



*Orthopedic Surgery, Sports Medicine & Arthroscopy Specialists*

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### REHABILITATION PROTOCOL- Nonoperative hamstring strain

The rehabilitation guidelines are presented in a criterion based progression program. Individual patients will progress at different rates depending on their age, associated injuries, pre-injury health status, rehab compliance, tissue quality and injury severity. Specific time frames, restrictions, and precautions may also be given to protect healing tissues and the surgical repair/reconstruction. The therapist should consult the referring physician with any questions or concerns.

### INDIVIDUAL CONSIDERATIONS

#### PHASE 1 (~0-4 weeks)

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|---------------------------------|---|
| REHAB GOALS                     | <ol style="list-style-type: none"> <li>1. Minimize swelling &amp; pain</li> <li>2. Normalize gait</li> </ol>  |
| PRECAUTIONS                     | <ol style="list-style-type: none"> <li>1. Crutches as needed if painful weight bearing</li> <li>2. Compression wrap as needed</li> <li>3. Ice as needed for pain</li> </ol>   |
| RANGE OF MOTION EXERCISES       | <ul style="list-style-type: none"> <li>○ No stretching</li> </ul>   |
| SUGGESTED THERAPEUTIC EXERCISES | <ul style="list-style-type: none"> <li>○ As above</li> <li>○ UE strengthening as pain tolerates</li> <li>○ Contralateral LE strengthening as tolerated</li> <li>○ Low/mod side stepping, low/mod grapevine stepping, low/mod steps forward &amp; back over tape line while moving sideways</li> <li>○ Single leg stance</li> <li>○ Prone abdominal body bridge, supine extension bridge, side bridge</li> </ul> |
| CARDIOVASCULAR EXERCISE         | Stationary bike (low resistance, if pain tolerates)   |
| PROGRESSION CRITERIA            | <ul style="list-style-type: none"> <li>○ Knee to waist high march in place without pain</li> <li>○ Normal gait without pain</li> </ul>  |

#### PHASE 2 (~5-8 weeks)

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|-------------|---|
| REHAB GOALS | <ol style="list-style-type: none"> <li>1. Progress strengthening, balance</li> <li>2. Minimize pain and swelling</li> </ol> |
| PRECAUTIONS | <ol style="list-style-type: none"> <li>1. Ice as needed after activity</li> </ol>   |

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| <b>RANGE OF MOTION EXERCISES</b>       | <ul style="list-style-type: none"> <li>○ LE stretching except hamstrings as tolerated</li> <li>○ Soft tissue mobilizations as needed</li> </ul>  |
| <b>SUGGESTED THERAPEUTIC EXERCISES</b> | <ul style="list-style-type: none"> <li>○ Continue phase 1 exercises</li> <li>○ Mod/high intensity side stepping, mod/high grapevine stepping, mod/high steps forward &amp; back over tape line while moving sideways, single leg stand windmill touches, pushup stabilization with trunk rotation, fast feet in place, high/low and low/high wood chops with theraband</li> <li>○ Balance board</li> <li>○ Sub max eccentric strengthening near mid length of hamstring</li> </ul> |
| <b>CARDIOVASCULAR EXERCISE</b>         | Continue phase 1<br>Walk/jog progression   |
| <b>PROGRESSION CRITERIA</b>            | <ul style="list-style-type: none"> <li>○ Able to jog without pain</li> <li>○ 5/5 strength prone knee flexion at 30 deg without pain</li> </ul>   |

**PHASE 3 (~9+ weeks)**

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| <b>REHAB GOALS</b>                     | <ul style="list-style-type: none"> <li>○ Progress strengthening &amp; LE drills</li> <li>○ Minimize pain, inflammation</li> </ul>  |
| <b>PRECAUTIONS</b>                     |  |
| <b>RANGE OF MOTION EXERCISES</b>       | <ul style="list-style-type: none"> <li>○ Continue exercises from phase 2.</li> <li>○ Dynamic hamstring stretches as needed</li> <li>○ Mobilizations/soft tissue technique as needed</li> </ul>   |
| <b>SUGGESTED THERAPEUTIC EXERCISES</b> | <ul style="list-style-type: none"> <li>○ Continue exercises from phase 2</li> <li>○ Agility- side shuffle, carioca, boxer shuffle, A and B skips, forward &amp; backward running</li> <li>○ Dynamic core stabilization</li> <li>○ Work toward max eccentric strengthening near end length of hamstring</li> <li>○ Balance progress to single leg</li> <li>○ Repetitive hopping, alternating leg windmill touches with dumbbell reach, alternating short arc bridge curl on physio ball</li> <li>○ LE Olympic lifts</li> <li>○ Plyometrics- focus on single leg activities to prevent overcompensation</li> <li>○ Sport specific- ok to start drills if no symptoms with exercises from this phase</li> </ul> |
| <b>CARDIOVASCULAR</b>                  | Continue phase 2, progress to baseline, add change of direction  |

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| EXERCISE                                    | running   |
| PROGRESSION<br>CRITERIA- RETURN<br>TO SPORT | <ul style="list-style-type: none"><li>○ Full pain free active &amp; passive ROM</li><li>○ No pain/swelling/apprehension</li><li>○ Strength 95% of contralateral</li><li>○ Normal single leg balance</li><li>○ Pass sport specific program</li><li>○ Physician clearance</li></ul> |