

Exploring Concussion Sustainment, Identification, Management, and Recovery in Canadian Athletes who are Blind or Visually Impaired

Anna Guenther

Kristine Dalton, Stephen Burke, Shane Esau, Jane Blaine

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Introduction



Visual symptoms are commonly reported in athletes with concussions^{1,2}



There is a gap in knowledge on concussion individuals with **pre-existing visual symptoms**³

- Athletes with visual impairments

RESEARCH QUESTION

How are concussions in Canadian athletes with visual impairments **sustained, identified, managed, and recovered** from?

PURPOSE

To gain a better understanding of the experiences of concussion from athletes who are blind or visually impaired

Methods

- Online survey with multiple choice, multi-select, Likert scale, open-ended questions
- Organized into five categories of questions:

Demographics

Concussion
History

Concussion
Symptoms

Concussion
Management

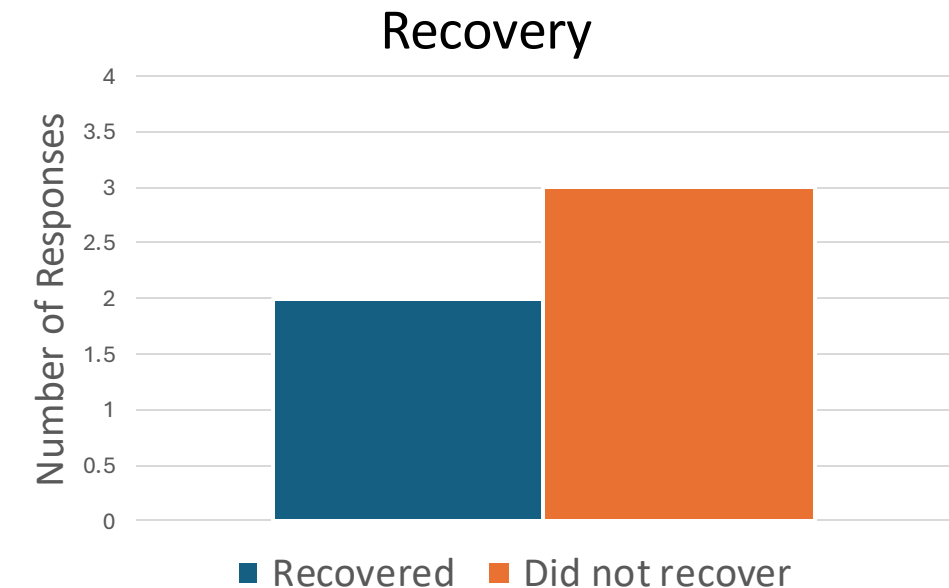
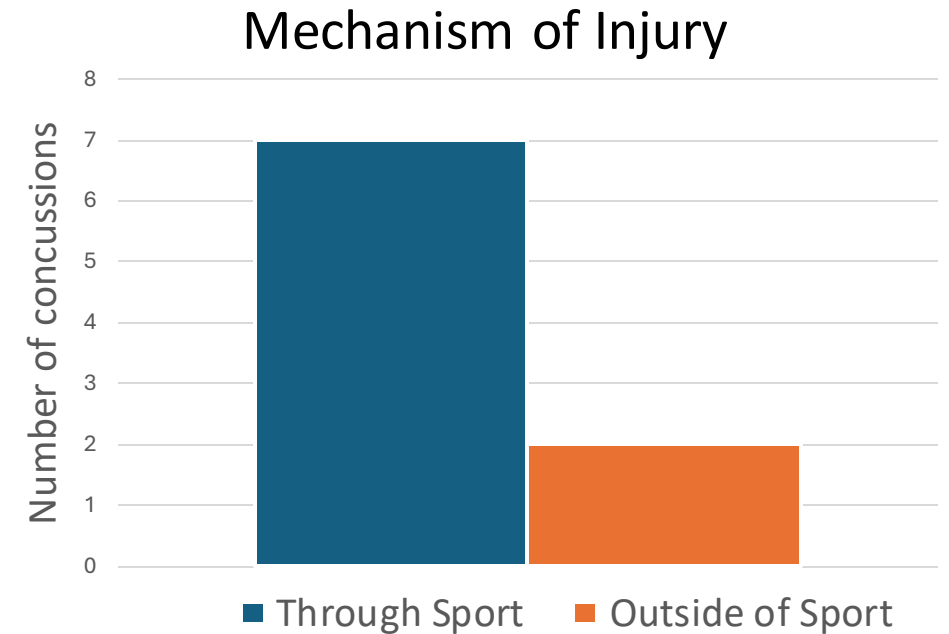
Return to
Life

