

Clinical Guidelines
Concussion Training
for Pharmacists

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1. Definition of Concussion

Concussion is a type of mild traumatic brain injury caused by a blow, jolt, or bump to the head or body, which results in the brain moving rapidly within the skull. This sudden movement disrupts normal brain function, impacting memory, concentration, coordination, and other cognitive abilities.

Important Note:

“There is no such thing as a mild concussion. We need to be concerned about each concussion and manage each one seriously.”

~ Dr. David Hughes, AIS Chief Medical Officer



2. Causes of Concussion



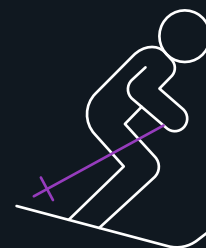
Falls:
Common in children and the elderly.



**Assaults
and Workplace
Accidents**



Sports injuries:
Particularly in contact sports such
as football, rugby, and boxing.



**Recreational
activities:**
Cycling, skiing, skateboarding
without protective equipment.

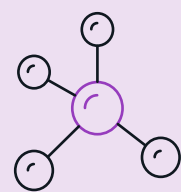


Road traffic accidents:
More likely if safety gear isn't used.



3. Pathophysiology of Concussion

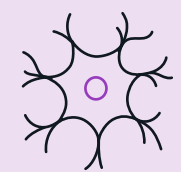
Concussions are caused by external forces causing the brain to stretch and shear, resulting in chemical and metabolic changes, such as:



Ionic disturbances: An imbalance in calcium, sodium and potassium ions leads to dysfunction of brain cells.



Energy depletion: Reduced glucose metabolism and blood flow cause a temporary energy crisis.

