

International
Paralympic
Committee

Translating Injury Epidemiology to Practice for Injury Prevention in Paralympic Football 5-a-side

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Previous Studies

- Only one documented study related to injury in VI footballers
- 13 players over a 5-yr period playing in five international competitions for one nation.
- Not all players played in all competitions.
- Only Injuries that occurred during competition were documented.

Magno e Silva MP, Morato MP, Bilzon JLJ, Duarte E.
Sports Injuries in Brazilian Blind Footballers.
Int J Sports Med. 2013 Mar ;34(3):239–43.



Previous Studies – FB5

- 23 matches
- 11/13 had some form of injury (incidence proportion 84.6%).
- Total of 35 injuries
- Mean injury frequency = 2.7 injuries per athlete over 5 years
- 0.12 injuries per match

Magno e Silva MP, Morato MP, Bilzon JLJ, Duarte E.
Sports Injuries in Brazilian Blind Footballers.
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Previous Studies – FB5

- Traumatic injuries (80%) were more common than overuse injuries (20%)
- Location
 - Lower Limb 80%
 - Head 8.6%
 - Spine 5.7%
 - Upper Limb 5.7%



Magno e Silva MP, Morato MP, Bilzon JLJ, Duarte E.
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Previous Studies – Futsal (AB)

- Player injuries during three consecutive Futsal World Cups
- A total of 165 injuries were reported from 127 matches (incidence of 195.6 injuries per 1000 player hours)
- 130.4 injuries per 1000 player matches
- The majority of injuries caused by contact with another player. 36% of the injuries non-contact activities.
- Most injuries affected the lower extremity (70%), followed by head and neck (13%), upper extremity (10%) and trunk (7%).

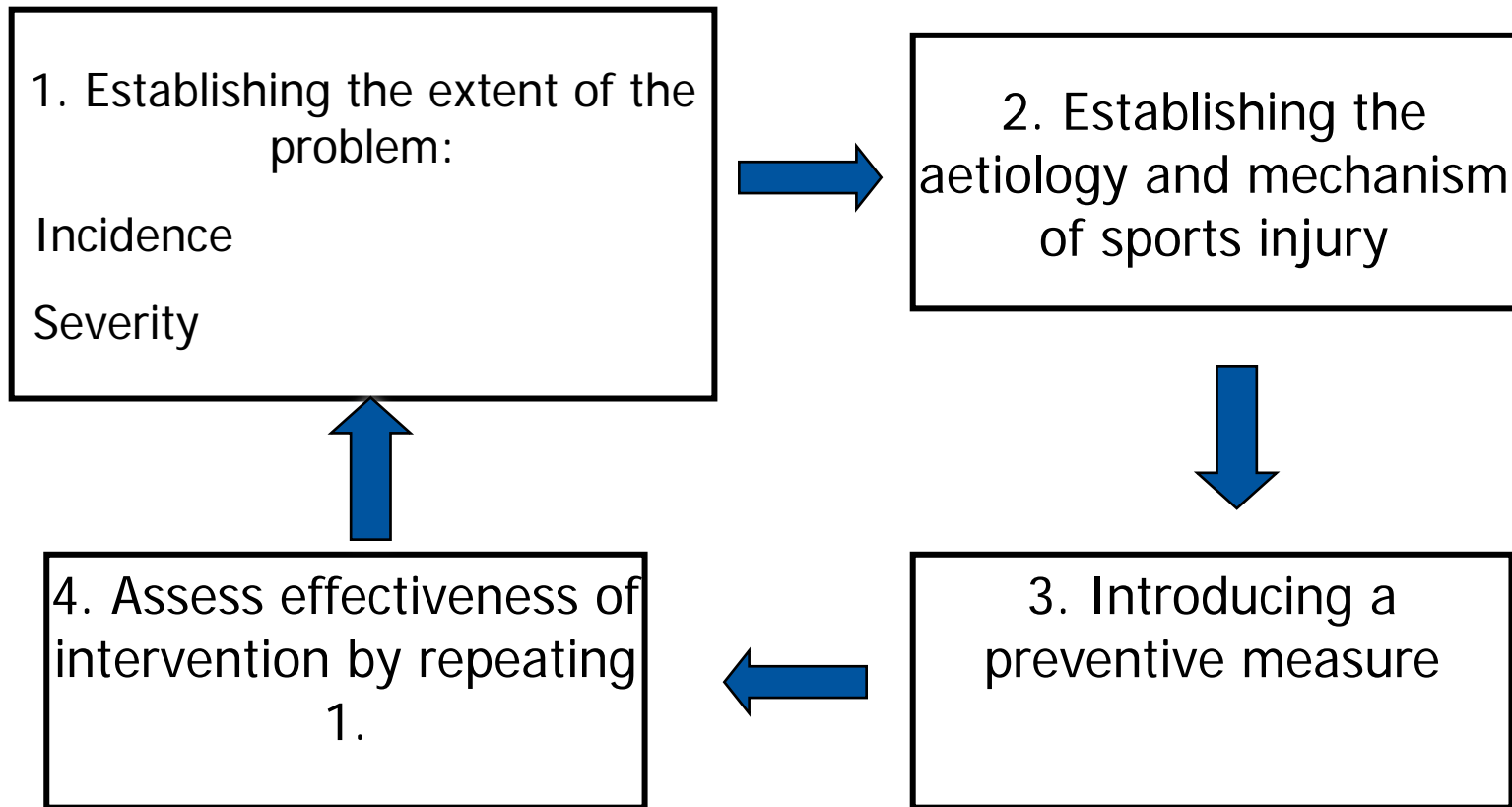
Injury risk of playing football in Futsal World Cups

