



# **APEX ACTIVE**

## **PHYSIOTHERAPY**



# **NORDIC CURL**

## **PROTOCOL**

## The Importance of Good Hamstring Strength in All Sports (Especially Running)

Your hamstrings — the muscles at the back of your thighs — are key players in almost every sport. Whether you're sprinting down a rugby field, powering through a 5km run, jumping in basketball, or changing direction in hockey, your hamstrings are constantly working to keep you strong, fast, and stable.

### 1. Power, Speed & Running Efficiency

Strong hamstrings are the engine behind **explosive speed**. During running, especially sprinting, your hamstrings pull your leg back and drive your stride forward. Weak hamstrings make your running stride less efficient and can slow you down. Strong ones help you **accelerate faster, run longer, and move more powerfully** with every step.

### 2. Balance Between Front and Back of the Leg

Your **quads** (front thigh) and **hamstrings** (back thigh) need to work together. If your quads are much stronger than your hamstrings, the imbalance can cause extra strain on your knees and hips. For runners, this imbalance often leads to overuse injuries like **runner's knee** or **hamstring strains**. Building strong hamstrings keeps your legs balanced and your movement smooth.

### 3. Joint Stability and Control

Hamstrings act as **brakes** for your body. When you're running, stopping suddenly, or changing direction, they control how fast your leg swings and lands. This stability protects your **knees and hips** from sudden twists or overextension — crucial for runners and athletes in all field and court sports.

### 4. Injury Prevention

Many common sports injuries stem from weak or tight hamstrings. Strong hamstrings reduce the risk of:

- **Hamstring strains or tears** (especially in sprinting)
- **ACL injuries** (common in pivoting sports)
- **Knee pain** from muscle imbalance
- **Lower back pain**, since your hamstrings help control your pelvis and posture while running

For runners, strong hamstrings absorb shock with each stride and reduce fatigue — helping you stay pain-free and consistent.



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## 5. Better Overall Performance

Whether you're chasing a ball, running intervals, or competing in a race, **strong hamstrings improve your endurance, power, and control**. They delay fatigue, keep your running form stable, and let you move with confidence through every stride, jump, or change of pace.

### In simple terms:

**Strong hamstrings make you faster, more stable, and less likely to get injured.** They're the hidden heroes behind every sprint, stride, and sharp turn — helping you perform better in any sport, especially running.

With the detailed protocol outlined below, **you** can build the strength, control, and resilience needed to develop truly *bulletproof hamstrings* — enhancing your performance, stability, and confidence in any sport or running program. However, it is strongly recommended that you **consult an Apex Active Physiotherapist** before starting this program to ensure the exercises are suited to your current strength level, technique, and any previous injuries. This professional guidance will help you train safely, maximize results, and reduce your risk of injury.

### General Principles

Frequency: 2x/week (e.g., Monday & Thursday)

Warm-Up Before Each Session:

5–10 mins of light cardio

Dynamic hamstring work (leg swings, bridges, etc.)

Rest Days Between Sessions

Tempo Focus: Emphasize the eccentric phase (slow & controlled)

Progressive Overload: More range of motion, less assistance, more reps



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**12-Week Nordic Hamstring progression**  
**Weeks 1–2: Foundation (Eccentric & Isometric Strength)**

Goals: Build eccentric hamstring capacity + posterior chain activation

Exercise	Sets x Reps	Notes
Glute Bridges (Double-Leg)	3 x 12	Squeeze glutes hard at top
Hamstring Curls on Stability Ball	3 x 10	Focus on slow return
Assisted Nordic Eccentrics (Lighter Band)	4 x 5	Use band from above or partner to help lower
Isometric Holds at 45° Nordic Position	3 x 15 seconds	Pause mid-fall, hold position
Reverse Dead mill Walk (optional)	5 Mins	Optional conditioning

**Weeks 3–4: Controlled Eccentrics**

Goals: Improve control, increase time under tension, begin reducing assistance

Exercise	Sets x Reps	Notes
Single-Leg Glute Bridge	3 x 10 per leg	Activate hamstrings more
Assisted Nordic Eccentrics (Lighter Band)	4 x 5	5–6 sec eccentric
Nordic Isometric Holds (Lower Angle)	3 x 20 seconds	Deeper holds
Hamstring Slides (on sliders or towels)	3 x 8	Eccentric focus, slowly extend
Reverse Lunge to Knee Drive	3 x 8 per leg	Hamstring activation & hip control

### Weeks 5–6: Full Eccentric Range + Partial Concentrics

Goals: Full-length eccentric control, begin initiating upward phase

Exercise	Sets x Reps	Notes
Nordic Full Eccentric (Band-Assisted)	4 x 5	Control all the way down
Partial Nordic Concentric (Top 1/3)	3 x 3	Use hands to help push up if stuck
Nordic Isometric Holds (Deep)	3 x 20 seconds	Hold near bottom range
Hamstring Curl Machine or Cable	3 x 10	Moderate weight, slow tempo
Single-Leg RDL (Dumbbell)	3 x 8 per leg	Glute-ham tie-in strength

### Weeks 7–8: Less Assistance + Building Concentric Strength

Goals: Reduce band tension, initiate more of the concentric

Exercise	Sets x Reps	Notes
Nordic Full Eccentric (Very Light Band)	4 x 5	Aim for smooth 5–6 sec descent
Eccentric → Push-Up → Reset	3 x 5	Lower fully, push-up from ground to reset
Hamstring Curl Machine (Heavier)	3 x 4	Use slight momentum to initiate up
Hamstring Curl Machine or Cable	3 x 8	Slow eccentric, stronger concentric
Bulgarian Split Squat	3 x 8 per leg	Posterior chain control

### Weeks 9–10: Nearing Full Nordics

Goals: Perform full eccentric, initiate and complete concentric with minor help

Exercise	Sets x Reps	Notes
Nordic Full Eccentric + Concentric (Assisted)	4 x 4	Light push from arms or band to come up
Nordic Eccentric Holds (Pause Midway)	3 x 10 seconds	Pauses build control
Full Range Hamstring Curls (Heavy)	3 x 6	Focused effort
Hip Thrust	3 x 10	Glute support for knee health
Nordic “Catch and Push”	3 x 4	Fall, catch near bottom, push-up to start

### Weeks 11–12: Full Range Nordic Curls (Unassisted)

Goals: Achieve controlled full eccentric + full concentric

Exercise	Sets x Reps	Notes
Full Nordic Hamstring Curl (Unassisted or very light assist)	3 x 3-5	Start with 1–2 reps, rest, repeat
Nordic Eccentric (No Band)	3 x 5	Slow controlled descent
Full Hamstring Curl Machine	3 x 6	Heavy with slow eccentrics
Reverse Lunges or Step-Ups	3 x 8 per leg	Functional strength
Optional: Nordic Iso Hold Challenge	1 Max hold	Fun test of strength

### **Tips for success**

Listen to your body — mild soreness is okay, sharp pain is not.  
Recovery is key — prioritize sleep, hydration, and nutrition.  
Use a soft surface or knee pad to protect knees during Nordics.  
Video yourself — track form and progress.  
De-load if you're ever overly sore or plateauing.

### **End Goal:**

By week 12, you should be able to:

Perform a controlled full eccentric Nordic curl  
And likely a full unassisted Nordic rep (concentric up)

If you're close but not quite there, repeat weeks 9–12 with tweaks until you nail it.



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