



TRAUMATIC BRAIN INJURY TOOLKIT

For Heathcare Providers

Brain Links

3rd Edition, 2022



Jesus Eric Pina-Garza, MD

Pediatric Neurologist

CONTACT

PHONE:
615-342-7339

TriStar Medical Group Children's Specialists

Dear Colleagues,

I write to introduce you to Brain Links, a statewide team of brain injury specialists who equip professionals serving children and adults with brain injury with current, research-based training and tools.

In my practice, I see children with concussion and mild traumatic brain injury (mTBI) on a regular basis. As healthcare providers, we understand that this is a complex diagnosis, which can pose short and long-term challenges for not only the patient, but for those in their lives.

Great strides have been made in the field, but the literature continues to reveal issues with diagnosis, referral, patient education and treatment.

Brain Links addresses these ongoing gaps with this *Traumatic Brain Injury Toolkit for Healthcare Professionals.* This easy-to-use toolkit contains many useful documents, including:

- A Concussion Management Protocol
- The recently released CDC Pediatric mTBI Guideline
- TN's Return to Learn/Return to Play: Concussion Management Guidelines
- Essential educational materials
- Important reference information, resources and more

Toolkit Benefits:

- Increased identification and awareness
- Stream-lined office visits
- Enhanced patient & family education
- Improved communication with daycare & schools
- Increased reimbursement opportunities

I encourage you to utilize the Brain Links trainings and this toolkit to help address this public health crisis and improve the way we treat and manage our patients with brain injury.

Sincerely,

Eric

HEALTHCARE PROVIDERS TOOLKIT

Click on a topic or resource below to jump to that section.

Reference Information

In-Office Use

Send Home with Patient (Recommended)

Send Home with Patient (Optional)

There are so many documents here. Which do I choose?

Concussed Patient Visit: There are a number of documents offered here for you to tailor to your own practice; however, on a daily basis you would only be using a few. After becoming familiar with the reference materials, you would likely use.

ACE Screening Tool | Care Plan | Post Concussion Symptom Inventory for Parent

School Letter | Post Concussion Symptom Inventory for Patient | Symptom Tracker

Other patient information documents could be given out at your discretion. The Signs and Symptoms Fact Sheet would be suggested next.

Sports Clinic / Sports Physicals: The Concussion Fact Sheet for Parents would be recommended for its concussion identification and prevention information.

A More Involved Patient: Consider the pamphlet for the TN TBI Service Coordination Program, as well as any information on concussion signs and symptoms and local, appropriate referrals for follow up, including rehabilitation (neuropsychology, cognitive therapy, SLP, PT, OT) neurology, etc.

Brain Links

HEALTHCARE PROVIDERS TOOLKIT

REFERENCE INFORMATION

USE THE LINKS BELOW TO VIEW A SPECIFIC RESOURCE

Concussion Management Protocol Recommendation – 2 visit minimum concussion protocol with information on management, patient education, referrals, and ongoing monitoring

Link to The Guideline: Center for Disease Prevention and Control Guideline on the Diagnosis and Management of Mild Traumatic Brain Injury in Children, Jama Pediatrics online September 2018 and CDC's 5 Key Recommendations from the Guideline

CDC Mild Traumatic Brain Injury Guidelines for Adults, to help improve diagnosis, treatment, and outcomes for adults with mild TBI

CDC mTBI Pediatric Guideline Supplemental Documents

- CDC Diagnosis Recommendations at a Glance – an overview of all the diagnostic recommendations from the pediatric guideline
- CDC Prognostic Recommendations at a Glance – an overview of all of the prognostic recommendations from the pediatric guideline
- CDC Management and Treatment at a Glance – an overview of the management and treatment recommendations from the pediatric guideline

CDC Pediatric mTBI Guideline Checklist – checklist of best mTBI practice in pediatrics

American Congress of Rehabilitation Medicine (ACRM) Tip Card – When Your Patient is Living with Brain Injury

TN Return to Learn / Return to Play: Concussion Management Guidelines – good information about TN sports concussion law, steps to return a child to the classroom and steps for gradual return to play

Brain Links Flyer – given to families to call Brain Links to request a training at their child's school. Also use Brain Links additional resources

Sample 504/IEP Accommodations and Modifications in the Classroom for a Student with Traumatic Brain Injury – from cbirt.org. See also tnstep.org for TN Special education assistance for families

Job Accommodations Network Flyer – flyer for information on help for work accommodations. Also here is a link to a document for brain injury – specific accommodations: https://askjan.org/publications/Disability-Downloads.cfm?pubid=226605

Six Types of Concussion Infographic and Fact Sheet

CDC Online Training for Healthcare Providers - Earn free CME, CNE, and CEU credits

Research Summary and References

Brain Links

CONCUSSION MANAGEMENT PROTOCOL

RECOMMENDATION: 2 VISIT MINIMUM

INITIAL VISIT

SYMPTOM EVALUATION AND PATIENT EDUCATION:

- ACE – Acute Concussion Evaluation *(Physician/Clinician Office version)*
- A Symptom Scale *(Age-appropriate version)*
- A Symptom Scale *(Parent/Adult Patient – fill out in office)*
- A Symptom Scale *(Parent/Adult Patient – take home)*
- ACE Care Plan *(Return to school or work version)*
- CDC Return to School Letter
- When Concussion Symptoms Aren't Going Away *(Age-appropriate version)*
- Any other educational materials or symptom tracker as needed

Send home an additional parent or adult version of a symptom scale to track symptoms over the next 4 weeks. This helps to understand what symptoms/behaviors to look for. Send home a letter to the school or work with recommendations. Research indicates that supports are more likely to be implemented if recommended by the healthcare professional.

With concussion diagnosis, recommend follow up visit in 4 weeks if any symptoms or any new behaviors since injury are present. Bring completed form to next visit.

4 WEEK POST INJURY VISIT

IF SYMPTOMS PERSIST OR NEW BEHAVIORS ARE PRESENT, CONSIDER THE FOLLOWING REFERRALS:

- A specialized concussion treatment center
- A neurologist
- A symptom-specific specialist *(e.g. neuro-ophthalmologist)*
- A brain trauma rehabilitation center
- A neuropsychological evaluation
- TEIS *(if child is under 3 years old)*
- School district *(3-5 years old)*
- School *(5 years and over)*

Note: Schools may not provide all the treatments needed. Research indicates that supports are more likely to be implemented if recommended by the healthcare professional.

YEARLY CHECK-UPS

ASK ABOUT:

- Any residual concussion symptoms
- Any changes in school or work performance

Brain Links

https://www.tndisability.org/brain

@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

CENTERS FOR DISEASE CONTROL AND PREVENTION GUIDELINE ON THE DIAGNOSIS AND MANAGEMENT OF MILD TRAUMATIC BRAIN INJURY AMONG CHILDREN

FULL REPORT

https://jamanetwork.com/journals/jamapediatrics/article-abstract/2698456

Offering 19 sets of clinical recommendations that cover diagnosis, prognosis, and management and treatment, the CDC Pediatric mTBI Guideline is applicable to healthcare providers in all practice settings. The CDC Pediatric mTBI Guideline outlines specific actions healthcare providers can take to help young patients and their parents/caregivers, including five key practice-changing recommendations.

5 KEY RECOMMENDATIONS

1. Do not routinely image pediatric patients to diagnose mTBI.

2. Use validated, age-appropriate symptom scales to diagnose mTBI.

3. Assess for risk factors for prolonged recovery, including history of mTBI or other brain injury, severe symptom presentation immediately after the injury, and personal characteristics and family history (such as learning difficulties and family and social stressors.)

4. Provide patients and their parents/caregivers with instructions on returning to activity customized to their symptoms.

5. Counsel patients and their parents/caregivers to return gradually to non-sports activities after no more than a 2-3 days of rest.

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Heads Up to Clinicians:

Updated Mild Traumatic Brain Injury Guideline for Adults

A part of CDC's *"Heads Up"* Series

This Guideline is based on the 2008 Mild TBI Clinical Policy for adults, which revises the previous 2002 Clinical Policy. To help improve diagnosis, treatment, and outcomes for patients with mild TBI, it is critical that you become familiar with this guideline. The guideline is especially important for clinicians working in hospital-based emergency care.

Inclusion Criteria: This guideline is intended for patients with non-penetrating trauma to the head who present to the ED within 24 hours of injury, who have a Glascow Coma Scale (GCS) score of 14 or 15 on initial evaluation in the ED, and are ≥ 16 years old.

Exclusion Criteria: This guideline is not intended for patients with penetrating trauma or multisystem trauma who have a GCS score of < 14 on initial evaluation in the ED and are < 16 years old.

Please turn over. ▶

What You Need to Know:

This guideline provides recommendations for determining which patients with a known or suspected mild TBI require a head CT and which may be safely discharged.

Here are a few important points to note:

- There is no evidence to recommend the use of a head MRI over a CT in acute evaluation.
- A noncontrast head CT is indicated in head trauma patients with loss of consciousness or posttraumatic amnesia in presence of specific symptoms.
- A noncontrast head CT should be considered for head trauma patients with no loss of consciousness or post-traumatic amnesia in presence of specific symptoms.
- Even without a loss of consciousness or amnesia, a patient could still have an intracranial injury. Identifying those patients at risk is key.
- A patient with an isolated mild TBI and a negative CT is at minimal risk for developing an intracranial lesion and may be safely discharged.
- Discuss discharge instructions with patients and give them a discharge instruction sheet to take home and share with their family and/or caregiver. Be sure to:
  - Alert patients to look for postconcussive symptoms (physical, cognitive, emotional, and sleep) since onset of symptoms may not occur until days after the initial injury.
  - Instruct patients on what to expect, what to watch for, and when it is important to return immediately to the emergency department.
  - Emphasize that getting plenty of rest and sleep is very important after a concussion, as it helps the brain to heal. Patients should gradually return to their usual routine only after they start to feel better.
  - Inform patients to visit CDC's website at www.cdc.gov/Concussion.

CDC SAFER·HEALTHIER·PEOPLE

American College of Emergency Physicians® ADVANCING EMERGENCY CARE

The Four Critical Questions and Recommended Courses of Action:

Following are the four questions and the recommended course of action for each that are addressed in the 2008 Clinical Policy. Clinical findings and strength of recommendations regarding patient management were made according to the following criteria:

Level A recommendations: Generally accepted principles for patient management that reflect a high degree of clinical certainty.

Level B recommendations: Recommendations for patient management that may identify a particular strategy or range of management strategies that reflect moderate clinical certainty.

Level C recommendations: Other strategies for patient management that are based on preliminary, inconclusive, or conflicting evidence, or in the absence of any published literature, based on panel consensus.

1. Which patients with mild TBI should have a noncontrast head CT scan in the ED?

Level A recommendations: A noncontrast head CT is indicated in head trauma patients with loss of consciousness or posttraumatic amnesia only if one or more of the following is present: headache, vomiting, age > 60 years old, drug or alcohol intoxication, deficits in short-term memory, physical evidence of trauma above the clavicle, posttraumatic seizure, GCS score < 15, focal neurologic deficit, or coagulopathy.

Level B recommendations: A noncontrast head CT should be considered in head trauma patients with no loss of consciousness or posttraumatic amnesia if there is a focal neurologic deficit, vomiting, severe headache, ≥ 65 years old, physical signs of a basilar skull fracture, GCS score < 15, coagulopathy, or a dangerous mechanism of injury.*

*Dangerous mechanism of injury includes ejection from a motor vehicle, a pedestrian struck, and a fall from a height of > 3 feet or 5 steps.

Level C recommendations: None specified.

2. Is there a role for head MRI over noncontrast CT in the ED evaluation of a patient with acute mild TBI?

Level A recommendations: None specified.

Level B recommendations: None specified.

Level C recommendations: None specified.

3. In patients with mild TBI, are brain-specific serum biomarkers predictive of an acute traumatic intracranial injury?

Level A recommendations: None specified.

Level B recommendations: None specified.

Level C recommendations: In mild TBI patients without significant extracranial injuries and a serum S-100B level < 0.1 µg/L measured within 4 hours of injury, consideration can be given to not performing a CT.**

**This test has not yet received Food and Drug Administration (FDA) approval for clinical use in the United States.

4. Can a patient with an isolated mild TBI and a normal neurologic evaluation result be safely discharged from the ED if a noncontrast head CT scan shows no evidence of intracranial injury?

Level A recommendations: None specified.

Level B recommendations: Patients with an isolated mild TBI who have a negative head CT scan result are at minimal risk for developing an intracranial lesion and therefore may be safely discharged from the ED.***

***There are inadequate data to include patients with a bleeding disorder, who are receiving anticoagulation therapy or antiplatelet therapy, or who have had a previous neurosurgical procedure in this population.

Level C recommendations: Patients with mild TBI discharged from the ED should be informed about postconcussive symptoms.

To view the full clinical policy or for more information about brain injury and concussion, please visit:
www.cdc.gov/TraumaticBrainInjury ■ www.acep.org/TraumaticBrainInjury

This fact sheet is part of the Centers for Disease Control and Prevention's (CDC) "Heads Up" series of publications and is based on the 2008 *Clinical Policy: Neuroimaging and Decisionmaking in Adult Mild Traumatic Brain Injury in the Acute Setting*, jointly produced by CDC and ACEP.

CDC PEDIATRIC mTBI GUIDELINE

Diagnostic Recommendations

CDC HEADS UP
SAFE BRAIN. STRONGER FUTURE.

This handout for healthcare providers describes diagnosis-related recommendations contained in the CDC Pediatric mTBI Guideline.



GOAL OF THE CDC mTBI GUIDELINE

The goal of the CDC Pediatric Mild Traumatic Brain Injury (mTBI) Guideline is to help healthcare providers take action to improve the health of their pediatric patients with mTBI. To do this, the Guideline consists of 19 clinical recommendations that cover diagnosis, prognosis, and management and treatment. These recommendations are applicable to healthcare providers working in: inpatient, emergency, primary, and outpatient care settings.

The Guideline was developed through a rigorous process guided by the American Academy of Neurology methodology and 2010 National Academy of Sciences methodology for the development of evidence-based guidelines. An extensive review of scientific literature, spanning 25 years of research, formed the basis of the Guideline.

mTBI in children

Childrens' developing brains are more vulnerable to mTBI because:

- **Their axons are not as well-myelinated.**
- **They are more susceptible to chemical and metabolic changes.**

RECOMMENDATIONS FOR THE DIAGNOSIS OF mTBI

Six sets of diagnostic recommendations are included in the Guideline. These recommendations focus on:

- **Neuroimaging**
- **Neuropsychological tools**
- **Serum Biomarkers**

Diagnostic Recommendations

NEUROIMAGING

Computed Tomography (CT)

Clinical evaluation of a child with possible mTBI includes balancing the likelihood of potentially devastating complications of a more severe injury against the risks associated with a head CT.

- Healthcare providers **should not** routinely obtain a head CT for diagnostic purposes in children with mTBI.
- Healthcare providers **should** use validated clinical decision rules to identify children with mTBI at low risk for intracranial injury (ICI), in whom a head CT is not indicated, as well as children who may be at higher risk for clinically important ICI, and therefore may warrant a head CT. Existing decision rules combine a variety of factors that, when assessed together, may increase the risk for more serious injury. Such risk factors include the following:
  - Age < 2 years old
  - Loss of consciousness
  - Severe mechanism of injury
  - Vomiting
  - Amnesia
  - Clinical suspicion for skull fracture
  - Severe or worsening headache
  - Nonfrontal scalp hematoma
  - Glasgow Coma Score < 15
- For children diagnosed with mTBI, healthcare providers **should** discuss the risk of a pediatric head CT in the context of risk factors for ICI with the patient and his/her family.



USE VALIDATED CLINICAL DECISION RULES TO IDENTIFY ICI

It is critical to rule out ICI while avoiding unnecessary risks related to exposure from a head CT. Strong clinical evidence indicates that use of clinical decision rules are effective in identifying children at low risk for ICI.

Magnetic Resonance Imaging (MRI)

There is currently insufficient evidence to recommend the use of brain MRI in the diagnosis of mTBI in children.

- Healthcare providers **should not** routinely use MRI in the acute evaluation of cases of suspected or diagnosed mTBI.

Single Photon Emission Computed Tomography (SPECT)

Insufficient evidence currently exists to recommend the use of SPECT in the diagnosis of mTBI in children.

- Healthcare providers **should not** use SPECT in the acute evaluation of cases of suspected or diagnosed mTBI.

Skull X-rays

CT is better at detecting intracranial injuries, and in the instances where CT is not available, validated clinical decision rules are better than skull X-rays when screening patients with increased risk for ICI.

- Skull X-rays **should not** be used in the diagnosis of pediatric mTBI.
- Skull X-rays **should not** be used in the screening for ICI.

Diagnostic Recommendations



EXAMPLES OF VALIDATED SCALES INCLUDE, BUT AREN'T LIMITED TO:

- Post-Concussion Symptom Scale
- Health and Behavior Inventory
- Post-Concussion Symptom Inventory
- Acute Concussion Evaluation

NEUROPSYCHOLOGICAL TOOLS

Symptom Scales

There are several validated tools that can be applied quickly and inexpensively.

- Healthcare providers **should** use an age-appropriate, validated symptom rating scale as a component of the diagnostic evaluation in children presenting with acute mTBI.

Computerized Cognitive Testing

There is insufficient evidence to determine whether baseline testing in children better identifies mTBI as compared to post-injury scores alone.

- Healthcare providers **may** use validated, age-appropriate computerized cognitive testing in the acute period of injury as a component of the diagnosis of mTBI.

Standardized Assessment of Concussion (SAC)

There is insufficient evidence to support the use of the SAC in the diagnosis of children with mTBI.

SERUM BIOMARKERS

Serum Biomarkers

There is insufficient evidence to currently recommend any of the studied biomarkers for the diagnosis of mTBI in children.

- Healthcare providers **should not** perform these tests outside of a research setting at this time for the diagnosis of children with mTBI.



Take action to improve the health of your young patients with mTBI.

To view all 19 sets of recommendations, including those that cover prognosis and management/treatment, and to learn more about the CDC Pediatric mTBI Guideline, visit **www.cdc.gov/HEADSUP**.

CDC PEDIATRIC mTBI GUIDELINE

Prognostic Recommendations

This handout for healthcare providers describes prognosis-related recommendations contained in the CDC Pediatric mTBI Guideline.

CDC HEADS UP
SAFE BRAIN. STRONGER FUTURE.



GOAL OF THE CDC mTBI GUIDELINE

The goal of the CDC Pediatric Mild Traumatic Brain Injury (mTBI) Guideline is to help healthcare providers take action to improve the health of their pediatric patients with mTBI. To do this, the Guideline consists of 19 clinical recommendations that cover diagnosis, prognosis, and management and treatment. These recommendations are applicable to healthcare providers working in: inpatient, emergency, primary, and outpatient care settings.

The Guideline was developed through a rigorous process guided by the American Academy of Neurology methodology and 2010 National Academy of Sciences methodology for the development of evidence-based guidelines. An extensive review of scientific literature, spanning 25 years of research, formed the basis of the Guideline.

mTBI in children

Symptoms of mTBI generally fall into four categories:

• Somatic • Cognitive • Mood/Affective • Sleep

Symptom resolution:

30% Experience symptoms one month post-injury

10% Experience symptoms three months post-injury

5% Experience symptoms one year post-injury

RECOMMENDATIONS FOR THE PROGNOSIS OF mTBI

Five sets of prognostic recommendations are included in the Guideline. These recommendations focus on:

- Counseling patients on prognosis
- Evaluating for premorbid conditions
- Assessing for risk factors
- Use of tools for predicting prognosis
- Interventions for poor prognosis

Prognostic Recommendations

GENERAL HEALTHCARE PROVIDER COUNSELING OF PROGNOSIS

Evidence suggests education and clear communication from healthcare providers can optimize outcomes.

- Healthcare providers **should** counsel patients and families that the large majority (70-80%) of children with mTBI do not show significant difficulties that last more than 1-3 months post-injury.
- Healthcare providers **should** counsel patients and families that although some factors predict an increased or decreased risk for prolonged symptoms, each child's recovery from mTBI is unique and will follow its own trajectory.



PROGNOSIS RELATED TO PREMORBID CONDITIONS

There is an increased risk of delayed recovery or prolonged symptoms associated with certain premorbid conditions in children with mTBI.

- Healthcare providers **should** assess the premorbid history of children either prior to an injury, as a part of pre-participation athletic examinations, or as soon as possible post-injury in children with mTBI, to assist in determining prognosis.
- Healthcare providers **should** counsel children and families completing pre-participation athletic examinations, and children with mTBI and their families, that recovery from mTBI might be delayed in those with:
  - Premorbid histories of mTBI
  - Lower cognitive ability (for children with an intracranial lesion)
  - Neurological or psychiatric disorder
  - Learning difficulties
  - Increased pre-injury symptoms (such as headache disorders)
  - Family and social stressors

ASSESSMENT OF CUMULATIVE RISK FACTORS AND PROGNOSIS

Evidence indicates that a variety of demographic and injury-related factors predict outcomes in pediatric mTBI.

- Healthcare providers **should** screen for a variety of known risk factors for persistent symptoms in children with mTBI.
- Healthcare providers **may** use validated prediction rules, which combine information about multiple risk factors for persistent symptoms, to provide prognostic counseling to children with mTBI evaluated in emergency department settings.

FACTORS ASSOCIATED WITH POOR PROGNOSIS:

- Older children or adolescents
- Children of Hispanic ethnicity
- Children from a lower socioeconomic status
- Children with more severe presentations of mTBI (including those associated with an intracranial injury)
- Children who report a higher level of acute postconcussion symptoms
- Children with a neurological or psychiatric disorder
- Children with learning difficulties
- Children with family and social stressors

CDC PEDIATRIC mTBI GUIDELINE

Prognostic Recommendations



EXAMPLES OF VALIDATED SCALES INCLUDE, BUT AREN'T LIMITED TO:

- Post-Concussion Symptom Scale
- Health and Behavior Inventory
- Post-Concussion Symptom Inventory
- Accute concussion Evaluation

ASSESSMENT TOOLS AND PROGNOSIS

Healthcare providers can more effectively counsel patients with mTBI when they have assessed risk factors for outcomes and recovery. However, there is no single assessment tool to predict outcomes.

