

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

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# Introduction



Visual symptoms are commonly reported in athletes with concussions<sup>1,2</sup>



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

- 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

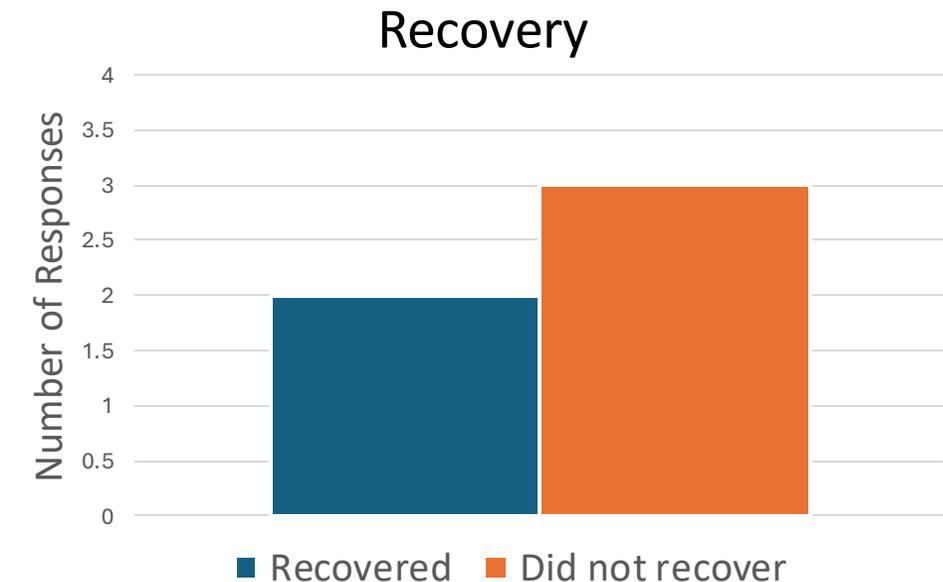
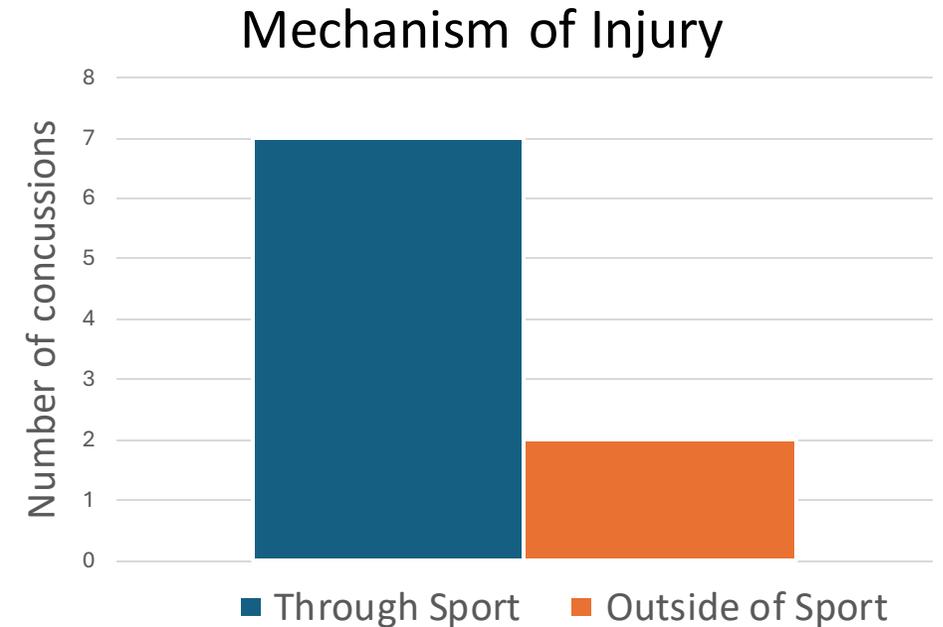
Return to  
Life

