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### Vestibular Rehabilitation as an Early Intervention in Athletes Who Are Post-Concussion: A Systematic Review

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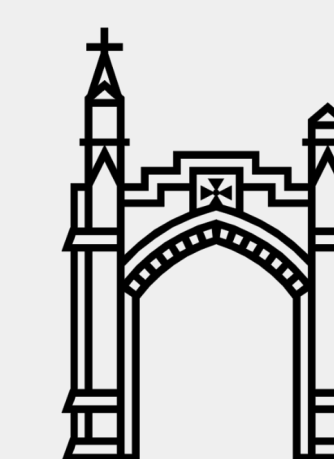
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# Vestibular Rehabilitation as an Early Intervention in Athletes Who Are Post Concussion: A Systematic Review



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## Visual Interventions:



## PT Practice Implications:

- It is safe and effective to incorporate balance and visuovestibular exercises into an athlete's early treatment plan as it may reduce symptoms and cause a quicker return to play (RTP).

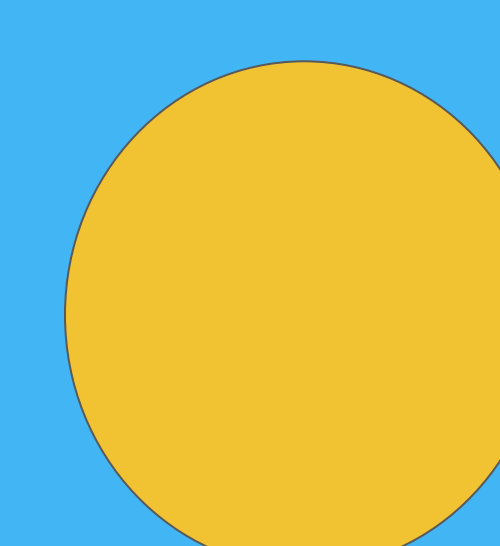
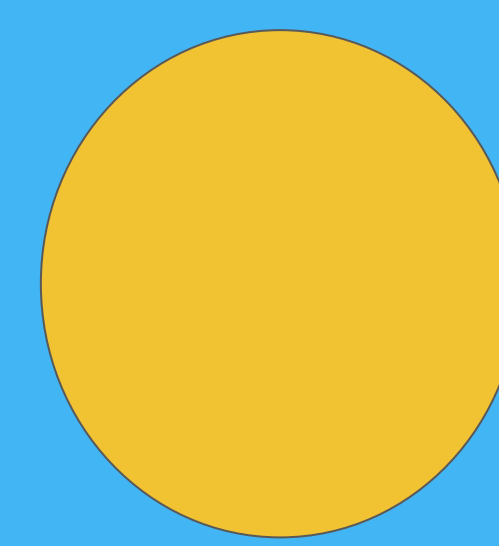
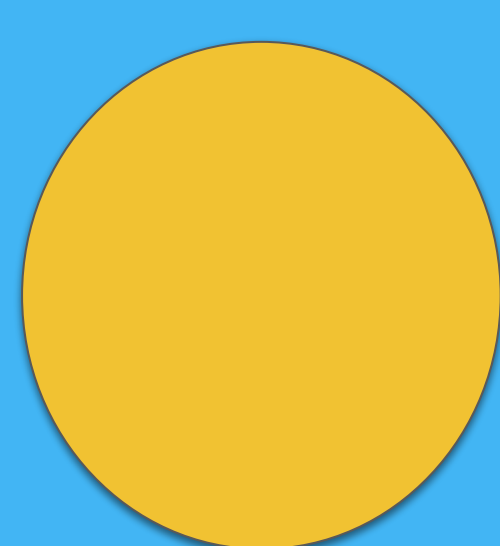
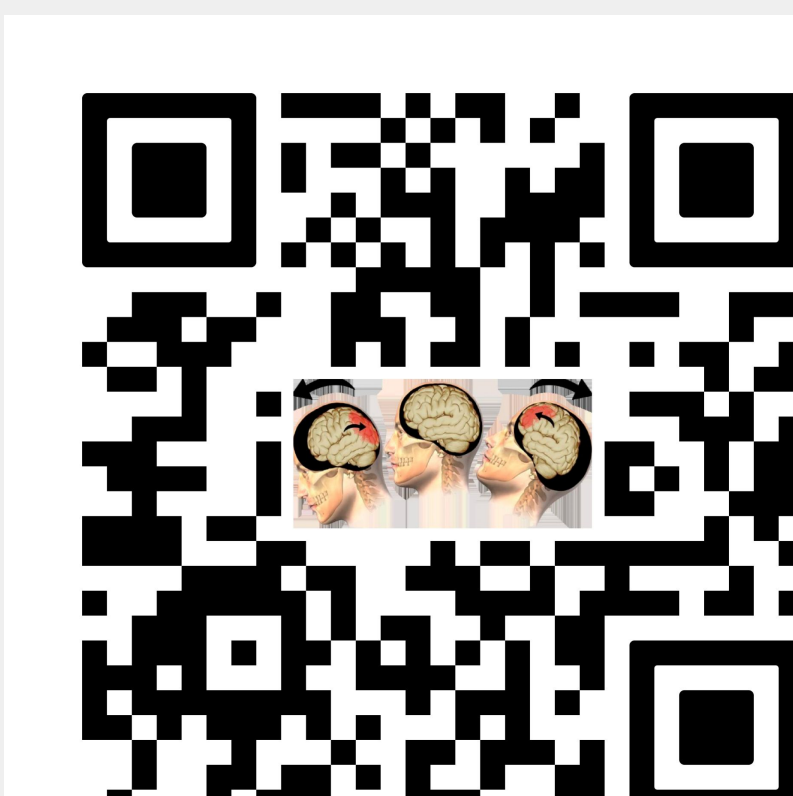
## Discussion:

