



## CLINICAL PRACTICE GUIDELINES FOR **CONCUSSIONS**

### KEY RECOMMENDATIONS FOR EMERGENCY PHYSICIANS

The evidence-based recommendations below are from the *Guideline for Concussion/Mild Traumatic Brain Injury & Persistent Symptoms Ontario* (3rd Edition) developed by the Ontario Neurotrauma Foundation in 2018

# Emergency physicians and nurse practitioners are **essential** in acute concussion diagnosis<sup>1</sup>

- ✓ **Start with a comprehensive examination**<sup>1</sup>  
Acute Concussion Evaluation (ACE)<sup>2</sup> | Sport Concussion Assessment Tool-5th Edition (SCAT5)<sup>3</sup>
- ✓ **Assess for red flags, identify risk factors, and determine need for CT scan**<sup>1</sup>  
Canadian CT Head Rule<sup>4</sup>
- ✓ **Provide patients with education and assurance about symptoms and recovery**<sup>1</sup>  
Concussion Do's and Don'ts<sup>5</sup>

### KEY MESSAGES FOR YOUR PATIENTS



**Get physical and mental rest after your injury, then gradually return to normal activities**<sup>1</sup>



**Book a follow-up appointment with your primary care provider within 1-2 weeks**<sup>1</sup>

For more information on the clinical practice guidelines and the supporting evidence, visit:

[www.braininjuryguidelines.org](http://www.braininjuryguidelines.org)

[www.concussionsontario.org](http://www.concussionsontario.org)



# CONCUSSION

## RISK FACTORS

### Risk Factors for Advanced Imaging

Adapted from Stiegl et al. The Canadian CT Head Rule for Patients with Minor Head Injury. Lancet 2001;357:1391-96



#### RED FLAGS

- Glasgow Coma Score < 15 at 2-hours post-injury
- Suspected skull fracture (open or depressed)
- Any sign of basal skull fracture
- >2 vomiting episodes
- ≥ 65 years-old
- Retrograde amnesia to the event ≥ 30 min
- Dangerous mechanism (e.g., car accident, fall)

### Risk Factors for Prolonged Concussion Recovery

Synthesized from the Concussion Recovery Pattern and Pathway (concussionsontario.org) and Table 1.1 Risk Factors Influencing Recovery Post mTBI (braininjuryguidelines.org)



#### MEDICAL FACTORS

- History of traumatic brain injury, neurological, sleep, or psychiatric problems
- Signs of vestibulo-ocular abnormalities or cognitive difficulties
- Reduced balance or dizziness
- Memory problems post-injury
- Nausea post-injury



#### CONTEXTUAL FACTORS

- Student, female, or old age
- Injured in motor vehicle collision
- Low education or socio-economic status
- High levels of symptom reporting
- Secondary gain issues (e.g. litigation)

#### If 1+ risk factors are identified:

- ✓ Encourage immediate follow-up with primary care provider
- ✓ Provide information and assurance about symptoms and recovery

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# Concussion Symptom Checklist

Age: \_\_\_\_\_

Gender: Male  Female  Other  \_\_\_\_\_

Did you lose consciousness? Yes  No

How did you get your suspected concussion? \_\_\_\_\_

Date/time of injury: \_\_\_\_\_

How many diagnosed concussions have you had in the past? \_\_\_\_\_

When was the most recent concussion before this injury? \_\_\_\_\_

## Have you ever been (check all that apply)?

diagnosed / treated for a headache disorder or migraines

diagnosed with a learning disability/dyslexia

diagnosed with ADD/ADHD

diagnosed with depression or anxiety

Patient Name: _____
DOB: _____ Age: _____
Date: _____ ID/MR# _____

## List all current medications, if any:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please rate the severity of your symptoms from 0 (no symptoms) to 6 (severe symptoms) in each one of the boxes below:

0	1	2	3	4	5	6
no symptoms	mild symptoms		moderate symptoms		severe symptoms	

1. Physical	
Headache	
"Pressure in head"	
Neck pain	
Nausea or vomiting	
Dizziness	
Visual problems	
Balance problems	
Sensitivity to light	
Sensitivity to noise	
Fatigue or low energy	
Difficulty remembering	

2. Cognitive	
Difficulty concentrating or remember	
Feeling mentally foggy	
Confusion	
Feeling slowed down	
3. Emotional	
More emotional	
Irritability	
Sadness	
Nervous or anxious	
4. Sleep	
Drowsiness	
Changes in sleep patterns	
5. Exertion	
Symptoms get worse with mental activity	
Symptoms get worse with physical activity	

Synthesized from the:  
 Acute Concussion Evaluation (ACE): Journal of Head Trauma rehabilitation. 2008;23(4):230-42  
 Sport Concussion Assessment Tool 5th Edition (SCAT5). Br J Sports Med 2017; 51:851-858

## The Do's



 **See a medical doctor or nurse practitioner for help**



 **Rest 24-48 hours physically AND mentally**  
Sleep at night, rest during the day.



 **Take it slowly returning to daily activities and sport**

Talk with your doctor or nurse practitioner about when you can return to work, school or play.  
Respect your brain and your body. Have a conversation with your doctor or nurse practitioner about what this can look like for you.  
As you start to feel better, it's important to get back to doing your normal activities. Start by doing just a little, and if you feel okay, then you can try to do a bit more. Keep track of how you feel.



 **Conserve your energy**

After a concussion, your brain has less energy to spare than it normally does. It is important to manage physical and mental energy so that your brain can fully recover.  
If symptoms return or you get new ones as you become more active, this is a sign that you are pushing yourself too hard.



 **Take care of basic needs**

Eating well and regularly can improve your mood, sleep and mental focus.  
Stay away from stimulants such as coffee, caffeine, pop and energy drinks. Stimulants can put added stress on your brain.  
Keep a regular sleep schedule. Talk to your healthcare provider if you have trouble getting a good night's sleep.



 **Manage stress**

Stress and emotional upset can make symptoms feel worse. Try to do things that help you relax and feel calm.  
Talk about your worries with someone you trust such as your healthcare provider, a family member or friend. Let others know how they can help you.

## The Don'ts



 **Don't be woken up every hour**

Increased sleep is normal and necessary.



 **Reduce the use of electronic devices**

Prioritize the use and take frequent breaks (e.g. looking at computer, phone, tablet, TV screens).



 **Don't be put in a dark room to avoid all activity**

In the past, patients were told to have absolute rest. It is now accepted that light and cautious activity with rest as needed can be part of the healing process. Respect your brain and your body. Have a conversations with your doctor or nurse practitioner about what this can look like for you.



 **Don't do activities with risk of falls or reinjury, play sports, do heavy chores or activities that could lead to another concussion or cause symptoms to worsen**

Light cardio in a safe setting is encouraged to promote recovery. Be particularly careful in the first few days. Some people who have had repeated concussions may have serious long-term problems including difficulty with concentration, memory, headache and sometimes physical skills (e.g. balance, coordination).



 **Reduce your involvement in full-time work or study**

The demands of work or school can trigger symptoms. You may need to take some time off to rest and recover or reduce your responsibilities for a short period of time.



 **Don't drive, ride a bike or work with machinery or ladders**

Reaction time, vision and thinking may be affected by a concussion. Do not drive a car until your doctor or nurse practitioner advises you it is okay.