# Results - Demographics

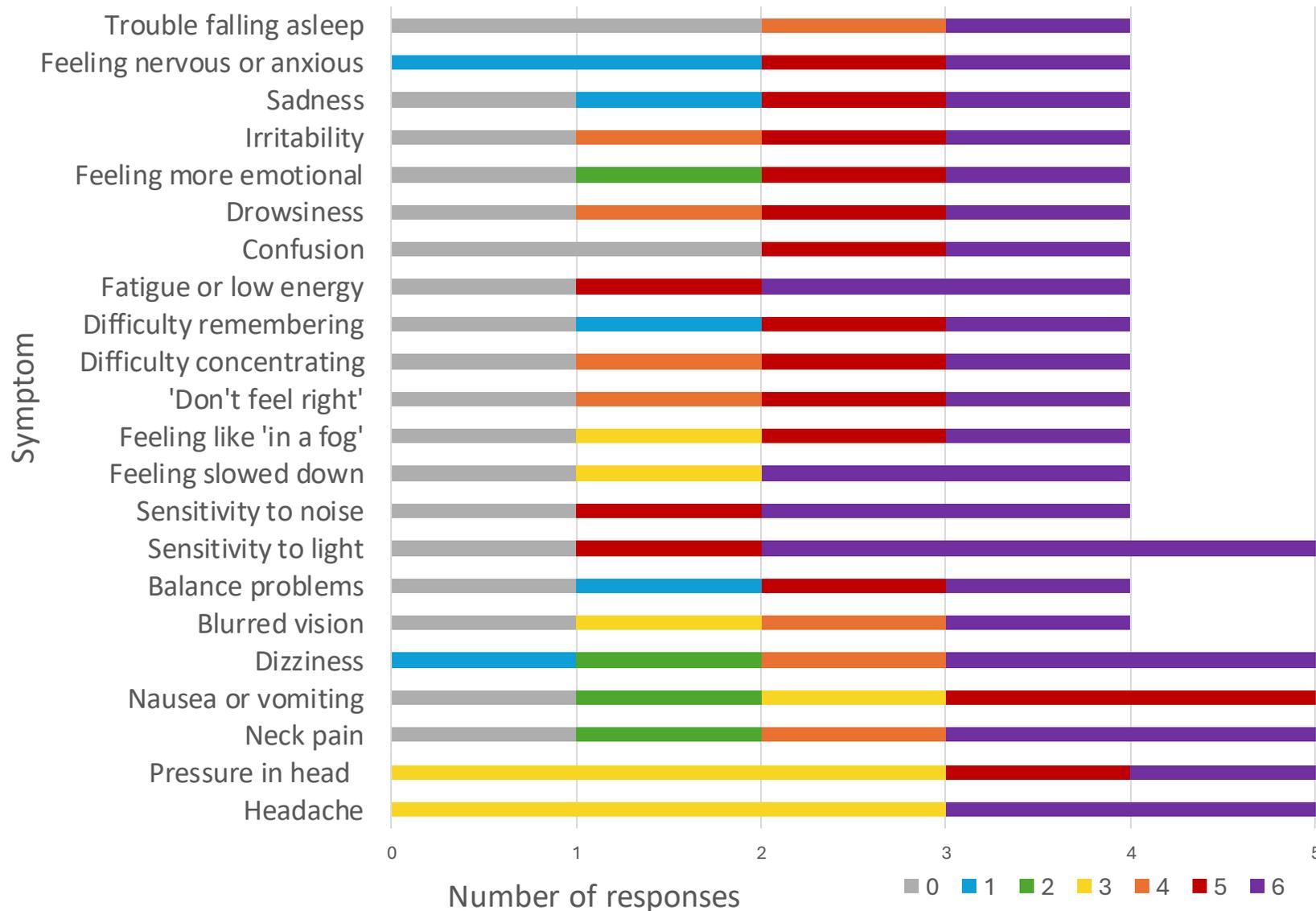
6 complete responses (4 female, 2 male; 33 ± 11.7 years)

