How is the Incidence and Recovery from Concussion Affected by Age, Gender, Sport, and Prior Concussion?

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How is Athletic Concussion Recovery Affected by Young Age?

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**Background**

- Pre-adolescents (6-11 years) sustain mild concussions more often than any other age group
- However, there are no evidence-based guidelines, no physician consensus, and only one symptom scale that has been developed to diagnose concussion and guide management in this age group
- Adolescents also take longer to recover from concussion
- There are no return to play (RTP) guidelines specific to young athletes

**Methods**

- Retrospective medical record review
- Athletes complete symptom inventory questionnaire
- Diagnosis of concussion made by a certified nurse practitioner
- Age:
  - Concussion suffered from sport participation
  - Primary dependent variable: days until symptoms return to baseline
  - 8-12 versus 14-18 year olds
  - Mann-Whitney U-test, set at an alpha of 0.05 to determine if recovery time (days) is significantly different between age groups
  - T-test to determine if difference in number of follow-up appointments and return to play time (days) between age groups

**Results**

- Four-part study approval process initiated:
  - Concept: Research Executive Committee
  - Summary sheet of proposed research
  - Surgery and Anesthesia Research Review Committee (SARRC)
  - Committee member presents study to board for suggestions and recommendations
  - NORI Review
  - Reviews related research. Focuses on finance, funding, expected outcomes, and measuring outcomes
  - IRB Review
  - Approves 12-month research license

**Discussion**

- The Concept Review stage is complete
- Proposal submitted to SARRC
- NORI review process started
- IRB review process started
- Feedback from all four stages incorporated into proposal
- Next steps:
  - NORI meeting: statistical analysis plan, study design, complete Protocol Format document
  - SARRC review of Protocol Format
  - NORI Feasibility of proposal
  - Enter proposal into online eIRB

**Conclusions**

- Pre-adolescent athletes suffer more concussions and have prolonged recovery compared to older athletes
- There is a need for validated symptom scales and RTP guidelines for this age group
- Research would inform concussion education, legislation, and rule changes

**REFERENCES**