

Is Biceps Femoris Aponeurosis Size an Independent Risk Factor for Strain Injury?

Por: [Freitas, SR](#) (Freitas, Sandro R.); [Abrantes, F](#) (Abrantes, Filipe); [Santos, F](#) (Santos, Francisco); [Mascarenhas, V](#) (Mascarenhas, Vasco); [Oliveira, R](#) (Oliveira, Raul); [Firmino, T](#) (Firmino, Telmo); [Mendes, B](#) (Mendes, Bruno); [Cerdeira, M](#) (Cerdeira, Mauricio); [Vaz, JR](#) (Vaz, Joao R.)

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Abstract

This study examined whether professional footballers with previous biceps femoris long head (BF (LH)) injury in the last 3-years present a smaller proximal aponeurosis (Apo-BF (LH)) size compared to footballers with no previous injury. We examined the Apo-BF (LH) and BF (LH) size using magnetic resonance imaging and tested the knee flexor maximal isometric strength in 80 thighs of 40 footballers. Apo-BF (LH) size parameters were processed using a semi-automated procedure. Outcomes were compared between thighs with (n=9) vs. without (n=71) previous BF (LH) injury. No differences were observed between injured and non-injured thighs for the Apo-BF (LH) and BF (LH) size parameters ($p > 0.05$) except for Apo-BF (LH) volume, which was higher in the non-injured thighs of athletes with previous injury ($3692.1 \pm 2638.4 \text{ mm}^3$, $p < 0.006$) compared to the left ($2274.1 \pm 798.7 \text{ mm}^3$) thighs of athletes without previous injury. A higher knee flexor isometric strength was observed in the injured limb of athletes with previous BF (LH) injury ($196.5 \pm 31.9 \text{ Nm}$, $p < 0.003$) compared to the left ($156.2 \pm 31.4 \text{ Nm}$) and right ($160.0 \pm 31.4 \text{ Nm}$) thighs of non-injured athletes. The present results suggest that BF (LH) proximal aponeurosis size should not be considered as an independent risk factor for strain injury.

Palabras clave

Palabras clave de autor: [hamstring](#); [morphology](#); [footballers](#); [professional football](#); [strain](#); [tear](#)

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Información del autor

Dirección para petición de copias:

Universidade de Lisboa Univ Lisbon, Fac Motricidade Humana, Desporto & Saude, Estr Costa, P-1499002 Cruz Quebrada, Portugal.

Dirección correspondiente: Freitas, SR (autor correspondiente)

- + Univ Lisbon, Fac Motricidade Humana, Desporto & Saude, Estr Costa, P-1499002 Cruz Quebrada, Portugal.

Direcciones:

- + [1] Univ Lisbon, Fac Motricidade Humana, CIPER, Estr Costa, P-1499002 Cruz Quebrada, Dafundo, Portugal
- [2] Hosp Luz Lisboa, Imaging Ctr, MSK Imaging Unit, Lisbon, Portugal
- [3] Dept Human Performance Sport Lisboa & Benf, Lisbon, Portugal
- [4] Escola Super Saude Alcoitao, Fisioterapia, Alcabideche, Portugal
- + [5] Univ Chile, Fac Med, Anat & Dev Biol Program, Inst Biomed Sci ICBM, Santiago, Chile
- [6] Biomed Neurosci Inst, Independencia 1027, Santiago, Chile
- + [7] Univ Nebraska, Dept Biomech, Omaha, NE 68182 USA

Direcciones de correo electrónico: sfreitas@fmh.ulisboa.pt

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