

# An Underdiagnosed Etiology of Lateral Hip Pain-Gluteus Minimus Tendinopathy

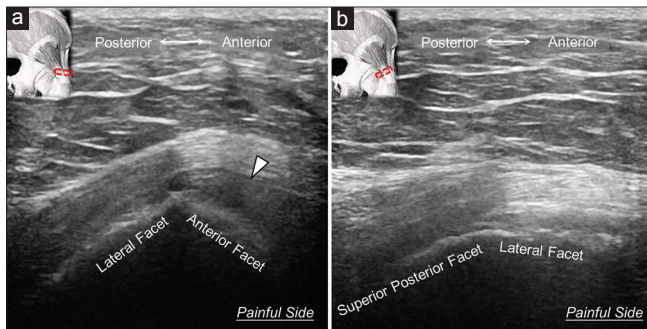
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## SECTION 2 – ANSWER

### Case

A 53-year-old male is a regular jogger who runs approximately 6 km per day. He had a gradual onset of right lateral hip pain for 3 months. The pain made him stop jogging 1 month before visiting the clinic of physical medicine and rehabilitation. He received an ultrasound examination for both sides of hips. A linear transducer was first placed in the horizontal plane on the lateral hip. The ultrasound images on the anterior [Figure 1a] and lateral [Figure 1b] aspects of the greater trochanter were shown. The transducer was later shifted to a curvilinear type and put along the coronal plane of the lateral hip on the painful [Figure 2a] and asymptomatic sides [Figure 2b]. The structure indicated by a white arrow appeared to be the lesion.

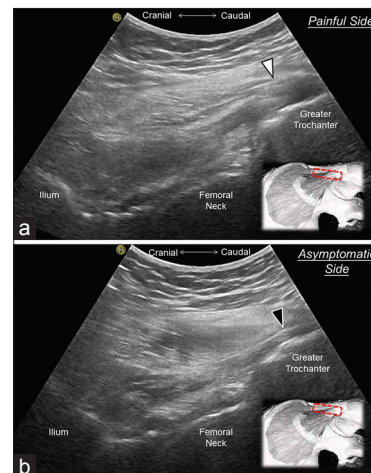


**Figure 1:** (a) We can clearly identify that the gluteus minimus tendon (white arrow head) on the anterior facet of the greater trochanter appears more hypoechoic and thickened than the anterior band of the gluteus medius tendon on the lateral facet. (b) The thickness and echogenicity of anterior and posterior bands of the gluteus medius tendon look similarly normal

## WHAT IS YOUR DIAGNOSIS?

### Interpretation

In Figure 1a, we can clearly identify that the gluteus minimus tendon (white arrow head) on the anterior facet of the greater trochanter appears more hypoechoic and thickened than the anterior band of the gluteus medius tendon on the lateral facet. In Figure 1b, the thickness and echogenicity of anterior and posterior bands of the gluteus medius tendon look similarly normal. In the long-axis view, the gluteus minimus tendon at the affected side [Figure 2a] appears



**Figure 2:** In the long-axis view (a), the gluteus minimus tendon (white arrow head) at the affected side appears more swollen than that of the contralateral side (black arrow head) (b)

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more swollen than that of the contralateral side [Figure 2b]. Therefore, the sonographic diagnosis for this case is gluteus minimus tendinopathy.

## DISCUSSION

The greater trochanter has three major facets. The anterior facet allows the attachment of the gluteus minimus tendon, while the lateral facet is where the anterior band of the gluteus medius tendon attaches. There is no tendon inserting on the posterior facet and only the gluteus maximus muscle courses above it. The posterior band of the gluteus minimus tendon attaches to the superior posterior facet, which is a relatively smaller bony surface than others on the greater trochanter.<sup>[1]</sup>

Scanning the gluteus tendon is suggested to start from the lateral femoral shaft and gradually relocate the transducer cranially. The lateral femoral shaft has a circular bony surface, while the greater trochanter has an angular shape. Once the sharp angle between the anterior and lateral facets is seen, the transducer can be rocked posteriorly to visualize the superior posterior facet and the overlying posterior band of the gluteus minimus tendon.

If the physician intends to check the gluteus minimus tendon in the long axis, the cranial edge of the transducer is required to pivot more anteriorly. The main reason is that the gluteus minimus muscle is situated at the anterior aspect of the

posterior lateral ilium surface. The curvilinear transducer is often needed, as the gluteus minimus is the most deeply located one of the gluteus muscle groups. A dynamic examination using hip flexion and extension may help in certain cases because the snapping phenomenon sometimes develops between a swollen gluteus minimus tendon and overlying gluteus medius muscle.<sup>[2]</sup>

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

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