- Healthcare providers **should** use a combination of tools to assess recovery in children with mTBI.
- Healthcare providers **should** use validated symptom scales to assess recovery in children with mTBI.
- Healthcare providers **may** use validated cognitive testing (including measures of reaction time) to assess recovery in children with mTBI.
- Healthcare providers **may** use balance testing to assess recovery in adolescent athletes with mTBI.



INTERVENTIONS FOR mTBI WITH POOR PROGNOSIS

While most symptoms of mTBI resolve within 1-3 months, some children are at risk for persistent symptoms or delayed recovery. Children who are at higher risk for delayed recovery are more likely to need further intervention.

- Healthcare providers **should** monitor children with mTBI who are determined to be at high risk for persistent symptoms based on premorbid history, demographics, or injury characteristics.
- For children with mTBI whose symptoms do not resolve as expected with standard care (i.e., after 4-6 weeks), healthcare providers **should** provide or refer for appropriate assessments or interventions.

Take action to improve the health of your young patients with mTBI.

To view all 19 sets of recommendations, including those that cover diagnosis and management and treatment, and to learn more about the CDC Pediatric mTBI Guideline, visit **www.cdc.gov/HEADSUP**.

CDC PEDIATRIC mTBI GUIDELINE

Management and Treatment Recommendations

CDC HEADS UP
SAFE BRAIN. STRONGER FUTURE.

This handout for healthcare providers provides an overview of the management and treatment-related recommendations contained in the CDC Pediatric mTBI Guideline.



GOAL OF THE CDC mTBI GUIDELINE

The goal of the CDC Pediatric Mild Traumatic Brain Injury (mTBI) Guideline is to help healthcare providers take action to improve the health of their pediatric patients with mTBI. To do this, the Guideline consists of 19 clinical recommendations that cover diagnosis, prognosis, and management and treatment. These recommendations are applicable to healthcare providers working in: inpatient, emergency, primary, and outpatient care settings.

The Guideline was developed through a rigorous process guided by the American Academy of Neurology methodology and 2010 National Academy of Sciences methodology for the development of evidence-based guidelines. An extensive review of scientific literature, spanning 25 years of research, formed the basis of the Guideline.

mTBI in children

While most have a good recovery, some children experience both acute and long-term problems that affect them:

Physically **Cognitively** **Psychologically**

RECOMMENDATIONS FOR TREATMENT AND MANAGEMENT OF mTBI

Eight sets of management and treatment recommendations are included in the Guideline. These recommendations focus on:

General areas of treatment for patients and families

Symptom and problem-specific treatments

Management and Treatment Recommendations



Counsel patients to return gradually to non-sports activities after no more than 2-3 days of rest.

GENERAL AREAS OF TREATMENT FOR PATIENTS AND FAMILIES

Health outcomes can generally be optimized through patient education and behavior modification. In addition, evidence suggests that rest, or reduction in cognitive and physical activity, is beneficial immediately following mTBI. This should be followed shortly after the injury with a gradual return to activity.

Patient and Family Education and Reassurance

- In providing education and reassurance to the family, the healthcare provider **should** include the following information:
  - Warning signs indicating a more serious injury
  - Expected course of symptoms and recovery
  - Instructions on monitoring post-concussive symptoms
  - Prevention of further injury
  - Management of cognitive and physical activity, or rest
  - Instructions regarding return to school and return to play or recreation
  - Clear healthcare provider follow-up instructions from a healthcare provider

Cognitive and Physical Rest and Aerobic Treatment

Collaboration among healthcare providers, schools, and families should be coordinated to gradually adjust interventions and return the child to full participation without worsening symptoms.

- Healthcare providers **should** counsel patients to observe more restrictive physical and cognitive activity during the first several days following mTBI in children.
- Following these first several days, healthcare providers **should** counsel patients and families to resume a gradual schedule of activity that does not exacerbate symptoms, with close monitoring of symptom expression (number, severity).
- Following the successful resumption of a gradually increased schedule of activity, healthcare providers **should** offer an active rehabilitation program of progressive reintroduction of noncontact aerobic activity that does not exacerbate symptoms, with close monitoring of symptom expression (number, severity).
- Healthcare providers **should** counsel patients to return to full activity when they return to premorbid performance if they have remained symptom-free at rest, and with increasing levels of physical exertion.

Return to school and play plans can be found at **www.cdc.gov/HEADSUP**.

Management and Treatment Recommendations

Psychosocial and Emotional Support

Evidence suggests that social support (both tangible help and emotional involvement) contributes to healthy behaviors, and improved overall quality of life.

- Healthcare providers **may** assess the extent and types of social support (e.g., emotional, informational, instrumental, appraisal) available for children with mTBI, and emphasize social support as a key element in the education of caregivers and educators.

Return to School

- To assist children returning to school following mTBI, medical and school-based teams **should** counsel the student and family regarding the process of gradually increasing the duration and intensity of academic activities as tolerated, with the goal of increasing participation without significantly exacerbating symptoms.
- Return to school protocols **should** be customized based on the severity of postconcussion symptoms in children with mTBI as determined jointly by medical and school-based teams.
- For any student with prolonged symptoms that interfere with academic performance, school-based teams **should** assess the educational needs of that student and determine the student's need for additional educational supports, including those described under pertinent federal statutes.
- Postconcussion symptoms and academic progress in school **should** be monitored collaboratively by the student, family, healthcare provider, and school teams, who jointly determine which modifications or accommodations are needed to maintain an academic workload without significantly exacerbating symptoms.
- The provision of educational supports **should** be monitored and adjusted on an ongoing basis by the school-based team until the student's academic performance has returned to pre-injury levels.
- For students who demonstrate prolonged symptoms and academic difficulties despite an active treatment approach, healthcare providers **should** refer the child for a formal evaluation by a specialist in pediatric mTBI.



70–80% of children with mTBI will demonstrate functional recovery by 1-3 months.

Management and Treatment Recommendations



Healthcare providers should identify and tailor treatment plans/referrals to address:

- **Acutely worsening headache:** consider neuroimaging
- **Chronic headache:** nonopioid analgesia (monitor for overuse), multidisciplinary evaluation
- **Vestibulo-ocular dysfunction:** vestibular rehabilitation
- **Worsening sleep problems:** sleep hygiene, sleep specialist
- **Cognitive impairment:** treatment directed at etiology, neuropsychological evaluation
- **Emotional dysfunction:** psychotherapeutic evaluation and treatment

SYMPTOM OR PROBLEM–SPECIFIC TREATMENT AND MANAGEMENT

Post-traumatic Headache Treatment and Management

Painful headaches are one of the most common symptoms in children after mTBI and may require intervention.

- Healthcare providers in the emergency department **should** clinically observe and consider obtaining a head CT in children presenting with a severe and worsening headache, along with other symptoms or risk factors, following mTBI to evaluate for ICI requiring further management in accordance with validated clinical decision making rules.
- Children undergoing observation periods for headache with acutely-worsening symptoms **should** undergo emergent neuroimaging.
- Healthcare providers and caregivers **should** offer non-narcotic analgesia to children with a painful headache following acute mTBI, but also provide counseling to the family regarding the risks of analgesic overuse, including a rebound headache.
- There is insufficient evidence to recommend the administration of 3% hypertonic saline as a treatment for an acute headache following mTBI in children. Healthcare providers **should not** administer this medication to children with mTBI for treatment of symptoms outside of a research setting at this time.
- Chronic headache following mTBI is likely to be multifactorial; therefore, healthcare providers **should** refer children with chronic headache after mTBI for multidisciplinary evaluation and treatment, with consideration of analgesic overuse as a contributory factor.

Vestibulo-ocular Motor Dysfunction

Dizziness is another potentially debilitating symptom of mTBI, and limited evidence suggests that early vestibular physical therapy may benefit patients experiencing dizziness.

- Healthcare providers **may** refer children with subjective or objective evidence of persistent vestibulo-ocular motor dysfunction following mTBI to a program of vestibular rehabilitation.

Management and Treatment Recommendations



Sleep Treatment and Management

Sleep disturbances after mTBI are common and may exacerbate ongoing problems. Adequate sleep has been shown to improve overall health and should be an important part of treatment for children with mTBI.

- Healthcare providers **should** provide guidance on proper sleep hygiene methods to facilitate recovery from pediatric mTBI.
- If sleep problems emerge or continue, despite appropriate sleep hygiene measures, healthcare providers **may** refer children with mTBI to a sleep disorder specialist for further assessment.

Cognitive Impairment Treatment and Management

Problems with attention, memory and learning, response speed, and other cognitive impairment can occur following mTBI. These disturbances can result in significant problems with learning in school, or social interactions.

- Healthcare providers **should** attempt to determine the etiology of cognitive dysfunction within the context of other mTBI symptoms.
- Healthcare providers **should** recommend treatment for cognitive dysfunction that reflects its presumed etiology.
- Healthcare providers **may** refer children with persisting complaints related to cognitive function for a formal neuropsychological evaluation to help determine etiology, and to recommend targeted treatment.



Take action to improve the health of your young patients with mTBI.

To view all 19 sets of recommendations, including those that cover diagnosis and prognosis, and to learn more about the CDC Pediatric mTBI Guideline, visit **www.cdc.gov/HEADSUP**.

CDC PEDIATRIC mTBI GUIDELINE
Checklist

CDC HEADS UP
SAFE BRAIN. STRONGER FUTURE.

For healthcare providers treating children 18 years of age and younger

HEALTHCARE PROVIDERS SHOULD:

ASSESS.

Conduct a physical examination to identify findings that:

- Suggest more severe TBI (e.g., hemotympanum, pupillary asymmetry).
- May impact management of mTBI (e.g., concurrent injuries or baseline deficits, oculomotor dysfunction).
- Suggest other contributions to symptoms (e.g., dehydration, cervical tenderness, scalp hematoma).

Do not image routinely (including CT & MRI).

- Use validated clinical decision rules predicting risk for more severe injury to determine need.

Assess symptoms using validated scales. Consider cognitive and balance testing.

Conduct a history to identify risk factors for poor prognosis using validated prediction rules.

COUNSEL.

Provide information about:

- Warning signs that injury may be more serious.
- Typical recovery course.
- How to prevent further injury.
- Gradual re-introduction of activity that does not worsen symptoms.
- The need for social and emotional support.

Offer clear instructions (preferably verbal and written) on return to activity, including school and sports, customized to the patient's symptoms.

- After a few days of rest (2-3 days), begin light activity & then gradually re-introduce regular activities (not inclusive of sports) that do not significantly worsen symptoms.
- Assess school-related needs & monitor progress in collaboration with parents and school professionals.
- Once back to regular non-sports activities (including school), patient can begin return to sports using a standard progression with gradually increasing levels of physical exertion.
- No return to contact sports activity until symptom-free with exertion (including without the use of pain medication).

REFER.

Identify and tailor treatment plans/referrals to address:

- Acutely worsening symptoms → consider neuroimaging.
- Chronic headache → non-opioid analgesia (monitor for overuse), multi-disciplinary evaluation.
- Vestibulo-ocular dysfunction → vestibular rehabilitation.
- Worsening sleep problem → sleep hygiene, sleep specialist.
- Cognitive impairment → treatment directed at etiology, neuropsychological evaluation.
- Emotional dysfunction → psychotherapeutic evaluation and treatment.

A combination of risk factors that may indicate need for neuroimaging include:

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

Examples of validated scales include, but aren't limited to:

- Post-Concussion Symptom Scale
- Health and Behavior Inventory
- Post-Concussion Symptom Inventory
- Acute Concussion Evaluation

Factors associated with poor prognosis:

- Older age (older children/adolescents) or Hispanic ethnicity
- Lower socio-economic status
- History of intracranial injury
- Premorbid histories of mTBI or increased pre-injury symptoms
- Neurological or psychiatric disorder
- Learning difficulties or lower cognitive ability
- Family and social stressors

Parents should watch for warning signs:

- A headache that gets worse & does not go away
- Significant nausea or repeated vomiting
- Increased confusion, restlessness, or agitation
- Slurred speech, drowsiness, or inability to wake up
- Weakness, numbness, or decreased coordination
- Loss of consciousness, convulsions, or seizures

Steps in a return to play progression generally include:

Step 1: Return to regular non-sports activities
Step 2: Light aerobic exercise
Step 3: Sport-specific exercise
Step 4: Non-contact training drills
Step 5: Full contact practice
Step 6: Return to sport

Refer patients whose symptoms do not resolve as expected with standard care after 4-6 weeks.

WHEN YOUR PATIENT IS LIVING WITH BRAIN INJURY

A tip card for physicians treating individuals living with chronic brain injury sequelae

Key points about brain injury (BI):

- BI can affect every aspect of an individual's functioning, leaving some with lifelong challenges.
- BI can be traumatic (TBI) or non-traumatic.
- Injury severity (mild, moderate, severe) does not necessarily predict long-term outcome.
- Many sequelae are difficult to see and therefore may be easy to misinterpret (e.g. lack of initiation, cognitive overload, difficulty recognizing social cues).
- Each injury is unique, like a thumbprint.
- Improvements can occur after initial recovery; re-engagement in therapeutic activities may be beneficial even years post-injury.

Common Sequelae and Subsequent Life Challenges

Areas of Functioning	Specific Sequelae
Motor	Motor planning; coordination; balance; spasticity
Sensory	Changes in vision, hearing, taste, smell or tactile sensation; visual field loss; unilateral neglect; temperature regulation
Cognitive	Attention; concentration; organization; new learning; initiation; memory; problem-solving; judgement; self-awareness; cognitive overload
Communication	Expressive and receptive communication; dysarthria; tangential speech; following social rules; understanding social cues
Emotional	Regulating emotions; flat affect; easily overstimulated/overwhelmed; increased risk for depression, anxiety and suicidal ideation
Fatigue and Sleep	Physical and emotional fatigue; sleep patterns

Subsequent Life Challenges
Driving/ transportation
Following health/wellness recommendations
Communicating needs
Relationships, sexuality
Making friends
Employment
Return to school
Having a sense of meaning in life
Behavioral health
Substance use/ misuse



WHEN YOUR PATIENT IS LIVING WITH BRAIN INJURY

A tip card for physicians treating individuals living with chronic brain injury sequelae

[CONTINUED]

Interacting with Patients Living with Brain Injury

- Encourage the patient to bring a written list of questions and concerns to the appointment.
- Plan extra time for the appointment to allow for cognitive or communication challenges.
- Encourage the patient to bring a friend/family member to the appointment as a historian/note-taker if needed.
- Encourage compensatory strategies, including –
  - Writing notes in a smartphone or notebook/day-planner organizer;
  - Using a med-minder; setting alarms on smartphone.
- Find ways to repeat information during the appointment; summarize at the end.
- Have the patient repeat instructions back to you – repeat, rehearse, review.
- Provide reminders by email.
- Provide a written summary of the appointment; email a copy of the summary.
- If the patient becomes overwhelmed, model calmness (sit back, take a breath, relax); slow down the information flow; ask how he/she is doing and if they have questions; switch to a lighter topic.
- Encourage an organized approach to wellness (a handout on wellness after BI can be found at https://www.archives-pmr.org/article/S0003-9993(18)30177-1/pdf).
- Encourage socialization and productive activity (support groups, community classes, volunteering).
- Provide resources for support, education and advocacy.

Community Resources – Support, Education, Advocacy

- Brain Injury Association of America – www.biausa.org
- United States Brain Injury Alliance - www.usbia.org

  Most states have either a state brain injury association or alliance, offering support groups, resources, education and advocacy. Links to these websites can be found at the two resources above.
- Model Systems Knowledge Translation Center for TBI - https://msktc.org/tbi
- Center for Disease Control - https://www.cdc.gov/traumaticbraininjury
- Brainline - https://www.brainline.org/
- American Stroke Association – www.stroke.org
- National Association of State Head Injury Administrators - www.nashia.org

This tip card was prepared with support from the American Congress of Rehabilitation Medicine (ACRM), by members of the ACRM Chronic Brain Injury Task Force:

Lenore Hawley, MSSW, LCSW, CBIST (Craig Hospital); Summer L. Ibarra, Ph.D., ABPP-RP (Franciscan Health); Wendy Waldman, BSW, CBIST (Rehabilitation Hospital of Indiana); Tiffany Armstrong, MSN, RN, CRRN, CBIS (Madonna Rehabilitation Hospitals); Tasnia Iqbal, CBIS (University of Iowa, Carver College of Medicine); Flora M Hammond, MD, (Indiana University School of Medicine, Rehabilitation Hospital of Indiana)

Return to Learn/Return to Play: Concussion Management Guidelines

Tennessee Department of Health | August 2020



Acknowledgments

June, 2017: Rev. Nov, 2019: Aug, 2020

This document is a compilation of concussion management material produced by the states of Colorado and Nebraska and has been adapted with permission for use by the Tennessee Department of Health.

This document has been created/edited/reviewed by the following people:

Tim Lee, MHA, MS, ATC, Vanderbilt Sports Concussion Center

Alex Diamond, DO, MPH, Vanderbilt Sports Medicine/Vanderbilt Sports Concussion Center/Program for Injury Prevention in Youth Sports

Gary Solomon, PhD, Clinical Neuropsychologist, Vanderbilt Sports Concussion Center

Paula Denslow, CBIS, Director, Brain Links, Tennessee Disability Coalition

Wendy Ellmo, MS, CCC-SLP, BCNCDS, Brain Links, Tennessee DisabilityCoalition

Lori Paisley, Executive Director, Coordinated School Health, TN Department of Education

Derese Methvin, EdS, RN, BSN, Coordinated School Health, TN Department of Education

Andrew Gregory, MD, Vanderbilt Sports Concussion Center

Carolina Clark, MD, MPH, Child Health Medical Consultant, TN Department of Health

Morgan F. McDonald, MD, FAAP, FACP, Assistant Commissioner,
Director, Division of Family Health and Wellness, TN Department of Health

Michelle D. Fiscus, MD, FAAP, Deputy Medical Director, Chronic Disease and Injury Prevention, Health Promotion, TN Department of Health

Rachel Heitmann, MS, Section Chief, Injury Prevention and Detection TN Department of Health

Jean Doster, MS, Past Director, Traumatic Brain Injury Program, TN Department of Health

Ashley Bridgman, MS, Director, Traumatic Brain Injury Program, TN Department of Health

This document can be viewed online at https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/resources.html

Tennessee Department of Health Authorization Number 343602. This public document was promulgated at a cost of $0.00 per copy.
0 copies 08-2020

Table of Contents

Section 1: Education

What is a Concussion/TBI? 4

Why are Concussions/TBI a Big Deal? 5

Signs and Symptoms of Concussion 6

Prevention 7

Section 2: Return to Learning

Concussion Management Team 8

The Concussion Management Process (Example) 10

Returning to School 11

Classroom Strategies for Concussion Recovery 12

Symptoms Checklist 13

When and How to Write a 504 Plan 14

Section 3: Return to Play

Law Return to Play 15

Tennessee State Sports Concussion 15

Law Return to Play Decisions 16

Graduated Return to Play Plan 16

Section 4: References 17

Section 5: Additional Resources 17

Section 6: Appendices

A. Cognitive Activity Monitoring Log 18

B. Authorization of Release of Medical Information 19

C. School Accommodations 20

D. Return to Play 21 - 22

What is a Concussion?

Concussion/TBI

A concussion is a type of traumatic brain injury, or TBI, is caused by a bump, blow or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth. This sudden movement can cause the brain to bounce around or twist in the skull, creating changes in the brain, and sometimes stretching and damaging the brain cells (CDC, 2015).

Aside from the elderly, children and adolescents are among those at greatest risk for concussion. The potential for a concussion in young people is greatest during activities where collisions can occur, such as during physical education class, playground time or sports activities. However, concussions can happen any time a student's head comes into contact forcefully with a hard object, such as a floor, desk or another student's head or body. Proper recognition and response to concussion can prevent further injury and help with recovery (CDC, 2015).

Medical providers may describe a concussion as a "mild" brain injury because concussions are usually not life-threatening. Even so, the effects of a concussion can be serious (CDC, 2015).

Traumatic brain injury is a serious public health problem in the United States. Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability. In 2014, 2.5 million TBIs occurred either as an isolated injury or along with other injuries (CDC, 2015).



Why are Concussions a Big Deal?

A concussion can occur from an impact to the body or the head. The most common cause of a concussion is a whiplash type injury, involving a rapid acceleration of the head.

Most concussions (90 percent) occur without loss of consciousness. Concussions can occur in any sport or during regular daily activities.

A “ding,” “getting your bell rung” or what seems to be a mild bump, blow or jolt to the head can be serious and can change the way the brain normally works (CDC, 2013).

Because of changes in the neurophysiology of the brain, symptoms may continue to develop over the next few days following an injury.

After a concussion, among other effects, nerve cells and connections within the brain become stressed, resulting in the possible breaking of some connections between different brain areas and limiting the ability of the brain to process information efficiently and quickly (Molfese, 2013).

These changes can lead to a set of symptoms affecting the student’s cognitive, physical, emotional and sleep functions, which may result in reduced ability to do tasks at home, at school or at work. Concussions can have an impact on the student’s ability to learn in the classroom. Tracking symptoms tells a big part of the story during recovery.

During this time of recovery, returning to play before symptoms have resolved incurs the risk of further injury, and returning to full-time academics before symptoms have cleared can result in prolonged recovery time.

As the chemistry of the brain returns to normal, the symptoms begin to subside and for most people, they resolve within one to four weeks. During the recovery period, monitor students for full resolution of symptoms and refer for further evaluation or treatment if needed.

