

evidence that anxiety may influence cognitive test scores in this population. Future research should examine the influence of anxiety during post-concussion assessment when stakes may be higher in this underrepresented population.

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#### TESTING NEUROCOGNITIVE FUNCTION AND BALANCE FOLLOWING SPORT CONCUSSION – DO WE NEED BASELINES?

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**Background** While evaluating balance and neurocognitive function following concussion is clinically valuable for both diagnosis and treatment, it is unclear if these assessments are best employed in reference to a pre-injury evaluation, or to normative results sampled from a healthy population.

**Objective** To evaluate the performance of a computerized assessment of balance and neurocognitive function in athletes following a sport-related concussion (SRC) compared to either their own pre-injury test scores, or the scores of a normative sample of uninjured athletes.

**Hypothesis** SRC test scores would discriminate better from athlete's own pre-injury scores compared to those of an uninjured cohort.

**Design** Prospective observational study design.

**Setting** Sport medicine clinic at a Canadian University.

**Participants** One hundred and forty Canadian Interuniversity athletes (n = 73 male, n = 67 female) from 12 different sports. Seventy non-injured athletes (n = 31 male, n = 39 female) were assessed prior to the start of their competitive season, while 70 athletes (n = 42 male, n = 28 female) with SRC were assessed within one week of injury.

**Assessment of Risk Factors** At the time of testing, fourteen measures of neurocognitive function (n = 6) and balance (n = 8) were assessed using the C3 Logix application (NeuroLogix Technologies, Cleveland, Ohio).

**Main Outcome Measures** Presence or absence of SRC, as diagnosed by a sport medicine doctor.

**Results** Partial least squares discriminant analyses followed by the evaluation of model classification accuracy (Accur) revealed better discriminative performance when test scores in athletes with SRC were compared to an uninjured cohort (Accur = 0.74), as opposed to their own pre-injury test scores (Accur = 0.61).

**Conclusions** Contrary to our hypothesis, these initial results suggest that neurocognitive and balance testing following SRC may benefit from comparison to normative reference values sampled from a healthy population.

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#### DO FUTURE DOCTORS IN SCOTLAND NEED FURTHER EDUCATION TO ENSURE THEY CAN ADEQUATELY IDENTIFY AND MANAGE CONCUSSIONS?

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**Background** Preventing sports-related concussions is a medical priority across all levels of contact sports. Doctors play a key role in ensuring concussed athletes can safely return to sport, yet research has shown deficiencies in concussion knowledge and education amongst doctors and medical students. In the UK, studies assessing concussion knowledge and learning experiences have not previously been conducted in medical schools despite a parliamentary inquiry highlighting evidence regarding the links between sport and brain injury.

**Objective** To assess medical students' concussion knowledge and learning needs in Scottish Medical Schools.

**Design** An online survey with 23 questions assessing aspects of concussion prevention, detection and management was distributed to Scottish Medical schools. Data collection took place between October and December 2020. Scores were calculated based on correct recognition of symptom and management approaches.

**Setting** Clinical year medical students studying in Scotland.

**Participants** 200 medical students completed the survey (8% response rate).

**Results** On average, participants scored 87.3% (sd 9.56) on symptom recognition items but only 31% (sd 15.3) on questions relating to management and prevention. 38% incorrectly identified that brain imaging could diagnose a concussion. Only 15% of participants correctly identified that headgear does not prevent concussions and only one participant correctly identified the minimum 'return to sport' timeframes for adults and children. 15% of participants reported having learnt about concussion at medical school and 92.5% were interested in receiving concussion teaching at medical school.

**Conclusions** Medical students show competence in concussion recognition but there are gaps in knowledge concerning concussion prevention and management. Concussion is not frequently taught in medical schools despite a desire for it to be covered in curricula. Further studies are needed to understand how concussion education can best be incorporated to ensure future doctors are competent in managing concussions and minimising the risk of secondary harms.

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#### PREVENTION AND MANAGEMENT OF SPORT-RELATED CONCUSSIONS: CURRENT KNOWLEDGE AND PRACTICES AMONG FIELD STAKEHOLDERS OF THE FRENCH-SPEAKING IOC RESEARCH CENTRE (REFORM)

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**Background** Sport-related concussions (SRC) impact the practice of numerous athletes. Their appropriate management involves education and prevention among all field stakeholders including physicians, coaches and athletes themselves.