- Using visual interventions, cervical manual therapy, and specific balance interventions in addition to vestibular rehabilitation therapy significantly reduced time for symptom resolution and time to return to play following a sport-related concussion.

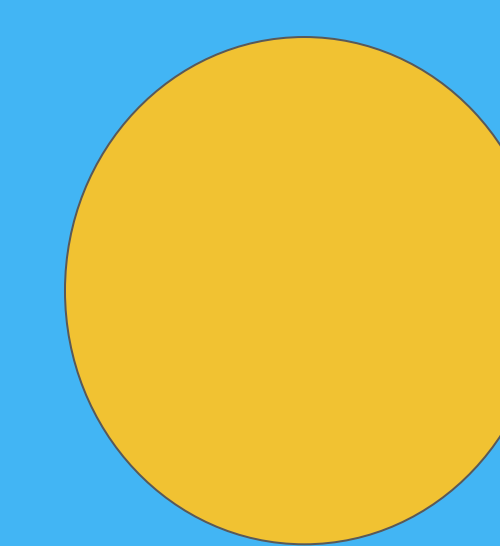
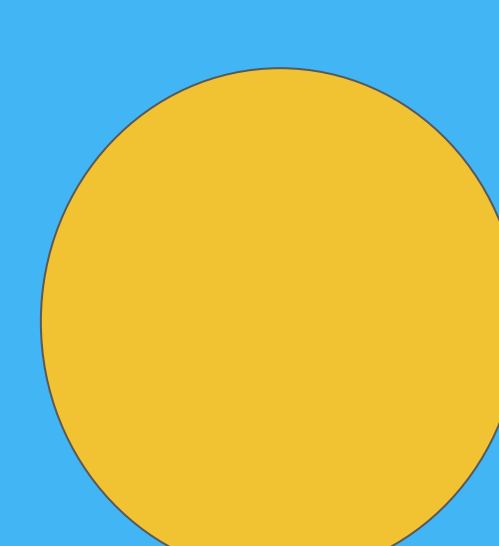
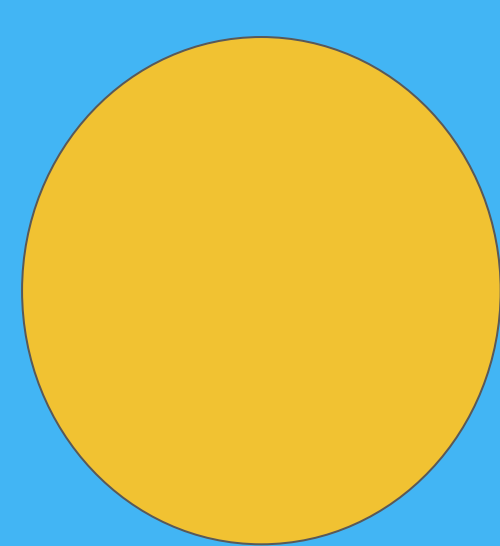
## Conclusion:

- More data collection is needed to further determine the effectiveness of VRT as an early intervention in reducing post-concussion symptoms and decreasing recovery time before return to sport.
- Untreated vestibular symptoms after a concussion has long term effects and a prolonged time to RTP.
- Early intervention of vestibular rehab is beneficial for the patient's long term health.

