TOOL 1.3: Manage Acute and Prolonged Concussion Symptoms Algorithm

Initial medical assessment (Physician or Nurse Practitioner)
- Clinical history, physical examination, determine need for imaging
- Rule out more severe traumatic brain injury (TBI), structural spine injury, neurological/medical causes of concussion-like symptoms (Sidebar 1: Symptom attributes)
- Post-injury education and guidance
- Assess any modifiers that may delay recovery and consider early referral to interdisciplinary team
- Arrange follow-up in 1-2 weeks to re-assess clinical status

Suspected structural brain or spine injury
Immediate referral

Neurosurgery or emergency department

Initial medical assessment (Physician or Nurse Practitioner)
- Clinical history, physical examination, determine need for imaging
- Rule out more severe traumatic brain injury (TBI), structural spine injury, neurological/medical causes of concussion-like symptoms (Sidebar 1: Symptom attributes)
- Post-injury education and guidance
- Assess any modifiers that may delay recovery and consider early referral to interdisciplinary team
- Arrange follow-up in 1-2 weeks to re-assess clinical status

Specialized therapy/interdisciplinary concussion team
- Medical assessment by physician with expertise in concussion
- Adjunctive testing
- Interdisciplinary management
- Targeting/symptom specific care

Modifiers that may delay recovery (Sidebar 3) - high risk of prolonged post-concussion symptoms

Not yet recovered > 4 weeks prolonged symptoms

Medical clearance to return to full-contact sport and high risk activities

Links to Recommendations:
1: Recognition and Directing to Care
2: Initial Medical Assessment and Management
3: Medical Follow-up
4: Medical Clearance: Full-contact sport or high-risk activity
5: Sport Concussion Considerations
6: Headache
7: Sleep
8: Mental Health
9: Cognition
10: Vision/vestibular/oculomotor
11: Fatigue
12: Return-to-School and Work

SIDEBAR 1
> Symptom Attributes
• Duration, onset, triggers, location
• Intensity and impact
• Perception of symptoms
• Impact on functioning
• Previous episodes
• Previous treatment and response

SIDEBAR 2
> Psychosocial Evaluation
• Support system
• Mental health history
• Comorbid conditions (chronic pain, mood/stress/personality disorder)
• Substance use disorder
• Absence from school or academic difficulties

SIDEBAR 3: Modifiers That May Delay Recovery:
• Age (increases with age)
• Sex (female)
• Personal and family history of migraines
• History of learning or behavioural difficulties
• Personal and family history of mental health
• Family socioeconomic status/education
• High pre-injury symptom presentation

Adapted with permission from the Ontario Neurotrauma Foundation Standards for Post-Concussion Care - Post Concussion Care Pathway
Living Guideline for Diagnosing and Managing Pediatric Concussion