

# Iliopsoas

## Pathology, Diagnosis, and Treatment



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### KEYWORDS

- Iliopsoas • Psoas • Coxa saltans interna • Snapping hip • Iliopsoas bursitis
- Iliopsoas tendinitis • Iliopsoas impingement

### KEY POINTS

- The iliopsoas musculotendinous unit is a powerful hip flexor used for normal lower extremity function, but disorders of the iliopsoas can be a significant source of groin pain in the athletic population.
- Arthroscopic release of the iliopsoas tendon and treatment of coexisting intra-articular abnormality is effective for patients with painful iliopsoas snapping or impingement that is refractory to conservative treatment.
- Tendon release has been described at 3 locations: in the central compartment, the peripheral compartment, and at the lesser trochanter, with similar outcomes observed between the techniques.
- Releasing the tendon lengthens the musculotendinous unit, resulting in transient hip flexor weakness that typically resolves by 3 to 6 months postoperatively.

### INTRODUCTION

The iliopsoas musculotendinous unit is a powerful hip flexor that is important for normal hip strength and function. Even so, pathologic conditions of the iliopsoas have been implicated as a significant source of anterior hip pain. Iliopsoas disorders have been shown to be the primary cause of chronic groin pain in 12% to 36% of athletes and are observed in 25% to 30% of athletes presenting with an acute groin injury.<sup>1–4</sup> Described pathologic conditions include iliopsoas bursitis, tendonitis, impingement, and snapping. Acute trauma may result in injury to the musculotendinous unit or avulsion fracture of the lesser trochanter. Developing an understanding of the anatomy and function of the musculotendinous unit is necessary to accurately determine the diagnosis and formulate an appropriate treatment strategy for disorders of the iliopsoas.

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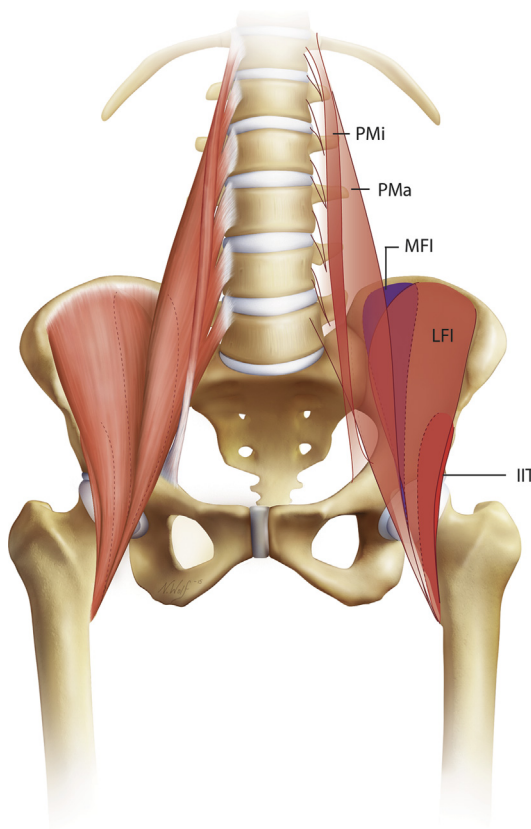
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## ANATOMY AND FUNCTION

The iliopsoas tendon-muscle complex is composed of 3 muscles: the iliacus, psoas major, and psoas minor (**Fig. 1**).<sup>5</sup> The psoas major is a long fusiform muscle that originates on the vertebral bodies, transverse processes, and intervertebral disks of T12-L5.<sup>5,6</sup> The iliacus is a triangular fan-shaped muscle that is composed of medial and lateral bundles and originates from the ventral lip of the iliac crest, superior two-thirds of the iliac fossa, and sacral ala.<sup>5-8</sup> A third, smaller bundle, known as the ilio-infratrochanteric muscle, has been observed lateral to the lateral iliacus.<sup>8,9</sup> Innervation of the psoas major and iliacus are from the ventral rami of L1-3 and femoral nerve (L1-2), respectively.<sup>5</sup>

The psoas major and iliacus muscles converge at the level of the L5 to S2 vertebrae to form the iliopsoas muscle.<sup>9</sup> Before this convergence, the psoas major tendon originates above the level of the inguinal ligament from within the center of the psoas major muscle.<sup>9</sup> As the tendon courses distally, it rotates clockwise (right hip) and migrates posteriorly within the muscle, lying immediately anterior to the hip joint, and inserts directly on the lesser trochanter (**Fig. 2**).<sup>9</sup>



**Fig. 1.** AP anatomy of the iliopsoas musculotendinous unit as described by Tatu and colleagues<sup>9</sup> and Guillin and colleagues.<sup>8</sup> IIT, ilio-infratrochanteric muscle; LFI, lateral fibers of the iliacus; MFI, medial fibers of the iliacus; PMa, psoas major; PMi, psoas minor.

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