

## Short Communication

# Upper Hamstring Syndrome (Proximal Hamstring Tendinopathy – PHT)

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## Overview and Terminology

Buttock pain on or around the greater tuberosity is common in both athletic and less active populations. Dysfunction of the upper hamstring is a common cause and requires careful evaluation particularly when weakness is identified.

This handout and presentation will focus on both subacute and chronic presentations in adults. Most patients present with buttock pain affecting physical activity. The differential diagnosis includes ischial tuberosity bursitis, referred pain (neural / SIJ / ?hip) and piriformis dysfunction. As most subacute cases have existing or develop a degree of tendinopathy, the better diagnostic language is Proximal Hamstring Tendinopathy (PHT).

## Presenting Symptoms and Pathology

Buttock pain with altered physical performance are the main presenting symptoms. In the acute or subacute setting, patients describe sharp pain in the buttock on or slightly distal to the ischial tuberosity. There may have been an associated feeling of tearing or a 'click' noise. The positions and mechanisms usually involve some change in position or intensity (e.g a rugby player leaning in a ruck, a footballer accelerating, the patient slipping).

With the chronic varieties patients are often surprised by how their problem occurred. There may be a prodrome of ache or tightness, or previous injuries. A slow deterioration and inability to load the hamstring is noted – either with power loss or reduced endurance.

ADL symptoms are common. Pain sitting (direct compression) is a common and annoying feature. Painful prolonged sitting with associated compression should not be underestimated as a cause for slower recovery. Cook and Purdam [1] describe this well in their review of the pathology of tendinopathy. Other ADL difficulties include removing shoes, sitting and leaning forwards, negotiating

stairs and, depending on the severity and degree of power loss, walking briskly or uphill.

Prognostically it is helpful to determine the existence of predisposing factors and assess previous treatments and compliance to the same. Risk factors for hamstring muscle strain are well understood [2] as are risks factors for tendinopathy. Specific to PHT the key risk factors are – previous hamstring injury, (side-to-side) muscle imbalance and knee flexion strength.

History-taking must include the current physical status, previous levels of activity and expectations with recovery. For example, a patient who has pain sitting and climbing stairs with a (level surface) walking tolerance of 30mins may require 4-8 weeks before they can jog for 20mins three times per week.

## Physical Examination

Assessing the proximal hamstring and grading the pathology requires experience and very good record-keeping. Recovery from PHT and functional returns are invariably slow, and progressively staged.

Key physical examination features are summarised:

- standing - active lumbar and hip flexion hamstring stretch, careful dynamic 'flicking, kicking or catching' movements, ?wasting,
- walking and squatting - ?antalgic, check Trendelberg,
- sitting - ?pain, various stretch tests, knee flexion,
- lying – various stretch tests, strength tests through range.

Tenderness on the ischial tuberosity and upper hamstring tendon may be found more easily with the patient in the "coma position" painful side up. In addition to the assessment for PHT a brief assessment for lumbo-pelvic and hip pathologies is performed concurrently.

In their blinded assessment of 46 athletes with PHT, Cacchio et al. [3] found that the pain producing tests of Puranen-Orava, bent-knee stretch and modified bent-knee stretch had high reliability and validity. Careful strength testing through range and side-to-side comparison is also helpful to assess progress and compliance to rehabilitation. Giving the patient feedback, educating them constantly and reminding them of their progress will offer great encouragement

**Table 1:** Pathological and clinical aspects summarises.

Grade	Pathology	Clinical Features	Management/ Tests
1	Oedema, mild reactive tendinopathy	Post activity pain	<b>Strength, ?stretch and load management</b>
2	Reactive Tendinopathy	Pre-activity pain, warms up, can complete most of activity	As above. If symptoms>3/12 then MRI or high quality U/S if slim and grade 3 treatment. One-off cortisone injection if oedema noted.
3	Tendon disrepair, degenerative tendinopathy	Reduced power, reduced endurance, unable to run	As above. Tendinopathy management to include PRP options +/- SWT if calcification present
4	Degenerative tendinopathy	Pain with walking, increasing rest pain	As per 3. If symptoms present >6/12 then surgical options to be considered.

and enhance compliance on what is often a long and invariable tedious rehabilitation regime. Recently Cacchio, Maffuli et al. [4] developed and published a VISA-H questionnaire for PHT. This is worth considering if your practice is biased towards this condition.

## Grading, Imaging and Management

There is no accepted grading for the PHT but it is helpful to give feedback to patients regarding the severity of their condition, as this impacts their expectation levels. It is important to always offer and consider non-operative treatments even if the patient presents with Grade 3/4 PHT. Many patients have been undiagnosed and mismanaged for months. Table 1 summarises pathological and clinical aspects.

## References

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