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

Limitation: small sample size;  
descriptive analysis

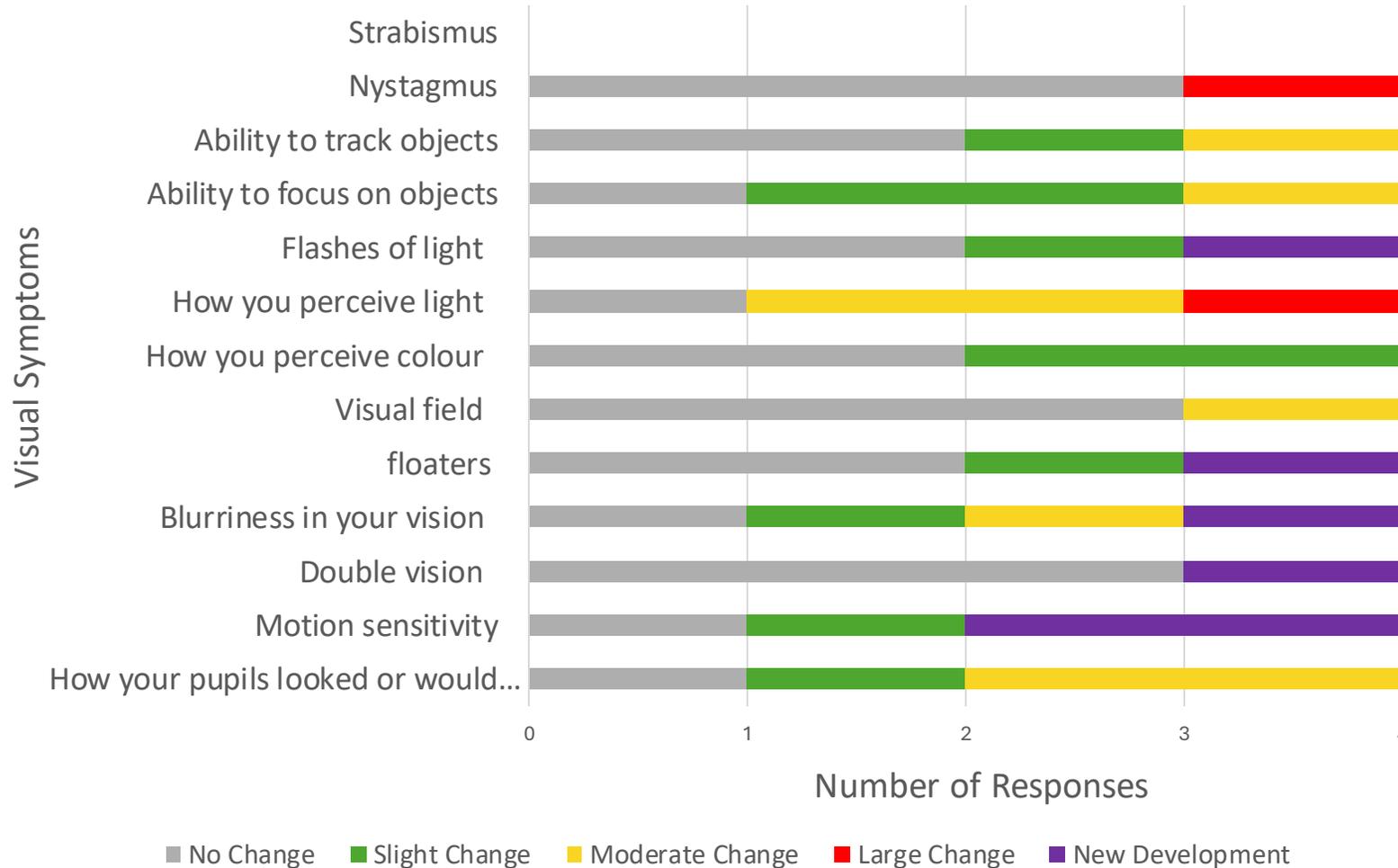


# Results – SCAT-5 Symptom Severity



- 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 132<sup>4</sup>)

# Results – Vision Symptoms

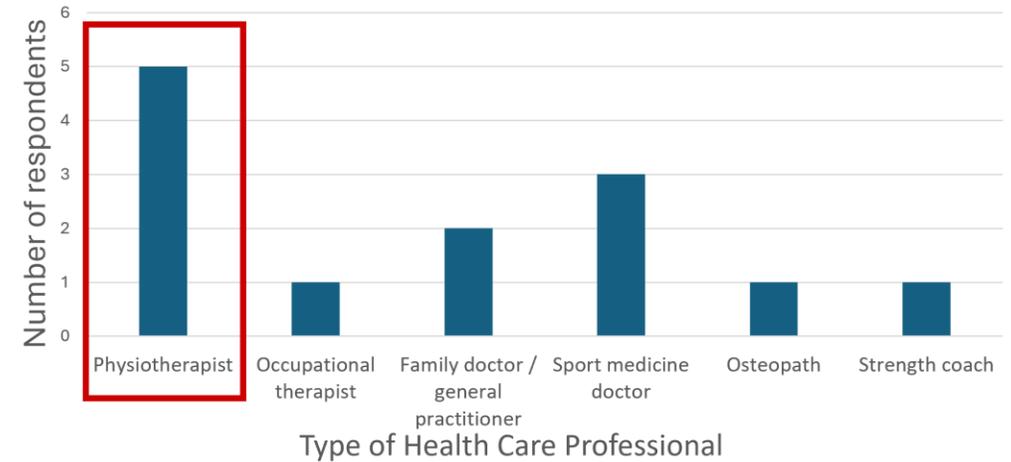


**“I am aware of the difference, and I feel dizzy/spinning backwards all the time ... I am aware of nystagmus whereas before I was not”.**

