

## Rectus femoris proximal insertion anatomy - analysis of the clinically relevant anatomy and variations

Annunziata Cerrone<sup>1</sup>, Manuel Tuzi<sup>2</sup>, Aldo Postiglione<sup>2</sup>, Felice Sirico<sup>2</sup>, Franca Di Meglio<sup>2</sup>, Clotilde Castaldo<sup>2</sup>, Stefania Montagnani<sup>2</sup>

<sup>1</sup> Human anatomy and sports medicine section, Department of public health, University "Federico II", Naples, Italy

<sup>2</sup> Human anatomy and sports medicine section, Department of public health, University "Federico II", Naples, Italy

Rectus femoris muscle injury is one of the most frequent match-missing cause in sports requiring repetitive kicking and sprinting [1]. Although the injury pattern of the muscle belly and distal tendon is well documented, less is known about the specific lesions of the proximal tendons.

Its proximal insertion is a complex structure consisting of a tendinous direct head, an indirect head and an inconstant third head[2].

In this paper we systematically reviewed the current literature about the anatomy of the proximal insertion of rectus femoris in order to better understand the different sites where lesion can occur and clinical and prognostic implications.

We found that lesion of the indirect tendon is an under-recognized site of lesion and that no clinical data is present about the third head.

In clinical practice, knowledge of the possible structural variations in proximal insertion anatomy of the rectus femoris muscle might be useful to identify an higher risk of tendon or even muscle lesions and to define the best specific rehabilitation program for every athlete.

### References

- [1] Mendiguchia J. et al. (2013) Rectus femoris injuries in football: a clinically relevant review of mechanisms of injury, risk factors and preventive strategies. *Br J Sports Med* 47(6):359-66.  
[2] Tubbs RS, et al. (2004) Femoral head of the rectus femoris muscle. *Clinical anatomy* 17(3):276-8.

### Keywords

Rectus femoris, proximal insertion, diagnostic imaging, anatomy, structural variability, muscular-tendinous junction.