

CCN Concussion Integrated Care



History of head injury with Concussion Suspected



Symptoms: Use the Concussion worksheet



Physical Examination: Concussion Specific Neuro Exam

- Concussion Examination:
1. Cognition/Memory/Concentration testing
 - a. Delayed Recall (3 words)
 - b. Months of the Year backwards
 2. Balance testing
 - a. Stance and Gait
 3. Vision testing
 - a. Extraocular movements "H test"
 - b. Convergence
 4. Vestibular-Ocular testing
 - a. 'Follow my finger' slow, rapid
 5. Coordination testing
 - a. Finger to nose
 - b. Rapid alternating

Concussion Confirmed: Symptom score >0 +/- abnormal physical exam*

No

Consider Alternate Diagnosis



Yes

Initiate Recovery & Treatment Plan



1. If **danger signs** present, refer to ER
2. Manage Expectations
 - a. Concussion recovery can be slow and unpredictable
3. PCPs should manage concussion for at least 4 weeks without specialist referral (see Referral box on next page)
4. Recover/Treatment/Return

*A higher score on the concussion worksheet or more abnormalities on physical exam indicate a more severe concussion and possible longer recovery but does not require advanced referral

Concussion Recovery/Treatment:

- Physical Rest-not recommended
 - Rest 'as needed', Moderate activity as soon as tolerated
 - If symptoms increase, decrease activity level
 - Full activity to be avoided until symptoms resolved
- Cognitive Rest-not recommended
 - As with physical rest, no evidence it helps
 - Avoid or decrease activities (screen time, reading) which make symptoms worse
- Medication
 - Symptomatic
 - NSAIDs for headache
 - Avoid alcohol and other drugs
 - May use low dose amitriptyline to help with sleep or headaches
 - Consider DHEA/Omega-3
- No other medications have been proven to improve or speed up recovery

Return to Work:

- Dependent on job requirements
- Physical jobs may require step-wise return similar to sports
- An individual plan should be developed

Return to School:

- As symptoms improve
- Coordinate with counselor/teachers
- Limit hours in school
- See CDC Handout

Return to Play/Sports:

- Step 1: Rest both Physical and Cognitive
Step 2: Light/ Nonimpact Aerobic Exercises
Step 3: Sport Specific Exercises
Step 4: Non-Contact Training Drills
Step 5: Full Contact Practice
Step 6: Return to Practice
- Steps are progressed through one at a time with typically **24hrs** between steps
 - If symptoms appear at any of the steps, activity is stopped
 - Once player is symptom free for 24hrs, resume at last step player was asymptomatic
 - Steps should not be combined to decrease Return to Play time

Danger Signs

- Altered mental status
 - Drowsiness to the point of drifting off during conversation
- A headache that gets suddenly worse
- Slurred speech, weakness, objective numbness, or decreased coordination
- Repeated vomiting or nausea, convulsions or seizures
- New unusual behavior, increased confusion, restlessness, or agitation
- Loss of consciousness
 - Even a brief loss of consciousness should be taken seriously

If any are present or suddenly develop:

Send to Emergency Department immediately

Which Patients need a Specialist Referral?

- The symptoms worsen significantly at any time
 - Be aware of **danger signs**
- The symptoms have not resolved after 4 weeks
- The patient has a history of multiple concussions or risk factors for prolonged recovery
 - This may include a history of migraines, depression, mood disorders, or anxiety, as well as developmental disorders such as learning disabilities and ADHA

Where to Refer:

- Concussion Specialist
 - Sports Medicine
 - Physical/Vestibular Rehab
 - Speech Pathology
- Neurologist
 - After 8 weeks of conservative therapy