Evidence Summary: Racquetball

Tessa Clemens, PhD

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BC INJURY research and prevention unit

The British Columbia Injury Research and Prevention Unit (BCIRPU) was established by the Ministry of Health and the Minister's Injury Prevention Advisory Committee in August 1997. BCIRPU is housed within the Evidence to Innovation research theme at BC Children's Hospital (BCCH) and supported by the Provincial Health Services Authority (PHSA) and the University of British Columbia (UBC). BCIRPU's vision is *to be a leader in the production and transfer of injury prevention knowledge and the integration of evidence-based injury prevention practices into the daily lives of those at risk, those who care for them, and those with a mandate for public health and safety in British Columbia.*

Author: Tessa Clemens

Editors: Sarah A Richmond, Amanda Black

For any questions regarding this report, contact:

BC Injury Research and Prevention Unit
F508 – 4480 Oak Street
Vancouver, BC V6H 3V4
Email: bcinjury1@cw.bc.ca
Phone: (604) 875-3776
Fax: (604) 875-3569
Website: www.injuryresearch.bc.ca

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Evidence synthesis tool

SPORT:	Racquetball	**Target Group:**	Adult racquetball players
Injury Mechanisms:	Facial/eye injuries caused by ball or racquet contact with eye.		

Incidence/Prevalence	**Risk/Protective Factors**	**Interventions**	**Implementation/Evaluation**	**Resources**
Very few high-quality incidence and prevalence studies focusing specifically on racquetball injuries have been conducted. Only two studies reporting the incidence in racquetball met the inclusion criteria for this review and one focused on eye injuries only. Easterbrook (1980) conducted an 18-month prospective review of medical charts in Canada and reported 18 racquetball-related eye injuries. Of these, 13 (70%) required hospital admission. The most frequent type of injury was hyphemia (94%).[1] Soderstrom et al. (1982) conducted a retrospective chart review of all racquetball injuries followed by a prospective survey and found that facial and non-facial racquetball injuries occur with similar frequency. There were 82 facial injuries (52.2%) and 75 non-facial injuries (47.8%). The injured players most commonly classified themselves as beginner (54.5%). Facial injuries were most commonly attributed to ball or racquet	Very few high-quality risk factor studies related to racquetball injuries have been conducted. Limited evidence suggests that skill level may be associated with racquetball injury risk. Soderstrom et al. (1982) found that beginner players were significantly more likely to sustain facial injuries than more skilled players ($p<0.05$) and that when players of different skill levels competed, the player of lesser ability was more likely to sustain an injury than the skilled player ($p<0.01$)[1].	High-quality studies on effective interventions for the prevention of racquetball injuries as well as the cost-effectiveness of those interventions are needed. Hathaway and Dingus (1992), observed 420 racquetball players for use of eye protection. Their results indicated that providing eyewear near the courts and the inclusion of specific consequence warning information on signage significantly increased safety equipment use ($p<0.001$).[1]	Studies on implementation/evaluation of injury prevention interventions for racquetball are needed. One study, by McLean et al. (2008) identified predictors of goggle use among racquetball players and found that most players did not use goggles and had never considered doing so. Players who perceived their injury risk to be low and found the cost and comfort of goggles unacceptable were least likely to report using googles.[1]	**Websites** Ontario Physical Education Safety Guidelines: http://safety.ophea.net/safety-plan/169/1962 Safe Sport: http://www.safesport.co.uk/squashandracquetballsafety.html