Junge, Astrid; Dvorak, Jiri (2010)

Br. J. Sports Med. vol. 44 (15) p. 1089-1092



Sports Injury Prevention





Sports Injury Prevention





The epidemiology of injuries at the London 2012 Paralympic Games

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Willick SE, Webborn N, Emery C, et al.
Br J Sports Med Published Online First
doi:10.1136/bjsports-2013- 092374



Paralympic Games Survey

- The Paralympic Injury and Illness Surveillance System was approved by the International Paralympic Committee (IPC).
- Ethics board approval was obtained through the University of Brighton in the United Kingdom (FREGS/ES/12/11) and the University of Cape Town Health Sciences Research Ethics Committee in South Africa (HREC/REF 436/2012).
- Athletes consent to the use of their de-identified medical data for research purposes was obtained at the time of their registration for the Games.



Paralympic Games Survey

- Data regarding injuries was gathered via two sources.
- Electronic medical data capture system (ATOS, France) utilized at all athlete medical stations operated by the London Organizing Committee for the Olympic and Paralympic Games (LOCOG).
- Database populated by medical staff providing care for their own teams utilizing a novel web-based injury and illness surveillance system (WEB-IISS) that has been developed specifically for the purposes of this study.

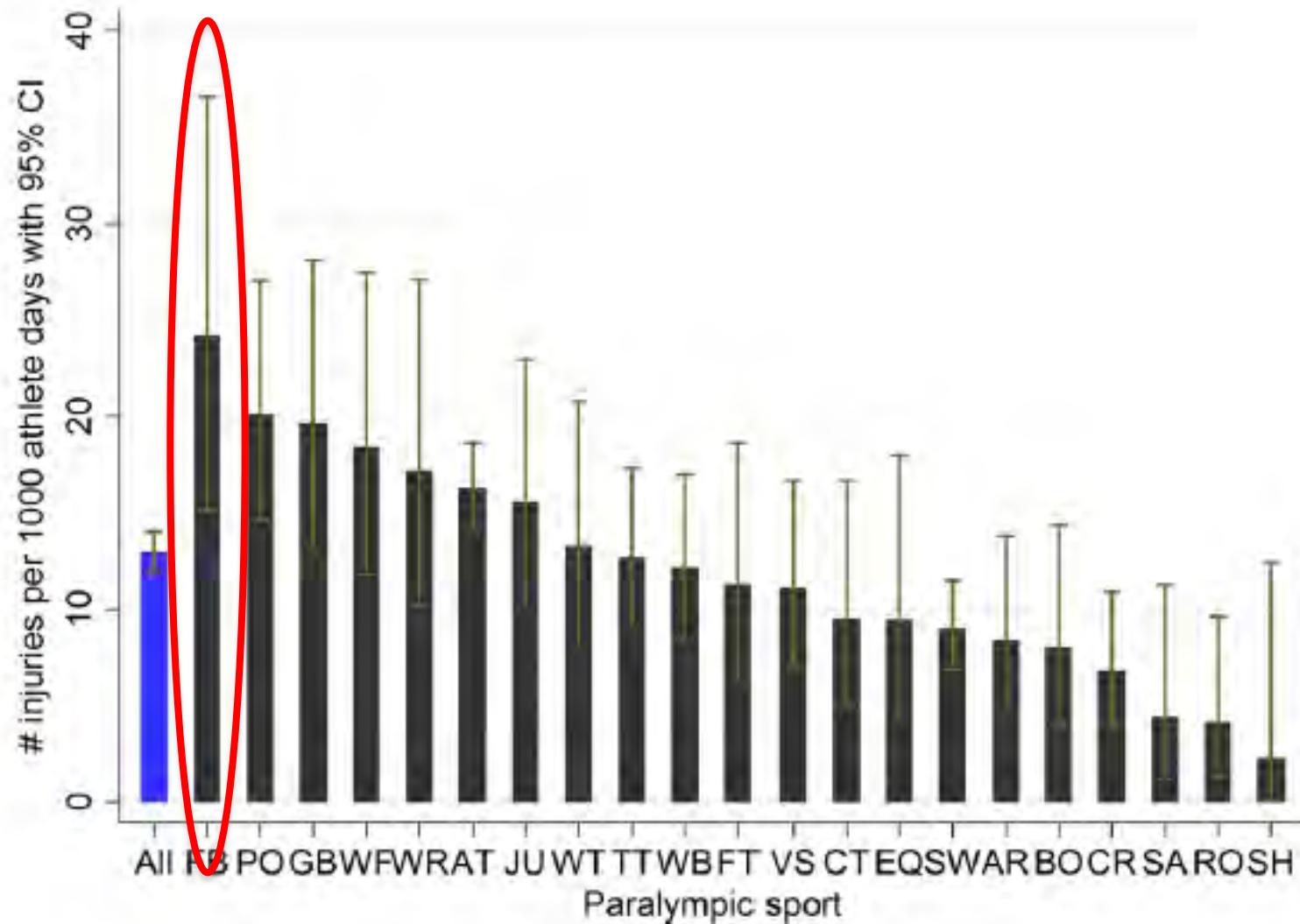


Paralympic Games Survey

- An injury was defined as ‘any newly acquired injury as well as exacerbations of preexisting injury that occurred during training and/or competition of the 14 day pre-competition and competition period of the London 2012 Paralympic Games.’
- An acute traumatic injury was considered ‘an injury that was caused by an acute precipitating traumatic event.’
- An acute on chronic injury was considered ‘an acute injury in an athlete with symptoms of a chronic injury in the same anatomical area.’
- A chronic (overuse) injury was considered ‘an injury that developed over days, weeks or months and was not associated with any acute precipitating event.’



Injury rate by sport – London 2012





Injury Data FB5

- Seven teams participated - each consisted of a squad of 10 players comprising 8 outfield players and 2 (sighted) goalkeepers (n= 70 players).
- Data collection over 14 day period -gives a total exposure for training and competition of 980 player days.
- 22 injuries documented IP= 31.4 injuries per 100 athletes (95% CI; 20.9-43.6) and an IR= 22.4 injuries per 1000 athlete days (95% CI; 14.1-33.8).
- Analysis showed that the injury information was supplied solely by NPC medical staff apart from one injury assessed at the Polyclinic.



Injury Data FB5

- None of the goalkeepers (sighted players) experienced an injury but only the VI outfield players.
