

Posterior Thigh Pain

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CHAPTER

26

Anatomy

The hamstring muscle group (Fig. 26.1) consists of three main muscles: biceps femoris, semimembranosus and semitendinosus. Biceps femoris has two heads,

with the short head originating from the linea aspera and thus only acting on the knee joint.

Biceps femoris has a dual innervation, with the long head being innervated by the tibial portion of the sciatic nerve (L5, S1–3), whereas the short head

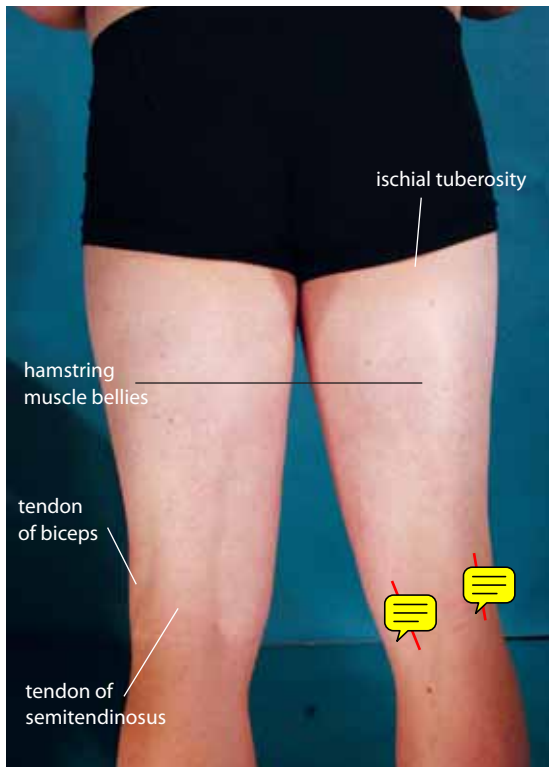
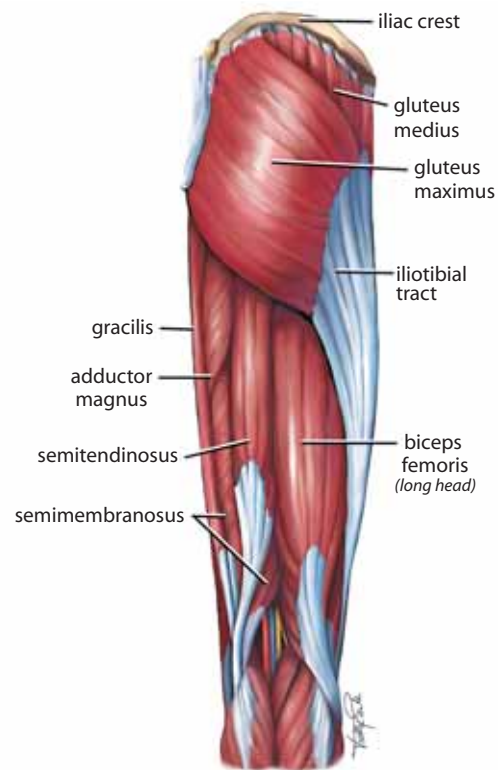


Figure 26.1 Anatomy of the posterior thigh

(a) Surface anatomy



(b) Muscles of the posterior thigh

is innervated by the common peroneal division (L5, S1–2).

The posterior portion of the adductor magnus is sometimes considered functionally as a hamstring due to its anatomical alignment. Adductor magnus is involved in hip extension and adduction and has innervation from the tibial portion of the sciatic nerve, like the majority of the hamstring group.

Clinical perspective

The effective management of posterior thigh pain is dependent upon correct diagnosis. Initially, the practitioner must determine whether the injury to the posterior thigh is a muscle strain or pain referred from elsewhere. This is not always a simple process. However, if not established, the athlete, practitioner and coach may be frustrated by a recurrent injury that hinders a successful return to sport.

In healthy individuals, a strain to a large muscle group such as the hamstrings is the result of a substantial force. The athlete should recall a particular point in time that the incident occurred and whether a significant force was applied to the muscle. Practitioners should be reticent to diagnose a muscle strain in the absence of these findings. Often this fundamental but common mistake will lead to inappropriate treatment. Tethering of neural structures or fascial strains in the posterior thigh can also occur as an incident, however, appropriate examination will reveal whether the injury has a fascial or neural component. The causes of posterior thigh pain are shown in Table 26.1.



The challenge in patients with posterior thigh pain is to distinguish between a hamstring muscle strain and referred pain from the lumbar spine or gluteal muscle trigger points.

History

Posterior thigh pain that is not the result of a hamstring strain will require skilful clinical reasoning to determine the cause. This involves not only an intricate knowledge of the local anatomy and possible abnormalities but also an understanding of the structures that can refer pain into this region. Practitioners should be aware of the wide variety of assessment and treatment techniques used around the pelvis in order to make an accurate diagnosis. Systems of treatment often are associated with a specific diagnosis. Therefore, a common fault in manual medicine is to make the diagnosis based on what best fits with the treatment technique of choice.

The inability to utilize alternative techniques leads a practitioner to the inevitable conclusion that the presenting injury can only be a result of a diagnosis that fits in with the technique they are most competent in using. For example, a practitioner unskilled in sacroiliac management is unlikely to ever diagnose referred pain from the SIJ as a cause of hamstring pain.

History taking has the same goals and objectives as any other area in sports medicine. However, because there are so many causes of posterior thigh pain, the clinician, having taken the history, must be able to formulate a definite set of goals for the subsequent examination. Otherwise, time will limit the examination or there will be confusion with the vast amount of information collected.

Table 26.1 Causes of posterior thigh pain

Common	Less common	Not to be missed
Hamstring muscle strains	Referred pain	Tumors
Acute	Sacroiliac joint	Bone tumors
Recurrent	Tendinopathy	Vascular
Hamstring muscle contusion	Bursitis	Iliac artery endofibrosis
Referred pain	Semimembranous	
Lumbar spine	Ischiogluteal	
Neural structures	Fibrous adhesions	
Gluteal trigger points	'Hamstring syndrome' (Chapter 22)	
	Chronic compartment syndrome of the posterior thigh	
	Apophysitis/avulsion fracture of the ischial tuberosity (in adolescents)	
	Nerve entrapments	
	Posterior cutaneous thigh	
	Sciatic	
	Adductor magnus strains	
	Myositis ossificans, hamstring muscle	