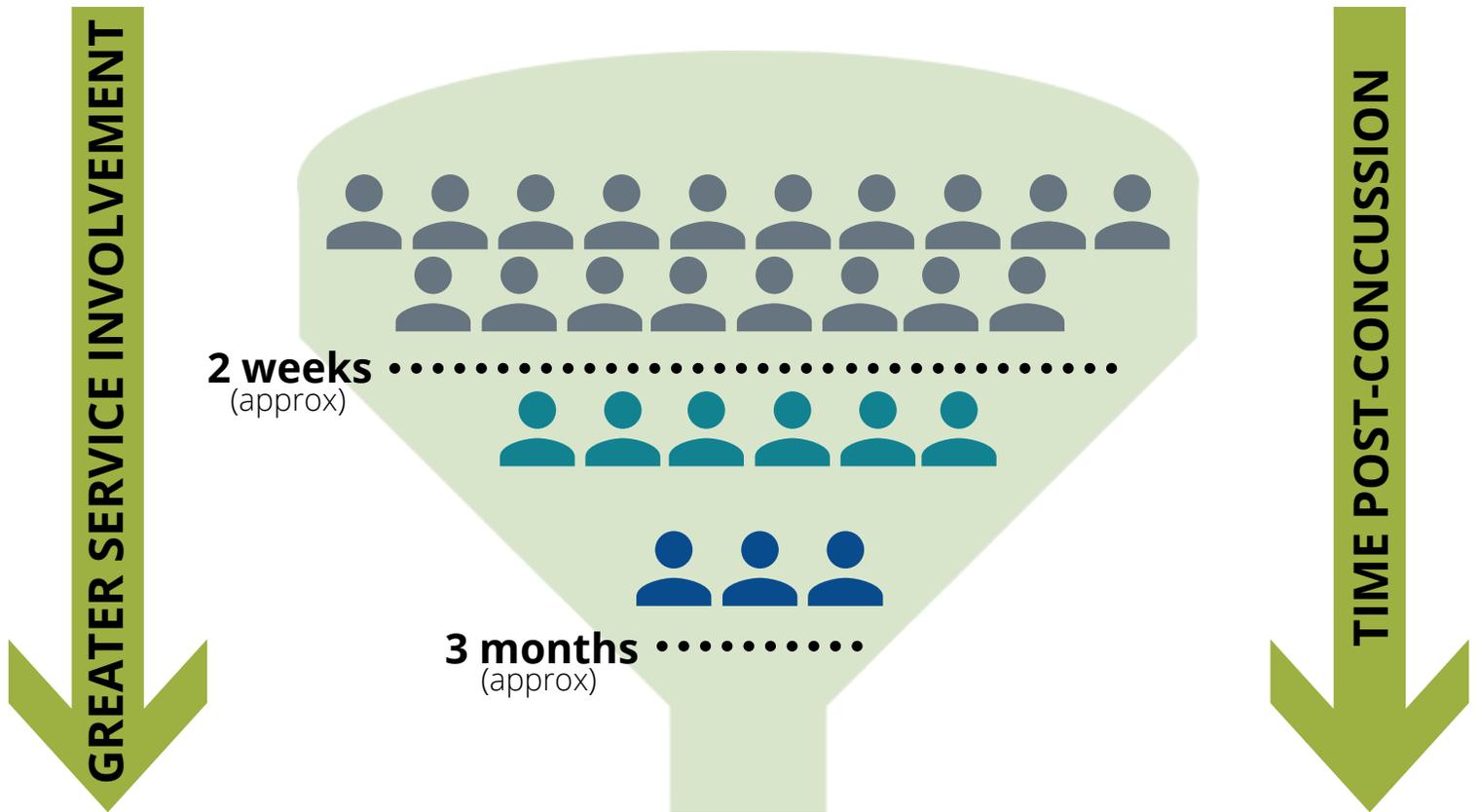


 **Don't use non-prescription drugs, including alcohol**

Using non-prescription drugs (including alcohol) may add to concussion symptoms and increase recovery time. Only take drugs that your doctor or nurse practitioner has approved.



# CONCUSSION RECOVERY TIMELINE



## Follow-up with primary care provider

Majority recover within a few weeks with education about symptom management. Some symptoms may continue.



## Further follow-up required

Additional assessment(s) may be needed if symptoms do not resolve.



## Prolonged/persistent symptoms need interdisciplinary care

Typically patients with risk factors for prolonged symptoms are identified at the initial medical assessment.

For more information and resources, visit our websites:

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