

VIBEMOTION LABS · ATHLETE RECOVERY

SPECIFIC INJURY PROGRAMME

Hamstring Strain

Recovery Programme

Free

Complete programme for Grade I, II, and III hamstring strains — one of the most common and most re-injured muscles in sport. Pain management, eccentric strength, and a structured sprint progression to elite performance and long-term prevention. Timeline varies by grade: Grade I = 2–4 weeks, Grade II = 4–8 weeks, Grade III = 8–16 weeks.

RECOVERY TIMELINE

PHASE	TIMELINE	FOCUS	GOAL
Phase 1	Days 0–7	Protection, pain control	Walk pain-free
Phase 2	Weeks 1–4	Early loading, flexibility	Jog pain-free
Phase 3	Weeks 3–8	Eccentric strength	Nordic curl 5-sec lowering
Phase 4	Weeks 6–12	Running speed progression	Sprint at 90% pain-free
Phase 5	Month 3+	Full sprint, agility, sport	Full clearance

SAFETY RULES

1. The hamstring re-injury rate without structured rehabilitation is 30–40%. This programme addresses that. 2. Pain during exercise must stay $\leq 3/10$. Zero pain at rest before beginning Phase 2. 3. No static stretching in the first 72 hours — it increases micro-damage. 4. Do not sprint until Phase 4 clearance criteria are fully met. 5. The Nordic Hamstring Curl is the single most important exercise in this programme — do not skip it.

PHASE 1

Acute Protection and Pain Control

Timeline: Days 0–7 · Goal: Pain-free walking, reduce swelling, maintain pain-free hip mobility

Grade I: full pain-free walking expected by day 3–5. Grade II: day 5–10. Grade III: consult surgeon.

01 Isometric Hamstring Contraction

Hamstring Neural
Activation

SETS	REPS/TIME	LOAD	TEMPO	REST
3	10 reps × 10 sec hold	Bodyweight	10 sec on / 5 sec off	75 sec

HOW TO PERFORM

1. Lie on your back with both knees bent at 90°, feet flat on the floor.
2. Press your heel of the injured leg firmly into the floor — do not let the leg move.
3. You should feel the hamstring tighten behind the thigh without any movement occurring.
4. Hold for 10 seconds — breathe steadily.
5. Completely relax for 5 seconds between reps.
6. Begin at a comfortable 40% effort. Build to 70% effort by day 5–7 as pain allows.
7. Perform twice daily from day 2 onwards.

COACHING CUES

- *This maintains neural drive to the injured muscle without creating further damage.*
- *Mild discomfort (2–3/10) during the contraction is acceptable — sharp pain is not.*
- *Compare contraction strength to the uninjured side — note any significant difference.*

PROGRESS WHEN

When 10-second hold at 70% effort is pain-free for 3 consecutive sessions.

02 Active Knee Flexion (Prone)

Hamstring
Activation
Through Range

SETS	REPS/TIME	LOAD	TEMPO	REST
3	12 reps	Gravity only — no weight	Slow and controlled	60 sec

HOW TO PERFORM

1. Lie face down on a firm surface. Both legs straight.
2. Slowly bend the injured knee, lifting the heel toward the buttocks.
3. Move only through the pain-free range — stop before pain.

4. Hold at end range for 2 seconds.
5. Lower slowly back to straight.
6. Note the angle each session — range should increase daily.
7. Day 1: expect 30–45°. By end of Phase 1: target 90°+.

COACHING CUES

- *Hips stay flat — do not allow the pelvis to rotate as compensation.*
- *A gentle pull sensation in the back of the thigh is normal and expected.*
- *If pain is greater than 3/10 at any point, reduce range and contact your physiotherapist.*

PROGRESS WHEN

When 3×12 at 90°+ flexion is pain-free — begin loaded isotonic exercises.

PHASE 2

Early Loading and Flexibility Restoration

Timeline: Weeks 1–4 · Goal: Pain-free jogging, restore full flexibility, begin loaded work

03 Nordic Hamstring Curl (Introduction)

Eccentric
Hamstring —
Injury Prevention

SETS	REPS/TIME	LOAD	TEMPO	REST
2	4–5 reps	Bodyweight eccentric — partner holds ankles	Maximum controlled lowering	120 sec

HOW TO PERFORM

1. Kneel on a padded mat. Have a partner hold your ankles firmly. Body straight, knees to shoulders.
2. Begin to fall forward by slowly extending your knees — resist the fall as long as possible using your hamstrings.
3. Your target in Phase 2 is a 3-second lowering — not fast, not a collapse.
4. Catch yourself with your hands at the bottom.
5. Push back to the starting position using your hands only — the return is completely assisted.
6. Focus: this exercise has the highest evidence base for hamstring re-injury prevention.
7. Expect significant DOMS after the first session — this is normal and expected.

COACHING CUES

- *Slower lowering = stronger hamstrings = dramatically lower re-injury risk.*
- *Begin with only 4 reps — the temptation is to do more, but hamstring DOMS can be severe.*
- *Build by 1 rep per session over 4 weeks.*

PROGRESS WHEN

When 3-second lowering for 2x8 is achievable — advance to Phase 3 protocol.

04 Romanian Deadlift (Early Loading)

Hamstring / Glute
Progressive Load

SETS	REPS/TIME	LOAD	TEMPO	REST
3	10 reps	Start: 20 lb dumbbells · Progress weekly	3 sec hinge / 1 hold / 2 up	90 sec

HOW TO PERFORM

1. Stand with feet hip-width. Hold dumbbells in front of your thighs, palms facing you.
2. Push your hips backward — let the dumbbells slide down the front of your thighs.
3. Keep your back flat — neutral spine throughout.
4. Lower until strong hamstring stretch — typically torso near parallel.

