



News Release

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Rugby youths should pass scrum strength test, experts say

Seventeen year olds should be barred from the front row of rugby scrums in men's matches unless they meet medical guidelines, a study suggests.

Experts say that playing 17 year olds in the front row in senior rugby matches is unsafe if they do not have the neck strength needed to withstand the force of a scrum.

Researchers propose that youth players undergo tests to demonstrate that they have the same neck strength as their adult counterparts before being approved to play adult rugby.

Despite looking as physically strong and being as technically able as adult players, this is often not the case, according to the study published in the *British Medical Journal*.

The findings have been welcomed by Scottish Rugby (SRU), which has implemented the practice during the past rugby season.

The study by the University of Edinburgh is part of an initiative involving the SRU to reduce the injury risk to school-age children playing rugby in Scotland.

Scrum are responsible for a significant proportion of spinal injuries, according to the study.

Researchers tested the physical strength of adult players from amateur leagues and high performance under-18 front row players – looking at the players' neck strength and fatigue endurance.

They found that the under-18 players' reduced strength and fatigue endurance put them at a significant disadvantage.

Work carried out by Scottish Rugby / Scottish Committee for Orthopaedics and Trauma (SCOT) group has already changed the way youth rugby is played in Scotland and has led to serious injury rates falling since its guidelines have been adopted.

University of Edinburgh researchers, working with SRU medical specialists, think that objective measures of the individuals' neck strength should be a key part of the selection process for players wishing to play in the front row in senior rugby.

Hamish Simpson, Professor of Orthopaedic Surgery at the University of Edinburgh and Consultant Orthopaedic Surgeon, NHS Lothian, said: "Our results showed that although under-18 players were as strong as the adults in general they were unable to generate the same neck muscle force as adult players. It is likely that weak necks are a risk factor for the scrum collapsing – an event associated with serious neck injury risk. To ensure the safety of all six front row players, it is essential that they are all strong enough to compete safely."

Dr David Hamilton, research fellow at the University of Edinburgh's Department of Trauma and Orthopaedics, added: "In the test group of high performance under-18 group players, only two out of 30 players recorded the average neck strength of the adult group."

Dr James Robson, Scottish Rugby's Chief Medical Officer and doctor on the past six successive British & Irish Lions tours, said: "This study suggests that youngsters can achieve peripheral strength. However the key area for us is the strength of their neck and it would appear it's very difficult to attain 'adult-type strength' in this particular area. This research is helping to underpin our safety policies. It validates our stance on where and when we allow under-18s to play in senior rugby."

The study is funded by the University of Edinburgh.

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