Ignoring the symptoms and trying to “tough it out” often makes symptoms worse.

Second Impact Syndrome may occur when a brain already injured takes another blow or hit before the brain recovers from the first, usually within a short period of time (hours, days or weeks). A repeat concussion can slow recovery or increase the likelihood of having long-term problems. In rare cases, repeat concussions can result in edema (brain swelling), permanent brain damage and even death (CDC, 2013).

(Adapted from Return to Learn, 2014)

Signs and Symptoms of Concussions

The signs and symptoms of concussion can show up right after an injury or may not appear or be noticed until hours or a few days after the injury. Be alert for any of the following signs or symptoms. Also, watch for changes in how the student is acting or feeling, if symptoms are getting worse or if the student just "doesn't feel right" (CDC, 2015).

Signs Reported by the Student:

Emotional:

- Irritability
- Sadness
- More emotional than usual
- Nervousness

Physical:

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Fatigue or feeling tired
- Blurry or double vision
- Numbness or tingling
- Does not "feel right"

Signs observed by staff:

- Appears dazed or stunned
- Is confused about events
- Answers questions slowly
- Repeats questions
- Can't recall events prior to the hit, bump or fall
- Can't recall events after the hit, bump or fall
- Loses consciousness (even briefly)
- Shows behavior or personality changes
- Forgets class schedule or assignments

Cognitive:

- Difficulty thinking clearly
- Difficulty remembering or concentrating
- Feeling slowed down
- Feeling sluggish, hazy or foggy

Sleep:

- Drowsy
- Sleeps less than usual
- Sleeps more than usual
- Has trouble falling asleep (Only ask sleep symptoms if injury occurred prior to date reported)

Danger Signs:

Be alert for symptoms that worsen over time. A student should be seen in the emergency department right away if s/he has:

- **One pupil that is larger than the other**
- **Drowsiness or cannot be awakened**
- **A headache that gets worse and does not go away**
- **Weakness, numbness or decreased coordination**
- **Repeated vomiting**
- **Slurred speech**
- **Seizures**
- **Difficulty recognizing people or places**
- **Increased confusion, restlessness or agitation**
- **Unusual behavior**
- **Loss of consciousness**

Prevention

A concussion is a traumatic brain injury that can be prevented in many cases. Being an active participant in sports and engaging in physical activity does place student-athletes at higher risk for injury; however, there are preventive measures that schools can take. This section is intended to remind school districts about the importance of prevention. Schools should:

- Conduct periodic safety reviews of common play/sporting areas
- Provide appropriate and adequate staffing for sporting events and recess
- Provide appropriate access to protective gear (helmets, mouth guards)
- Provide appropriate fitting of protective gear
- Design guidelines and enforcement of appropriate and fair rules and techniques (CDE, 2014)

Design, Implement and Review a school-wide "concussion action plan" for all school staff and faculty. Know what to do BEFORE a student/athlete has an injury.

Implement Safe Stars Initiative

The Safe Stars initiative recognizes youth sports leagues throughout Tennessee for providing the highest level of safety for their youth athletes. Safe Stars consists of three levels: gold, silver and bronze, and involves implementation of policies around topics such as concussion education, weather safety and injury prevention.

Safe Stars' goal is to provide resources and opportunities for every youth sports league to enhance their safety standards. The criteria for achieving recognition as a Safe Stars league has been developed by a committee of health professionals dedicated to reducing sports-related injuries among youth.

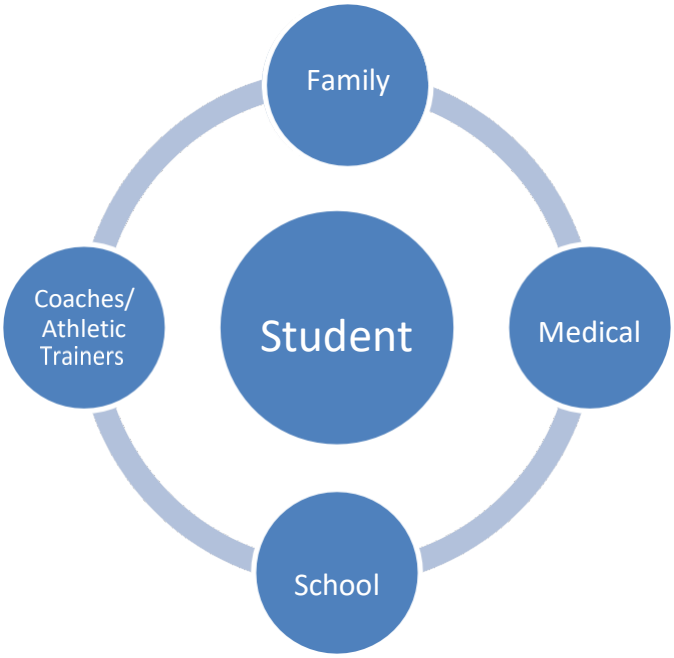
To learn more please visit:
www.tn.gov/health/health-program-areas/fhw/vipp/safe-stars-initiative.html.



Concussion Management Team

Once a concussion has been diagnosed by a health care professional, managing the concussion is best accomplished by creating a support system for the student. Communication and collaboration among parents, school personnel, coaches, athletic trainers and health care providers is essential for the recovery process. This support system oversees the return to academics and return to play process. A medical release signed by the parents allows for two-way communication between the school personnel and the health care provider (McAvoy, 2012, Return to Learn, 2014).

A collaborative approach with the student as the focus!



Each school district creates a concussion management policy that incorporates:

- Knowledge about concussions as a mild traumatic brain injury
- Training for all coaches, athletes, parents and school staff members about concussion management
- A Concussion Management Team with a designated Concussion Management Team Point Person
    - The Concussion Management Point Person may be the school nurse, the 504 designee, a guidance counselor or an administrator. Choose the individual that works best for your school's situation.

The Concussion Management Team

Members may include:

Physicians

Neuropsychologists

Physician Assistant

Parents

School Administrator or Designee

Athletic Director

Athletic Trainer

Coach

Teacher

Speech Language Pathologist

Nurse Practitioner

School Nurse

School Psychologist

School Counselor

Occupational Therapist

Physical Therapist

Student-Athlete

(Return to Play, 2014)



The Concussion Management Process

This is an example of the concussion management process that includes best practice components for all students.

Student Sustains a Concussion	• Remove from physical activity (P.E., recess, athletics, etc.) • Notify parents
Concussion Management Team Point Person is Notified	• CMT Point Person will notify the student's teachers, counselor, school nurse, parent/ guardian, coach, athletic trainer
CMT Records Collection	• The CMT will collect pertinent information regarding student's recovery (symptom checklist, school accommodations, medical release forms, etc.) • The CMT Point Person should maintain all records collected • The CMT Point Person is responsible for maintaining communication with parents, school nurse and health care providers
Return to Learn	• The student's academic accommodations will decrease as the symptoms begin to resolve
Symptom Free	• Record collection from CMT indicates the student is symptom-free without medications • Student is no longer requiring academic accommodations in the classroom
Return to Play	• Under guidance of health care provider, athlete may return to play *gradually (graduated RTP guidelines)* • Completion of graduated RTP protocol without return of symptoms is required for full medical clearance

(Adapted from Colorado, 2014)

Returning to School

The student may return to school when symptoms are tolerable and manageable, **as long as the school is making appropriate accommodations for the student**. The school must understand concussions and the necessary academic accommodations in order to facilitate returning students to the learning environment.

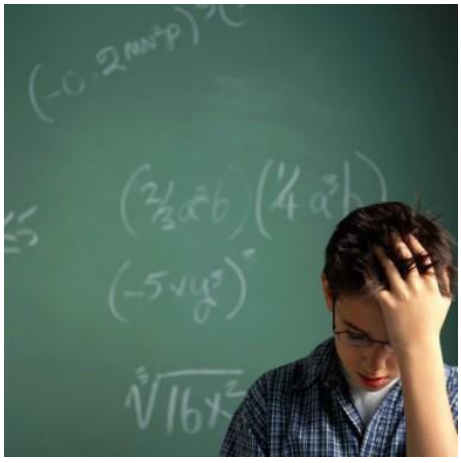
Key points:

- If symptoms prevent the student from concentrating on mental activities for ten minutes or less, complete cognitive rest is required. The student should be kept home from school with limited external stimulation (texting, watching TV, playing video games, etc.) or driving. In some, but not all, cases these stimulating activities may worsen the symptoms of concussion.
- If symptoms allow the student to concentrate on mental activities for up to 20 minutes or less, parents should consider keeping the student home from school, but may allow increased time periods of external stimulation as long as symptoms do not get worse.
- **See Cognitive Activity Monitoring Log in Appendix A**

When the student can tolerate 30 minutes of light mental activity, parents can consider returning him or her to the classroom. Best practices suggest: (a) parents communicate with the school and sign **a medical release of information (See Appendix B)** for the school to communicate with the health care provider, and (b) implement the appropriate academic accommodations provided by the treating health care provider and concussion management team.

Academic Accommodations: See School Accommodations Template in Appendix C

The balance between the student's medical and academic needs should be closely coordinated between school personnel and the health care provider. Each concussed student can have different symptoms, a different level of severity and a different recovery. Academic accommodations should be tailored to the specific needs of the individual student (McAvoy, 2014). Certain symptoms lend themselves to certain interventions. Especially in the acute phase of the concussion (one-four weeks), interventions should be applied generously in the classroom setting. Symptoms may be worse in some classes than in others. Teachers are encouraged to apply any intervention that is needed for the student based on the symptoms (McAvoy, 2015).



Classroom Strategies for Concussion Recovery

Symptom	School Setting Adjustment
Headache	• Frequent breaks • Reduce exposure to specific aggravators: bright lights/computer work/noisy environment • Rest periods if needed in nurse's office or quiet environment
Dizziness	• Allow student to put head down on desk • Give student early dismissal from class to avoid crowed hallways
Visual Problems: Light Sensitivity, Double Vision, Blurry Vision	• Reduce exposure to computers, light boards, videos • Reduce brightness on screens • Allow student to wear hat/sunglasses • Consider use of audio books • Turn off fluorescent lights • Seat student closer to the center of the classroom (blurry vision) • Have school nurse cover one eye with a patch for students with double vision
Noise Sensitivity	• Allow student to have lunch in a quiet area with one classmate • Limit/avoid band, choir, shop classes • Consider use of ear plugs • Allow early dismissal from class to avoid noisy hallways • Avoid noisy gyms/sporting events
Difficulty Concentrating or Remembering	• Avoid testing or completing major projects during recovery • Allow extra time to complete non-standardized tests • Postpone standardized testing • Consider one test per day during exams • Consider use of notes, a note taker or reader for oral testing
Sleep Disturbance	• Allow for late start or short day to catch up on sleep • Allow rest breaks in a quiet area

Adapted from: Halstead, M.E., McAvoy, K., Devore, C.D., Carl, R., Lee, M., Logan, K. (2013). Return to learning following a concussion. American Academy of Pediatrics. 132: 5, 948-957.doi:10.1542/peds.2013-2867

Symptoms Checklist

In most cases, symptoms may be the primary way to know when and how a concussion is getting better. Since the report of symptoms can be quite subjective, it is helpful to use a rating scale. The rating scale can act as a common language for everyone involved in managing the concussion. Most concussion management programs utilize a symptom scale with a 0 to 6 rating scale (0 = not present; 6 = most severe).

Name:_____ Date:_____

Date of Injury:_____

Symptom	None	Mild		Moderate		Severe	
Headache	0	1	2	3	4	5	6
Nausea	0	1	2	3	4	5	6
Vomiting	0	1	2	3	4	5	6
Balance problems	0	1	2	3	4	5	6
Dizziness	0	1	2	3	4	5	6
Fatigue	0	1	2	3	4	5	6
Trouble falling asleep	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
Drowsiness	0	1	2	3	4	5	6
Sensitive to light	0	1	2	3	4	5	6
Sensitive to noise	0	1	2	3	4	5	6
Irritability	0	1	2	3	4	5	6
Sadness	0	1	2	3	4	5	6
Nervous/Anxious	0	1	2	3	4	5	6
Feeling more emotional	0	1	2	3	4	5	6
Numbness or tingling	0	1	2	3	4	5	6
Feeling like in a fog	0	1	2	3	4	5	6
Difficulty remembering	0	1	2	3	4	5	6
Difficulty concentrating	0	1	2	3	4	5	6
Visual problems	0	1	2	3	4	5	6
Total Symptoms Score							

The Graded Symptoms Checklist is recommended by the National Athletic Trainers Association (Casa et al., 2012). The 0 to 6 symptoms scale is commonly used by various tests: ImPACT and SCAT3.

(Adapted from Colorado, 2014)

When and How to Write a 504 Plan

Typically, 90 percent of kids with concussions will recover within four weeks of their injuries**.** If a student has not resolved from a concussion within the typical three to four week time frame, it may be prudent to begin to look at a more "targeted" approach. (McAvoy and Eagan, 2015). If a 504 Plan is indicated, the 504 designee (CMT Point Person) at the school should set up a meeting with all the necessary members of the concussion management team (teachers, parents, counselors, administrators, school nurse, etc.). When writing a 504 Plan, one must identify what the most problematic symptoms are which will let you know which interventions to use in your plan. There are certain conditions or "modifiers" of concussion that we know may prolong the recovery process. Those modifiers are:

- A history of migraine headache or family history of migraines
- A pre-existing headache disorder
- ADHD
- A history of previous concussions
- Learning disability
- A history of anxiety and depression
- Sleep disorder

Be specific in the writing you 504 Plan. Do not write a plan "for concussion"; use the phrasing, "Section 504 Plan for X (specified symptom) secondary to concussion.

Examples:

Section 504 Plan for Headaches secondary to a concussion	• Head down on the desk in classroom • Pass to leave room to visit nurse • Able to take medications in school clinic
Section 504 Plan for Slowed Processing Speed secondary to a concussion	**Appropriate Interventions**: • Extended time on in-class assignments • Extended time on tests
Section 504 Plan for Convergence Insufficiency secondary to a concussion (MacAvoy & Eagan Brown, 2015)	**Appropriate Interventions**: • Teacher or peer notes printed out • In-class and homework on paper instead of computer screens whenever possible • Books on tape

There should also be an overall medical and education plan addressing the following questions:

- How long do we expect the symptoms to linger?
- Is the student still being treated for his/her concussion/symptoms?
- Do we expect the student to fully recover?
- What are the medical interventions being used?
- What side effect should we expect?

Remember:

- Only a small percentage of students with a concussion will need a 504 Plan.
- A Release of Medical Information Form will be needed for the school to communicate with the medical provider (Appendix B).
- When the Concussion Management Team works together to identify the underlying cause(s) for the prolonged recovery, addresses those areas, supports the student with academic accommodations, monitors the progress and adjusts the plan as needed, full recovery is possible (McAvoy and Eagan- Brown, 2015.

Return to Play

Tennessee Sports Concussion Law

In April 2013, Tennessee became the 44th state to pass a sport concussion law designed to reduce youth sports concussions and increase awareness of traumatic brain injury.

The legislation, Public Chapter 148, has three key components:

- ☐ To inform and educate coaches, youth athletes and their parents and require them to sign a concussion information form before competing.
- ☐ To require removal of a youth athlete who appears to have suffered a concussion from play or practice at the time of the suspected concussion.
- ☐ To require a youth athlete to be cleared by a licensed health care professional before returning to play or practice.

Both public and private school sports and recreational leagues for children under age 18 that require a fee are affected by the law. The law covers all sports. This website contains all the resources coaches, youth athletes and parents need to fulfill the intent of the law.

See more at:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/tn-sports-concussion.html

(TN Sports Concussion Law, 2013)

Within the school setting, any student who shows signs or symptoms of a concussion should be removed from physical activity (recess, physical education, dance class, etc.), and needs to be cleared medically before returning to physical activity. Medical providers approved to clear children for return to play from concussion are as follows:

- ☐ Medical Doctor (MD)
- ☐ Osteopathic Physician (DO)
- ☐ Clinical Neuropsychologist (PhD) with concussion training
- ☐ Physician Assistant (PA) with concussion training who is a member of a health care team supervised by a Tennessee licensed medical doctor or osteopathic physician.

See Return to Play Example, Appendix D

Return to Play Decisions

- ☐ According to the Concussion in Sport Group-4 Guidelines (2013), any child who is suspected of having a concussion should be removed from play and should not return to play that day.
- ☐ No return to sport should be considered until the child has returned to school successfully. A successful return to school would mean they no longer are in need of school accommodations.
- ☐ Children should not be returning to physical activity if they are still experiencing concussion symptoms, unless otherwise directed by their treating health care provider.
- ☐ Children should not be taking any medications to mask concussion symptoms in the graduated return to play process
- ☐ A graduated return to play process is recommended to be performed by the child with symptom monitoring at each step (McCrory, 2013).

Gradual Return to Play Plan

Return to play should occur in gradual steps beginning with light aerobic exercise only to increase your heart rate (e.g., stationary cycle); moving to increasing your heart rate with movement (e.g., running); then adding controlled contact if appropriate; and finally return to sports competition. Pay careful attention to your symptoms and your thinking and concentration skills at each stage or activity. After completion of each step without recurrence of symptoms, you can move to the next level of activity the next day under the direction of your health care provider. Move to the next level of activity only if you do not experience any symptoms at the present level. If your symptoms return, let your health care provider know, and await further instructions.

Day 1: Low levels of physical activity (i.e., symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking and light weightlifting (low weight – moderate reps, no bench, no squats).

Day 2: Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate intensity on the stationary cycle, moderate intensity weightlifting (reduce time and or reduced weight from your typical routine).

Day 3: Heavy non-contact physical activity. This includes sprinting/running, high intensity stationary cycling, completing the regular lifting routine, non-contact sport specific drills (agility – with three planes of movement).

Day 4: Sports-specific practice.

Day 5: Full contact in a controlled drill or practice.

Day 6: Return to competition.

(TN Sports Concussion Law, 2013)

References:

1. Centers for Disease Control and Prevention-Concussion Fact Sheet for School Professionals (2013). www.cdc.gov/headsup/pdfs/custom/headsupconcussion_fact_sheet_for_schools.pdf

2. Centers for Disease Control and Prevention-Basic Information about Traumatic Brain Injury and Concussion. www.cdc.gov/traumaticbraininjury/basics.html

3. Colorado Department of Education Concussion Management Guideline (2014). www.cde.state.co.us/healthandwellness/concussionguidelines7-29-2014-0

4. Return to Learn: Bridging the Gap from Concussion to the Classroom (2014). www.education.ne.gov/sped/birsst/BRIDGING%20THE%20GAP%20Booklet%20plus%20Appendices.pdf

5. Halstead ME, McAvoy K, Devore CD, et al. Returning to learning following a concussion. Pediatrics. 2013;132(5):948-957. doi:10.1542/peds.2013-2867 https://pubmed.ncbi.nlm.nih.gov/24163302/

6. McAvoy, K & Eagan-Brown, B (2015). When to write a 504 Plan: Part 1. http://nebula.wsimg.com/b7526f238f9c921d00a11d9a5769226f?AccessKeyId=E4B9300FA35CD0310DEE&disposition=0&alloworigin=1

7. McAvoy, K & Eagan-Brown, B (2015). When to write a 504 Plan: Part 2. http://nebula.wsimg.com/ce204367cd9b3c9ca304eceda7bbbb2c?AccessKeyId=E4B9300FA35CD0310DEE&disposition=0&alloworigin=1

8. McAvoy, K & Eagan-Brown, B (2015). How to write a 504 Plan. http://nebula.wsimg.com/b39dbbc04d4ee60fc623f9da5fedb363?AccessKeyId=E4B9300FA35CD0310DEE&disposition=0&alloworigin

9. Tennessee Sports Concussion Law (2013). https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/tn-sports-concussion.html

10. McCory, P., Meeuwisse, W. H., Aubry, M., Cantu, B., Dvořák, J., Echemendia, R. J., & Sills, A.(2013). Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012. *British journal of sports medicine*, *47*(5), 250-258.

Additional Resources:

1. Brain Links http://tndisability.org/brain
2. Center on Brain Injury Research & Training. https://cbirt.org
3. Colorado Kids with Brain Injury. https://cokidswithbraininjury.com/
4. Get Schooled on Concussions: Return to Learn. www.getschooledonconcussions.com/

Appendix A

Cognitive Activity Monitoring (CAM) Log

Name_____ Parent/ Teacher:_____

DATE TIME							
LOCATION (circle one)	Home School	Home School	Home School	Home School	Home School	Home School	Home School
COGNITIVE ACTIVITY:							
DURATION:							
SYMPTOM (PRE/POST)	**Rate 0-10**	**Rate 0-10**	**Rate 0-10**	**Rate 0-10**	**Rate 0-10**	**Rate 0-10**	**Rate 0-10**
HEADACHE	____/____	____/____	____/____	____/____	____/____	____/____	____/____
FATIGUE	____/____	____/____	____/____	____/____	____/____	____/____	____/____
CONCENTRATION PROBLEMS	____/____	____/____	____/____	____/____	____/____	____/____	____/____
IRRITABILITY	____/____	____/____	____/____	____/____	____/____	____/____	____/____
FOGGINESS	____/____	____/____	____/____	____/____	____/____	____/____	____/____
LIGHT/ NOISE SENSITIVITY	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Other:_____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
PRE-POST DIFFERENCE	_____	_____	_____	_____	_____	_____	_____

Appendix B

Authorization of Release of Medical Information for Concussion

School Name:_____
Patient Name:_____ Date of Birth:_____
Address:_____
City:_____ State:_____ Zip:_____
Social Security #:_____
I hereby authorize:_____
Name of Person/Organization Disclosing PHI

To release the following information to (School Receiving PHI) School:_____
Name:_____ Title:_____
Address:_____
Phone:_____ Fax:_____
Email:_____

Information to be shared:

- o Medical records pertaining to concussion care
- o Progress Notes
- o Other:_____
- o Academic Accommodations Forms
- o Mental/Behavioral health records

The Information may be disclosed for the following purpose(s) only:

- o Continued Treatment
- o At the request of the patient/legal guardian

I understand that by voluntarily signing this authorization:

- I authorize the use of my protected health information as described above for the purpose(s) listed.
- I have the right to withdraw permission for the release of my information. If I sign this authorization to use or disclose information, I can revoke this authorization at any time. The revocation must be made in writing to the person/organization disclosing the information and will not affect information that has already been used or disclosed.
- I have a right to receive a copy of the authorization.