5. Hold 1 second at bottom.
6. Drive hips forward to stand — squeeze glutes at top.
7. Monitor: any pain in the back of the thigh? Note the location relative to the injury site.

COACHING CUES

- *Start lighter than you think and progress conservatively — hamstrings are notorious for re-injury.*
- *The stretch sensation should be in the belly of the muscle — not at the insertion points (upper or lower).*
- *Upper attachment pain (below the buttock) is a proximal hamstring issue requiring specific management.*

PROGRESS WHEN

When 3×10 with 35 lb dumbbells is pain-free — begin single-leg variation.

PHASE 3

Eccentric Strength and Speed Preparation

Timeline: Weeks 3–8 · Goal: 5-second Nordic lowering, single-leg RDL, 60% sprint speed

05 Full Nordic Hamstring Curl Programme

Maximum
Eccentric
Strength

SETS	REPS/TIME	LOAD	TEMPO	REST
3	8 reps	Bodyweight — progress to weighted vest	5 sec lowering / push-up return	120 sec

HOW TO PERFORM

1. Full Nordic setup as Phase 2 introduction.
2. Target: 5-second lowering for every rep of every set.
3. Count audibly — '1...2...3...4...5' — as you lower.
4. Catch yourself with your hands. Return to start with both hands.
5. In weeks 5–8: add a 5 kg weight vest when 5-second lowering for 3×8 is consistent.
6. This is your highest priority exercise in Phase 3 — it has been shown to reduce hamstring re-injury by 50–70%.

COACHING CUES

- *The re-injury rate for hamstrings is 30–40% without eccentric training. This exercise changes that.*
- *The DOMS after early sessions will be intense — this is the adaptation working.*
- *Never skip this exercise because you are sore — active recovery and light sessions are preferable to rest.*

PROGRESS WHEN

When 5-second lowering for 3×8 with bodyweight is consistent — add vest or band resistance.

PHASE 4

Running Speed Progression and Agility

Timeline: Weeks 6–12 · Goal: Sprint at 90%, cutting movements, sport-specific speed

■ *Do not progress to this phase until Nordic curl 5-second lowering for 3x8 is achieved.*

06 Hamstring Sprint Progression Protocol

Speed / Muscle Load at High Velocity

SETS	REPS/TIME	LOAD	TEMPO	REST
5 days/ week	Progressive speed	Bodyweight	See weekly schedule	Full recovery

HOW TO PERFORM

1. Week 1: 50% sprint speed x 6 reps x 60 metres. Full recovery between reps (3–4 min walk back).
2. Week 2: 60% x 6 reps x 60 metres.
3. Week 3: 70% x 6 reps x 80 metres.
4. Week 4: 80% x 6 reps x 80 metres.
5. Week 5: 90% x 6 reps x 80 metres.
6. Week 6: 95–100% x 6 reps x 60 metres with direction changes.
7. Each week: if any rep produces pain above 3/10, stop the session and repeat that week before advancing.
8. Always warm up with 10 min of walking, mobility, and band exercises before sprinting.

COACHING CUES

- *Full recovery between reps is mandatory — this is speed training, not fitness training.*
- *Your hamstring is most vulnerable at maximum velocity sprinting — do not rush to 100%.*
- *Film each sprint from the side — watch for any 'hitching' or asymmetry in your stride.*

PROGRESS WHEN

When 6 reps at 95%+ sprint speed are pain-free with symmetric mechanics.

PHASE 5

Return to Elite Athletic Performance

Timeline: Month 3+ · Goal: Unrestricted sport participation with permanent prevention

07 Permanent Hamstring Prevention Programme

Long-Term Health / Re-Injury Prevention

SETS	REPS/TIME	LOAD	TEMPO	REST
2x per week permanently	Ongoing	Various	As prescribed	As prescribed

HOW TO PERFORM

1. Nordic Hamstring Curl: 2x6 reps, once per week, every week you are training. Non-negotiable.
2. Single-leg RDL: 2x10 per side with moderate load, 2x per week.
3. Running warm-up routine before every session: A-skips, B-skips, leg swings, high knees — 5 minutes.
4. High-speed running at 85%+ at least once per week — maintain hamstring load tolerance.
5. If you experience tightness in the hamstring that persists more than 3 days — drop back to Phase 2 loading immediately.
6. Annual re-testing: Nordic curl 5-second lowering must be maintained — test yourself quarterly.

COACHING CUES

- *Hamstrings that are rehabilitated without eccentric training have a 3–4x higher re-injury rate.*
- *You are never 'done' with hamstring maintenance — treat it as a permanent training component.*
- *The Nordic curl takes 3 minutes once a week. The re-injury takes 8 weeks to rehab.*

PROGRESS WHEN

This programme continues permanently.

RETURN TO SPORT — FINAL CLEARANCE CHECKLIST

- Nordic hamstring curl: 5-second lowering for 3×8 — maintained
- Sprint at 95%+ for 6 reps × 60m — pain-free
- Sport-specific cutting and agility movements — pain-free
- Single-leg RDL: 3×10 at competition training load — pain-free
- No tightness or pain in the hamstring 24 hours after high-speed running
- Fear of re-injury score \leq 3/10
- Clearance from physiotherapist or sports medicine physician
- Permanent prevention programme integrated into weekly training