contact (92.2%). A collision with the wall was the cause of 28.1% of non-facial injuries.[2] More studies on the incidence and prevalence of racquetball injuries are needed.				
Works Cited: 1. Easterbrook, M. (1981). Eye injuries in racket sports: a continuing problem. *The Physician and Sportsmedicine*, *9*(1), 91-101. 2. Soderstrom, C. A., & Doxanas, M. T. (1982). Racquetball: a game with preventable injuries. *American Journal of Sports Medicine*, *10*(3), 180-183.	**Works Cited:** 1. Soderstrom, C. A., & Doxanas, M. T. (1982). Racquetball: a game with preventable injuries. *American Journal of Sports Medicine*, *10*(3), 180-183.	**Works Cited:** 1. Hathaway, J. A., & Dingus, T. A. (1992). The effects of compliance cost and specific consequence information on the use of safety equipment. *Accident Analysis & Prevention*, *24*(6), 577-584.	**Works Cited:** 1. McLean, C. P., DiLillo, D., Bornstein, B. H., & Bevini, R. A. (2008). Predictors of goggle use among racquetball players. *International Journal of Injury Control and Safety Promotion*, *15*(3), 167-170.	

Review of Sport Injury Burden, Risk Factors and Prevention

Racquetball

Incidence and Prevalence

Very few high-quality incidence and prevalence studies focusing specifically on racquetball injuries have been conducted. Easterbrook (1980) conducted an 18-month prospective review of medical charts in Canada and reported 18 racquetball-related eye injuries. Of these, 13 (70%) required hospital admission. The most frequent type of injury was hyphema (94%). Soderstrom and Doxanas (1982) conducted a retrospective chart review of all racquetball injuries followed by a prospective survey and found that facial and non-facial racquetball injuries occur with similar frequency. There were 82 facial injuries (52.2%) and 75 non-facial injuries (47.8%). The injured players most commonly classified themselves as beginner (54.5%). Facial injuries were most commonly attributed to ball or racquet contact (92.2%). A collision with the wall was the cause of 28.1% of non-facial injuries.

Limitations

There is a clear paucity of incidence and prevalence studies related to racquetball injuries. In order to report on the burden of racquetball injuries, high-quality studies on the incidence and prevalence of these injuries in representative populations are needed.

Risk and Protective Factors

Very few high-quality risk factor studies related to racquetball injuries have been conducted. Limited evidence suggests that skill level may be associated with racquetball injury risk. Soderstrom and Doxanas (1982) found that beginner players were significantly more likely to sustain facial injuries than more skilled players and that when players of different skill levels competed, the player of lesser ability was more likely to sustain an injury than the skilled player.

Limitations

Due to a lack of existing studies, a clear picture of the risk factors for racquetball injuries cannot be obtained from the literature.

Opportunities for Prevention: Effective Interventions, Cost-Effectiveness, Implementation and Evaluation

High-quality studies on effective interventions for the prevention of racquetball injuries as well as the cost-effectiveness of those interventions are needed. Further, studies on implementation/evaluation of injury prevention interventions for racquetball are needed. McLean, DiLillo, Bornstein and Bevini (2008) conducted a cross-sectional study to identify predictors of goggle use among recreational racquetball players and found that most players did not use goggles and had never considered doing so. Players who perceived their injury risk to be low and found the cost and comfort of goggles unacceptable were least likely to report using goggles. Hathaway and Dingus (1992), observed 420 racquetball players for use of eye

protection. Their results indicated that providing eyewear near the courts and the inclusion of specific consequence warning information on signage significantly increased safety equipment use ($p<0.001$).

References

Easterbrook, M. (1981). Eye injuries in racket sports: a continuing problem. *The Physician and Sportsmedicine*, 9(1), 91-101.

Hathaway, J. A., & Dingus, T. A. (1992). The effects of compliance cost and specific consequence information on the use of safety equipment. *Accident Analysis & Prevention*, 24(6), 577-584.

McLean, C. P., DiLillo, D., Bornstein, B. H., & Bevini, R. A. (2008). Predictors of goggle use among racquetball players. *International Journal of Injury Control and Safety Promotion*, *15*(3), 167-170.

Soderstrom, C. A., & Doxanas, M. T. (1982). Racquetball: a game with preventable injuries. *American Journal of Sports Medicine*, *10*(3), 180-183.