

## Rehabilitation Protocol for Athletic Pubalgia (Non-Operative)

This protocol is intended to guide clinicians through the non-operative course for groin pain in athletes. This protocol is criterion based. Specific intervention should be based on the needs of the individual and should consider exam findings and clinical decision making. The timeframes for expected outcomes contained within this guideline may vary based on surgeon’s preference, additional procedures performed, and/or complications. If a clinician requires assistance in the progression of a non-operative patient, they should consult with the referring physician.

The interventions included within this protocol are not intended to be an inclusive list of exercises. Therapeutic interventions should be included and modified based on the progress of the patient and under the discretion of the clinician.

### Considerations for the non-operative treatment of groin pain in athletes

Many different factors influence the non-operative treatment for groin pain in athlete’s rehabilitation outcomes, including a prior history of groin pain, severity of injury and number of structures injured (adductor related, inguinal related, pubic related or hip related). Therefore, this protocol will be criteria based and not time based as healing times can vary. It is recommended that clinicians collaborate closely with the referring physician regarding the above.

### Differential Diagnosis

Groin pain in athlete’s is common problem that is known for its complexities due to the numerous structures that may be injured. Due to the number of potential structures injured, numerous terms have been used with varying interpretations. In fact, there are 33 different diagnostic terms used in the literature to describe groin pain in an athlete. In 2015 the DOHA agreement was a meeting that attempted to determine a standard terminology for this injury. They agreed groin pain in athletes is the preferred umbrella term with 3 subgroups (groin pain, hip joint related and other) outlined below. This protocol will focus treatment on the groin pain subgroup in athletes with groin pain.

Groin Pain in Athletes		
Groin pain	Hip joint related	Other
<ul style="list-style-type: none"> <li>• Adductor related</li> <li>• Pubic related</li> <li>• Inguinal related</li> <li>• Iliopsoas related</li> </ul>	<ul style="list-style-type: none"> <li>• Femoral Acetabular Impingement (FAI)</li> <li>• Labral pathology</li> <li>• Osteoarthritis of the hip (&gt;50yo)</li> </ul>	<ul style="list-style-type: none"> <li>• Nerve entrapment</li> <li>• Lumbar spine</li> <li>• Stress fracture</li> <li>• Avascular necrosis</li> <li>• Slipped capitol femoral epiphysis (&lt;15yo)</li> <li>• Legg-Calve-Perthe’s disease (&lt;10yo)</li> </ul>

## PHASE I: Acute

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Pain Control</li> <li>• Reduce Swelling</li> <li>• Improve muscle length of pelvic girdle musculature</li> <li>• Normalize Lumbopelvic ROM</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• Avoid lifting or other activities that increases intra-abdominal pressure</li> </ul>
<b>Interventions</b>	<p><i>Manual Therapy</i></p> <ul style="list-style-type: none"> <li>• STM along the adductor muscle group and associated pelvic musculature as needed</li> <li>• PROM of the hip</li> <li>• Lumbar and Hip mobilizations as needed</li> </ul> <p><i>Stretching</i></p> <ul style="list-style-type: none"> <li>• Gentle stretching Lumbar: <a href="#">trunk rotations</a> Adductor: <a href="#">figure 4</a> Hip flexor: <a href="#">Thomas</a> Hip rotator: <a href="#">cross body</a> Hamstring: <a href="#">supine</a></li> </ul> <p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> <li>• Isometrics of the adductors: <a href="#">ball squeeze hip extended and hook lying</a></li> <li>• <a href="#">TrA progressions</a></li> <li>• <a href="#">Quadruped Progressions</a></li> <li>• <a href="#">Bridge progressions</a></li> <li>• <a href="#">Side lying hip abduction</a></li> <li>• <a href="#">SLR</a></li> <li>• <a href="#">Prone hip extension</a></li> <li>• Proprioception: <a href="#">Single leg balance progressions</a></li> <li>• Functional: <a href="#">squat, step up</a></li> </ul> <p><i>Cardiovascular</i></p> <ul style="list-style-type: none"> <li>• Walking moderate pace</li> <li>• Elliptical</li> <li>• Bike</li> <li>• Pool treadmill</li> </ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• &lt;2/10 Pain with exercises</li> <li>• &lt;2/10 Pain with MMT</li> <li>• Symmetrical hip ROM</li> </ul>