Results - Demographics

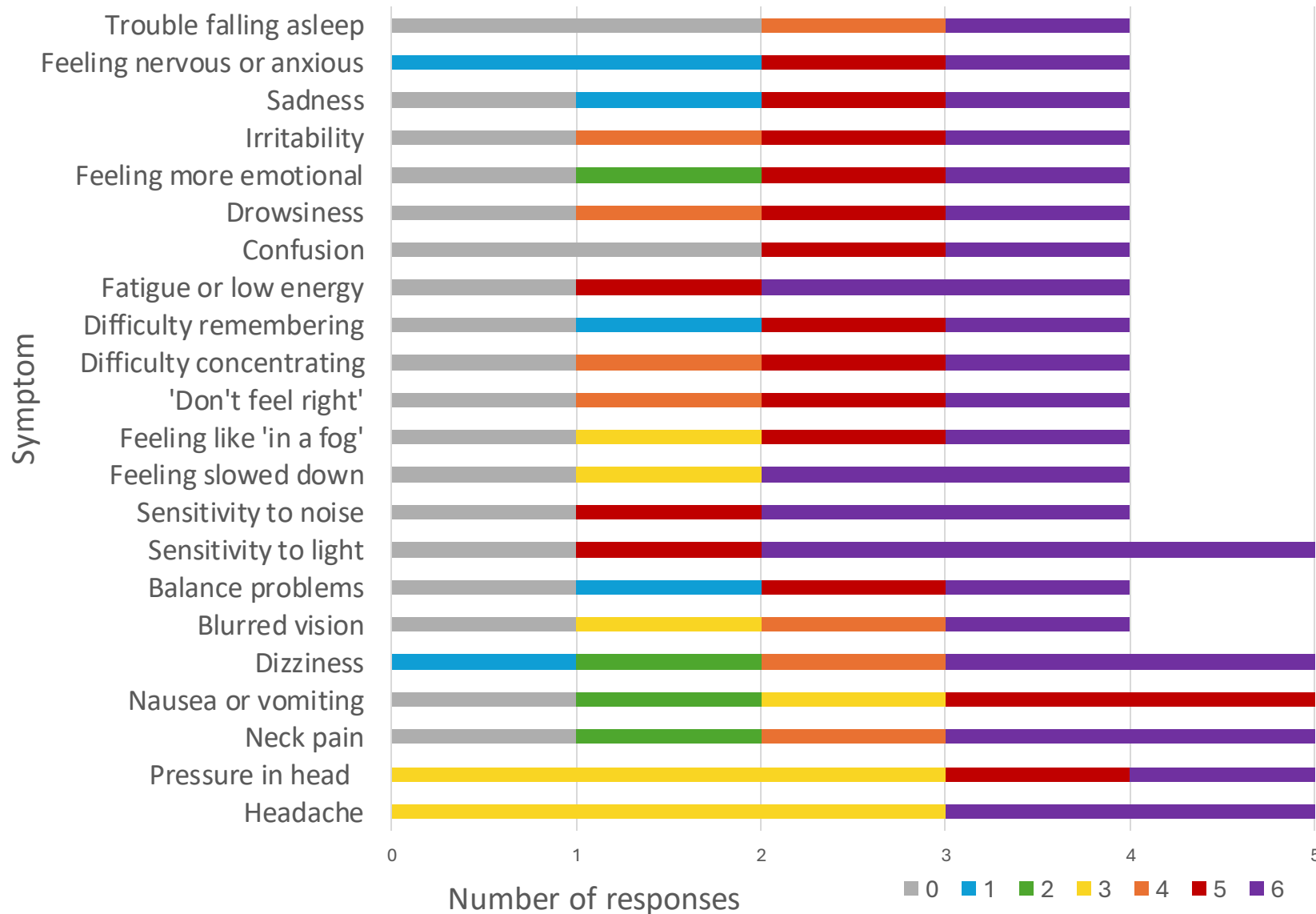
6 complete responses (4 female, 2 male; 33 ± 11.7 years)