Unless revoked or otherwise indicated, the authorization's automatic expiration date will be one year from the date of my signature or upon the occurrence of the following event:_____

_____ _____
Signature of Patient/Legal Representative Date

_____
Description of Legal Representatives Authority

Appendix C

The Tennessee Department of Health School Accommodations Template for Concussion

Patient/Student:_____ Date:_____

Please excuse the above named patient from school today due to a medical appointment.

The student has sustained a concussion and is currently under the care of his or her physician and/or _____ the undersigned. S/he is not permitted to participate in any contact sport activity until formally cleared by his or her physician and/or the undersigned.

Please consider the following concussion-related recommendations:

Gym Class recommendations:

_____ No gym class

_____ Restricted gym class as specified: _____

Recommended **Academic** accommodations:

_____Untimed tests

_____Open note/open book or oral tests

_____Tutoring

_____Reduced workload when possible

_____15 minute rest breaks from class every hour(s)

_____Modified/reduced homework assignments

_____Extended time on homework/projects

_____Tape record class lectures

_____Should not return to school until concussion symptoms are resolved

_____Other recommendations: _____

The patient/student will be re-evaluated on:_____

Healthcare Provider Name:_____ Address: _____

Signature:_____

Appendix D

CONCUSSION RETURN TO PLAY

Athlete's Name: _____ Date of Birth: _____

Date of Injury: _____

This return to play is based on today's evaluation Date of Evaluation: _____

Care Plan completed by: _____

Return to this office date/time: _____

Return to School date: _____

RETURN TO SPORTS INFO:

1. Athletes should not return to practice or play the same day that their injury occurred.
2. Athletes should never return to play or practice if they still have ANY symptoms – serious injury or death (although rare) can result
3. Athletes, be sure that your coach and/or athletic trainer are aware of your injury, symptoms and have the contact information for the health care provider treating your concussion.

Please initial:

_____ The athlete reports that he/she has no symptoms while participating in daily activities at this time.

_____ I have education the athlete and parents/guardian about the dangers of returning to play before symptoms have cleared.

The following are the return to sports recommendations at this time: (Please initial any recommendations selected)

PHYSICAL EDUCATION CLASS:

_____ Do NOT return to PE class at this time. (See "Return to this office date/time" above).

_____ Student MAY return to PE class after completion of Gradual Return to Play Plan (on back).

SPORTS:

_____ Do NOT return to sports practice or competition at this time.

_____ May GRADUALLY return to sports **activities** following the Gradual Return to Play Plan described on the back, under the supervision of the health care professional for your school or team.

_____ May be advanced back to **competition** after successful completion of the Gradual Return to Play Plan described on the back and after a **phone conversation** with treating health care provider.

_____ Must **return to the treating healthcare provider** for final clearance to return to competition after completing the Gradual Return to Play Plan. (See "Return to this office date/time" above).

_____ All steps of Return to Play Plan have been completed successfully. Cleared for full participation in all activities without restriction.

_____ No concussion suspected, cleared for full participation without a gradual return to play plan.

Appendix D

Treating Health Care Provider Information (Please print or stamp):

Provider's Name:_____Provider's Office Phone: _____

Provider's Signature:_____Office Address: _____

Please check:
____Medical Doctor (MD) w/ concussion training
____Osteopathic Physician (DO)
____Clinical Neuropsychologist w/ concussion training
____Physician Assistant (PA who is a member of a health care team supervised by a Tennessee licensed medical doctor or osteopathic physician.*
*Clearance by a PA is not accepted by the Tennessee Secondary School Athletic Association.

GRADUAL RETURN TO PLAY PLAN
Return to play should occur in gradual steps beginning with light aerobic exercise only to increase your heart rate (e.g. stationary cycle); moving to increasing your heart rate with movement (e.g. running); then adding controlled contact if appropriate; and finally return to sports competition.

Pay careful attention to your symptoms and your thinking and concentration skills at each stage of activity. After completion of each step **without recurrence of symptoms and no pain medication**, you can move to the next level of activity the next day. Move to the next level of activity only if you do not experience any symptoms at the present level. If your symptoms return, let your health care provider know, return to the first level of activity and restart the program gradually. This Gradual Return to Play process is for your own safety. Returning to play while still experiencing symptoms can result in serious injury or death. It is critical that you honestly report your symptoms to your doctor, coach and health care professional at the school.

GRADUAL RETURN TO PLAY PLAN:
"Day 1" means first day cleared to participate in Gradual Return to Play Plan, not first day after injury.

Day 1: Low levels of physical activity (i.e. symptoms do not come back during or after the activity). This includes walking, light jogging, light stationary biking and light weightlifting (low weight – moderate reps, no bench, no squats).
Day 2: Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate intensity on the stationary cycle, moderate intensity weightlifting (reduced time and or reduced weight from your typical routine).
Day 3: Heavy non-contact physical activity. This includes sprinting/running, high intensity stationary cycling, completing the regular lifting routine, non-contact sport-specific drills (agility with 3 planes of movement).
Day 4: Sports-specific practice.
Day 5: Full contact in a controlled drill or practice.
Day 6: Return to competition.

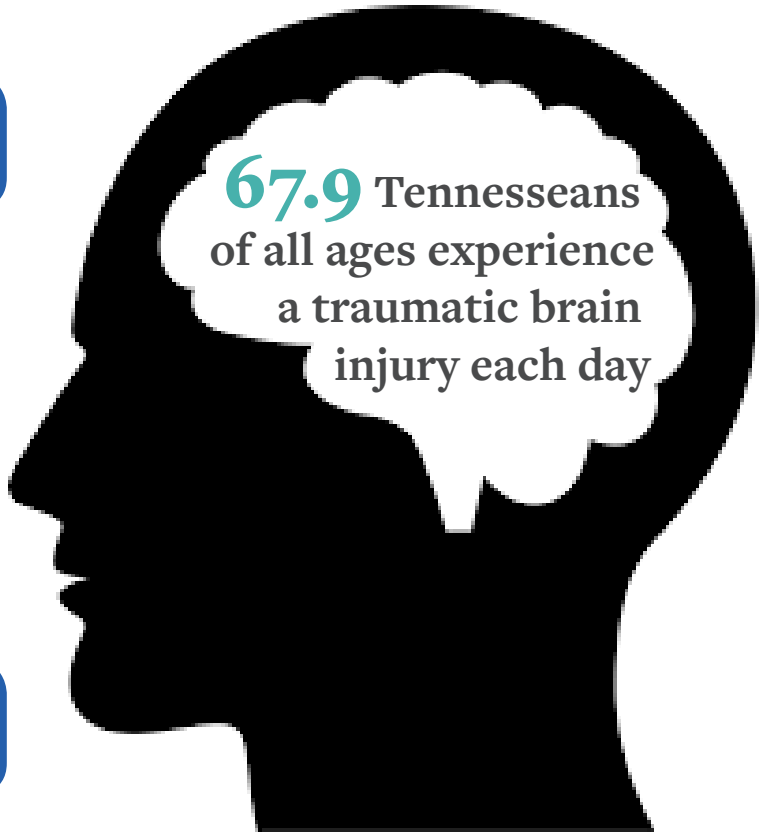
Adapted from the *Acute Concussion Evaluation Care Plan* from the Center for Disease Control and Prevention (https://www.cdc.gov/injury/), the *TSSAA Concussion Return to Play* form (https://cms-files.tssaa.org/documents/tssaa/forms/Concussion-Return-to-Play-Form-updated-12.2019.pdf) and the *TN Return to Learn/Return to Play: Concussion Management Guidelines*. All medical providers are encouraged to review the sites if they have questions regarding the latest information on the evaluation and care of a youth athlete following a concussion injury.

Brain Links

Enriching the lives of Tennesseans with traumatic brain injury by training and empowering the professionals serving them.

The Need

Traumatic Brain Injury (TBI) is a complex diagnosis that can pose long-term challenges both for the person and the professionals serving him or her.



We Can Help

Brain Links is a statewide team of brain injury specialists. We equip professionals to better serve people with TBI with current, research-based training and tools.

We'll work with your schedule & continuing education unit needs. Our services are provided ***at no cost.***

For more info contact Brain Links at: 615-515-8616 or tbi@tndisability.org

Brain Links

Brain Links is supported by the Administration on Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the Tennessee Department of Health, Traumatic Brain Injury Program.

We Provide:

Evidence-based TBI trainings tailored to your discipline

Certificates for educational credits

Toolkits for screening, symptom tracking, reference, parent education and communication with schools

Assistance with goal writing and treatment plan development support for rehabilitation, direct service support and related services

Educational resources including parent-friendly educational materials

Resources for return to home, school or work settings

TENNESSEE DISABILITY COALITION

kidcentral tn
KIDCENTRALTN.COM

cbirt

UNIVERSITY OF OREGON

504/IEP Accommodations & Modifications in the Classroom for a Student with a Traumatic Brain Injury

Student: _____Teacher: _____ Grade: _____ Date: _____ Birth Date: _____

Presenting Concerns: _____

Persons Responsible for Providing Selected Items: _____

Directions: Circle the challenges that affect your child or student. Check the accommodations that may be helpful.

Environment

- Post class rules
- Post daily schedule
- Give preferential seating
- Change to another class
- Change schedule (most difficult in morning)
- Eliminate distractions (visual, auditory & olfactory)
- Modify length of school day
- Provide frequent breaks
- Provide a quiet work place
- Maintain consistent schedule
- Provide system for transition

Transitions

- Specified person to oversee transition between classes or end of day
- Advanced planning for transition between grades/schools
- Modified graduation requirements
- Assistance with identifying post-secondary supports
- Identification of community resources for persons with brain injury

Method of Instruction

- Repeat directions
- Circulate teacher around room
- Provide visual prompts
- Provide immediate feedback
- Point out similarities to previous learning & work
- Use manipulative materials
- Teach to current level of ability (use easier materials)
- Speak clearly
- Pre-teach or reteach
- Use peer tutor or partner
- Use small group instruction
- Use simple sentences
- Use individualized instruction
- Pause frequently
- Use cooperative learning
- Encourage requests for clarification, repetition, etc.
- Use examples relevant to student's life
- Demonstrate & encourage use of technology

Behavioral Needs

- Early interventions for situations that may escalate
- Teach expected behavior
- Increase student academic success rate
- Learn to recognize signs of stress
- Give non-verbal cues to discontinue behavior
- Reinforce positive behavior
- Set goals with student
- Use social opportunities as rewards
- Teach student to use advance organizers at beginning of lesson
- Role play opportunities
- Use proactive behavior management strategies
- Daily/weekly communication with parents
- Modification of non-academic tasks (e.g., lunch or recess)
- Time & place to regroup when upset
- Additional structure in daily routine
- Frequent specific feedback about behavior

Assistive Technology

- Multimedia software
- Electronic organizers
- Shortcuts on computers
- Concept mapping software
- Accessibility options on computer
- Proofreading programs
- Alternative keyboards
- Voice output communication devices and reminders
- Enlarged text or magnifiers
- Recorded text & books
- Specialized calculators
- Picture & symbol supported software
- Talking spell checker & dictionary
- Computer for responding & homework
- Use of communication devices
- Word predicting programs
- iPad/tablet
- Smart Phone

cbirt

UNIVERSITY OF OREGON

504/IEP Accommodations & Modifications in the Classroom for a Student with a Traumatic Brain Injury

Memory Deficits

- Monitoring planner (check-off system)
- Written & verbal directions for tasks
- Posted directions
- Frequent review of information
- Strategy for note taking during long reading assignment
- Provide a copy of notes
- Open book or note tests
- Reminders for completing & turning in work
- Repetition of instructions by student to check for comprehension

Visual Spatial Deficits

- Large print materials
- Distraction free work area
- Modified materials (e.g., limit amount of material presented on single page, extraneous picture)
- Graphs & tables provided to student
- Use of math & reading template or guide

Gross Motor/Mobility Difficulties

- Priority in movement (e.g., going first or last)
- Adaptive physical education
- Modified activity level for recess
- Special transportation
- Use of ramps or elevators
- Restroom adaptations
- Early release from class
- Assistance with carrying lunch tray, books, etc.
- Escort between classes
- Alternative evacuation plan
- Simple route finding maps & cues

Attention

- Visual prompts
- Positive reinforcement
- Higher rate of task change
- Verbal prompts to check work

Organizational Skills

- Study guide or timeline
- Daily calendar for assignments & tasks (digital or written)
- Instructions in using a planner or app
- Provide color-coded materials
- High-lighted materials to emphasize important or urgent information

Academic Progress

- Assigned person to monitor student's progress
- Contact person (home & school)
- Weekly progress report (home & school)

Fine Motor Difficulties

- Copy of notes provided
- Oral examinations
- Note-taker for lectures
- Scribe for test taking
- Recorded lectures

Curriculum

- Reduce length of assignments
- Change skill or task
- Modify testing type or setting
- Allow extra time
- Teach study skills
- Teach sequencing skills
- Teach memory strategies
- Write assignments in daily log
- Teach peers how to be helpful

Fatigue

- Reduced schedule
- Planned rest breaks
- Schedule arranged for high cognitive demand tasks to be followed by less stressful coursework

Processing Delays

- Complex direction broken into steps
- Repetition of pertinent information
- Cueing student to question prior to asking
- Use of precise language

Other Considerations

Home/School Relations

- School counseling
- Scripts about the injury & hospitalization
- Schedule regular meetings for all staff to review progress & maintain consistency
- Schedule parent conferences every _____
- Parent visits/contact
- Home visits

Disability Awareness

- Explain disabilities to other students
- Teach peers how to be helpful
- Training for school staff

This checklist serves as a starting point for identifying student needs and developing appropriate accommodations. Because rapid changes take place after a brain injury, the plan must be frequently reviewed and updated to meet the changing needs of the student. Be sure to review and change the plan as frequently as needed.

JAN
Job Accommodation Network

Practical Solutions • Workplace Success

Have questions about workplace accommodations or the Americans with Disabilities Act (ADA)?

Ask JAN. We can help!

Office of Disability Employment Policy



Connect with JAN

Email: jan@AskJAN.org

Online chat at AskJAN.org

Phone: 800.526.7234 (voice) • 877.781.9403 (TTY)

JAN is funded by a contract with the Office of Disability Employment Policy, U.S. Department of Labor.



Under the Americans with Disabilities Act (ADA), an accommodation is considered any modification or adjustment to a job or work environment that enables a qualified person with a disability to apply for or perform a job.

Accommodations are highly cost effective.

Data collected by JAN reveal that **59 percent of accommodations cost nothing**, while the median, one-time expenditure for those that do is $500—an expense that most employers report pays for itself many times over through reduced insurance and training costs and increased productivity.

JAN is the leading source of free, expert, and confidential guidance on workplace accommodations and the ADA.

Ask us.

We can help!

AskJAN.org

ODEP
Office of Disability Employment Policy

CONCUSSION
CLINICAL TRAJECTORIES

A Model for Understanding Assessment, Treatment and Rehabilitation



COGNITIVE/FATIGUE

Cognitive difficulties include decreased concentration, increased distractibility, difficulty learning/retaining new information or decreased multitasking abilities. Sometimes accompanied by increased fatigue as the day progresses.



VESTIBULAR

Impairments of the vestibular system – the balance center of the brain – affect one's ability to interpret motion, coordinate head and eye movements, or stabilize vision upon head movement.



OCULAR

Ocular dysfunction occurs when the movement of the eyes in tandem, or binocular eye movement, is affected. This may result in difficulties bringing the eyes together, or moving one's eyes to track motion.

POST-TRAUMATIC MIGRAINE



Post-traumatic migraine symptoms include headaches, nausea, and/or sensitivity to light or noise.

CERVICAL



Sometimes, the concussive blow affects the extra-cranial region including the neck and/or spinal cord. An injury of this type may lead to ongoing headaches.



ANXIETY/MOOD

This occurs when someone has a hard time turning his or her thoughts off, being particularly ruminative, of suffering from excessive worry or concern.

UPMC LIFE CHANGING MEDICINE

ReThink CONCUSSIONS

SIX TYPES OF CONCUSSION

1. Cognitive/Fatigue
2. Vestibular
3. Ocular
4. Post-traumatic Migraine
5. Cervical
6. Anxiety/Mood

FACTS

- Symptoms will be broad and generalized during the first week following concussion and will generally include symptoms like headache and fatigue.
- After the first week, if symptoms persist, they will tend to fall into one of the 6 clinical trajectories.
- There could be more than one trajectory type present.
- Specific trajectory and outcome depends on several factors:
  - Direction of force (linear vs. rotational)
  - Location of impact
  - Amount of force involved
  - Pre-injury risk factors

ACTIVE TREATMENT

Research is showing that active, specialized treatment – focused on specific symptoms – helps the brain recover from injury.

- Neuropsychology
- Vestibular Physical Therapy
- Exertional Physical Therapy
- Physical Medicine and Rehabilitation
- Neuro-optometry/ Neuro-ophthalmology
- Orthopedist
- Neurosurgery
- Neuroradiology
- Chiropractic
- Cognitive Therapy/ Speech Language Pathology

RISK FACTORS (which may delay recovery)

- History of prior concussions
- Motion sickness
- Visual problems
- Learning or attention issues
- Migraine history
- Gender *(female)*
- Age *(younger children tend to take longer to recover)*

Source: Kontos, A.P. Collins, M.W., (2018). Concussion: A Clinical Profile Approach to Assessment and Treatment.

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

CDC'S ONLINE TRAINING FOR HEALTHCARE PROVIDERS

HEADS UP

HEADS UP to Healthcare Providers is a free online training developed by CDC and the American Academy of Pediatrics. The goal of the training is to provide an overview of the evidence-based recommendations outlined in the CDC Pediatric mTBI Guideline and to equip healthcare providers with practical strategies to integrate these recommendations into clinical practice.

WHAT YOU WILL LEARN

By the end of the training, you will be prepared to:

- Discuss what happens to the brain during and after an mTBI
- Identify at least three best practices related to diagnosis of mTBI
- Devise an appropriate management plan for pediatric patients with mTBI
- Describe prevention strategies for pediatric mTBI

FOLLOW THE URL TO BEGIN

HTTPS://WWW.CDC.GOV/HEADSUP/PROVIDERS/TRAINING/

Brain Links

https://www.tndisability.org/brain

@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Research Summary and References
Support for the Toolkit

TOOLKIT

This toolkit, and specifically the *Concussion Management Protocol,* were developed based on the research summarized below. The research supports educating practitioners (rationale for the **Reference** section), properly evaluating, monitoring and referring patients (rationale for the **In-Office** section) and properly educating those with mTBI/ TBI (rational for the **Send-Home** sections).

CHILDREN:

Healthcare providers outside hospitals are on the front lines:

Most (82%) of those 0 to 17 years will seek initial care with their primary care physician (Arbogast, et al., 2016). Since most of our incidence data comes from Emergency Department's (ED's), we are significantly underestimating the extent of the TBI issue (Study included over 8,000 patients).

The very young are frequently not diagnosed or treated:

The newest pediatric mTBI guidelines recommend using an age-appropriate validated concussion scale (Lumba-Brown, et al., 2018), but one does not exist yet that focuses on children five and under. We must look for additional signs in children five years and under. For this age range, parents endorse the typical symptoms from the ACE, but in answer to an open-ended question, 82% also reported additional symptoms (Suskauer, et al., 2018), including:

- Appetite changes
- Behavioral dysregulation
- Decreased engagement
- Disrupted sleep
- Bladder incontinence (Enuresis)
- Increased dependence
- Stomachaches

The study also concluded that it is important to monitor behavior dysregulation over time. At first, parents saw disengagement, and then behavior dysregulation emerged and persisted. Behavioral dysregulation was among most commonly reported symptoms and was still present at the time of the evaluation (over one month post).

Children with TBI may develop or have ongoing concerns and should be monitored (for years):

They are more likely to have a variety of health/academic issues compared to those with no TBI (Haarbauer-Krupa, Lee, et al., 2018). The highest prevalence are:

- Learning disorders
- ADD/ADHD
- Speech Language problems
- Developmental delay
- Anxiety
- Bone, joint or muscle problems

Children with mild (Taylor, 2015) and moderate and severe (Schwartz, 2003) injuries are more at risk for persistent behavior problems. The risk rises with severity of the mTBI and younger age at injury.
Even in children whose injuries were significant enough to show skull or brain tissue damage on imaging, only one-fourth received any rehabilitations services afterward and only one-fourth received a neuropsychological assessment. None of the children received early intervention or special education preschool services after their TBI (Haarbauer-Krupa, Lundine, et al., 2018). This study concludes:

- Healthcare providers should provide information to parents on what to watch for and long term implications.

- Healthcare providers should make appropriate referrals at the time of diagnosis.
- Referral to rehabilitation can help with transition to preschool.

Another study (Niedzwecki, et al., 2018) concluded that even though children did not receive inpatient care, some will still benefit from rehabilitation for subsequent problems, including memory and learning issues (that were not pre-existing).

This study also found that medical issues at the time of injury, like elevations or depressions of Intra-cranial pressure (ICP), unstable blood pressure, unstable oxygenation, delayed nutrition or seizures, can impact the child's IQ at 12 months.

- The study's recommendation for trauma treatment is that rehab services be included early in the continuum – this would include consultation early in the ICU or acute care settings and referrals to an outpatient concussion clinic.

