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General Recommendations Regarding Diagnosis/Assessment of Persistent Symptoms

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While full recovery is expected within 3 months after concussion/mTBI,^{1,2} not all patients experience such rapid recovery, with minimally 15% or more experiencing persistent symptoms.^{3,4} A more recent study showed 20 – 48% of veterans had persistent symptoms up to 60 months post-concussion.⁵ A number of factors influence the rate of recovery, including the mechanism and setting for the initial injury; for example, concussion/mTBI due to non-sport-related causes can be unexpected, emotionally charged, or associated with multiple or even life-threatening injuries. Other potential risk factors (see [Table 1.1](#)) may signal the need to monitor patient recovery more closely, given that these individuals are at higher risk for persistent symptoms and poorer outcome.⁶⁻⁸ For persons with persistent symptoms at 1 month post-injury, referral for specialized assessment in an interdisciplinary concussion clinic may be indicated. Patients with persistent symptoms 3 months post-injury should be referred for interdisciplinary treatment if available.

There is controversy regarding the diagnosis of persistent post-concussion symptoms because there is significant symptom overlap with other diagnoses that can result as a consequence of a traumatic experience, for example, depression, anxiety, and post-traumatic stress disorder, as well as the sequelae of pain related to comorbid conditions such as post-traumatic headache or whiplash-associated disorder (see [Table 4.1](#), [Appendix 4.1](#)). Regardless of formal diagnosis (e.g., persistent post-concussion symptoms versus depression), persistent symptoms following mTBI have the potential to cause functional limitations and need to be addressed in a coordinated and directed fashion in order to assist recovery. Thus, the priority for primary care providers remains managing symptoms and encouraging patients to gradually return to activity guided by symptom tolerance to prevent delays in recovery. Patients who receive education and treatment earlier are more likely to have fewer persisting symptoms later.⁹ The assessment and monitoring of symptoms following mTBI may be facilitated using valid assessment tools, such as the *Rivermead Post Concussion Symptoms Questionnaire* ([Appendix 1.5](#)) or the *Post Concussion Symptom Scale* ([Appendix 1.6](#)).

Table 4.1. Differential Diagnoses Related to Concussion/mTBI

Major depressive disorder
Generalized anxiety disorder
Post-traumatic stress disorder (PTSD)
Chronic pain syndrome
Cervical strain/whiplash associated disorder
Substance abuse or polypharmacy
Somatic symptom disorder
Factitious disorder
Malingering
Post-traumatic headache
Post-traumatic dizziness
Fibromyalgia syndrome (secondary)
Primary sleep disorder: e.g., obstructive sleep apnea

It is also important to note that there is frequently an interplay of symptoms, social circumstances, and subsequent development of complications (e.g., depression) that can complicate and negatively influence recovery. The particular cluster of presenting symptoms will vary among patients, necessitating an individualized approach to management. Accordingly, one of the primary aims of the guideline is to assist in providing recommendations for management of these patients at risk using a symptom-based approach. See the individual sections for more specific treatment information.

GENERAL RECOMMENDATIONS REGARDING DIAGNOSIS/ASSESSMENT OF PERSISTENT SYMPTOMS		
		GRADE
4.1	<i>Somatic, cognitive/communication and emotional/behaviour symptoms following mTBI should be documented using a standardized assessment scale (see Appendix 1.5) at the initial appointment as well as follow-up appointments until symptoms resolve.*</i>	C
4.2	The assessment and management of an individual with persistent mTBI-related symptoms should be directed toward the specific symptoms while considering their etiology and elapsed time from injury. Primary care providers should be aware of symptom interaction as some symptoms may exacerbate others. ^a	C
4.3	The assessment should include a review of currently prescribed medications, over-the-counter medications/supplements and substance use, including alcohol, marijuana and other recreational drugs.	C

4.4	The persisting physical, cognitive, and/or psychological symptoms following mTBI can be nonspecific and may overlap. Therefore, careful and thorough differential diagnoses should be considered as similar symptoms are common in chronic pain, depression, anxiety disorders, sleep disorders and other medical and psychiatric disorders (e.g., headache, pain, fatigue, concentration problems etc.) (see Table 4.1 and Appendix 4.1).	C
4.5	After a brief period of rest during the acute phase (24–48 hours) after injury, patients can be encouraged to become gradually and progressively more active as tolerated (i.e., activity level should not bring on or worsen their symptoms). ^b	A

* NOT AN ORIGINAL RECOMMENDATION - REPEAT OF 1.8

RESOURCES		
APPENDICES		
1	Rivermead Post Concussion Symptoms Questionnaire	Appendix 1.5
2	Post Concussion Symptom Scale	Appendix 1.6
3	ICD-10 Definitions for Differential Diagnosis Related to mTBI	Appendix 4.1
TABLES		
1	Differential Diagnoses Related to mTBI	Table 4.1
2	Risk Factors Influencing Recovery Post mTBI	Table 1.1

References

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a. Adapted from the *VA/DoD Management of Concussion/Mild Traumatic Brain Injury Clinical Practice Guideline (VA/DoD, 2009)*.

b. Adapted from *McCrorry P, Meeuwisse W, Dvořák J, et al. Consensus statement on concussion in sport. Br J Sports Med 2017;51:838-847*