- Athletes from recreational to elite sport represented
 - Goalball
 - Skiing
 - Soccer
 - Swimming (racing)
- Wide range of visual impairments

Limitation: small sample size;
descriptive analysis

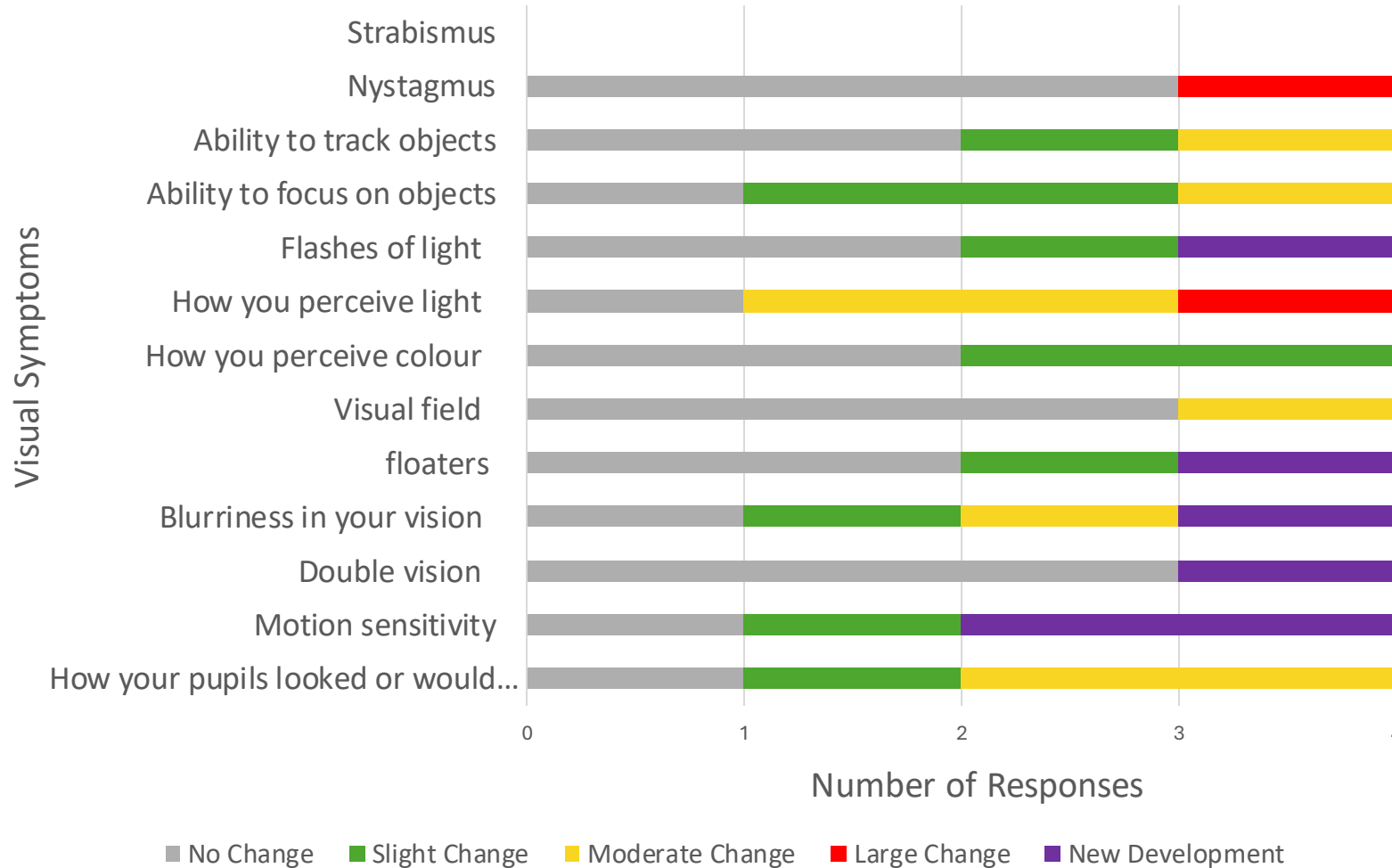


Results – SCAT-5 Symptom Severity



- Athletes often reported their severity as **moderate to severe** (score of 3 or higher)
- Highly **variable scores** were observed
 - Scores varied from 10 to 131 (out of a possible maximum of 132⁴)