In the first year after injury, a substantial portion of children with moderate or severe TBI have unmet or unrecognized healthcare needs, with cognitive services being most frequent among these. Because of this finding, the authors recommended that cognition be screened in the primary care setting (Slomine, et al., 2006).

Reason for unmet needs:

- Lack of a physician's recommendation or referral
- Not provided in the school settings
- Failure of parent follow-up
- Cost

Children with all levels of impairment had educational needs, while those with less severe injuries were at greater risk of being underserved (Kingery, et al., 2017).

Earlier age at time of injury produces more functional impairment (Taylor, et al., 2015). The more severe the injury and the younger age at injury, the greater the need for monitoring and follow up (Anderson, Catroppa, Dudgeon, 2006; Anderson, Catroppa, Haritou, 2006).

On the first visit, provide educational materials, accommodations for return to school and recommend a follow up visit (at which time appropriate referrals can be made):

- Many children did not even visit a healthcare provider in the year following their injury (Slomine, et al., 2006).

Ongoing family support is important:

Family support is important because those with family dysfunction/poor coping, the child had greater dysfunction (Schwartz, 2003; Anderson, Catroppa, Dudgeon, et al., 2006; Taylor, 2008).

Families also reported needing information, emotional support and access to community-based services (Jones, 2017).

Schools need the support/recommendations of healthcare providers:

Teachers are not adequately trained to identify brain injuries and issues related to them (Davies, et al., 2013).

On specialized testing, children with TBI tend to show specific patterns of deficit that will not be revealed through standard special education testing. A neuropsychological evaluation will pick up these patterns. In a study of mild complicated TBI (with orthopedic controls), children who were injured before age 6 and were about 5 years post injury were tested. Both groups were within normal limits on most cognitive, language and reading measures; but they had some differences in verbal IQ, receptive

language and reading comprehension. The biggest differences were in pragmatic language (which leads to social issues), story retell, and word fluency (Haarbauer-Krupa, King, et al., 2019).

Schools will not provide all of what a child needs (Niedzwecki, 2018). Schools are only required to provide those services that directly relate to academics.

The gap in academic achievement widens over time (compared with non-injured classmates) (Ewing-Cobbs, 2006; Farmer, 1997; Taylor & Yeates, 2002; Todis & Glang, 2008; Todis, Glang, Bullis, et al., 2011; Wagner, et al., 2006). So, if children with TBI do not qualify for services at first, they should be referred again if they continue to have difficulties.

"Children who receive systematic transition services a part of their medical care are more likely to be identified for specialized support services at school, such as speech therapy (Haarbauer-Krupa, Ciccia, et al., 2017).

Use of the ACE tools (screening tool and Care Plan) "increased patient follow-up and improved recall of and adherence to ED discharge recommendations (Zuckerbraun, 2014)."

Pediatric Guideline:

Also see the CDC Pediatric Guideline (Lumba-Brown, et al., 2018) on mTBI in this toolkit for 19 sets of recommendations, with these 5 key take away points:

1. Do not routinely image pediatric patients to diagnose mTBI.
2. Use validated, age-appropriate symptom scales to diagnose mTBI.
3. Assess risk factors for prolonged recovery, including history of mTBI or other brain injury, severe symptom presentation immediately after the injury, and personal characteristics and family history (such as learning difficulties and family and social stressors).
4. Provide patients and their parents with instructions on returning to activity customized to their symptoms.
5. Counsel patients and their parents/caregivers to return gradually to non-sports activities after no more than 2-3 days of rest.

Consequences of brain injury for all ages:

Once a person has one brain injury, the risk for another increases, and the risk increases with each subsequent injury. A person with a brain injury is also more likely to be incarcerated (or involved with the criminal justice system) (Farrer & Hedges, 2011; Shiroma, et al., 2012; Williams, et al., 2010; Im, et al., 2014), to have psychiatric issues ((McCarthy, et al., 2006; Kaponen, et al., 2002; Zgaljardic, et al., 2015), to be involved with substance abuse (Kreutzer, et al., 1996), and to be socially isolated (Morton & Wehman, 1995; Hawthorne, et al., 2009). Long-term psychiatric disorders are associated with greater risk for substance abuse (Zgaljardic, et al., 2015). Prior TBI has been identified as a potential contributing factor to domestic violence (Romero-Martinez & Moya-Albiol, 2013). Not surprisingly, TBI is found in female victims of domestic violence (Corrigan, et al., 2001).

ADULTS

Follow up and education are important:

Findings from a study (Seabury, et al., 2018) of follow-up care that was provided to people at 11 Level 1 trauma centers across the country:

- Less than half received TBI educational material at discharge or saw a health care practitioner within 3 months after injury.
- Only 27% were called by 2 weeks.
- Follow-up care varied by site, from 19% to 72%.

- For those with a positive CT scan, over one-third had not seen a medical practitioner for follow-up.
- Even among those with 3 or more moderate to severe post-concussive symptoms, only about half saw a medical practitioner within 3 months.
    - Of those that did, 80% reported that it was helpful. The majority saw a general practitioner and 38% saw a neurologist. Only 15% reported visiting a clinic specializing in TBI care.

A few conclusions from the paper:

- "Failure to follow-up with patients could have adverse consequences, as simply providing educational materials to patients with mTBI is associated with improved outcomes."[35]
- "Our findings reveal the consequences that may result from the absence of systems of follow-up care for patients with mTBI and concussion. They also highlight an apparent lack of appreciation by many clinicians of the substantial symptom and life burdens experienced by a significant proportion of patients with injuries labeled mild."

Use of the ACE tools (screening tool and Care Plan) "increased patient follow-up and improved recall of and adherence to ED discharge recommendations (5-21 year olds) (Zuckerbraun, 2014)."

Unmet Needs:

Poor psychosocial health was reported by a substantial portion in a study at one year post injury TBI may cause decades lasting vulnerability to psychiatric illness in some individuals. They were most susceptible to depression, delusional disorders and personality disturbances. This study highlights the importance of psychiatric follow up even decades (30 years) later (Kaponen, et al., 2002). Heinemann found unmet needs at 7 years. The most prevalent were improving memory and problem solving, increasing income and improving job skills (Heinemann, et al., 2002).

Also see the Updated Mild Traumatic Brain Injury Guideline for Adults in this toolkit.

Model of 6 types of concussion and active treatments (pediatric and adult):

There is now a great body of evidence supporting the 6 types of concussion and the active treatments for each type. A good resource to start with is *Concussion: A Clinical Profile Approach to Assessment and Treatment* by Kontos and Collins (2018) and *A comprehensive, targeted approach to the clinical care of athletes following sport-related concussion* (Collins, et al., 2013).

References

Anderson, V. A., Catroppa, C., Dudgeon, P., Morse, S. A., Haritou, F., & Rosenfeld, J. V. (2006). Understanding predictors of functional recovery and outcome 30 months following early childhood head injury. *Neuropsychology,20*(1), 42-57. doi:10.1037/0894-4105.20.1.42

Anderson, V., Godfrey, C., Rosenfeld, J.V., & Catroppa, C., Predictors of Cognitive Function and Recovery 10 Years After Traumatic Brain Injury in Young Children. (2012). Pediatrics, 129(2). doi:10.1542/peds.2011-0311d

Arbogast, K. B., Curry, A. E., Pfeiffer, M. R., Zonfrillo, M. R., Haarbauer-Krupa, J., Breiding, M. J., . . . Master, C. L. (2016). Point of Health Care Entry for Youth With Concussion Within a Large Pediatric Care Network. JAMA Pediatrics, 170(7). doi:10.1001/jamapediatrics.2016.0294

Collins, M. W., Kontos, A. P., Reynolds, E., Murawski, C. D., & Fu, F. H. (2013). A comprehensive, targeted approach to the clinical care of athletes following sport-related concussion. Knee Surgery, Sports Traumatology, Arthroscopy,22(2), 235-246. doi:10.1007/s00167-013-2791-6

Corrigan, J. D., Wolfe, M., Mysiw, W. J., Jackson, R. D., & Bogner, J. A. (2001). Early identification of mild traumatic brain injury in female victims of domestic violence. Clinical Journal of Womens Health, 01(4), 184-190. doi:10.1053/cjwh.2001.27867

Davies, S. C., Fox, E. E., Glang, A., et al. Traumatic Brain Injury and Teacher Training: A Gap in Educator Preparation. (2013). Counselor Education and Human Services Faculty Publications. 25. http://ecommons.udayton.edu/edc_fac_pub/25

Ewing-Cobbs, L., Prasad, M. R., Kramer, L., Cox, C. S., Baumgartner, J., Fletcher, S., et al. (2006). Late intellectual and academic outcomes following traumatic brain injury sustained during early childhood. Journal of Neurosurgery: Pediatrics, 105(4), 287-296. doi:10.3171/ped.2006.105.4.287

Farmer, J. E., & Johnson-Gerard, M. (1997). Misconceptions about traumatic brain injury among educators and rehabilitation staff: A comparative study. Rehabilitation Psychology, 42(4), 273-286. doi:10.1037//0090-5550.42.4.273

Farrer, T. J., & Hedges, D. W. (2011). Prevalence of traumatic brain injury in incarcerated groups compared to the general population: A meta-analysis. Progress in Neuro-Psychopharmacology and Biological Psychiatry, 35(2), 390-394. doi:10.1016/j.pnpbp.2011.01.007

Haarbauer-Krupa, J., King, T. Z., Wise, J., Gillam, S., Trapani, J., Weissman, B., & Depompei, R. (2019). Early Elementary School Outcome in Children With a History of Traumatic Brain Injury Before Age 6 Years. Journal of Head Trauma Rehabilitation, 34(2), 111-121. doi:10.1097/htr.000000000000041

Haarbauer-Krupa, J., Lee, A. H., Bitsko, R. H., Zhang, X., & Kresnow-Sedacca, M. (2018). Prevalence of Parent-Reported Traumatic Brain Injury in Children and Associated Health Conditions. JAMA Pediatrics, 172(11), 1078. doi:10.1001/jamapediatrics.2018.2740

Haarbauer-Krupa, J., Lundine, J. P., Depompei, R., & King, T. Z. (2018). Rehabilitation and school services following traumatic brain injury in young children. NeuroRehabilitation, 42(3), 259-267. doi:10.3233/nre-172410

Hawthorne G, Gruen RL, Kaye AH. Traumatic brain injury and long-term quality of life: findings from an Australian study. J Neurotrauma. 2009;26:1623–33. doi: 10.1089/neu.2008.0735

Heinemann, A. W., Sokol, K., Garvin, L., & Bode, R. K. (2002). Measuring unmet needs and services among persons with traumatic brain injury. Archives of Physical Medicine and Rehabilitation, 83(8), 1052-1059. doi:10.1053/apmr.2002.3428

Im, B., Hada, E., Smith, M., & Gertisch, H. (2014). The Relationship between TBI and incarceration rates. Spotlight on Disability Newsletter, Dec 2014 retrieved from https://www.apa.org/pi/disability/resources/publications/newsletter/2014/12/incarceration.

Jones, S., Davis, N., & Tyson, S. F. (2017). A scoping review of the needs of children and other family members after a child's traumatic injury. Clinical Rehabilitation, 32(4), 501-511. doi:10.1177/0269215517736672

Kaponen, S., Taiminen, T., Portin, R., et al. (2002). Axis I and II psychiatric disorders after traumatic brain injury a 30 year follow-up study. Am J Psychiatry, Aug; 159(8): 1315-21.

Kontos, A. P., & Collins, M. W. (2018). Concussion: A clinical profile approach to assessment and treatment. Washington, DC: American Psychological Association.

Kreutzer, J. S., Witol, A. D., & Marwitz, J. H. (1996). Alcohol and Drug Use Among Young Persons with Traumatic Brain Injury. Journal of Learning Disabilities, 29(6), 643-651. doi:10.1177/002221949602900608

Lumba-Brown, A., Yeates, K.O., Sarmiento, K., et al. Centers for Disease Control and Prevention guideline on the diagnosis and management of mild traumatic brain injury among children [published online September 4, 2018]. JAMA Pediatr. doi:10.1001/jamapediatrics.2018.2853

Mccarthy, M. L., Dikmen, S. S., Langlois, J. A., Selassie, A. W., Gu, J. K., & Horner, M. D. (2006). Self-Reported Psychosocial Health Among Adults With Traumatic Brain Injury. Archives of Physical Medicine and Rehabilitation,87(7), 953-961. doi:10.1016/j.apmr.2006.03.007

Morton, M. V., & Wehman, P. (1995). Psychosocial and emotional sequelae of individuals with traumatic brain injury: A literature review and recommendations. Brain Injury, 9(1), 81-92. doi:10.3109/02699059509004574

Niedzwecki, C. M., Rogers, A. T., & Fallat, M. E. (2018). Using Rehabilitation along the Pediatric Trauma Continuum as a Strategy to Define Outcomes in Traumatic Brain Injury. Clinical Pediatric Emergency Medicine, 19(3), 260-271. doi:10.1016/j.cpem.2018.08.005

Romero-Martinez, A., Moya-Albiol, L., Neuropsychology of perpetrators of domestic violence: the role of traumatic brain injury and alcohol abuse and/or dependence. (2013). Revista de Neurologica, Dec; 57(11): 515-522.

Schwartz, L. (2003). Long-Term Behavior Problems Following Pediatric Traumatic Brain Injury: Prevalence, Predictors, and Correlates. Journal of Pediatric Psychology, 28(4), 251-263. doi:10.1093/jpepsy/jsg013

Seabury, S.A., Gaudette, E., Goldman, A. J., et al. (2018). Assessment of Follow-up Care After Emergency Department Presentation for Mild Traumatic Brain Injury and Concussion: Result from the TRACK-TBI Study. JAMA Network Open. 208;1(1) doi:10.1001/jamanetworkopen.2018.0210

Shiroma, E. J., Ferguson, P. L., & Pickelsimer, E. E. (2012). Prevalence of Traumatic Brain Injury in an Offender Population. Journal of Head Trauma Rehabilitation, 27(3). doi:10.1097/htr.0b013e3182571c14

Slomine, B. S., McCarthy, M.L., Ding, R., et al. (2006). Health Care Utilization and Needs After Pediatric Traumatic Brain Injury. Pediatrics, 117(4). doi:10.1542/peds.2005-1892

Suskauer, S. J., Rane, S., Reesman, J., & Slomine, B. S. (2018). Caregiver-report of symptoms following traumatic brain injury in a small clinical sample of preschool-aged children. Journal of Pediatric Rehabilitation Medicine,11(1), 7-14. doi:10.3233/prm-160424

Taylor, H. G., Swartwout, M. D., Yeates, K. O., Walz, N. C., Stancin, T., & Wade, S. L. (2008). Traumatic brain injury in young children: Postacute effects on cognitive and school readiness skills. Journal of the International Neuropsychological Society, 14(5), 734-745. doi:10.1017/s1355617708081150

Taylor, H.G., Orchinik, L.J., Minich, N., et al. (2015). Symptoms of Persistent Behavior Problems in Children with Mild Traumatic Brain Injury. J Head Trauma Rehabil. Sep-Oct;30(5):302-10. doi:10.1097/HTR.0000000000000106

Taylor, H.G., Yeates, K. O., Wade, S.L., et al. (2002). A prospective study of short- and long-term outcomes after traumatic brain injury in children: Behavior and achievement. Neuropsychology, 16(1) 15-27.

Todis, B., & Glang, A. (2008). Redefining Success. Journal of Head Trauma Rehabilitation, 23(4), 252-263. doi:10.1097/01.htr.0000327257.84622.bc

Todis, B., Glang, A., Bullis, M., Ettel, D., & Hood, D. (2011). Longitudinal Investigation of the Post–High School Transition Experiences of Adolescents With Traumatic Brain Injury. Journal of Head Trauma Rehabilitation, 26(2), 138-149. doi:10.1097/htr.0b013e3181e5a87a

Updated Mild Traumatic Brain Injury Guideline for Adults, retrieved from https://www.cdc.gov/traumaticbraininjury/mtbi_guideline.html

Wagner, M., Newman, L., Cameto, R., Levine, P., and Garza, N. (2006). An Overview of Findings From Wave 2 of the National Longitudinal Transition Study-2 (NLTS2). (NCSER 2006-3004). Menlo Park, CA: SRI International.

Williams, W. H., Mewse, A. J., Tonks, J., Mills, S., Burgess, C. N., & Cordan, G. (2010). Traumatic brain injury in a prison population: Prevalence and risk for re-offending. Brain Injury, 24(10), 1184-1188. doi:10.3109/02699052.2010.495697

Zgaljardic DJ, Seale GS, Schaefer LA, Temple RO, Foreman J, Elliott TR. Psychiatric disease and post-acute traumatic brain injury. J Neurotrauma. 2015;32:1911–25. doi: 10.1089/neu.2014.3569

Zuckerbraun NS, Atabaki,S, Collins, MW, Thomas D, Gioia GA. Use of modified acute concussion evaluation tools in the emergency department. Pediatrics, 133(4). doi: 10.1542/peds.2013-2600d

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

HEALTHCARE PROVIDERS TOOLKIT

IN-OFFICE USE

USE THE LINKS BELOW TO VIEW A SPECIFIC RESOURCE

ACE: Acute Concussion Evaluation Physician/Clinician Office Version – tool to screen for concussion

Post Concussion Symptom Inventories – Choose one age-appropriate child version and the parent version, or the adult version. All request information on symptoms. Note: A scale for children 0-5 does not currently exist.

Post Concussion Symptom Inventory for Children Pre/Post Version Ages 5-12 – completed by the 5-12 year old child

Post Concussion Symptom Inventory Ages 13-18 – completed by the 13-18 year old child

Post Concussion Symptom Inventory Parent – completed by the parent of the child

Post Concussion Symptom Scale – completed by an adult

Brain Links

ACUTE CONCUSSION EVALUATION (ACE)

Physician/Clinician Office Version

Gerard Gioia, PhD[1] & Micky Collins, PhD[2]
[1]Children's National Medical Center
[2] University of Pittsburgh Medical Center

Patient Name_____
DOB: _____ Age:_____
Date:_____ ID/MR#_____

A. Injury Characteristics **Date/Time of Injury**_____ **Reporter: __Patient __Parent __Spouse __Other**_____

1. Injury Description _____

_____

1a. Is there evidence of a forcible blow to the head (direct or indirect)? __Yes __No __Unknown
1b. Is there evidence of intracranial injury or skull fracture? __Yes __No __Unknown
1c. Location of Impact: __Frontal __Lft Temporal __Rt Temporal __Lft Parietal __Rt Parietal __Occipital __Neck __Indirect Force

2. Cause: __MVC __Pedestrian-MVC __Fall __Assault __Sports (specify)_____Other_____

3. Amnesia Before (Retrograde) Are there any events just BEFORE the injury that you/ person has no memory of (even brief)? __ Yes __No Duration_____

4. Amnesia After (Anterograde) Are there any events just AFTER the injury that you/ person has no memory of (even brief)? __ Yes __No Duration_____

5. Loss of Consciousness: Did you/ person lose consciousness? __ Yes __No Duration_____

6. EARLY SIGNS: __Appears dazed or stunned __Is confused about events __Answers questions slowly __Repeats Questions __Forgetful (recent info)

7. Seizures: Were seizures observed? No__ Yes___ Detail_____

B. Symptom Check List* Since the injury, has the person experienced any of these symptoms any more than usual today or in the past day?

Indicate presence of each symptom (0=No, 1=Yes). ***Lovell & Collins, 1998 JHTR***

PHYSICAL (10)		COGNITIVE (4)		SLEEP (4)		
Headache	0 1	Feeling mentally foggy	0 1	Drowsiness	0 1	
Nausea	0 1	Feeling slowed down	0 1	Sleeping less than usual	0 1	N/A
Vomiting	0 1	Difficulty concentrating	0 1	Sleeping more than usual	0 1	N/A
Balance problems	0 1	Difficulty remembering	0 1	Trouble falling asleep	0 1	N/A
Dizziness	0 1	**COGNITIVE Total (0-4)** _____		**SLEEP Total (0-4)** _____		
Visual problems	0 1	**EMOTIONAL (4)**				
Fatigue	0 1	Irritability	0 1			
Sensitivity to light	0 1	Sadness	0 1			
Sensitivity to noise	0 1	More emotional	0 1			
Numbness/Tingling	0 1	Nervousness	0 1			
PHYSICAL Total (0-10) _____		**EMOTIONAL Total (0-4)** _____				
(Add Physical, Cognitive, Emotion, Sleep totals) Total Symptom Score (0-22) _____						

Exertion: Do these symptoms worsen with:
Physical Activity __Yes __No __N/A
Cognitive Activity __Yes __No __N/A

Overall Rating: How different is the person acting compared to his/her usual self? (circle)
Normal 0 1 2 3 4 5 6 Very Different

C. Risk Factors for Protracted Recovery (check all that apply)

Concussion History? Y ___ N___	√	Headache History? Y ___ N___	√	Developmental History	√	Psychiatric History
Previous # 1 2 3 4 5		Prior treatment for headache		Learning disabilities		Anxiety
Longest symptom duration Days__ Weeks__ Months__ Years__		History of migraine headache __ Personal __ Family_____		Attention-Deficit/ Hyperactivity Disorder		Depression
						Sleep disorder
If multiple concussions, less force caused reinjury? Yes__ No__				Other developmental disorder_____		Other psychiatric disorder _____

List other comorbid medical disorders or medication usage (e.g., hypothyroid, seizures)_____

_____

D. RED FLAGS for acute emergency management: Refer to the emergency department with sudden onset of any of the following:

*** Headaches that worsen**	*** Looks very drowsy/ can't be awakened**	*** Can't recognize people or places**	*** Neck pain**
***Seizures**	*** Repeated vomiting**	*** Increasing confusion or irritability**	*** Unusual behavioral change**
*** Focal neurologic signs**	*** Slurred speech**	*** Weakness or numbness in arms/legs**	*** Change in state of consciousness**

E. Diagnosis (ICD-10): __Concussion w/o LOC S06.0X0A __Concussion w/ LOC S06.0X1A __Concussion (Unspecified) S06.0X9A __Other (854)_
__No diagnosis

F. Follow-Up Action Plan **Complete *ACE Care Plan* and provide copy to patient/family.**

___ **No Follow-Up Needed**
___ **Physician/ Clinician Office Monitoring**: Date of next follow-up _____
___ **Referral:**
___ Neuropsychological Testing
___ Physician: Neurosurgery____ Neurology____ Sports Medicine____ Physiatrist____ Psychiatrist____ Other_____
___ Emergency Department

ACE Completed by:_____ **MD RN NP PhD ATC**

© Copyright G. Gioia & M. Collins, 2006 v2

A concussion (or mild traumatic brain injury (MTBI)) is a complex pathophysiologic process affecting the brain, induced by traumatic biomechanical forces secondary to direct or indirect forces to the head. Disturbance of brain function is related to neurometabolic dysfunction, rather than structural injury, and is typically associated with normal structural neuroimaging findings (i.e., CT scan, MRI). Concussion may or may not involve a loss of consciousness (LOC). Concussion results in a constellation of physical, cognitive, emotional and sleep-related symptoms. Symptoms may last from several minutes to days, weeks, months or even longer in some cases.