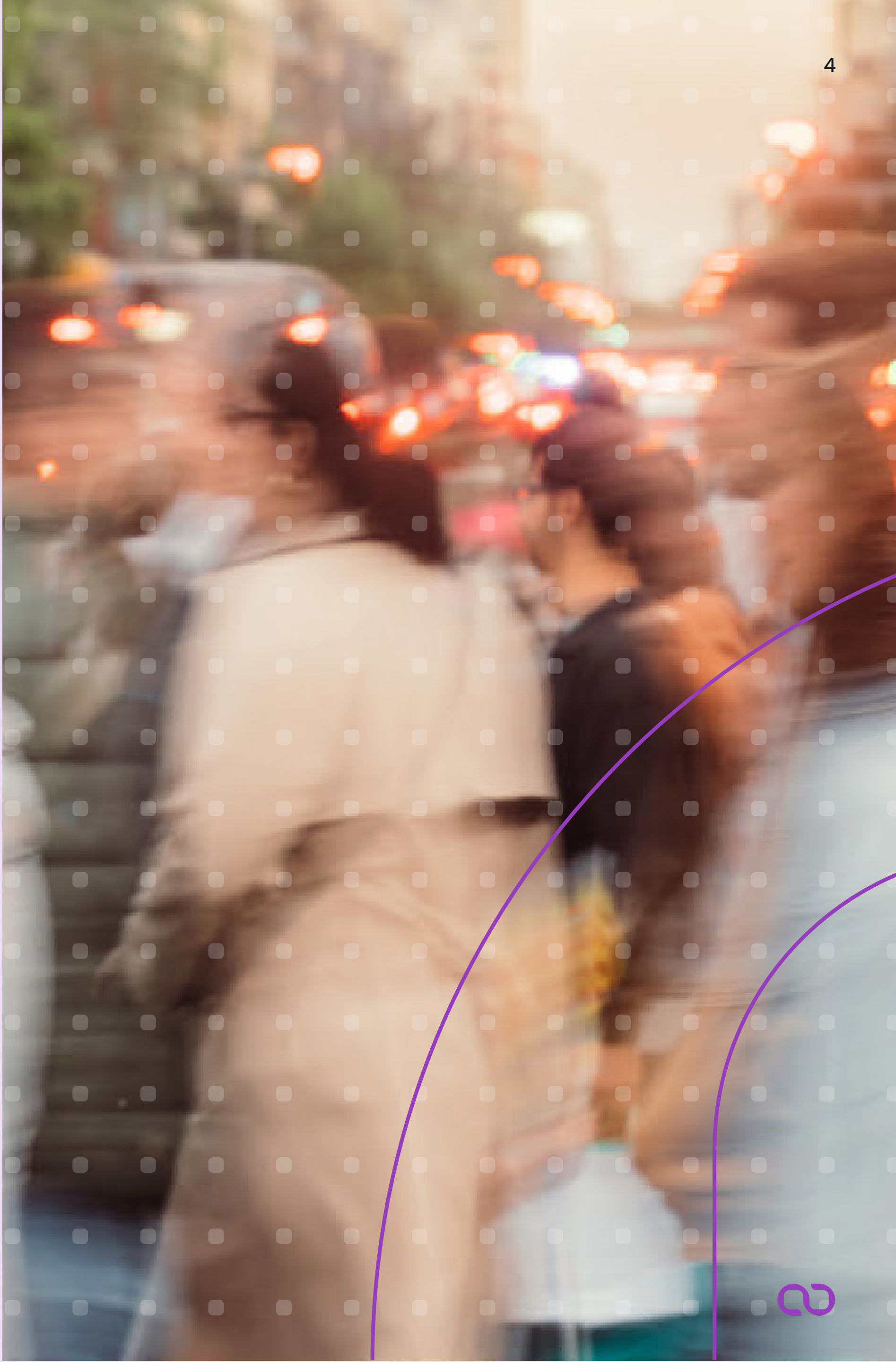


Axonal injury: Stretching and damage to axons, which are vital for brain cell communication.

Key Insight:

Recent studies link repeated concussions to long-term impacts on

- + Cognitive challenges
- + Emotional wellbeing
- + Social functioning
- + Injury risk



4. Signs and Symptoms of Concussion

Concussion symptoms vary widely and may include:



Physical symptoms:

- + Headache
- + Nausea
- + Dizziness
- + Sensitivity to light and noise
- + Fatigue



Cognitive symptoms:

- + Confusion or
- + Mental 'fog'
- + Memory issues
- + Slower thinking



Emotional symptoms:

- + Irritability
- + Mood swings
- + Anxiety
- + Depression



Sleep disturbances:

- + Difficulty sleeping
- + Excessive drowsiness

These symptoms may appear immediately after the injury or develop hours to days later.



5. Screening for Concussion

Sciana, in partnership with NeuroFlex[®], offers two types of concussion checks:

∞ Baseline Check:

Pre-injury brain assessment of oculomotor, vestibula-ocular and cognitive functions.

∞ Assessment Check:

Post-injury assessment of the same oculomotor, vestibula-ocular and cognitive functions.

Sciana uses VR technology to measure vestibular-ocular and oculomotor functions in a quick 10-minute screen.



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6. Treatment of Concussion

Primary treatment steps include:



Short Rest:

Mental and physical rest are essential for 24–48 hours.



Gradual Return to Activity:

Resume activities slowly without worsening symptoms.
Early referral, assessment and rehabilitation leads to faster return to activity.



Pain Management:

Use paracetamol for headaches; avoid NSAIDs initially due to bleeding risk.

Patients with symptoms persisting beyond 10 days should seek further evaluation.



7. Red flags for Concussion

Pharmacists should direct patients to emergency care if any of these symptoms occur:



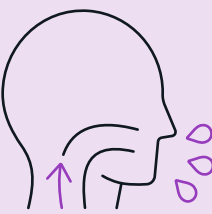
Worsening headache



Loss of consciousness



Limb weakness or numbness/tingling/burning



Repeated vomiting



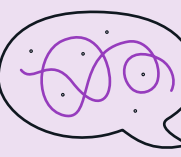
Increasing confusion or agitation



Drowsiness or difficulty waking up



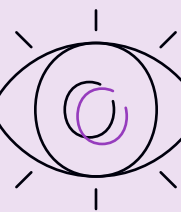
Seizures



Slurred speech



Neck pain



Double vision



8. Advice for Patients with Suspected Concussion

Pharmacists can provide valuable guidance, such as:



Rest and Recovery:

Physical and cognitive rest for initial healing.



Alcohol Avoidance:

Alcohol can interfere with recovery and mask symptoms.



Hydration and Nutrition:

Supporting recovery with adequate hydration and nutrition.



Symptom Monitoring:

Patients should track symptoms and seek care if they persist or worsen.



Gradual Return to Activities:

Resuming activities in a stepwise manner only as tolerated.

A second concussion before full recovery can lead to more severe, prolonged complications.

9. Conclusion

Pharmacists can play a key role in helping patients manage concussions safely.

By offering the right advice on rest, symptom monitoring, gradual activity resumption, and referral to trainer healthcare professionals, pharmacists can aid in safe recovery and help reduce the risk of long-term complications.

Emphasize the importance of rest, monitoring, and gradual resumption to support recovery.



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