Results – Vision Symptoms

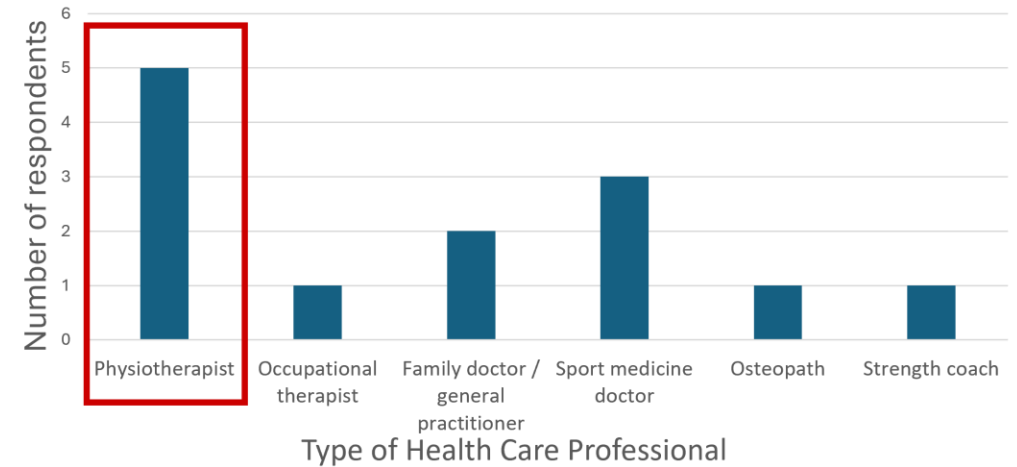


“I am aware of the difference, and I feel dizzy/spinning backwards all the time ... I am aware of nystagmus whereas before I was not”.

“vision was blurry due to facial swelling around the eyes. This changed my vision until swelling subsided”

Results – Concussion Management

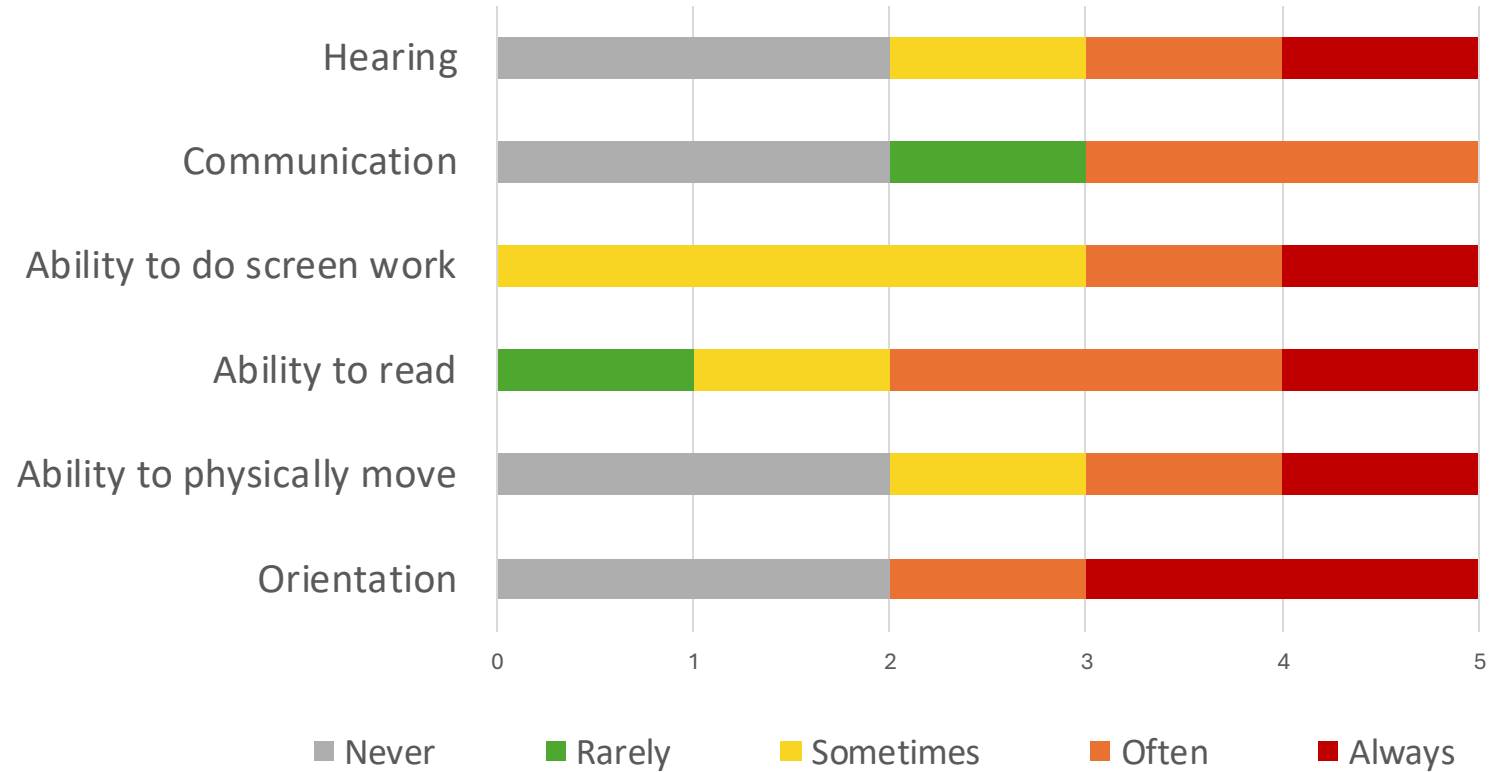
- Majority of treatment was overseen by physiotherapists
- Frequency of treatment was most commonly 1-2x/week
- Duration of concussion treatment ranged from 1 month to 25 years



