

Laceration Repair

General Technique cont.

6. Clean and dry: Apply topical antibiotic ointment and cover with dry sterile gauze
 - **Tetanus prophylaxis:** if have not received tetanus prophylaxis in preceding 5 years or if they have not finished primary series.
 - **Antibiotic prophylaxis:** if wound is a bite wound, there is exposed cartilage/joint, or a contaminated wound (esp. on plantar surface)

Table 5. Timing of Suture or Staple Removal

Wound location	Timing of removal (days)
Face	3 to 5
Scalp	7 to 10
Arms	7 to 10
Trunk	10 to 14
Legs	10 to 14
Hands or feet	10 to 14
Palms or soles	14 to 21

Mild Traumatic Brain Injury (Concussion)

Sources	BCH Minor Head Trauma EBG
Definition	<ul style="list-style-type: none"> • Traumatic brain injury induced by biomechanical forces; may be caused by direct blow to head/face/neck or blow causing impulsive force transmitted to the head • Neuropathologic changes may result, but these reflect a functional disturbance (no changes on neuroimaging) • Patient must present with history or physical exam signs of minor head injury AND • In children < 2 years: be alert or awaken to voice or light touch • In children ≥ 2 years: have normal mental status, normal neurologic exam, and no evidence of skull fracture
Pathogenesis	<ul style="list-style-type: none"> • Linear forces: acceleration/deceleration injuries. Less likely to cause LOC, more commonly cause skull fractures, intracranial hematoma, cerebral contusion • Rotational forces: commonly cause LOC, associated with diffuse axonal injury and concussion
Presentation	<ul style="list-style-type: none"> • Likely indicators of concussion (any/all of below) <ul style="list-style-type: none"> ■ Disorientation or confusion immediately after the event ■ Impaired balance within 1 day after injury ■ Slower reaction time within 2 days after injury ■ Impaired verbal learning and memory within 2 days after injury • Signs/symptoms: broad range, categorized within somatic, vestibular, oculomotor, cognitive, emotional/sleep <ul style="list-style-type: none"> ■ Headache most common > dizziness > difficulty concentrating > confusion • Loss of consciousness NOT necessary for diagnosis of concussion
Workup	<ul style="list-style-type: none"> • History: Mechanism of injury, loss of consciousness, whether infant cried immediately, seizure activity, level of alertness after injury, headache, vision changes, and vomiting. • Physical: Full neurological exam, scalp abnormalities (hematoma, tenderness or depression), signs of basilar skull fracture (e.g. periorbital ecchymosis, Battle's sign, hemotympanum, CSF otorrhea or rhinorrhea), bulging fontanelle in infants. • Use a post-concussion symptom checklist at time of evaluation - both for facilitating history and tracking recovery (different checklists available based on age of patient)

MTBI (Concussion) continued on next page →

Mild Traumatic Brain Injury (Concussion)

Workup cont.	<ul style="list-style-type: none"> • PECARN algorithm to determine need for imaging: <ul style="list-style-type: none"> For children less than 2 years: <ul style="list-style-type: none"> • Any altered mental status or palpable skull fracture • *Other considerations <ul style="list-style-type: none"> ■ Non-frontal scalp hematoma ■ LOC \geq 5 seconds ■ **Severe mechanism of injury ■ Acting abnormally per parent For children 2 years and older: <ul style="list-style-type: none"> • Any altered mental status or signs of a basilar skull fracture (retro-auricular or periorbital bruising, CSF otorrhea or rhinorrhea, hemotympanum) • *Other considerations: <ul style="list-style-type: none"> ■ Any loss of consciousness ■ History of vomiting ■ **Severe injury mechanism ■ Severe headache <p>* If 1-2 of above is present, monitor 4-6 hours and obtain head CT if symptoms worsen or don't improve; If \geq 3 above are present, head CT is recommended; If none is present, head CT not recommended</p> <p>**Severe mechanism of injury: Motor vehicle crash with patient ejection, death of another passenger or rollover, pedestrian or bicyclist without helmet struck by motorized vehicle, falls ($>$3 feet children $<$ 2 years or $>$ 5 feet for children \geq 2 years) or head struck by high impact object.</p>
Treatment	<ul style="list-style-type: none"> • Intracranial injury or depress, basilar, diastatic skull fx \rightarrow NSGY consult & admit • Simple skull fx (i.e $<$3 mm, non-depressed, single bone) \rightarrow consider admit if young ($<$6 mo), d/c home if normal mental status, able to PO, no social concern • Dx of concussion with negative imaging: <ul style="list-style-type: none"> ■ DO NOT return to play same day, risk of second-impact syndrome (2nd injury before full recovery \rightarrow possible cerebral vascular congestion \rightarrow diffuse cerebral edema) ■ Physical rest: avoid "bed rest," but limit activity to level that does not provoke/increase sx ■ Cognitive rest: academic adjustments as needed to reduce symptom exacerbation ■ Complete cognitive rest and avoidance of screen time NOT recommended ■ PT for patients suffering from vestibular or oculomotor dysfunction ■ No sports until asymptomatic and cleared by a physician, emphasize individualized course, warn of possible persistent symptoms beyond 1 month (See <i>Graduated Return-to-Sport Program</i>) ■ Refer if: Symptoms $>$ 4 weeks, lack of progression, confounding by coexisting conditions

Graduated Return-to-Sport Program

	Aim	Activity	Goal
1	Symptom-limited activity	Daily activities that do not provoke symptoms	Gradual reintroduction of work and/or school activities
2	Light aerobic exercise	Walking or stationary cycling at slow-to-medium pace; no resistance training	Increase heart rate
3	Sport-specific exercise	Running or skating drills; no activities with risk of head impact	Add movement
4	Noncontact training drills	Harder drills (eg, passing drills and team drills); may begin progressive resistance training	Exercise, coordination, and increased thinking during sport
5	Full-contact practice	After medical clearance, participate in full, normal training activities	Restore confidence and allow coaching staff to assess functional skills
6	Return to sport	Normal game play	Full clearance/participation

Recommend **48 hr of relative physical and cognitive rest before beginning the program**. No more than 1 step should be completed per day. If any symptoms worsen during exercise, the athlete should return to the previous step. Consider prolonging and/or altering the return-to-sport program for any pediatric and/or adolescent patient with symptoms over 4 wk.