

Hamstring Strain

Diagnosis Explanation:

A hamstring strain is a partial or complete tear of the hamstring muscles (biceps femoris, semitendinosus, semimembranosus) in the back of the thigh. It usually occurs during activities that involve sprinting, sudden stops, or overstretching. Symptoms include sharp pain, swelling, bruising, and difficulty bending the knee or walking. Recovery time depends on the severity (Grade 1: mild, Grade 2: moderate, Grade 3: severe tear or rupture).

Specific Work Modifications:

- **If your job requires standing or walking:** Take frequent seated breaks and use a compression wrap to reduce swelling.
- **If your job involves lifting:** Use proper lifting techniques and avoid bending at the waist while keeping your legs straight.
- **If your job is desk-based:** Keep the leg elevated when sitting and perform gentle stretching/mobility exercises.
- **Avoid:** Sudden movements, prolonged standing without breaks, heavy lifting, and excessive stair climbing.

Specific Activity Modifications:

- **If you run or play sports:** Avoid sprinting, jumping, or quick accelerations. Replace with swimming or stationary cycling.
- **If you hike:** Use trekking poles for support and avoid steep inclines.
- **If you do weightlifting:** Avoid deadlifts, squats, and lunges initially. Focus on upper-body exercises.
- **Avoid:** Explosive movements, sprinting, deep stretches of the hamstring, and prolonged sitting without movement.

Recommended Supplements:

- **Collagen Peptides** - 10g daily to support muscle and tendon repair.
- **Magnesium** - 300-400mg daily to aid muscle relaxation and prevent cramping.
- **Vitamin C** - 500mg daily to enhance collagen synthesis and tissue repair.
- **Protein Supplement (if needed)** - 20-30g post-exercise for muscle healing.
- **Omega-3 Fatty Acids** - 1000mg daily to reduce inflammation.

Recommended Nutrition and Hydration:

- **Increase Lean Protein** (chicken, fish, eggs, tofu) to support muscle repair.
- **Eat Anti-Inflammatory Foods** (berries, leafy greens, nuts, turmeric) to reduce swelling.

- **Consume Potassium-Rich Foods** (bananas, sweet potatoes, spinach) to prevent cramps.
- **Limit Processed Foods & Excess Sugar** to reduce inflammation.
- **Hydration:** Drink **8-10 cups of water daily**, and consider an electrolyte drink if sweating frequently.

Home Exercise Prescription:

Early Phase (0-2 Weeks, Reducing Pain & Swelling):

- **Hamstring Stretch (Gentle)** - Lie on back, use a towel to gently pull the foot towards you, **hold 20 seconds, 3x/day**.
- **Ankle Pumps** - Move ankle up and down to improve circulation, **10 reps, 3x/day**.
- **Seated Knee Extensions** - Slowly extend the knee without straining the hamstring, **10 reps, 2x/day**.

Strengthening Phase (2-6 Weeks, Once Pain Decreases):

- **Glute Bridges** - Lie on back, lift hips while keeping hamstrings relaxed, **10 reps, 2x/day**.
- **Single-Leg Balance** - Stand on one leg for **10 seconds**, gradually increasing time.
- **Hamstring Curls (Light Resistance Band)** - Bend knee against resistance, **10 reps, 2x/day**.

Advanced Phase (6+ Weeks, Strength & Return to Activity):

- **Eccentric Hamstring Curls** - Lower leg slowly after curling, **10 reps, 2x/day**.
- **Single-Leg Deadlifts (Light Weight)** - Slowly hinge forward, keeping back straight, **10 reps, 2x/day**.
- **Stationary Cycling** - Low resistance for **10-15 minutes/day**.

Helpful Books:

1. *The Athlete's Guide to Recovery: Rest, Relax, and Restore for Peak Performance* - Sage Rountree.
2. *Peak Performance: Elevate Your Game, Avoid Burnout, and Thrive with the New Science of Success* - Brad Stulberg & Steve Magness.

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Contact a Key West orthopedic clinic or reach out to Dr. Jason Pirozzolo.