



PEDIATRIC MILD TBI GUIDELINES

for clinicians

Stanford Brain Performance Center

PECARN RISK FACTORS FOR MORE SEVERE INJURY

- Age < 2 years old
- Recurrent vomiting
- Loss of consciousness
- Severe mechanism of injury
- Severe/worsening headache
- Amnesia
- Non-frontal scalp hematoma
- Glasgow Coma Score < 15
- Clinical suspicion for skull fracture

EXERCISE - SLEEP - NUTRITION

- Early cardio exercise (usually stationary bike or brisk walking/jogging) to support recovery for at least 20 minutes, 4x per week beginning the first week of recovery
- Sleep is likely to be disrupted during concussion recovery – advise sleep hygiene strategies
- Review appropriate hydration and proper nutrition

ANXIETY AND MOOD

- Advise tracking mood to identify triggers
- Discuss that tasks may take longer than usual to complete during recovery
- Review relaxation strategies to reduce day-to-day stress and support a positive outlook

ASSESS

Assess symptoms using validated scales.

- Assess for concussion subtypes with cognitive, balance, and vestibulo-oculomotor testing
- Identify risk factors for poor prognosis

COUNSEL

Provide information:

- Warning signs of more serious injury
- Typical recovery course and risk factors for poor prognosis
- Future injury prevention strategies
- The need for social and emotional support

Offer clear instructions on a return to activity customized to the patient's symptoms.








- Gradual return to physical and cognitive activity after 2-3 days of rest. Symptom exacerbation with physical activity is normal.
- No contact sports or risky activity until cleared for return by a physician.

REFER

Identify and tailor treatment plans to address:

- Acutely worsening symptoms, considering neuroimaging
- Concussion subtypes (page 2)
- Appropriate referrals

Stanford Brain Performance Center CONCUSSION SUBTYPE CLASSIFICATIONS

Subtype	Symptom	Therapeutic*
 Vestibular	<ul style="list-style-type: none"> • Dizziness • Head movements cause symptoms 	<ul style="list-style-type: none"> • Vestibular physical therapy
 Ocular-motor	<ul style="list-style-type: none"> • Difficulty focusing on moving objects or objects moving closer • Fatigue with reading 	<ul style="list-style-type: none"> • Dynamic vision therapy
 Cognitive	<ul style="list-style-type: none"> • Problems concentrating or remembering • Problems completing tasks 	<ul style="list-style-type: none"> • Cognitive-behavioral therapy • Neuropsychologist***
 Headache/Migraine	<ul style="list-style-type: none"> • Light and/or noise sensitivity associated with Headaches 	<ul style="list-style-type: none"> • Analgesia and avoidance of triggers • Headache Clinic***
 Anxiety/Mood	<ul style="list-style-type: none"> • Anxious and/or depressed 	<ul style="list-style-type: none"> • Psychiatrist and counseling***
 Cervical Strain**	<ul style="list-style-type: none"> • Moving neck causes symptoms, neck pain, and/or headache 	<ul style="list-style-type: none"> • Neck physical therapy
 Sleep Disturbance **	<ul style="list-style-type: none"> • Trouble going to sleep • Waking at night • Fatigue during the day 	<ul style="list-style-type: none"> • Sleep Medicine Clinic***

*Early cardio exercise and sleep hygiene is recommended for the recovery of all subtypes

**Cervical strain and sleep disturbance are concussion-associated conditions

***Consider referral for severe or prolonged symptoms greater than 2-4 weeks

Stanford Concussion Clinic Locations

Neuroscience Health Center
213 Quarry Road
Palo Alto, CA 94304
Phone: (650) 723-6469

Lucile Packard Children's Hospital
321 Middlefield Road, Suite 225
Menlo Park, CA 94025
Phone: (650) 723-0991

Sports Medicine Clinic
450 Broadway Street
Redwood City, CA 94063
Phone: (650) 723-5643

med.stanford.edu/braincenter



Stanford
MEDICINE

Stanford Brain
Performance Center