



## TOOL 7.1: Prolonged Post-concussion Sleep Disturbances Algorithm

### Medical follow-up

(Sleep disturbances >1-4 weeks)

- Screen for medical conditions, current medication use, comorbid psychopathology, and risk factors for sleep disturbances (Sidebar 1)
- Reinforce the importance of sleep hygiene and physical and cognitive activity
- Assess return to school and return to sport status
- Consider treating with cognitive behavioural therapy (CBT) or refer to interdisciplinary concussion team if symptoms last longer than 4 weeks (or sooner as needed/using clinical judgment)

Sleep disturbances persist > 4 weeks post-concussion

### Cognitive behavioural therapy or referral to healthcare professionals/ interdisciplinary concussion team

1. Cognitive behaviour therapy (CBT): treatment of choice
2. Daily supplements: magnesium, melatonin, and zinc
3. If CBT is not available: monitor behavioural interventions weekly, consider referral to an interdisciplinary concussion clinic or occupational therapist

Sleep disturbances persist > 6 weeks post-concussion and interventions at 4-weeks have been unsuccessful

### Referral to healthcare professionals/ interdisciplinary concussion team

#### Refer to a sleep specialist for consultation

Particularly if sleep hygiene can't be optimized and poor sleep quality is impacting ability to return to school or ability to recondition.

Ideal specialist: a specialist who has experience with mTBI and polysomnography.

#### Pharmacological treatment

Consider prescribing medication on a short-term basis if sleep has not improved > 6 weeks post-injury. Ensure that medications do not result in dependency and that patient has minimal adverse effects. The aim is to establish a more routine sleep pattern. (Sidebar 2)

#### SIDEBAR 1

#### Factors that may influence the child/adolescent's sleep/wake cycle

##### > Medical conditions

- Endocrine dysfunction
- Metabolic dysfunction
- Obesity
- Enlarged tonsils
- Obstruction
- Sleep-related breathing disorders
- Early morning headaches

##### > Current medication use

Verify if patient's prescribed or non-prescribed medications impact sleep:

- Inadequate medication
- Dosage
- Timing of administration
- Screen for stimulants

##### > Comorbid psychopathology

- Mood and anxiety disorders
- Post-traumatic stress disorder (PTSD)
- Query nightmares and/or night terrors

##### > Unhealthy habits

- Lack of exercise
- Variable sleep-wake schedule
- Excessive napping
- Excessive time spent in bed
- Exercising close to bedtime
- Screen time
- Use of nicotine, caffeine, energy drinks, processed foods, processed sugars, alcohol and drugs

#### SIDEBAR 2

#### Potential medication options – short-term basis only

- Trazodone 12.5 mg
- Amitriptyline 5.0 – 10.0 mg

