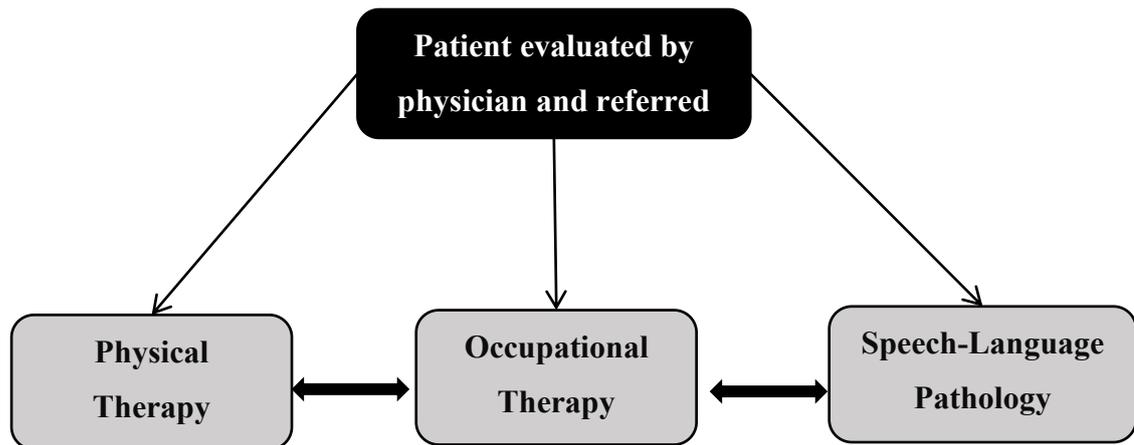


POSTCONCUSSIVE SYNDROME (PCS) CLINICAL PRACTICE GUIDELINE: OCCUPATIONAL THERAPY

Disclaimer

- Progression follows a time-sensitive and criteria-driven approach, considering soft tissue recovery, patient factors, and clinical assessment.
- Contact Dr. Sujan Goju's clinic



Background on Concussions and Post-Concussive Syndrome (PCS)

1

Definition: A type of mild traumatic brain injury (TBI) caused by a bump, blow, or jolt to the head or body that causes rapid head and brain movement.

2

Recovery: Most recover quickly and fully. Some may experience symptoms for days, weeks, or longer. Persistent symptoms are termed post-concussive syndrome (PCS).

3

Post-Concussive Syndrome (PCS): Defined by the International Classification of Diseases (ICD-10) with 3 or more of the following symptoms: headache, dizziness, fatigue, irritability, insomnia, concentration difficulty, or memory difficulty.

4

Factors Affecting Recovery: Older adults, young children, and teens may recover more slowly. Previous concussions can increase the risk and duration of recovery.

5

Impact on Daily Life: Difficulty transitioning back to activities such as work, school, and play.

Categories of Lingering Symptoms

1

Physical

3

Emotional/Mood

2

Cognitive

4

Sleep

Evaluation of Concussion and Post-Concussive Syndrome (PCS)

Aspect	Details
Client History and Occupational Profile	<p>Relevant Information:</p> <ul style="list-style-type: none">• Age• Date of injury• Mechanism of injury• Symptoms at injury and present• Loss of consciousness• Post-traumatic amnesia• Prior concussions• Medical history• Psychosocial factors <p>Function Comparison:</p> <ul style="list-style-type: none">• Compare prior and current levels of function in ADLs, IADLs, school, work, sports, and other interests.

Aspect	Details
	<p>Current Symptom Ratings:</p> <ul style="list-style-type: none"> • Use Concussion Grading Scale (CGS). • Refer to <i>Appendix A</i>.
<p>Physical Symptoms</p>	<ul style="list-style-type: none"> • Headache • Blurry/double vision • Nausea • Dizziness • Sensitivity to noise/light • Balance problems • Fatigue/low energy.
<p>OT Screening</p>	<p>UE ROM, Strength, Coordination, Sensation, Posture:</p> <ul style="list-style-type: none"> • Assess these physical aspects <p>Neck or Balance Issues:</p> <ul style="list-style-type: none"> • Collaborate with PT if necessary (see PT CPG).
<p>Vision – Oculomotor Function</p>	<p>Objective Findings:</p> <ul style="list-style-type: none"> • Differences in saccadic eye movements, smooth pursuits, and tracking compared to controls <p>Assessment:</p> <ul style="list-style-type: none"> • Observe and use standardized assessments: • Developmental Eye Movement Test (DEM) • King-Devick Assessment • NSUCO Saccades and Pursuits Testing • See Visual Screening CPG for details.
<p>Vision – Convergence and Accommodation</p>	<p>Changes:</p> <ul style="list-style-type: none"> • Identified in accommodation and convergence in PCS individuals <p>Assessment:</p> <ul style="list-style-type: none"> • Use questionnaires and standardized tests: • Convergence Insufficiency Symptom Survey (CISS): Scores >21 may indicate impairment.

