

OCCUPATIONAL THERAPY AND CONCUSSION MANAGEMENT

INTRODUCTION

Concussion care has evolved in recent years and the way concussions are managed by health care professionals is changing. Prolonged rest is no longer recommended, and individuals are encouraged to return to their activities gradually, rather than to avoid activity altogether. Once diagnosed, early education and intervention are an essential part of preventing prolonged symptoms that can have lasting impacts on an individual's function. Occupational therapists (OTs) offer a unique holistic perspective of individuals and have the necessary skills to identify, assess and treat the functional impacts concussions have on individuals. Early occupational therapy intervention includes providing education and reassurance about recovery, coaching individuals in return to activity, as well as referring clients to other disciplines where necessary. **This document will provide information to stakeholders and health care professionals on the role of occupational therapy in concussion rehabilitation.**

WHAT IS A CONCUSSION?

A concussion, also commonly known as a mild traumatic brain injury (mTBI), refers to a complex pathophysiological process that is caused by trauma to the head¹.

The signs and symptoms of a concussion vary between individuals but may include:

- Physical: Headache, neck pain, dizziness, nausea
- Cognitive: Change in consciousness, confusion, slowed reactions, brief amnesia, decreased attention, slowed reactions, slowed thinking
- Emotional/Behavioural: Irritability, sadness, anxiety
- Sleep disturbances: Difficulty falling asleep, difficulty staying asleep¹⁻³

In adults, the symptoms of a concussion typically resolve within fourteen days⁴. However, some individuals experience prolonged symptoms known as post-concussion syndrome. These symptoms can include but are not limited to, visual, vestibular, cognitive, emotional and sleep disturbances⁴. Individuals who experience post-concussion symptoms are at an increased risk to experience symptoms of anxiety and depression⁴, which have negative implications for functioning. These negative impacts can be further exacerbated by typical concussion symptoms.

WHAT IS OCCUPATIONAL THERAPY?

Occupational therapy is a regulated, licensed health profession whose role is to promote health and well-being through targeted participation in everyday meaningful activities. Occupational therapists analyze factors that can impact an individual's ability or inability to engage in their daily activities, or occupations^{5,6}, and works alongside the client to facilitate their re-engagement in these occupations. OTs also work with individuals to prevent secondary complications after injury, such as concussion, and provide support to prevent injury while performing daily activities.

OTs are uniquely qualified to fully understand how the person, their environment and their occupations interact in various types of illness and disability. Having education in anatomy, neurology, physiology, and mental health prepares occupational therapists to address functional limitations that may arise from a wide variety of medical conditions. At the same time, OTs are well trained in a holistic approach that takes into consideration the physical, cognitive, emotional, and spiritual components of the individual when providing treatment recommendations.

THE SCOPE OF OCCUPATIONAL THERAPY SERVICES IN CONCUSSION RECOVERY

OTs have a broad scope of practice. As licensed and regulated health professionals, OTs have an ethical duty to maintain a standard of professional competency, therefore ensuring they are competent in an area prior to practicing in it⁷. OTs develop competence through continuing education, training, and receiving mentorship from experienced clinicians.

OTs are skilled at addressing many of the physical and cognitive symptoms related to a concussion that have particularly negative impacts on functioning. Physical symptom management areas include fatigue, pain, balance and dizziness, sensory sensitivities, exertion intolerance, sleep, and co-occurring orthopaedic injury. Cognitive symptom management areas include mental/cognitive fatigue, attention/concentration, memory, processing speed, language and communication, and executive function. OTs have a role in screening for vision impairments, and subsequently referring clients to vision specialists if appropriate, or treating functional vision impairments⁸. It is also within the scope of occupational therapy practice to support clients with psychological/psychosocial concerns when they are impacting an individual's engagement in occupation⁹. OTs use occupations therapeutically to help clients manage symptoms, recover, and regain function.

WHEN SHOULD OCCUPATIONAL THERAPY SERVICES BE ACCESSED?

After a concussion, an initial assessment should be conducted by a physician or a nurse practitioner¹⁰. [The Post-Concussion Care Pathway developed by the Ontario Neurotrauma Foundation \(ONF 2017\)](#) outlines steps in the assessment and management of concussion, including indicators for a referral to interdisciplinary care¹⁰.

The ONF recommends that referral be made to an OT when any of the following occur:

- the client requires support for integration to school or work and day to day activities
- cognitive deficits
- fatigue (mental/physical)
- sleep difficulties
- or co-occurring orthopaedic injuries ^{11(pp. 48-52)}

This can be used as a practical guideline of when to consider a referral.

Current practice guidelines recommend that clients who a) are at risk for poor prognosis, or b) experience symptoms that persist past four weeks post-injury, should be considered for referral to interdisciplinary evaluation and treatment¹¹. OTs are typically included in this type of interdisciplinary evaluations and treatment programs. ONF's Guideline for Concussion/mTBI & Persistent Symptoms outlines that it is important that individuals receive education, reassurance, and strategy coaching early on to avoid the prolonged rest that can lead to activity avoidance¹⁰. OTs are trained in providing this type of intervention. Individuals with persisting symptoms past the typical recovery time frame should have access to an interdisciplinary team, including an OT, experienced in concussion management to address the multiple factors involved¹⁰.