ACE Instructions

The ACE is intended to provide an evidence-based clinical protocol to conduct an initial evaluation and diagnosis of patients (both children and adults) with known or suspected MTBI. The research evidence documenting the importance of these components in the evaluation of an MTBI is provided in the reference list.

A. Injury Characteristics:

1. Obtain **description of the injury** - how injury occurred, type of force, location on the head or body if force transmitted to head. Different biomechanics of injury may result in differential symptom patterns (e.g., occipital blow may result in visual changes, balance difficulties).

2. Indicate the **cause of injury**. Greater forces associated with the trauma are likely to result in more severe presentation of symptoms.

3/ 4. **Amnesia:** Amnesia is defined as the failure to form new memories. Determine whether amnesia has occurred and attempt to determine length of time of memory dysfunction – before (retrograde) and after (anterograde) injury. Even seconds to minutes of memory loss can be predictive of outcome. Recent research has indicated that amnesia may be up to 4-10 times more predictive of symptoms and cognitive deficits following concussion than is LOC (less than 1 minute).[1]

5. **Loss of consciousness (LOC)** - If occurs, determine length of LOC.

6. **Early signs.** If present, ask the individuals who know the patient (parent, spouse, friend, etc) about specific signs of the concussion/ MTBI that may have been observed. These signs are typically observed early after the injury.

7. Inquire whether **seizures** were observed or not.

B. Symptom Checklist: [2]

1. Ask patient (and/ or parent, if child) to report presence of the four categories of symptoms since injury. It is important to assess all listed symptoms as different parts of the brain control different functions. One or all symptoms may be present depending upon mechanisms of injury.[3] Record 1 for Yes or 0 for No for their presence or absence, respectively.

2. For all symptoms, indicate presence of symptoms as experienced within the past 24 hours. Since symptoms can be present premorbidly/at baseline (e.g., inattention, headaches, sleep, sadness), it is important to assess change from their typical presentation.

3. **Scoring**: Sum total number of symptoms present per area, and sum all four areas into Total Symptom Score (score range 0-22). (Note: most sleep symptoms are only applicable after a night has passed since the injury. Drowsiness may be present on the day of injury.) If symptoms are new and present, there is no lower limit symptom score. Any score > 0 indicates positive symptom history.

4. **Exertion:** Inquire whether any symptoms worsen with physical (e.g., running, climbing stairs, bike riding) and/or cognitive (e.g., academic studies, multi-tasking at work, reading or other tasks requiring focused concentration) exertion. Clinicians should be aware that symptoms will typically worsen or re-emerge with exertion, indicating incomplete recovery. Over-exertion may protract recovery.

5. **Overall Rating:** Determine how different the person is acting from their usual self. Circle 0 (Normal) to 6 (Very Different).

C. Risk Factors for Protracted Recovery: Assess the following risk factors as possible complicating factors in the recovery process.

1. **Concussion history:** Assess the number and date(s) of prior concussions, the duration of symptoms for each injury, and whether less biomechanical force resulted in re-injury. Recent research indicates that cognitive and symptom effects of concussion may be cumulative, especially if there is minimal duration of time between injuries and less biomechanical force results in subsequent concussion (which may indicate incomplete recovery from initial trauma).[4-8]

2. **Headache history:** Assess personal and/or family history of diagnosis/treatment for headaches. Recent research indicates headache (migraine in particular) can result in protracted recovery from concussion.[8-11]

3. **Developmental history**: Assess history of learning disabilities, Attention-Deficit/Hyperactivity Disorder or other developmental disorders. Recent studies indicate the possibility of a longer period of recovery with these conditions.[12]

4. **Psychiatric history**: Assess for history of depression/mood disorder, anxiety, and/or sleep disorder. [13-16]

D. Red Flags: The patient should be carefully observed over the first 24-48 hours for these serious signs. Red flags are to be assessed as possible signs of deteriorating neurological functioning. Any positive report should prompt strong consideration of referral for emergency medical evaluation (e.g. CT Scan to rule out intracranial bleed or other structural pathology).[17]

E. Diagnosis: The following ICD-10 diagnostic codes may be applicable.

S06.0X0A (Concussion, with no loss of consciousness) – Positive injury description with evidence of forcible direct/ indirect blow to the head (A1a); plus evidence of active symptoms (B) of any type and number related to the trauma (Total Symptom Score >0); no evidence of LOC (A5), skull fracture or intracranial injury (A1b).

S06.0X1A (Concussion, with brief loss of consciousness < 30 minutes) - Positive injury description with evidence of forcible direct/ indirect blow to the head (A1a); plus evidence of active symptoms (B) of any type and number related to the trauma (Total Symptom Score >0); positive evidence of LOC (A5), skull fracture or intracranial injury (A1b).

S06.0X9A (Concussion, unspecified) - Positive injury description with evidence of forcible direct/ indirect blow to the head (A1a); plus evidence of active symptoms (B) of any type and number related to the trauma (Total Symptom Score >0); unclear/unknown injury details; unclear evidence of LOC (A5), no skull fracture or intracranial injury.

Other Diagnoses – If the patient presents with a positive injury description and associated symptoms, but additional evidence of intracranial injury (A 1b) such as from neuroimaging, a moderate TBI and the diagnostic category of **S06.890A (Intracranial injury)** should be considered.

F. Follow-Up Action Plan: Develop a follow-up plan of action for symptomatic patients. The physician/clinician may decide to (1) monitor the patient in the office or (2) refer them to a specialist. Serial evaluation of the concussion is critical as symptoms may resolve, worsen, or ebb and flow depending upon many factors (e.g., cognitive/ physical exertion, comorbidities). Referral to a specialist can be particularly valuable to help manage certain aspects of the patient's condition. (Physician/clinician should also complete the ACE Care Plan included in this tool kit.)

1. **Physician/clinician serial monitoring-** Particularly appropriate if number and severity of symptoms are steadily decreasing over time and/or fully resolve within 3-5 days. If steady reduction is not evident, referral to a specialist is warranted.
2. **Referral to a specialist –** Appropriate if symptom reduction is not evident in 3-5 days, or sooner if symptom profile is concerning in type/severity.
   - Neuropsychological Testing can provide valuable information to help assess a patient's brain function and impairment and assist with treatment planning, such as return to play decisions.
   - Physician Evaluation is particularly relevant for medical evaluation and management of concussion. It is also critical for evaluating and managing focal neurologic, sensory, vestibular, and motor concerns. It may be useful for medication management (e.g., headaches, sleep disturbance, depression) if post-concussive problems persist.

Post-Concussion Symptom Inventory for Children (PCSI-C)

Pre/Post Version 5 to 12

Name:_____ **Today's date:**_____ **Birthdate:**_____ **Age**_____ **Grade:**_____

Instructions: We would like to know if you have had any of these symptoms before your injury. Next, we would like to know if these symptoms have changed after your injury.

I am going to ask you to tell me about your symptom at two points in time - Before the Injury and Yesterday / Today. Interviewer: Please circle only one answer.

	0 = No 1 = A little 2 = A lot	Before the Injury /Pre-Injury				Current Symptoms/ Yesterday and Today		
1	Have you had headaches? Has your head hurt?	0	1	2		0	1	2
2	Have you felt sick to your stomach or nauseous?	0	1	2		0	1	2
3	Have you felt dizzy? (like things around you were spinning or moving)	0	1	2		0	1	2
4	Have you felt grumpy or irritable? (like you were in a bad mood)	0	1	2		0	1	2
5	Has it been hard for you to pay attention to what you are doing? (like homework or chores, listening to someone, or playing a game)	0	1	2		0	1	2
	Continue if age 8 or older							
6	Have you felt more drowsy or sleepy than usual?	0	1	2		0	1	2
7	Have bright lights bothered you more than usual? (like when you were in the sunlight, when you looked at lights, or watched TV)	0	1	2		0	1	2
8	Have loud noises bothered you more than usual? (like when people were talking, when you heard sounds, watched TV, or listened to loud music)	0	1	2		0	1	2
9	Have you had any balance problems or have you felt like you might fall when you walk, run or stand?	0	1	2		0	1	2
10	Have you felt sad?	0	1	2		0	1	2
11	Have you felt nervous or worried?	0	1	2		0	1	2
12	Have you felt like you are moving more slowly?	0	1	2		0	1	2
13	Have you felt like you are thinking more slowly?	0	1	2		0	1	2
14	Has it been hard to think clearly?	0	1	2		0	1	2
15	Have you felt more tired than usual?	0	1	2		0	1	2
16	Has it been hard for you to remember things? (like things you heard or saw, or places you have gone)	0	1	2		0	1	2
17	Have things looked blurry?	0	1	2		0	1	2

All Ages- Do you feel "different" than usual? (Circle one) 0=No 1=A little 2=A lot

PCSI Total Symptom Score	**Pre=**	**Post=**

Subscale scores (Age 8-12) Pre/Post	**Physical**	**Cognitive**	**Emotional**	**Fatigue**
	/	/	/	/

Authored / Developed by: Gioia, Janusz, Sady, Vaughan, Schneider & Natale. 2012.
Please do not modify without permission from the authors.

Acknowledgements: Dr. Gioia granted permission to Brain Links to use this document.
Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Post-Concussion Symptom Inventory
Ages 13-18 (PCSI-SR13)
Pre/Post Version

Patient Name:_____ **Today's date:**_____

Birthdate:_____ **Age:**_____

Instructions: We would like to know if you had any of these symptoms before your injury. Next, we would like to know if these symptoms have changed after your injury. Please rate the symptom at two points in time- **Before the Injury/Pre-Injury** and **Current Symptoms/ Yesterday and Today**.

Please answer all the items the best that you can. Do not skip any items. Circle the number to tell us how much of a problem this symptom has been for you.

0 = Not a problem 3 = Moderate problem 6 = Severe problem

		Before the Injury/ Pre-Injury		Current Symptoms/ Yesterday and Today
1	Headache	0 1 2 3 4 5 6		0 1 2 3 4 5 6
2	Nausea	0 1 2 3 4 5 6		0 1 2 3 4 5 6
3	Balance problems	0 1 2 3 4 5 6		0 1 2 3 4 5 6
4	Dizziness	0 1 2 3 4 5 6		0 1 2 3 4 5 6
5	Visual problems (double vision, blurring)	0 1 2 3 4 5 6		0 1 2 3 4 5 6
6	Move in a clumsy manner	0 1 2 3 4 5 6		0 1 2 3 4 5 6
7	Sensitivity to light	0 1 2 3 4 5 6		0 1 2 3 4 5 6
8	Sensitivity to noise	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Physical	Total Pre=		Total Post=
9	Irritability	0 1 2 3 4 5 6		0 1 2 3 4 5 6
10	Sadness	0 1 2 3 4 5 6		0 1 2 3 4 5 6
11	Nervousness	0 1 2 3 4 5 6		0 1 2 3 4 5 6
12	Feeling more emotional	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Emotional	Total Pre=		Total Post=
13	Feeling mentally "foggy"	0 1 2 3 4 5 6		0 1 2 3 4 5 6
14	Difficulty concentrating	0 1 2 3 4 5 6		0 1 2 3 4 5 6
15	Difficulty remembering	0 1 2 3 4 5 6		0 1 2 3 4 5 6
16	Get confused with directions or tasks	0 1 2 3 4 5 6		0 1 2 3 4 5 6
17	Answer questions more slowly than usual	0 1 2 3 4 5 6		0 1 2 3 4 5 6
18	Feeling slowed down	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Cognitive	Total Pre=		Total Post=
19	Fatigue	0 1 2 3 4 5 6		0 1 2 3 4 5 6
20	Drowsiness	0 1 2 3 4 5 6		0 1 2 3 4 5 6
21	Sleep more than usual	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Sleep/ Fatigue	Total Pre=		Total Post=
22	**In general, to what degree do you feel "differently" than before the injury (not feeling like yourself)?**	**No Difference 0 1 2 3 4 Major Difference** *Circle your rating with "0" indicating "Normal" (No Difference) and "4" indicating "Very Different" (Major Difference)*		

PCSI Total Symptom Score	**Pre (sum 4 domains) =**	**Post (sum 4 domains) =**
[Office Use Only]	**PCSI Total Adjusted Symptom Score (Post-Pre) =**	

Authored / Developed by: Gioia, Janusz, Vaughan & Sady. 2011-2014.
Please do not modify without permission from the authors. V05/17

Acknowledgements: Dr. Gioia granted permission to Brain Links to use this document.
Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Post-Concussion Symptom Inventory
Parent - Ages 5 to 18 (PCSI-P)
Pre/Post Version

Student's Name:_____ **Today's date:** _____

Birthdate:_____ **Age/ Grade:**_____

Person Completing Form:_____ **Relation: Mother ___ Father___ Other___**

Instructions: We would like to know if your child had problems with these symptoms before their injury. Next, we would like to know if these symptoms have changed after the injury. Please rate the problem at two points in time- **Before the Injury/ Pre-Injury** and **Current Symptoms/ Yesterday and Today**.

Please answer all the items the best that you can. Do not skip any items. Circle the number to tell us how much of a problem this symptom has been for your child.

0 = Not a problem 3 = Moderate problem 6 = Severe problem

		Before the Injury/ Pre-Injury		Current Symptoms/ Yesterday and Today
1	Complains of headaches	0 1 2 3 4 5 6		0 1 2 3 4 5 6
2	Complains of nausea	0 1 2 3 4 5 6		0 1 2 3 4 5 6
3	Has balance problems	0 1 2 3 4 5 6		0 1 2 3 4 5 6
4	Appears or complains of dizziness	0 1 2 3 4 5 6		0 1 2 3 4 5 6
5	Has or complains of visual problems (blurry, double vision)	0 1 2 3 4 5 6		0 1 2 3 4 5 6
6	Appears to move in a clumsy manner	0 1 2 3 4 5 6		0 1 2 3 4 5 6
7	Sensitivity to light	0 1 2 3 4 5 6		0 1 2 3 4 5 6
8	Sensitivity to noise	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Physical	Total Pre =		Total Post =
9	Acts irritable	0 1 2 3 4 5 6		0 1 2 3 4 5 6
10	Appears sad	0 1 2 3 4 5 6		0 1 2 3 4 5 6
11	Acts nervous	0 1 2 3 4 5 6		0 1 2 3 4 5 6
12	Acts more emotional	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Emotional	Total Pre =		Total Post =
13	Acts or appears mentally "foggy"	0 1 2 3 4 5 6		0 1 2 3 4 5 6
14	Has difficulty concentrating	0 1 2 3 4 5 6		0 1 2 3 4 5 6
15	Has difficulty remembering	0 1 2 3 4 5 6		0 1 2 3 4 5 6
16	Becomes confused with directions or tasks	0 1 2 3 4 5 6		0 1 2 3 4 5 6
17	Answers questions more slowly than usual	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Cognitive	Total Pre=		Total Post =
18	Appears more tired or fatigued	0 1 2 3 4 5 6		0 1 2 3 4 5 6
19	Appears drowsy	0 1 2 3 4 5 6		0 1 2 3 4 5 6
20	Sleeping more than usual	0 1 2 3 4 5 6		0 1 2 3 4 5 6
	[Office Use Only] Sleep/Fatigue	Total Pre=		Total Post =
21	**In general, to what degree is your child acting "differently" than before the injury (not acting like himself or herself)?**	**No Difference 0 1 2 3 4 Major Difference** *Circle your rating with "0" indicating "Normal" (No Difference) and "4" indicating "Very Different" (Major Difference)*		

PCSI Total Symptom Score	**Pre (sum 4 domains) =**	**Post (sum 4 domains) =**
[Office Use Only]	**PCSI Total Adjusted Symptom Score (Post-Pre) =**	

Authored / Developed by: Gioia, Janusz, Vaughan & Sady. 2011-2014.
Please do not modify without permission from the authors. V05/17

Acknowledgements: Dr. Gioia granted permission to Brain Links to use this document.
Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Post-Concussion Symptom Inventory
Adult
Pre/Post Version

Patient Name:_____ **Today's date:**_____

Birthdate:_____ **Age:**_____

Instructions: We would like to know if you had any of these symptoms before your injury. Next, we would like to know if these symptoms have changed after your injury. Please rate the symptom at two points in time- **Before the Injury/Pre-Injury** and **Current Symptoms/ Yesterday and Today**.

Please answer all the items the best that you can. Do not skip any items. Circle the number to tell us how much of a problem this symptom has been for you.

0 = Not a problem 3 = Moderate problem 6 = Severe problem

		Before the Injury/ Pre-Injury	Current Symptoms/ Yesterday and Today
1	Headache	0 1 2 3 4 5 6	0 1 2 3 4 5 6
2	Nausea	0 1 2 3 4 5 6	0 1 2 3 4 5 6
3	Balance problems	0 1 2 3 4 5 6	0 1 2 3 4 5 6
4	Dizziness	0 1 2 3 4 5 6	0 1 2 3 4 5 6
5	Visual problems (double vision, blurring)	0 1 2 3 4 5 6	0 1 2 3 4 5 6
6	Move in a clumsy manner	0 1 2 3 4 5 6	0 1 2 3 4 5 6
7	Sensitivity to light	0 1 2 3 4 5 6	0 1 2 3 4 5 6
8	Sensitivity to noise	0 1 2 3 4 5 6	0 1 2 3 4 5 6
	[Office Use Only] Physical	Total Pre=	Total Post=
9	Irritability	0 1 2 3 4 5 6	0 1 2 3 4 5 6
10	Sadness	0 1 2 3 4 5 6	0 1 2 3 4 5 6
11	Nervousness	0 1 2 3 4 5 6	0 1 2 3 4 5 6
12	Feeling more emotional	0 1 2 3 4 5 6	0 1 2 3 4 5 6
	[Office Use Only] Emotional	Total Pre=	Total Post=
13	Feeling mentally "foggy"	0 1 2 3 4 5 6	0 1 2 3 4 5 6
14	Difficulty concentrating	0 1 2 3 4 5 6	0 1 2 3 4 5 6
15	Difficulty remembering	0 1 2 3 4 5 6	0 1 2 3 4 5 6
16	Get confused with directions or tasks	0 1 2 3 4 5 6	0 1 2 3 4 5 6
17	Answer questions more slowly than usual	0 1 2 3 4 5 6	0 1 2 3 4 5 6
18	Feeling slowed down	0 1 2 3 4 5 6	0 1 2 3 4 5 6
	[Office Use Only] Cognitive	Total Pre=	Total Post=
19	Fatigue	0 1 2 3 4 5 6	0 1 2 3 4 5 6
20	Drowsiness	0 1 2 3 4 5 6	0 1 2 3 4 5 6
21	Sleep more than usual	0 1 2 3 4 5 6	0 1 2 3 4 5 6
	[Office Use Only] Sleep/ Fatigue	Total Pre=	Total Post=
22	**In general, to what degree do you feel "differently" than before the injury (not feeling like yourself)?**	**No Difference 0 1 2 3 4 Major Difference** *Circle your rating with "0" indicating "Normal" (No Difference) and "4" indicating "Very Different" (Major Difference)*	

PCSI Total Symptom Score [Office Use Only]	**Pre (sum 4 domains) =**	**Post (sum 4 domains) =**
	PCSI Total Adjusted Symptom Score (Post-Pre) =	

Adapted by Brain Links for use with adults from: Gioia, Janusz, Vaughan & Sady. 2011-2014.
Please do not modify without permission from the authors. V05/17

Acknowledgements: Dr. Gioia granted permission to Brain Links to use this document.
Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

HEALTHCARE PROVIDERS TOOLKIT

SEND HOME WITH PATIENT

RECOMMENDED

USE THE LINKS BELOW TO VIEW A SPECIFIC RESOURCE

Symptom Tracker – This can be sent home if needed. It is ideal for tracking one or two symptoms. Teachers can also use it to track symptoms.

ACE Care Plans – Choose school or work version to fill out and send home with recommendations

ACE Care Plan - Return to School Version

ACE Care Plan - Return to Work Version

CDC Return to School Letter – Fill out and give to the family to give to the school or use your own with specific recommendations and accommodations

When Concussion Symptoms Are Not Going Away - Choose age-appropriate version. This will alert patient and/or families what to look for over time and will help them know how to work with the school/workplace if problems persist.

When Concussion Symptoms Are Not Going Away: A Guide for Parents of Children Five and Under

When Concussion Symptoms Are Not Going Away: A Guide for Parents of Children Who Are School-Aged

When Concussion Symptoms Are Not Going Away: A Guide for Adults with Concussion – Useful for Older Students

Brain Health – Tips for having a healthy brain throughout life.

Concussion & Mental Health Infographic – How to identify mental health concerns and how to get help.