- 56 VI players training and competing for 14 days this gives a total of 784 player days exposure.
- IP= 39.3 injuries per 100 athletes (95% CI; 26.5-53.2) (up from 31.4)
- IR= 28.06 (95% CI; 17.67-42.18) injuries per 1000 days for outfield players. (up from 22.4)



Acute v Overuse injuries

- Acute injuries = 17
 - 12 new acute injuries
 - 5 acute on chronic injuries
- When
 - 8 during competition
 - 6 during training
 - 2 prior to village entry
 - 1 injury non-sport related
- 5 overuse injuries



Injuries in competition

- IR = 10.2 (95% CI; 4.42-20.0) acute injuries per 1000 days.
- 33 matches involving 8 outfield VI players per match = 264 player games
- Risk of any player getting an acute injury in a match is 1 in 33 or 3.03%



Mechanism of Acute Injury in Competition

- 7/8 injuries -contact with other athletes
- 1 contact with ball leading to injury
- 5 out of 8 (62.5%) were reported as relating to foul play and contact with other athlete.



London





Mechanism of Acute Injury in Competition

	Acute Comp	Overuse	All Sport	All Injuries
Head/Neck	2	0	3	4
Upper Limb	2	1	2	3
Spine	1	2	2	3
Lower Limb	3	3	9	12
Total	8	6	16	22



Discussion

- 1st study to examine injury rates, types and mechanisms in visually impaired 5-a-side football at the Paralympics.
- More than 30% of players sustained an injury over the 14 day games period.
- Highest injury rate in all Paralympic sports



Head Injury Issues

- Head and neck injuries accounted for 25% of acute injuries during competition compared to 8.6% in matches in the Brazilian study.
- Over 60% of competition-related injuries were reported as associated with foul play.





Head Injury Issues

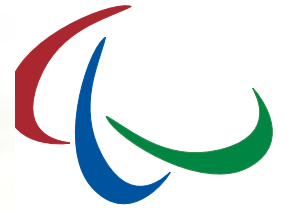
- Prevention possibilities:
 1. Is 'Voy' rule being applied strictly enough to prevent injury – explanation to referees about findings and reinforce need for strict application of law
 2. Is there a role for incorporating head injury protection into FB5?



Role for Headgear Protection?









Collecting Concussion Data



Wearable Technology
Implanted in head protection

Real-time Data

NPC Team Physician

IPC Research Team

Assist Clinical Decision Making

Collate info on Impacts and Risk



GFT™
IMPACTS



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RESEARCH



Summary

- Highest injury rate of all Summer Paralympic sports – almost 1 in 3 players
- Contact injuries, particularly to head are concerning
- Issues to consider:
 - Implementation of existing rules – player, coach, referee education – newsletter, web, social media
 - Trial of headgear
 - Ongoing monitoring of injury – set up international injury survey using major countries with medical support to team
 - Research funding application to FIFA Medical by IBSA Football and IPC Medical Committee?



Paralympic.org

Thank you for
your attention!