“When I was sent into vestibular therapy for concussion treatment, they could not do it because of my vision impairment”.

“because [my nystagmus] was pre-existing it is not counted as important”.

Results – Return to Life



Results – Return to Life

Return-to-Work

Increased font size

Alternative workspace

Acoustic accommodations (ex. wearing noise cancelling headphones)

Reduced workload

Extra time for projects/work assignment

Using a text-to-speech reader

Extra work support

Return-to-Sport

Alternative exercise/activity space

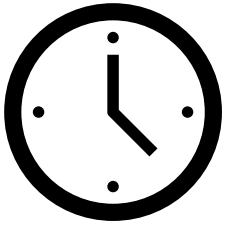
Individual exercise/activities instead of team practice

Reduced drill/practice intensity

Avoiding environments that may lead to over-stimulation (e.g., Bumpy terrain, busy gym)

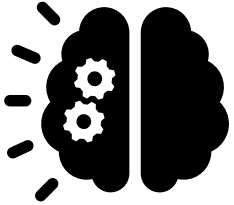
Extra exercise support (e.g., Physiotherapy, guidance in exercise)

Discussion – what can we learn from this?



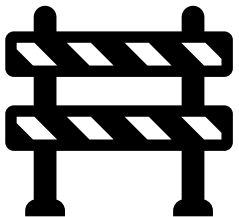
Athletes with visual impairments may experience **longer recovery times**

- Clinical recovery from concussion is commonly achieved by most athletes within the **first month** post-concussion¹
- 4 out of 5 athletes with visual impairments reported that they **did not** meet this recovery timeline



Athletes with visual impairments experience symptoms **severely** and with great **variation**

- Visual symptoms are subject to **change from baseline**



Athletes with visual impairments experience unique **barriers in concussion management and treatment**

Discussion – how can we respond?



Listen to your athletes; **Advocate** for your athletes

- Your athlete will best be able to tell you if something is wrong
- Encourage and advocate for proper management and treatment of your athletes as they recover from their concussion



Baseline testing

- Everyone will respond differently to concussions
- Having baseline symptoms on file is helpful for **identifying new/changes in symptoms**



Stay informed

- Keep updated on latest research and guidelines on concussion in sport and other safe sport topics

THANK YOU

Happy to take questions



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