Brain Links

Brain Links

SYMPTOM TRACKER

Date	Time	Symptoms + Intensity 1-10 *(Ex. Headache and intensity rating 0-10)*		Conditions *(Ex. Group activity, lots of noise)*	What Was Done *(Ex: head down, headphones on)*	Outcome + Intensity 1-10 *(Ex: head down, headphones on)*	

ACL Administration for Community Living

TBI SPP Traumatic Brain Injury State Partnership Program

https://www.tndisability.org/brain

@BrainLinksTN

COALITION

kidcentral tn KIDCENTRALTN.COM

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Acute Concussion Evaluation (ACE)
Care Plan

Gerard Gioia, PhD[1] & Micky Collins, PhD[2]
[1]Children's National Medical Center
[2]University of Pittsburgh Medical Center

Patient Name:_____
DOB: _____ Age:_____
Date:_____ ID/MR#_____
Date of Injury:_____

You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personal plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to it can also prevent further injury.

You should not participate in any high risk activities (e.g., sports, physical education (PE), riding a bike, etc.) if you still have any of the symptoms below. It is important to limit activities that require a lot of thinking or concentration (homework, job-related activities), as this can also make your symptoms worse. If you no longer have any symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. Children and teenagers will need help from their parents, teachers, coaches, or athletic trainers to help monitor their recovery and return to activities.

Today the following symptoms are present (circle or check). ____**No reported symptoms**

Physical		Thinking	Emotional	Sleep
Headaches	Sensitivity to light	Feeling mentally foggy	Irritability	Drowsiness
Nausea	Sensitivity to noise	Problems concentrating	Sadness	Sleeping more than usual
Fatigue	Numbness/Tingling	Problems remembering	Feeling more emotional	Sleeping less than usual
Visual problems	Vomiting	Feeling more slowed down	Nervousness	Trouble falling asleep
Balance Problems	Dizziness			

RED FLAGS: Call your doctor or go to your emergency department if you suddenly experience any of the following

Headaches that worsen	Look very drowsy, can't be awakened	Can't recognize people or places	Unusual behavior change
Seizures	Repeated vomiting	Increasing confusion	Increasing irritability
Neck pain	Slurred speech	Weakness or numbness in arms or legs	Loss of consciousness

SCHOOL VERSION

Returning to Daily Activities

1. Get lots of rest. Be sure to get enough sleep at night- no late nights. Keep the same bedtime weekdays and weekends.
2. Take daytime naps or rest breaks when you feel tired or fatigued.
3. **Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse.**
   - Physical activity includes PE, sports practices, weight-training, running, exercising, heavy lifting, etc.
   - Thinking and concentration activities (e.g., homework, classwork load, job-related activity).
4. Drink lots of fluids and eat carbohydrates or protein to main appropriate blood sugar levels.
5. **As symptoms decrease, you may begin to gradually return to your daily activities. If symptoms worsen or return, lessen your activities, then try again to increase your activities gradually.**
6. During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
7. Repeated evaluation of your symptoms is recommended to help guide recovery.

Returning to School

1. If you (or your child) are still having symptoms of concussion you may need extra help to perform school-related activities. As your (or your child's) symptoms decrease during recovery, the extra help or supports can be removed gradually.
2. Inform the teacher(s), school nurse, school psychologist or counselor, and administrator(s) about your (or your child's) injury and symptoms. School personnel should be instructed to watch for:
   - Increased problems paying attention or concentrating
   - Increased problems remembering or learning new information
   - Longer time needed to complete tasks or assignments
   - Greater irritability, less able to cope with stress
   - Symptoms worsen (e.g., headache, tiredness) when doing schoolwork

~Continued on back page~

This form is part of the "Heads Up: Brain Injury in Your Practice" tool kit developed by the Centers for Disease Control and Prevention (CDC).

Returning to School (Continued)

Until you (or your child) have fully recovered, the following supports are recommended: *(check all that apply)*

__No return to school. Return on (date)_____

__Return to school with following supports. Review on (date)_____

__Shortened day. Recommend ___ hours per day until (date)_____

__Shortened classes (i.e., rest breaks during classes). Maximum class length: _____ minutes.

__Allow extra time to complete coursework/assignments and tests.

__Lessen homework load by _____%. Maximum length of nightly homework: _____ minutes.

__No significant classroom or standardized testing at this time.

__Check for the return of symptoms (use symptom table on front page of this form) when doing activities that require a lot of attention or concentration.

__Take rest breaks during the day as needed.

__Request meeting of 504 or School Management Team to discuss this plan and needed supports.

Returning to Sports

1. **You should NEVER return to play if you still have ANY symptoms** – (Be sure that you do not have any symptoms at rest and while doing any physical activity and/or activities that require a lot of thinking or concentration.)
2. Be sure that the PE teacher, coach, and/or athletic trainer are aware of your injury and symptoms.
3. It is normal to feel frustrated, sad and even angry because you cannot return to sports right away. With any injury, a full recovery will reduce the chances of getting hurt again. It is better to miss one or two games than the whole season.

The following are recommended at the present time:

___ Do not return to PE class at this time

___ Return to PE class

___ Do not return to sports practices/games at this time

___ **Gradual** return to sports practices under the supervision of an appropriate health care provider.

- Return to play should occur in gradual steps beginning with aerobic exercise only to increase your heart rate (e.g., stationary cycle); moving to increasing your heart rate with movement (e.g., running); then adding controlled contact if appropriate; and finally return to sports competition.
- Pay careful attention to your symptoms and your thinking and concentration skills at each stage of activity. Move to the next level of activity only if you do not experience any symptoms at the each level. If your symptoms return, stop these activities and let your health care professional know. Once you have not experienced symptoms for a minimum of 24 hours and you receive permission from your health care professional, you should start again at the previous step of the return to play plan.

Gradual Return to Play Plan

1. No physical activity
2. Low levels of physical activity (i.e.,). This includes walking, light jogging, light stationary biking, light weightlifting (lower weight, higher reps, no bench, no squat).
3. Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduced time and/or reduced weight from your typical routine).
4. Heavy non-contact physical activity. This includes sprinting/running, high-intensity stationary biking, regular weightlifting routine, non-contact sport-specific drills (in 3 planes of movement).
5. Full contact in controlled practice.
6. Full contact in game play.

*Neuropsychological testing can provide valuable information to assist physicians with treatment planning, such as return to play decisions.

This referral plan is based on today's evaluation:

___ Return to this office. Date/Time_____

___ Refer to: Neurosurgery____ Neurology____ Sports Medicine____ Physiatrist____ Psychiatrist____ Other____

___ Refer for neuropsychological testing

___ Other_____

ACE Care Plan Completed by:_____ **MD RN NP PhD ATC**

© Copyright G. Gioia & M. Collins, 2006

Acute Concussion Evaluation (ACE) Care Plan

Gerard Gioia, PhD[1] & Micky Collins, PhD[2]
[1]Children's National Medical Center
[2]University of Pittsburgh Medical Center

Patient Name:_____
DOB: _____ Age:_____
Date:_____ ID/MR#_____
Date of Injury:_____

You have been diagnosed with a concussion (also known as a mild traumatic brain injury). This personal plan is based on your symptoms and is designed to help speed your recovery. Your careful attention to it can also prevent further injury.

Rest is the key. You should not participate in any high risk activities (e.g., sports, physical education (PE), riding a bike, etc.) if you still have any of the symptoms below. It is important to limit activities that require a lot of thinking or concentration (homework, job-related activities), as this can also make your symptoms worse. If you no longer have any symptoms and believe that your concentration and thinking are back to normal, you can slowly and carefully return to your daily activities. Children and teenagers will need help from their parents, teachers, coaches, or athletic trainers to help monitor their recovery and return to activities.

Today the following symptoms are present (circle or check). ____**No reported symptoms**

Physical		Thinking	Emotional	Sleep
Headaches	Sensitivity to light	Feeling mentally foggy	Irritability	Drowsiness
Nausea	Sensitivity to noise	Problems concentrating	Sadness	Sleeping more than usual
Fatigue	Numbness/Tingling	Problems remembering	Feeling more emotional	Sleeping less than usual
Visual problems	Vomiting	Feeling more slowed down	Nervousness	Trouble falling asleep
Balance Problems	Dizziness			

RED FLAGS: Call your doctor or go to your emergency department if you suddenly experience any of the following

Headaches that worsen	Look very drowsy, can't be awakened	Can't recognize people or places	Unusual behavior change
Seizures	Repeated vomiting	Increasing confusion	Increasing irritability
Neck pain	Slurred speech	Weakness or numbness in arms or legs	Loss of consciousness

WORK VERSION

Returning to Daily Activities

1. Get lots of rest. Be sure to get enough sleep at night- no late nights. Keep the same bedtime weekdays and weekends.
2. Take daytime naps or rest breaks when you feel tired or fatigued.
3. **Limit physical activity as well as activities that require a lot of thinking or concentration. These activities can make symptoms worse.**
   - Physical activity includes PE, sports practices, weight-training, running, exercising, heavy lifting, etc.
   - Thinking and concentration activities (e.g., homework, classwork load, job-related activity).
4. Drink lots of fluids and eat carbohydrates or protein to main appropriate blood sugar levels.
5. **As symptoms decrease, you may begin to gradually return to your daily activities. If symptoms worsen or return, lessen your activities, then try again to increase your activities gradually.**
6. During recovery, it is normal to feel frustrated and sad when you do not feel right and you can't be as active as usual.
7. Repeated evaluation of your symptoms is recommended to help guide recovery.

Returning to Work

1. Planning to return to work should be based upon careful attention to symptoms and under the supervision of an appropriate health care professional.
2. Limiting the amount of work you do soon after your injury, may help speed your recovery. It is very important to get a lot of rest. You should also reduce your physical activity as well as activities that require a lot of thinking or concentration.

___Do not return to work. Return on (date)_____.
___Return to work with the following supports. Review on (date)_____.

Schedule Considerations
___Shortened work day _____ hours
___Allow for breaks when symptoms worsen
___Reduced task assignments and responsibilities

Safety Considerations
___No driving
___No heavy lifting or working with machinery
___No heights due to possible dizziness, balance problems

Returning to Sports

1. **You should NEVER return to play if you still have ANY symptoms** – (Be sure that you do not have any symptoms at rest and while doing any physical activity and/or activities that require a lot of thinking or concentration.)
2. Be sure that the PE teacher, coach, and/or athletic trainer are aware of your injury and symptoms.
3. It is normal to feel frustrated, sad and even angry because you cannot return to sports right away. With any injury, a full recovery will reduce the chances of getting hurt again. It is better to miss one or two games than the whole season.

The following are recommended at the present time:

___ Do not return to PE class at this time

___ Return to PE class

___ Do not return to sports practices/games at this time

___ **Gradual** return to sports practices under the supervision of an appropriate health care provider.

- Return to play should occur in gradual steps beginning with aerobic exercise only to increase your heart rate (e.g., stationary cycle); moving to increasing your heart rate with movement (e.g., running); then adding controlled contact if appropriate; and finally return to sports competition.
- Pay careful attention to your symptoms and your thinking and concentration skills at each stage of activity. Move to the next level of activity only if you do not experience any symptoms at the each level. If your symptoms return, stop these activities and let your health care professional know. Once you have not experienced symptoms for a minimum of 24 hours and you receive permission from your health care professional, you should start again at the previous step of the return to play plan.

Gradual Return to Play Plan

1. No physical activity
2. Low levels of physical activity (i.e., *symptoms do not come back during or after the activity*). This includes walking, light jogging, light stationary biking, light weightlifting (lower weight, higher reps, no bench, no squat).
3. Moderate levels of physical activity with body/head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduced time and/or reduced weight from your typical routine).
4. Heavy non-contact physical activity. This includes sprinting/running, high-intensity stationary biking, regular weightlifting routine, non-contact sport-specific drills (in 3 planes of movement).
5. Full contact in controlled practice.
6. Full contact in game play.

*Neuropsychological testing can provide valuable information to assist physicians with treatment planning, such as return to play decisions.

This referral plan is based on today's evaluation:

___ Return to this office. Date/Time_____

___ Refer to: Neurosurgery____ Neurology____ Sports Medicine____ Physiatrist____ Psychiatrist____ Other____

___ Refer for neuropsychological testing

___ Other_____

ACE Care Plan Completed by:_____ MD RN NP PhD ATC

© Copyright G. Gioia & M. Collins, 2006

SCHOOL LETTER

Returning to School After a Concussion

CDC HEADS UP
SAFE BRAIN. STRONGER FUTURE.

DEAR SCHOOL STAFF:

This letter offers input from a healthcare provider with experience in treating concussion, a type of traumatic brain injury. This letter was created to help school professionals and parents support students returning to school after a concussion. You can use these recommendations to make decisions about support for your student based on his or her specific needs. This letter is not intended to create a 504 Plan or an IEP unless school professionals determine that one is needed. Most students will only need short-term support as they recover from a concussion. A strong relationship between the healthcare provider, the school, and the parents will help your student recover and return to school.

_____ was seen for a concussion on _____
Student Name Date

in _____ office or clinic.
Healthcare Provider's Name

The student is currently reporting the following symptoms:

PHYSICAL

- ☐ Bothered by light or noise
- ☐ Dizziness or balance problems
- ☐ Feeling tired, no energy
- ☐ Headaches
- ☐ Nausea or vomiting
- ☐ Vision problems

THINKING OR REMEMBERING

- ☐ Attention or concentration problems
- ☐ Feeling slowed down
- ☐ Foggy or groggy
- ☐ Problems with short- or long-term memory
- ☐ Trouble thinking clearly

SOCIAL OR EMOTIONAL

- ☐ Anxiety or nervousness
- ☐ Irritability or easily angered
- ☐ Feeling more emotional
- ☐ Sadness

SLEEP

- ☐ Sleeping less than usual
- ☐ Sleeping more than usual
- ☐ Trouble falling asleep

The student also reported these symptoms:

_____

_____

_____

RETURNING TO SCHOOL

Based on the student's current symptoms, I recommend that the student:

☐ Be permitted to return to school and activities while school professionals closely monitor the student. School professionals should observe and check in with the student for the first two weeks, and note if symptoms worsen. If symptoms do not worsen during an activity, then this activity is OK for the student. If symptoms worsen, the student should cut back on time spent engaging in that activity, and may need some short-term support at school. Tell the student to update his or her teachers and school counselor if symptoms worsen.

☐ Is excused from school for _____ days.

☐ Return to school with the following changes until his or her symptoms improve.

(**NOTE:** Making short-term changes to a student's daily school activities can help him or her return to a regular routine more quickly. As the student begins to feel better, you can slowly remove these changes.)

Based on the student's symptoms, please make the short-term changes checked below:

- ☐ No physical activity during recess
- ☐ No physical education (PE) class
- ☐ No after school sports
- ☐ Shorten school day
- ☐ Later school start time
- ☐ Reduce the amount of homework
- ☐ Postpone classroom tests or standardized testing
- ☐ Provide extended time to complete school work, homework, or take tests
- ☐ Provide written notes for school lessons and assignments (when possible)
- ☐ Allow for a quiet place to take rest breaks throughout the day
- ☐ Lessen the amount of screen time for the student, such as on computers, tablets, etc.
- ☐ Give ibuprofen or acetaminophen to help with headaches (as needed)
- ☐ Allow the student to wear sunglasses, earplugs, or headphones if bothered by light or noise
- ☐ **Other:** _____

Most children with a concussion feel better within a couple of weeks. However, for some, symptoms can last for a month or longer. **If there are any symptoms that concern you, or are getting worse, notify the student's parents that the student should be seen by a healthcare provider as soon as possible.**

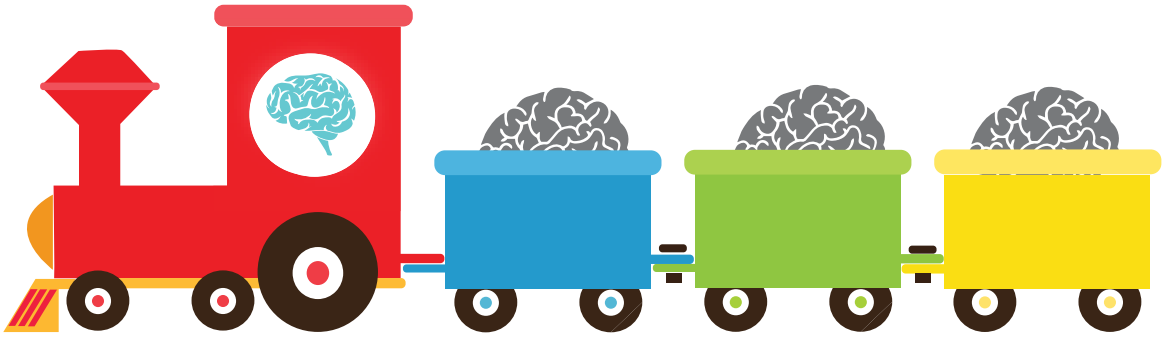
For information on helping students return to school safely after a concussion, visit **www.cdc.gov/HEADSUP**.

Healthcare Provider's Name (printed)	Healthcare Provider's Signature	Date

For additional questions, you may reach me at: _____

WHEN CONCUSSION SYMPTOMS ARE NOT GOING AWAY

A GUIDE FOR PARENTS OF CHILDREN WHO ARE FIVE AND UNDER



HAS YOUR CHILD HAD A CONCUSSION?

If your child has a concussion, also called a mild brain injury, there are certain steps you should take to help ease their symptoms. Usually concussion symptoms will clear by three months. For most children, symptoms will go away in two to four weeks. However, some children have symptoms that last longer than three months.

Here are some steps you should take when your child has a head injury.

FIRST THING AFTER INJURY

- Go to the doctor or emergency department.
- Follow the doctor's care plan. Watch your child carefully for changes.
- Have your child rest for the first one to three days as needed.
- Get a doctor's letter stating that your child has a concussion (or mild brain injury).
- Give copies of the letter to all childcare teachers and the school nurse. Keep a copy for yourself.



FOR A CHILD AT HOME

**A young child may not be able to tell you what is wrong.
Look for changes in their behavior such as:**

- Touching or holding their head
- Bothered by light or noise
- Forgetting routines
- Changes in walking or rolling
- Changes in grasping, feeding, or potty training
- More clingy and crying
- Less social
- Changes in eating or sleeping
- More tantrums or "bad" behavior
- Stomach hurts

Keep track of all changes. Write them down. Quickly tell a medical professional.

FIRST FEW DAYS TO WEEKS AFTER INJURY

After three days, make sure your child does not rest too much or have too much activity. It is safest to find a balance.

FOR A CHILD IN DAYCARE OR AT PRESCHOOL

Daycare or preschool personnel should put the doctor's letter into your child's medical chart and school file. Even if your child seems well now, they may have problems later as their brain matures. As your child goes back to daycare or preschool, make sure to:

- Ease the child back into school. Start with half days.
- You should expect mild symptoms. Watch your child's symptoms closely. Your child's symptoms should not be extreme. If you are worried, trust your gut. Talk to a medical professional.
- Ask the teacher to make simple changes to help your child stay at school longer:
  - Rest with head down
  - Take "brain breaks" in a quiet room
  - Wear a hat or turn down the lights
  - Use earplugs
  - Use a comfort item like a blanket or stuffed toy
  - Nap as needed
- Have the teachers track your child's symptoms and tell you which changes are helping. Use different types of changes as needed.

It's VERY important to keep your child safe after concussion. While healing, their brain could be injured again. Talk to your doctor. Find out what activities your child can and cannot do.





"Bad" behavior is sometimes the first sign that a young child has had an injury. Your child may be frustrated or angry about changes. They may not have the words to explain these feelings. Be patient. Dig deeper. Try to find out if the difficulty is with their thinking, listening, or talking. Ask your child's teacher for help.

FOUR WEEKS AFTER INJURY

Is your child still facing problems? If so, follow these steps.

IF YOUR CHILD IS BETWEEN ZERO AND THREE YEARS OLD

Talk to your doctor. Your child may need a referral to the Tennessee Early Intervention System (TEIS). Parents can also make referrals to TEIS. The TEIS website tells how to make referrals.

AFTER YOUR CHILD'S THIRD BIRTHDAY

Contact the local Special Education Supervisor. Start with your school district's Central Office. Follow these steps:

- Set up a test / evaluation to see if your child needs services.
- Help make an Individualized Education Program (IEP) if your child needs services. The local school district provides the services.
  - Is your child in kindergarten? If so, ask the school in writing to start the testing process for special services.
- See Tennessee's Support and Training for Exceptional Parents Program (STEP) for more help understanding special education.

ONE OR MORE YEARS AFTER INJURY

Sometimes symptoms seem to get better quickly. Then problems may appear in school a year or more after your child's head injury. The brain matures as children grow older. We do not use some skills until we are old enough to need them.

- Ask for testing by the school if your child is having any type of problem. This might include learning, behavioral, emotions, or thinking.
- Tell the teachers about your child's injury each new school year. Ask them to look for any signs of difficulty. Talking with teachers ahead of time can prevent bigger problems.

In some areas there are special clinics that focus just on concussion symptoms. Talk to your doctor about whether these are right for your child.



Remember - You can speak up for your child. Trust your gut. Stay involved.

Watch symptoms over time. Update your child's doctor. Stay in contact with the school. Concussion symptoms are real. Symptoms indicate the brain is healing and needs time and supports at home and school.

THINGS TO WATCH FOR OVER TIME (*CHECK THOSE THAT YOU SEE*)

- ☐ Mood swings, gets mad easily and changes in personality
- ☐ Trouble with attention and thinking
- ☐ Memory problems, especially things that just happened
- ☐ Anxiety, depression or difficulty handling stress
- ☐ Headaches
- ☐ Behavior that doesn't fit the time, place or people (loud in a library)
- ☐ Poor sleep and feeling tired too easily
- ☐ "Bad" or unwanted behavior
- ☐ Later: Grades dropping, falling behind other kids

NOTE:

Every brain injury is different. There is no set time that recovery takes. If your child is school-aged (five plus), ask for the school-aged parent guide.