Aspect	Details
	<ul style="list-style-type: none"> • Near Point of Convergence • Amplitude of Accommodation • Collaborate with optometrists for improvement. • See Visual Screening CPG for details.
<p style="text-align: center;">Sensory Processing</p>	<p>Assessment:</p> <ul style="list-style-type: none"> • Through interview and questionnaire. <p>Interview:</p> <ul style="list-style-type: none"> • Ask about screen time tolerance, light and sound sensitivities <p>Adult Sensory Profile.</p>
<p style="text-align: center;">Vestibular Function</p>	<p>Assessment:</p> <ul style="list-style-type: none"> • Use screening and questionnaire <p>Tools:</p> <ul style="list-style-type: none"> • Vestibular Disorders Activities of Daily Living Scale • Vestibular Activities and Participation Measure • VOR • VOR cancellation • Head Impact Testing (HIT) • Collaborate with Physical Therapy as needed (see PT CPG).

Evaluation of Cognitive, Emotional, and Sleep Symptoms in Concussion

Cognitive Symptoms

Symptoms

- Difficulty thinking clearly
- Feeling slowed down
- Trouble concentrating or remembering new information.

Collaboration

Work with speech-language pathologists (SLPs) to address cognitive deficits

SLP Focus

- Standardized testing
- Remediation of executive functioning
- Memory,
- Cognitive endurance

Return to School/Work

OT and SLP collaborate on plans and accommodations

Additional Input

Physicians and rehabilitation psychologists may be involved

Assessment

- Montreal Cognitive Assessment (MoCA) if not completed by SLP.
- Refer to SLP CPG.

**Emtional
Symptoms**

Symptoms

- Irritability
- Sadness
- Nervousness
- Heightened emotional responses

Identification

Use CGS questionnaire or discuss with the client.

Mindfulness

Suggested as a key factor in enhancing occupational engagement and overall well-being

Additional Input

- Physicians
- Rehabilitation psychologists
- Social workers

**Sleep
Symptoms**

Symptoms

Trouble falling asleep or changes in sleep duration

Identification

Use CGS questionnaire or discuss symptoms

Management:

- Consider that sleep disturbances may be secondary to symptoms like depression or anxiety.
- Adjust management strategies accordingly.

Intervention Strategies for Concussion Symptoms

Physical Symptoms

Vision

- Implement compensatory strategies for light sensitivity and visual tracking.
- Collaborate with optometrists/ophthalmologists for oculomotor function and binocular vision issues

Sensory Processing

Recommend environmental adaptations to reduce sensory stimulation reactions

Fatigue Management:

- Educate on energy conservation through planning, prioritizing, and pacing.
- Refer to fatigue coping strategies

Emotional Symptoms

Mindfulness-Based Techniques

- Use stress reduction
- Relaxation techniques to manage PCS symptoms
- Improve daily functioning

Goal-Directed Techniques

- Symptom management
- Assertiveness training,
- Guided return to meaningful occupations
- Assertiveness training helps in requesting needed accommodations for school or work

Application

Apply these techniques during OT sessions to increase tolerance for therapeutic activities.

**Cognitive
Symptoms**

Executive Function

Remediate executive function skills affecting daily routines

Healthy Routines

Use organizational tools and regular breaks to support daily routines and minimize symptoms

Collaboration

Work with SLPs to address cognitive deficits and enhance executive functioning.

