Subacute Concussion Management and Return to Work

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Disclosures

- I have no financial interest or affiliation with any entity producing, marketing, re-selling, or distributing healthcare goods or services consumed by, or used on, patients.
- I will be discussing off-label use of medications.

Learning Objectives

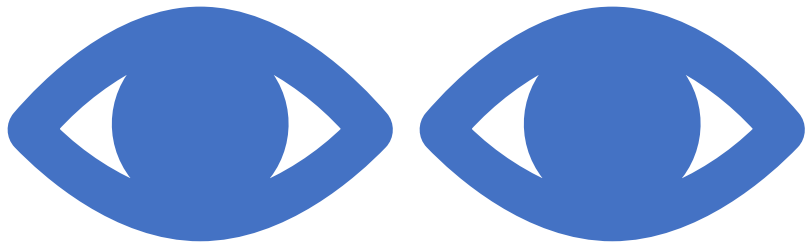
- Identify what category of neurological function is impaired
- Apply most up to date treatment guidelines
- Recognize types of treatment
- Discuss specific pharmacological treatments
- Identify neck injury as cause of persistent symptoms
- Discuss return to work

Subacute Concussion Management

Still significantly symptomatic 7-14 days post injury

Improved but plateaued

Resolved but then symptoms returned



Localize!

What impairment does my patient have?[1]

Physical

Headache

Dizziness

Vision

Neck

Cognitive Function

Fogginess

Concentration

Amnesia

Confusion

Sleep

Drowsiness

Sleep pattern change

Emotional Function

Changes in mood

Irritability

We have tried everything! (Or really nothing)

Universal Treatment Guidelines[1,2]

Do **NOT** allow prolonged strict cognitive or physical rest

Cocoon therapy (resting to the point of avoiding all stimuli) can have adverse effects on mood, physical condition, and social standing

Active therapy, such as aerobic exertion and vestibular therapy, is better than rest therapy

Targeted Therapy: Match the therapy to the clinical profile[2]

- Vestibular/Vision Therapy
- Exercise/Exertion Training Programs
- Cognitive Behavioral Therapy
- Other Psychological and Behavioral Intervention
- Speech Therapy
- Manual Neck Therapy
- Pharmacological

One size does not fit all!

Pharmacological Interventions

Treat the symptoms

vs

Target the problem

Treat the Symptoms[2]

If migraine like headaches, use abortive or prophylactic migraine intervention

If depressed, use antidepressants

If cognitive deficits, consider stimulants

Etc

But avoid changing medications or adding medications that may exacerbate concussion symptoms

Target the Problem[3]

The initial mechanical trauma that results from a traumatic brain injury will initiate a second injury phase characterized by widespread neuroinflammation, excitotoxicity, and oxidative stress

Rat study has found that low dose dexamethasone reduces neuroinflammation and significantly improves motor and cognitive function

Steroids in Humans?[4]

Human study found that after sports related concussion that there was an induction of autoantibodies that was thought to be caused by the inflammatory process resulting from the traumatic brain injury and thru the alteration of the blood brain barrier

These changes lead to hypersomnolence

The hypersomnolence did not resolve with stimulant treatment or melatonin

Hypersomnolence resolved with corticosteroid (Solumedrol) treatment

Your Head is Attached to Your Neck[5]

Many hallmark symptoms post concussion are not specific to concussion and common symptoms like headache, dizziness, and neck pain are characteristic of neck conditions

Persistent post concussive symptoms may not be brain related. Several studies have shown parallels between concussion and whiplash injury

Return to Work

Uncertainty about accommodation in return to work for employees with TBI is closely linked to lack of knowledge in the workplace of how to handle complex and nonlinear return to work processes[6]

There is not much literature on an established return to work plan based on a PubMed search

There are multiple search results where predictive factors on the success of return to work are studied but there is inconsistency between studies on what these factors are[7]

Work Accommodations[8]

- Injured employees should have appropriate support
- Accommodations reduce incidence of workplace disability
- Gradual return to work, modified duties, self-directed compensatory strategies, and allowances for medical appointments identified as useful accommodations
- Healthcare providers should be able to recognize and utilize these accommodations in order to support the injured employee

In my practice…

- Identify the patient occupation
- Avoid job duties that put patient at risk for further injury during healing process
- Is light duty desk work an option?
- What duration and frequency of work hours will symptom profile allow?
- Discuss with patient that return to work is part of the healing process in order to avoid social isolation
- Discuss with patient will reassess work accommodations each visit in order to gradually progress back to full work and if not currently working, our goal is to get back to some form of work as soon as possible
- Provide any necessary accommodations for lighting, noise, screens, breaks, ergonomics, physical demands, and commuting

Summary

- Identify the patient's symptoms
- Ensure patient is not over resting and has started mental and physical exertion
- Tailor the rest of the treatment to patient's symptom profile
- If going to use pharmacological treatment, targeted treatment to the problem is better than symptom management
- Do not forget about the neck
- Provide return to work accommodations based on patient's symptom profile and occupation/job duties

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