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Return to play in paediatric & adolescent patients following anterior cruciate ligament reconstruction

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Background: There is an increased risk of anterior cruciate ligament (ACL) rupture and subsequent ACL reconstruction in patients <18 years due to their high levels of sporting participation. The purpose of this study was to assess the rate and timing of return to play (RTP) in paediatric and adolescent patients following ACL reconstruction, and to compare the outcomes between those undergoing ACL reconstruction with bone patella tendon bone (BTB) autograft and hamstring tendon (HT) autograft.

Methods: Level III; Retrospective Comparative Cohort Study. The institutional ACL registry was screened for patients <18 that had undergone a primary ACL reconstruction. Outcomes were analysed for patients undergoing either a BTB or HT autograft for rate and timing of RTP, functional outcomes and subsequent knee injuries. Statistical analysis was performed using SPSS.

Results: A total of 358 (BTB; 253, HT; 105) patients were followed up for a 24-month period (95% follow up). There were 86 athletes (27 BTB; 59 HT) aged 13–15 years old with no significant difference in RTP rate or timing between graft types, however, there was a difference in ipsilateral re ruptures (10.2% HT *vs.* 0% BTB, P=0.03).

There were 272 athletes (226 BTB; 46 HT) aged 16–18 years old with no significant difference in RTP rate or timing between graft types, or ipsilateral re ruptures (8.7% HT *vs.* 2.7% BTB, P=0.07).

Conclusions: Paediatric and adolescent patients undergoing ACL reconstruction with either BTB or HT had high rates of RTP, with a moderate re-rupture rate at 24-months.

Keywords: Anterior cruciate ligament (ACL); bone patella tendon bone autograft (BTB autograft); hamstring tendon autograft (HT autograft); re-rupture; return to play (RTP)

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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