**Sleep
Symptoms**

Education

- Provide information on the importance of sleep for recovery

Healthy Sleep Habits

- Facilitate routines including rest breaks, environmental modifications, and sleep hygiene practices.
- Refer to Appendix

Additional Strategies

- Gradually reduce daytime naps
- Increase physical activity
- Limit screen use before bed
- Use light-blocking curtains
- Apply blue-light filters for screens

Occupational Performance Planning for Concussion Recovery

Return to School	Interventions
General Approach	<p>Importance</p> <ul style="list-style-type: none"> • Return to structured activities • Including school • Helps establish well-being • Routine <p>Goal: Restore consistency in daily activities.</p>
Visual Difficulties	<p>Modifications:</p> <ul style="list-style-type: none"> • Use line guides or tinted transparencies for reading • Provide larger print • Access lesson notes in advance to assist with visual tracking and glare reduction.
Sensory Sensitivity	<p>Modifications</p> <ul style="list-style-type: none"> • Allow changes in class schedules • Provide quieter lunch alternatives • Minimize exposure to large crowds and visual motion.
College-Level Adjustments	<p>Accommodations</p> <ul style="list-style-type: none"> • Preprinted notes • Extended test times • Recording devices for note-taking <p>Compensatory Strategies:</p> <ul style="list-style-type: none"> • Line guides • Glare reduction transparencies • Screen brightness adjustments <p>Social Activities:</p> <ul style="list-style-type: none"> • Recommend less stimulating activities

Return to School	Interventions
	<ul style="list-style-type: none"> Avoid large groups for study or meals.

Return to Work	Interventions
Initial Rest	<p>Recommendation: Begin with a period of rest, then gradually return to work if possible.</p>
Workplace Modifications	<p>Strategies: Create modified workstations, use anti-glare computer screens</p> <p>Collaboration:</p> <ul style="list-style-type: none"> Work with patients Employers to manage symptoms Adapt work environments accordingly.

Appendix A: Dr. Sujan Goju's Clinic Concussion Grading Scale

Question	Options
1. Over the past week, my sleeping pattern has changed.	<input type="checkbox"/> Yes <input type="checkbox"/> No (If NO, skip to #2)
a. Have you been taking naps during the middle of the day?	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Are you waking during the night?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Over the past week, my participation in work or school has been % of what it would be normally.	[Insert Percentage]
3. Over the past week, my participation in physical activity (sports, working out, etc.) has been % of what it would be normally.	[Insert Percentage]

Question	Options
4. Do you feel like you are putting more effort into maintaining schoolwork/grades and/or work productivity?	0 1 2 3 4 5 6 (No More Effort to A Lot More Effort)
5. Please indicate the type of visual changes you are experiencing:	<input type="checkbox"/> Eye Fatigue <input type="checkbox"/> Double Vision <input type="checkbox"/> Blurry Vision <input type="checkbox"/> Other <input type="checkbox"/> N/A
6. Do your symptoms get WORSE with physical activity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7. Do your symptoms get WORSE with thinking/cognitive activity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
8. Do your symptoms IMPROVE with physical rest?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9. Do your symptoms IMPROVE with thinking/cognitive rest?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Symptom Severity Ratings

Symptom	None	Mild	Moderate	Severe
Headache	0	1/2	3/4	5/6
“Pressure in Head”	0	1/2	3/4	5/6
Neck Pain	0	1/2	3/4	5/6
Nausea or Vomiting	0	1/2	3/4	5/6
Dizziness	0	1/2	3/4	5/6
Blurred Vision	0	1/2	3/4	5/6
Balance Problems	0	1/2	3/4	5/6
Sensitivity to Light	0	1/2	3/4	5/6
Sensitivity to Noise	0	1/2	3/4	5/6
Feeling Slowed Down	0	1/2	3/4	5/6

Symptom	None	Mild	Moderate	Severe
Feeling Like “In a Fog”	0	1/2	3/4	5/6
Don’t Feel Right	0	1/2	3/4	5/6
Difficulty Concentrating	0	1/2	3/4	5/6
Difficulty Remembering	0	1/2	3/4	5/6
Fatigue or Low Energy	0	1/2	3/4	5/6
Confusion	0	1/2	3/4	5/6
Drowsiness	0	1/2	3/4	5/6
Trouble Falling Asleep	0	1/2	3/4	5/6
More Emotional	0	1/2	3/4	5/6
Irritability	0	1/2	3/4	5/6
Sadness	0	1/2	3/4	5/6
Nervous or Anxious	0	1/2	3/4	5/6
Sleeping More Than Usual	0	1/2	3/4	5/6
Sleeping Less Than Usual	0	1/2	3/4	5/6
Difficulty Sleeping Soundly	0	1	2	3-6
Ringing in Ears	0	1	2	3-6
Numbness or Tingling	0	1	2	3-6