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

# Results – Concussion Management

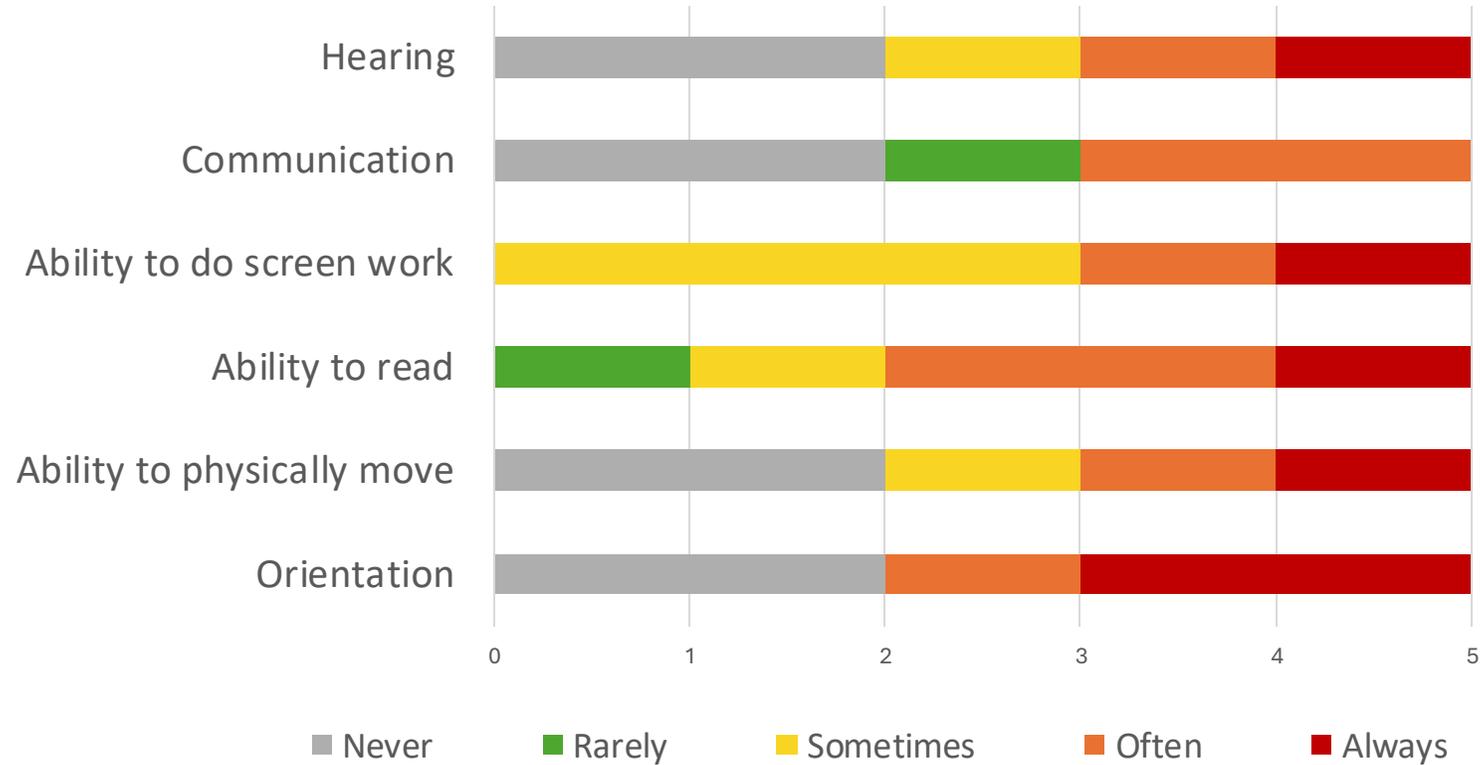
- Majority of treatment was overseen by physiotherapists
- Frequency of treatment was most commonly 1-2x/week
- Duration of concussion treatment ranged from 1 month to 25 years



**“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

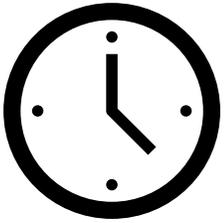
Individual exercise/activities instead of team practice

Reduced drill/practice intensity

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

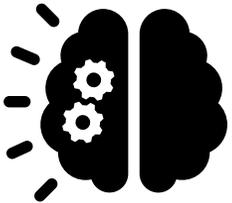
Extra exercise support (e.g., Physiotherapy, guidance in exercise)

# Discussion – what can we learn from this?



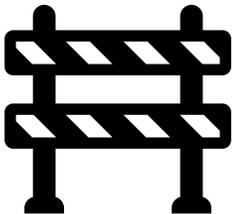
Athletes with visual impairments may experience **longer recovery times**

- Clinical recovery from concussion is commonly achieved by most athletes within the **first month** post-concussion<sup>1</sup>
- 4 out of 5 athletes with visual impairments reported that they **did not** meet this recovery timeline



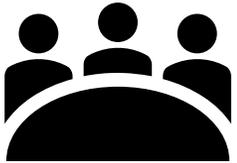
Athletes with visual impairments experience symptoms **severely** and with great **variation**

- 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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