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PREDICTING RETURN TO PLAY AFTER HAMSTRING INJURIES

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Accurately trying to predict return to play following injury is one of the many challenges that medical departments, working within sport, have always faced, earlier research suggested that Magnetic Resonance Imaging (MRI) findings could be useful in predicting return to play following acute hamstring strain. Evidence on MRI showing some predictive value includes hyper-intense T2-weighted images (2, 3) longitudinal length of hamstring injury on MRI (Connell et al, AJR Am J Roentgenol 2004; 183(4): 975-984); central/proximal tendon involvement (1); % cross sectional area of abnormal muscle (Slavotinek et al, AJR Am J Roentgenol 2002; 179: 1621-1628); and radiological grading of severity (Ekstrand et al, Am J Sports Med 2011; 39: 1226-1232).

However a recent prospective multivariate analysis (Moen et al, Br J Sports Med 2014; 48(18): 1370-1376) found that clinical rather than MRI findings offered greater reliability for estimating time to return to play. Clinical findings in their multivariate analysis that can be used for prognosis purposes included player's own self-predicted return to play and deficit in passive straight leg raise. Askling et al (Br J Sports Med 2006; 40: 40-44) concluded that different mechanisms causing hamstring injury, slow stretching verse high speed sprinting, could also be used in predicting return to pre-injury levels.

Medical and Performance staff responsible for returning athletes to competition need to constantly keep themselves appraised of clinical tests, including key subjective questions, that may prove valuable in estimating time loss following different types and grades of hamstring injury.

At Tottenham Hotspur FC we rely on the literature as well as our own experiences to help with these decisions. Our own data collected from 1st and Reserve Team players since 2010 has shown us that the particular circumstances surrounding a player's hamstring injury may result in very different outcomes. For example a player sustaining a training-related injury that's a first episode; linked to overuse; and a mechanism of 'running/sprinting' on average results in 8.3 days lost. Whereas a player injuring his hamstring in a match that's also a first episode but is acute and caused by 'stretching' averages 13.2 days before return to training.

There is a constellation of reliable 'baseline' tests, typically done in the pre-season, evidence-based predictive clinical tests as well as key groups of 'exit-criteria' for each stage of the healing process for providing rehab staff a means of continually monitoring progress and refining return to play estimates. The hamstring rehabilitation programme used at Tottenham Hotspur has evolved over many seasons and forms a template for the player's rehabilitation but also provides the medical and sports science staff with a platform for multivariate comparison of return to play estimates.

References

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