## Methods, References:



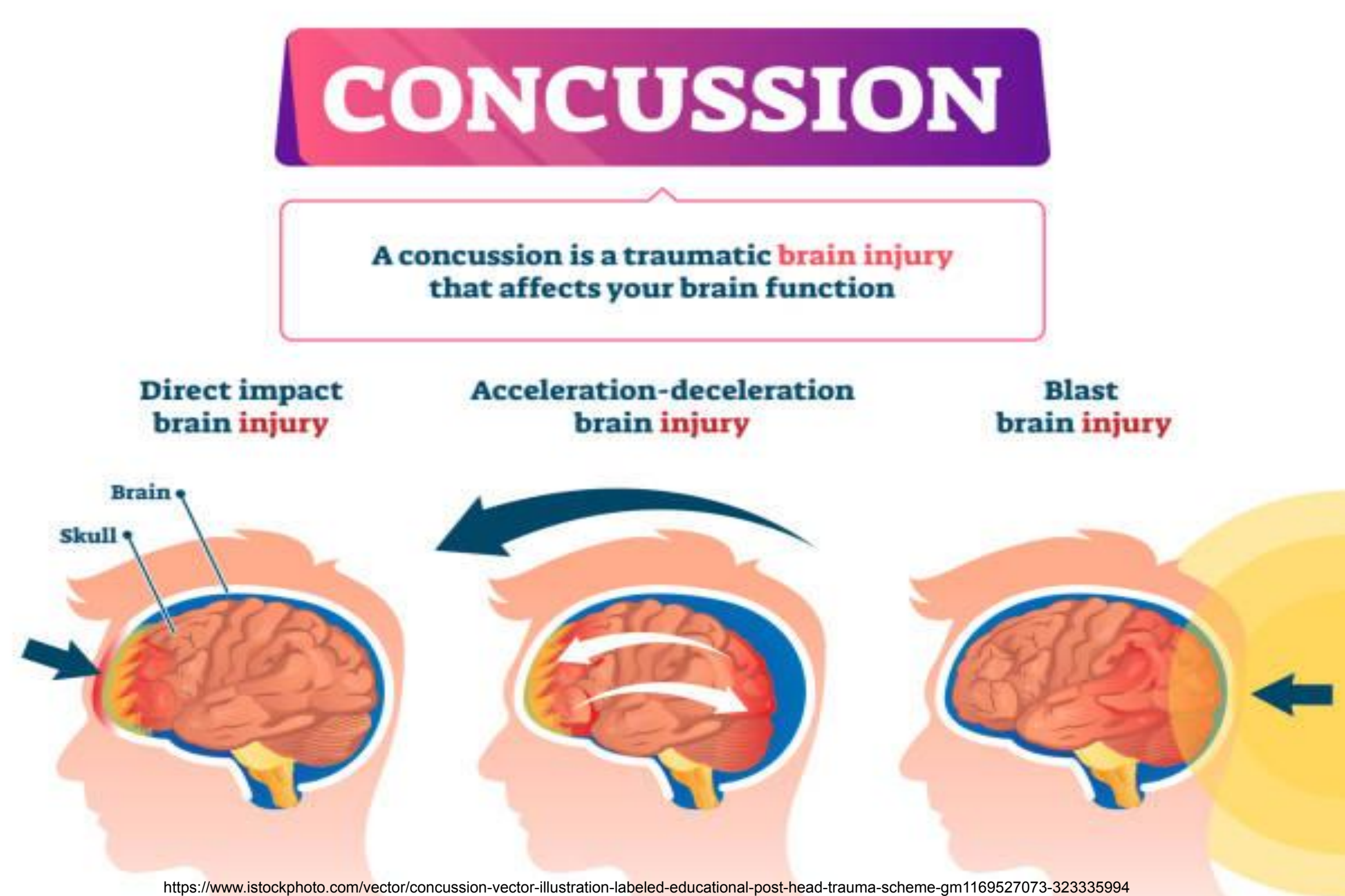
Beginning vestibular rehabilitation therapy as early as **10 to 30 days** post-concussion may result in an **earlier resolution of symptoms and return to sport.**



Edward Warunek, Grace Nikolski, Katherine Cure & Gabrielle Babula  
Susan Barker, PT, PhD, Heather H. Fritz, PT, DPT

## Background:

- Between **1.6 and 3.8 million** sport-related mild traumatic brain injuries (mTBIs) occur annually in the US.
- The current standard treatment is rest followed by aerobic activity. Few researchers have studied the effects of vestibular rehabilitation for concussion treatment, especially in physical therapy practice.
- **Vestibular rehabilitation therapy (VRT)** is defined as an exercise based program that promotes vestibular adaptation.
- The **purpose** of this study is to explain the benefit of early VRT in reducing post-concussion symptoms and return to sport time in athletes as compared to early rest alone.



## Results:

- Early therapy group recovered in **31 days** with vestibular rehab whereas the late therapy group recovered in **110 days**.
- **14.2%** reported balance deficits at the final evaluation compared to **63%** at the initial evaluation.
- Those who presented with vestibulo-ocular dysfunction (VOD) recovered in **40 days** compared to **20 days** of those presenting without VOD.
- Cervical Manual therapy in conjunction with VRT is beneficial to healing if started as early as 10 days post-concussion.