## PHASE II: Subacute

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Initiate Progressive Resistive Exercises (PRE)</li> <li>• Initiate Return to running protocol</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• NA</li> </ul>
<b>Additional Interventions</b> <i>*Continue with Phase I interventions</i>	<p><i>Therapeutic Exercise</i></p> <ul style="list-style-type: none"> <li>• Core: Continue above progressions, <a href="#">plank progressions</a></li> <li>• Concentric Hip strengthening with PRE: <a href="#">4 way standing</a>,</li> <li>• Eccentric Hip strengthening: <a href="#">Copenhagen adduction progressions</a>, <a href="#">Slide board</a></li> <li>• Concentric Rectus Abdominus (RA): <a href="#">straight and oblique crunch and full</a></li> <li>• Functional: <a href="#">Squat, Lunge Matrix, RDL with PRE</a></li> <li>• Proprioceptive: continue above progressions with airex</li> </ul>

	<p><i>Cardiovascular</i></p> <ul style="list-style-type: none"> <li>• <a href="#">Return to running protocol</a></li> </ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• Pain free jogging</li> <li>• Pain free exercises</li> <li>• Hip (flexion, abduction, adduction) LSI &lt;20%</li> </ul>

### PHASE III: Early Return to Sport

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Normalize strength</li> <li>• Initiate plyometric program</li> <li>• Initiate Sprinting program</li> <li>• Initiate Agility program</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• NA</li> </ul>
<b>Additional Interventions</b> <i>*Continue with Phase I-II Interventions</i>	<ul style="list-style-type: none"> <li>• Functional: Continue with PRE as previously defined</li> <li>• Medicine ball routine: <a href="#">chest pass</a>, <a href="#">side to side pass</a>, <a href="#">Overhead pass</a></li> <li>• <a href="#">Plyometric protocol</a></li> <li>• <a href="#">Agility protocol</a></li> <li>• <a href="#">Return to sprinting protocol</a></li> </ul>
<b>Criteria to Progress</b>	<p><i>Return to Sport Criteria:</i></p> <ul style="list-style-type: none"> <li>• Clearance from MD and ALL milestones met</li> <li>• Completion of plyometric, sprinting and agility program</li> <li>• <u>Functional Assessment:</u> <ul style="list-style-type: none"> <li>○ Hip index (flexion, abduction, adduction, extension) ≥90%; HHD mean or isokinetic testing @ 60d/s</li> <li>○ Adductor/Abductor ratio &gt;80% using HHD</li> <li>○ Hop Testing ≥90% compared to contra lateral side, demonstrating good landing mechanics</li> </ul> </li> <li>• HAGOS questionnaire &gt;90%</li> </ul>

### PHASE IV: Unrestricted Return to Sport

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Return to practice</li> </ul>
<b>Additional Intervention</b> <i>*Continue with Phase I-III interventions</i>	<ul style="list-style-type: none"> <li>• Return to practice/scrimmage</li> <li>• Multi-plane sport specific plyometrics program</li> <li>• Multi-plane sport specific agility program</li> <li>• Include hard cutting and pivoting depending on the individuals' goals</li> <li>• Non-contact practice → Full practice → Full play</li> </ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• Last stage, no additional criteria</li> </ul>

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<b>Contact</b>	Please email <a href="mailto:MGHSportsPhysicalTherapy@partners.org">MGHSportsPhysicalTherapy@partners.org</a> with questions specific to this protocol
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