the pelvis, while pain in the middle of the back of the thigh is more commonly a muscle strain. Knowing where the pain is—and what caused it—helps guide the right treatment and gets you back to activity sooner.

Pain in the butt (Proximal hamstring tendon)

Common contributors

- Tendinopathy
- Compression
- Overload
- Sitting intolerance

Mid-thigh pain (Muscle belly)

Common contributors

- Muscle strain
- Sprinting injuries
- Sudden acceleration
- Overstretching

Initial assessment

Before choosing the right exercises, it's important to understand how your hamstrings are functioning. A simple assessment of mobility, strength, and control helps identify weaknesses, movement limitations, and side-to-side differences that may be contributing to pain or increasing the risk of injury.

Mobility

- Forward Bend
- Hamstring 90/90 Test

Assess range of motion, side-to-side differences and symptom reproduction

Strength and control

- Partner Nordic Test
- Single-leg control

Assess range of motion, side-to-side differences and symptom reproduction



Exercise progressions

Stage	Exercises	Training focus	Goal
Proximal hamstring (tendon) focus	<ul style="list-style-type: none"> • Elevated Hamstring Bridge • Foam Roller Bridge • Foam Roller Curl Hold • Hip Thrust Hold • RDL Hold • "Tantrums" 	Isometric Loading Hold each exercise for 45 seconds × 3 sets	<i>Reduce pain, improve tendon tolerance, and begin loading the tendon safely.</i>
Muscle belly rehabilitation	<ul style="list-style-type: none"> • Hamstring Bridge • Hamstring Walkouts • Foam Roller Curl • Nordic Hamstring 	Begin with low-load exercises and gradually increase demand.	<i>Restore muscle strength, improve tissue capacity, and prepare for higher-level activities.</i>
Glute and hamstring strength development	<ul style="list-style-type: none"> • Hip Thrust • Step-up Slide • Deadlift • Romanian Deadlift 	Heavy loading Full range of motion Progressive overload	<i>Increase strength and improve the hamstrings' ability to produce and absorb force.</i>
Explosive strength and energy storage	<ul style="list-style-type: none"> • Box Tantrums • Band Tantrums • Broad Jump 	Elastic loading Power production High-speed force development	<i>Restore explosive power and prepare the hamstrings for running, jumping, and sport.</i>
Stability and single-leg control	<ul style="list-style-type: none"> • Single-Leg Romanian Deadlift • Hip Airplane 	Pelvic control Balance Hip stability	<i>Improve movement quality, reduce compensation patterns, and enhance single-leg stability for daily activities and sport.</i>

Exercise selection by presentation

Tendon Pain	Isometrics, Hip Thrust Holds, Romanian Deadlift Holds
Muscle Strain	Bridges, Walkouts, Nordics
Glute/Hamstring Strength	Hip Thrusts, Deadlifts, Step-ups
Stability	Single-leg Romanian Deadlift, Hip Airplane
Mobility	Standing, Seated, Doorway Stretch
Running Prep	Dynamic Warm-up Progression
Power	Broad Jumps, Band & Box Tantrums



Find your challenge

Choose the exercise variation that:

- Produces minimal pain ($\leq 3/10$ discomfort if rehabbing)
- Maintains good movement quality
- Matches your current strength level
- Allows progression over time

The best exercise is the one that challenges you appropriately without compromising technique.

Bonus

Running Preparation Dynamic Warm-up

Progress through:

1. World's Greatest Stretch
2. Heel-Toe Walk
3. Frankenstein Walks
4. Swoops
5. Butt Kicks
6. Sprinter Skip
7. Three-Step Skip
8. Run
9. Gradual Build-Up / Slow Down

Goal: Prepare the hamstrings for high-speed loading.

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