THE OCCUPATIONAL THERAPY PROCESS

Initial Assessment

OTs offer a unique perspective to concussion rehabilitation as they consider a person's function within the context of family, daily activities and community³. The OT works together with the client to determine what areas of their daily routines have been impacted as a result of their symptoms, and the factors that may be exacerbating symptoms⁴. As post-concussion

symptoms vary between individuals, the initial occupational therapy assessment will vary but may include standardized and non-standardized assessments to gather objective information about symptoms and functional limitations.

Intervention

The objective data and subjective information that the OT gathered during the initial assessment will establish a foundation for the intervention as each intervention is individualized. The occupational therapy intervention is a holistic, client-centred, and evidence-based approach that is targeted at maximizing client function.

To ensure responsible resource management, OTs may include occupational therapy assistants (OTAs) in their intervention delivery. The OT takes on a supervisory role and assigns particular tasks to the OTA. The OT will design and develop an OT intervention program, assign appropriate program components to the support personnel (OTA) and monitor and adapt/modify the program as needed based on ongoing occupational therapy assessment. This lowers the cost of service delivery while ensuring quality client-centred care and intervention.

Occupational therapy services related to concussion management can include:

- Education to clients, families, and communities
- Fatigue management and relaxation strategies
- Sleep hygiene education and coaching
- Non-pharmacological pain management
- Education/strategies for a gradual return to school, work, leisure, and social activities
- Return to driving support
- Negotiating modified duties at work and school with appropriate stakeholders
- Adapting the physical environment to support recovery and prescribing equipment to address symptoms

- Building tolerance to cognitively demanding activities through systematic, graded participation
- Psychosocial and mental health functional support
- Interventions to improve functional visual skills

Ongoing Evaluation

An evaluation is performed to review the impact of the treatment plan on a client's symptoms and to track the client's progress towards his or her goals. Evaluation is done on an ongoing basis, both formally and informally, through screening/assessment tools, observation of task performance and collaborative discussion with the client. After an evaluation, the OT may recommend that part of the treatment plan be modified. In some cases, the OT may identify additional areas that need to be addressed, such as complex visual or mental health concerns. Such issues may warrant a referral to another health care provider on the interdisciplinary team to address these concerns.

THE RIGHT CARE AT THE RIGHT TIME

As per the ONF Guidelines, early education should be provided to individuals with a concussion on the following topics:

- Symptoms and expected outcomes
- Education that current symptoms are expected and common after the injury event
- Reassurance about expected positive recovery
- Gradual return to activities and life roles
- Techniques to manage stress^{11(pp. 8)}

OTs are educated on the relationships between physical, cognitive and psychological health, and the impact these elements have on an individual's function and well-being. OTs are also skilled

at breaking down occupations into subsets of activities and tasks, making them effective at coaching clients in grading activities to progressively return individuals to their previous level of function. By providing this early education and support clients are at a lower risk of experiencing long lasting impacts in their day to day functioning.

COMMON MISCONCEPTIONS

- 1. Concussions do not require rehabilitation: False.** OTs, in combination with other health care professionals, can provide early education to prevent the progression of symptoms, disengagement in activity, and the possibility for psychosocial and mental health complications. Current evidence no longer supports a prolonged period of rest, meaning best practice has transitioned to a short period of rest (24-48 hours¹¹) followed by a gradual return to activity that avoids exacerbation of symptoms. For prolonged symptoms, intervention is often necessary and advisable.
- 2. Occupational therapists do not have a role in concussion management: False.** OTs provide a unique perspective on assessing, intervening, and re-evaluating the functional impact on concussion to support individuals gradual return to their daily activities. OTs utilize the current guidelines and best practice to ensure that clients who are experiencing post-concussion symptoms are effectively identified and treated.

RECOMMENDATIONS

- Individuals with a concussion should have early access to occupational therapy for education, screening, assessment, and support to prevent disengagement from their day to day activities. Early occupational therapy intervention can save future health care costs by avoiding long term functional implications for people who have sustained a concussion.

- Individuals with persistent symptoms should have access to an interdisciplinary team experienced in concussion management, including occupational therapy, to support them in re-engagement in self-care, work, school, and leisure.
- Concussion rehabilitation by OTs should be covered under extended health care plans to provide timely and equitable access to support for clients.

NEXT STEPS FOR OCCUPATIONAL THERAPY AND CONCUSSION MANAGEMENT

- Access to occupational therapy interventions should be provided to improve lives across the age span and save money in all aspects of society. By considering the individual in his or her environments, an OT can determine the skills required to maximize an individual's potential to participate and thrive in their daily lives after a concussion.
- OTs provide services that are valuable in a primary care setting and community and should be considered as an important asset to both primary care and community teams. OTs can provide concussion rehabilitation services alongside the physician/nurse practitioner and other health care professionals to offer collaborative, coordinated, and effective care.
- CAOT-BC is prepared to collaborate with stakeholders and decision-makers to ensure that individuals with concussion are receiving timely and appropriate occupational therapy services to support them throughout their rehabilitation and recovery.

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ADDITIONAL READING AND RESOURCES

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