**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**

**Diagnosed concussion**

**Medical follow-up and referral to healthcare professionals/interdisciplinary concussion team** (1-4 weeks following acute injury)
- Re-assess post-concussion symptom severity, functional status, worsening or new symptoms, return to school/activity/sport status
- Focused history, physical examination, determine need for imaging (depending on nature of prolonged symptoms)
- Complete a psychological assessment (Sidebar 2)
- Post-injury education and guidance, recommend additional assessments or accommodations if symptoms worsen or fail to improve
- Assess any modifiers that may delay recovery and consider early referral <4 weeks post acute injury
- Refer to interdisciplinary concussion team or appropriate sub-specialist if symptoms last longer than 4 weeks (or sooner as needed/using clinical judgment)
- Arrange frequent clinical follow-up while awaiting for consultation
- See guideline sections for specific post-concussion symptoms

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

**Not yet recovered** > 4 weeks prolonged symptoms

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

**Neurosurgery or emergency department**

**No diagnosed concussion**

**Clinically recovered**

**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
www.pedsconcussion.com