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Recommended Citation
DOI: https://doi.org/10.25035/jsmahs.10.01.09
Available at: https://scholarworks.bgsu.edu/jsmahs/vol10/iss1/9

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**Barriers to Implementation of Post-Concussion Grade Exercise Tests**

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**OBJECTIVE**  
The purpose of this study was to assess the potential barriers to sports physical therapy and athletic training clinicians implementing graded exertional tests, specifically for their patients following concussion.

**STUDY DESIGN AND SETTING**  
Qualitative study of semi-structured interviews of clinicians.

**PARTICIPANTS**  
We recruited six physical therapists and four athletic trainers with an average of 12.3 ± 9.6 years of experience.

**INTERVENTION**  
The study design entailed a qualitative methodology utilizing semi-structured interviews with questions designed based on the Integrated Promoting Action on Research Implementation in Health Services (i-PARIHS) framework.

**MAIN OUTCOME MEASUREMENT**  
Interviews were transcribed verbatim and analyzed by two independent coders through an iterative thematic analysis using a deductive coding system relative to the domains of the i-PARIHS framework (i.e., innovation, recipient, and context). Additionally, inductive coding was applied to consider potential implementation differences between physical therapists and athletic trainers.

**RESULTS**  
Six primary themes were identified and mapped to the three primary constructs of the i-PARIHS framework. Limited evidence related to ideal timing of graded exercise testing and cost-benefit implications were highlighted as potential barriers related to the innovation domain. Clinicians' limited skills and knowledge were identified as key barriers pertaining to the recipient domain. Contextual barriers identified included limited time for performing the tests, concerns for reimbursement, and lack of immediate availability of equipment (e.g., heart rate monitors, bike or treadmill) to perform the tests. Noted differences between athletic trainers and physical therapists included that physical therapists may be more aware of the evidence available to support graded exercise testing post-concussion, while athletic trainers may be more likely to implement if a referring physician specifically requested one be done.

**CONCLUSION**  
These findings suggest a multi-layered approach to addressing barriers to the implementation of new evidence within health care systems could help improve clinician knowledge of newer evidence to support implementation of graded exercise testing for patients with concussion.

**CLINICAL RELEVANCE**  
This study provides insights from clinicians into the barriers to implementation of graded exercise testing after concussion; providing key information to successfully facilitate research, education, and health system solutions for overcoming these barriers.

**KEY WORDS:** Graded Exercise Test, Concussion, Implementation
REFERENCES