FREE RESOURCES

Tennessee Traumatic Brain Injury Program
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html | 800-882-0611

KidCentral
https://www.kidcentraltn.com

Centers for Disease Control and Prevention
https://www.cdc.gov/headsup/index.html

Center on Brain Injury Research and Training
https://www.cbirt.org/

Tennessee Early Intervention System (TEIS)
https://www.tn.gov/education/early-learning/tennessee-early-intervention-system-teis.html

Family Voices of Tennessee
https://familyvoicestn.org

Brain Links

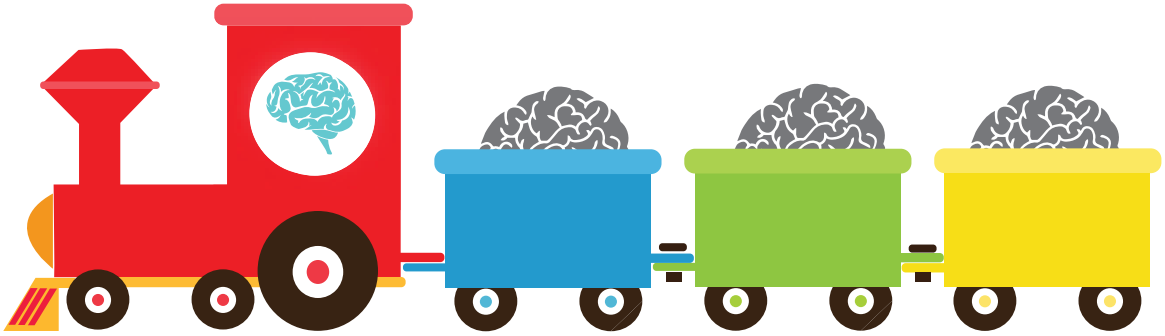
https://www.tndisability.org/brain

@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

CUANDO LOS SÍNTOMAS DE UNA CONCUSIÓN NO SE VAN

UNA GUÍA PARA PADRES DE NIÑOS CON HIJOS MENORES DE CINCO AÑOS



¿TU HIJO TIENE UNA CONCUSIÓN?

Si su hijo tiene una Concusión, también llamada lesión cerebral leve, hay ciertos pasos que debe tomar para ayudar a aliviar sus síntomas. Por lo general, los síntomas de una concusión desaparecerán a los tres meses. Para la mayoría de los niños, los síntomas desaparecerán en dos a cuatro semanas. Sin embargo, algunos niños tienen síntomas que duran mas de tres meses.

Aquí hay algunos pasos que debes seguir cuando tu hijo tiene una lesión en la cabeza.

LO PRIMERO DESPUÉS DE LA LESIÓN

- Dirijase al médico o al servicio de urgencias.
- Siga el plan de cuidado del médico. Observa cuidadosamente a su hijo para detectar cambios.
- Haga que su hijo descanse inicialmente de uno a tres días, según sea necesario.
- Obtenga una carta del médico que indique que tu hijo tiene una concusión (o lesión cerebral leve).
- Entregue copias de la carta a todos los maestros a cargo del cuidado y a la enfermera de la escuela. Guarde una copia para usted.



PARA UN NIÑO EN CASA

**Es posible que un niño pequeño no pueda decirle que está mal.
Busque cambios en su comportamiento, tales como:**

- Tocarse o sostener su cabeza.
- Molesto por la luz o el ruido
- Olvida las rutinas
- Cambios en el caminar o rodar
- Cambios en el agarre, alimentación o entrenamiento para ir al baño.
- Más apegado y lloroso
- Menos social
- Cambios al comer o dormir.
- Más rabietas o comportamiento "malo"
- Dolor de estomago

Mantenga un registro de todos los cambios. Escríbalos. Informe rápidamente a un profesional médico.

DE LOS PRIMEROS DÍAS A LAS SEMANAS DESPUÉS DE LA LESIÓN

Después de tres días, asegúrese de que su hijo no descanse demasiado o tenga demasiada actividad. Es más seguro encontrar un balance.

PARA UN NIÑO EN LA GUARDERIA O EN EL PREESCOLAR

El personal de guardería o preescolar debe poner la carta del médico en el expediente médico y el archivo escolar de su hijo. Incluso si su hijo parece estar bien ahora, pueden tener problemas más adelante a medida que su cerebro madura. Cuando su hijo regrese a la guardería o al preescolar, asegúrese de:

- Facilitar el regreso del niño a la escuela. Iniciar con medio día.
- Esperar síntomas leves. Observar atentamente los síntomas de su hijo. Los síntomas de su hijo no deben ser extremos. Si está preocupado, confíe en su instinto. Hable con un profesional médico.
- Pídale a la maestra que haga cambios simples para ayudar a su hijo a quedarse en la escuela por más tiempo:
  - Que descanse con la cabeza hacia abajo
  - Tomar descansos mentales en una habitación tranquila
  - Usar un sombrero o luces tenues
  - Usar tapones para los oídos
  - Usar un artículo de estabilidad emocional como una manta o un juguete de peluche
  - Dormir si es necesario
- Haga que los maestros registren los síntomas de su hijo y le digan qué cambios están ayudando. Use diferentes tipos de cambios según sea necesario.

Es MUY importante mantener a su hijo salvo después de una concusión. Mientras se cura, su cerebro podría lesionarse de nuevo. Hable con su médico. Averigüe qué actividades el niño puede y no puede hacer.





El "mal" comportamiento es a veces la primera señal de que un niño pequeño ha sufrido una lesión. Su hijo puede estar frustrado o enojado por los cambios. Es posible que no tenga las palabras para explicar estos sentimientos. Sea paciente. Indague más hondo. Trate de averiguar si la dificultad está en pensar, escuchar o hablar.
Pida ayuda a la maestra de su niño.

CUATRO SEMANAS DESPUÉS DE LA LESIÓN

¿Su hijo sigue enfrentando problemas? Si es así, siga estos pasos.

SI SU HIJO ESTÁ ENTRE CERO Y TRES AÑOS

Hable con su médico. Su hijo puede necesitar una derivación al Sistema de Intervención Temprana de Tennessee (TEIS). Los padres también pueden hacer derivaciones a TEIS. El sitio web de TEIS dice cómo hacer derivaciones.

DESPUÉS DEL TERCER AÑO DE SU HIJO

Póngase en contacto con el supervisor local de educación especial. Comience con la Oficina Central de su distrito escolar. Siga estos pasos:

- Prepare una prueba/evaluación para ver si su hijo necesita servicios.
- Ayude a crear un Programa de educación individualizado (IEP) si su hijo necesita servicios. El distrito escolar local proporciona los servicios.
  - ¿Está su hijo en el jardín infantil? Si es así, pídale a la escuela por escrito que comience el proceso de prueba para servicios especiales.
- Vea el Programa de Apoyo y Capacitación para Padres Excepcionales de Tennessee (PASO) Para obtener más ayuda para entender la educación especial.

UNO O MÁS AÑOS DESPUÉS DE LA LESIÓN

A veces los síntomas parecen mejorar rápidamente. Luego, pueden aparecer problemas en la escuela un año o más después de la lesión en la cabeza de su hijo. El cerebro madura a medida que los niños crecen. No usamos algunas habilidades hasta que tengamos la edad suficiente para necesitarlas.
A medida que su hijo continúa en la escuela:

- Solicite que la escuela evalúe si su hijo tiene algún tipo de problema. Esto podría incluir aprendizaje, comportamiento, emociones, o pensamiento.
- Informe a los maestros sobre la lesión de su hijo cada nuevo año escolar. Pídales que busquen cualquier señal de dificultad. Hablar con los maestros antes de tiempo puede prevenir proble-mas más grandes.

En algunas zonas hay clínicas especializadas que se centran sólo en los síntomas de las concusiones. Hable con su médico si estos son adecuados para su hijo.



Recuerde: usted puede hablar por su hijo. Confié en su instinto. Manténgase involucrado.

Observe los síntomas a lo largo del tiempo. Informe al médico de su hijo. Manténgase en contacto con la escuela. Los síntomas de una concusión son reales. Los síntomas indican que el cerebro está sanando y, necesita tiempo y apoyo en el hogar y la escuela.

COSAS A VERIFICAR EN EL TIEMPO(*VERIFIQUE LOS QUE VE*)

- ☐ Cambios de humor, se enoja fácilmente y cambia de personalidad.
- ☐ Problemas con la atención y el pensamiento.
- ☐ Problemas de memoria, especialmente las cosas que acaban de pasar.
- ☐ Ansiedad, depresión o dificultad para manejar el estrés.
- ☐ Dolores de cabeza
- ☐ Comportamiento que no se ajusta al tiempo, lugar o personas (ruidoso en una biblioteca)
- ☐ Pobre dormir y sentirse cansado con demasiada facilidad.
- ☐ Comportamiento "Malo" o no deseado
- ☐ Luego: Notas escolares bajando detrás de otros niños

NOTA:

Cada lesión cerebral es diferente. No hay tiempo establecido para que termine la recuperación.
Si tu hijo esta en edad escolar (más de cinco años), pregunte por Guía para padres de niños en edad escolar.

RECURSOS GRATIS

Programa de lesión cerebrales traumáticas de Tennessee
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html | 800-882-0611

KidCentral
https://www.kidcentraltn.com

Centros de Control y Prevención de Enfermedades
Programa de lesión cerebrales traumáticas de Tennessee
https://www.cdc.gov/headsup/index.html

Centro de Investigación y Entrenamiento de Lesiones Cerebrales
https://www.cbirt.org/

Sistema de Intervención Temprana de Tennessee (TEIS)
https://www.tn.gov/education/early-learning/tennessee-early-intervention-system-teis.html

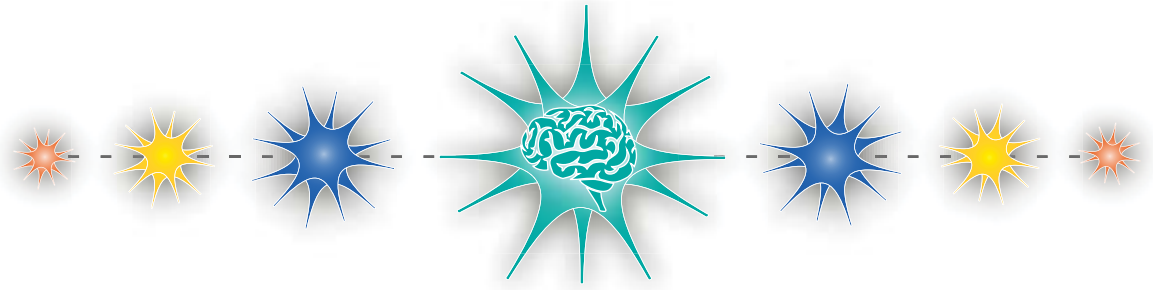
Family Voices de Tennessee
https://familyvoicestn.org

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención No. 90TBSG0024-01-00 y, en parte, por el Departamento de Salud de TN, Programa de Lesiones Cerebrales Traumáticas.

WHEN CONCUSSION SYMPTOMS ARE NOT GOING AWAY

A GUIDE FOR PARENTS OF CHILDREN WHO ARE SCHOOL-AGED



HAS YOUR CHILD HAD A CONCUSSION?

If your child has a concussion, also called a mild brain injury, there are certain steps you should take to help ease their symptoms. Usually concussion symptoms will clear by three months. For most children, symptoms will go away in two to four weeks. However, some children have symptoms that last longer than three months.

If you have a child in school, three months is too long to wait and see if symptoms go away. You need to take action earlier, along with the school, to help your child do well in school and stay up-to-date.

Here are some steps you should take when your child has a head injury.

FIRST THING AFTER INJURY

- Go to the doctor or emergency department.
- Follow the doctor's care plan. Watch your child carefully for changes.
- Have your child rest for the first one to three days as needed.
- Get a doctor's letter stating that your child has a concussion (or mild brain injury).
- Give copies of the letter to all teachers and coaches, as well as the school nurse and principal. Keep a copy for yourself.



FIRST FEW DAYS TO WEEKS AFTER INJURY

After three days, make sure your child does not rest too much or have too much activity. It is safest to find a balance.

FOR A CHILD IN DAYCARE OR AT PRESCHOOL

School personnel should put the doctor's letter into your child's medical chart and school file. Even if your child seems well now, they may have problems later as their brain matures. As your child goes back to school, make sure to:

- Ease the child back into school when they can focus for at least 30 minutes. Start with half days.
- Ask the teacher to make simple changes to help your child's symptoms. For example, if your child had a broken arm, another student would take notes for him until it heals. There are other changes that could help at any time:
  - Rest with head down and/or eyes closed
  - Take "brain breaks" in a quiet room
  - Wear a hat or turn down the lights
  - Use earplugs
- Have the teachers track your child's symptoms and note which changes are helping. Use different types of changes as needed.
- Make a clear plan with the teachers to assign only **the most needed** classwork and homework. Students should **make up** only the most needed work.

FOUR TO SIX WEEKS AFTER INJURY

Is your child still having problems? It may be time to make the classroom changes more official with a **504 Plan** at school. A 504 Plan is a formal plan made just for your child. The plan includes supports the school gives to help your child to do his or her best. The changes or supports stop a little at a time when your child no longer needs them. The changes are called "accommodations" in a 504 Plan.

Examples of these changes (accommodations) may include:

- Longer time for exams or classwork
- "Brain breaks" as needed
- Sunglasses to help with headaches
- Checklists for school work and homework

If state testing is coming up soon, your child may need a 504 Plan quickly. This plan will allow for more time on a test. A doctor can also write a letter asking that the child skip testing for now.

Remember - You can speak up for your child. Trust your gut. Stay involved.

Watch symptoms over time. Update your child's doctor. Stay in contact with the school. Concussion symptoms are real. Symptoms tell you that the brain is still healing and needs time and supports at home and school.





"Bad" behavior is sometimes the first sign that a child has had a brain injury. Your child may be confused about what is happening. Your child may be frustrated or angry about changes. They may not have the words to explain these feelings. Be patient. Dig deeper. Try to find out if the difficulty is with their thinking, listening, or talking. Ask your child's teacher to help.

THREE MONTHS AFTER INJURY

Is your child still facing problems? It may be time to do two things:

Ask the school to test your child for needed services. Ask this **in writing**.

Ask the school about scheduling a "neuropsychological evaluation". This is a different test done by a brain specialist (neuropsychologist). This person is trained to understand how the brain is working. They will test the most basic parts of learning like attention, memory, and organization. They will give ideas about how to best teach your child and helpful changes for the classroom.

- With this test and input, you and the school will decide whether to keep (or start) a 504 Plan. Or, it might be best to make an **Individualized Education Program (IEP)** for your child. An IEP might include working with a Special Educator, Speech Therapist, or Occupational Therapist at school
- See Tennessee's Support & Training for Exceptional Parents Program (STEP) for help with the special education process. For more help, see the Center on Brain Injury Research and Training website.

ONE OR MORE YEARS AFTER INJURY

Sometimes symptoms seem to get better quickly. Then problems may appear in school a year or more after your child's head injury. The brain matures as children grow older. We do not use some skills until we are old enough to need them.

Ask for testing by the school if your child is having any type of problem. This might include learning, behavior, emotions, or thinking.

- See the steps listed under "Three Months After Injury"

Tell the teachers about your child's injury each new school year. Ask them to look for any signs of difficulty. Talking with teachers ahead of time can prevent bigger problems.

In some areas there are special clinics that focus just on concussion symptoms. Talk to your doctor about whether these are right for your child.



Returning to Sports and Other Physical Activity

Student athletes must be cleared by a medical professional before returning to play. This person should be trained in concussion care. They will probably recommend a gradual return to sports.

Your child should not return to a sport when they are still taking medicine to control pain. They should not return to sports when they need changes or adjustments in their classes.

See Tennessee's Return to Learn / Return to Play: Concussion Management Guidelines for how to best return to activities.

THINGS TO WATCH FOR OVER TIME (*CHECK THOSE THAT YOU SEE*)

- ☐ Mood swings, gets mad easily and changes in personality
- ☐ Trouble with attention and thinking
- ☐ Memory problems, especially things that just happened
- ☐ Anxiety, depression or difficulty handling stress
- ☐ Headaches
- ☐ Behavior that doesn't fit the time, place or people (loud in a library)
- ☐ Poor sleep and feeling tired too easily
- ☐ "Bad" or unwanted behavior
- ☐ Later: Grades dropping, falling behind other kids

NOTE:

Every brain injury is different. There is no set time that recovery takes. If your child is zero to five years old, ask for the "zero to five" parent guide.

FREE RESOURCES

Tennessee Traumatic Brain Injury Program
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html | 800-882-0611

TennesseeYouth Sports League Safe Stars Initiative
https://www.tn.gov/health-program-areas/fhw/vipp/safe-stars-initiative.html

KidCentral
https://www.kidcentraltn.com

Center on Brain Injury Research and Training
https://www.cbirt.org/

Centers for Disease Control and Prevention
https://www.cdc.gov/headsup/index.html

Family Voices of Tennessee
https://familyvoicestn.org

Brain Links

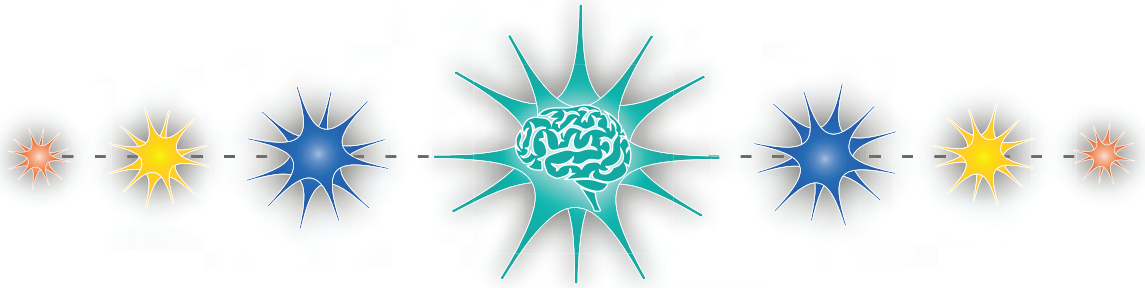
https://www.tndisability.org/brain

@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

CUANDO LOS SÍNTOMAS DE UNA CONCUSIÓN NO SE VAN

UNA GUÍA PARA PADRES DE NIÑOS QUE ESTÁN EN EDAD ESCOLAR



¿TU HIJO TIENE UNA CONCUSIÓN?

Si su hijo tiene una Concusión, también llamada lesión cerebral leve, hay ciertos pasos que debes tomar para ayudar a aliviar sus síntomas. Por lo general, los síntomas de una concusión desaparecerán a los tres meses. Para la mayoría de los niños, los síntomas desaparecerán en dos a cuatro semanas. Sin embargo, algunos niños tienen síntomas que duran mas de tres meses.

Si tiene un hijo en edad escolar, tres meses es demasiado tiempo para esperar y ver si los síntomas desaparecen. Debe actuar antes, junto con la escuela, para ayudar a su hijo a tener un buen desempeño en la escuela y mantenerse al día.

Aquí hay algunos pasos que debes seguir cuando su hijo tiene una lesión en la cabeza.

LO PRIMERO DESPUÉS DE LA LESIÓN

- Dirijase al médico o al servicio de urgencias.
- Siga el plan de cuidado del médico. Observe cuidadosamente a su hijo para detectar cambios.
- Haga que su hijo descanse durante uno a tres días, según sea necesario.
- Obténga una carta del médico que indique que su hijo tiene una concusión (o lesión cerebral leve).
- Entregue copias de la carta a todos los maestros y entrenadores, así como a la enfermera de la escuela y al director. Guarda una copia para usted.



LOS PRIMEROS DÍAS A LAS SEMANAS DESPUÉS DE LA LESIÓN

Después de tres días, asegúrese de que su hijo no descanse demasiado o tenga demasiada actividad. Es más seguro encontrar un balance.

PARA UN NIÑO EN LA GUARDERIA O EN EL PREESCOLAR

El personal de la escuela debe poner la carta del médico en el expediente médico y el archivo escolar de su hijo. Incluso si su hijo parece estar bien ahora, pueden tener problemas más adelante a medida que su cerebro madura. Cuando su hijo regrese a la escuela, asegúrese de:

- Retornar el niño a la escuela cuando pueda concentrarse durante al menos 30 minutos. Iniciar con medio día.
- Pedir a la maestra que haga cambios simples para ayudar a los síntomas de su hijo. Por ejemplo, si su hijo tenía un brazo roto, otro estudiante tomaría notas por él hasta que se cure. Hay otros cambios que podrían ayudar en cualquier momento:
  - Descansar con la cabeza baja y/o los ojos cerrados.
  - Tomar descansos mentales en una habitación tranquila
  - Usar un sombrero o luces tenues
  - Usar tapones para los oídos
- Haga que los maestros observen los síntomas de su hijo y anoten qué cambios están ayudando. Usar diferentes tipos de cambios según sea necesario.
- Haga un plan claro con los maestros para asignar **solo** el trabajo en clase y la tarea más necesarios. Los estudiantes deben **hacer** solamente el trabajo más necesario.

CUATRO A SEIS SEMANAS DESPUÉS DE LA LESIÓN

¿Su hijo todavía tiene problemas? Puede que sea el momento de hacer que los cambios en el aula sean más oficiales con un **Plan 504** en la escuela. Un Plan 504 es un plan formal hecho solo para su hijo. El plan incluye apoyos de la escuela para ayudar a su hijo a hacer lo mejor posible. Los cambios o apoyos se detienen poco a poco cuando su hijo ya no los necesita. Los cambios se llaman "acomodaciones" en un Plan 504.

Ejemplos de estos cambios (acomodaciones) pueden incluir:

- Mayor tiempo para exámenes o trabajos de la clase.
- Descansos mentales según sea necesario.
- Gafas de sol para ayudar con dolores de cabeza.
- Listas de verificación para el trabajo escolar y la tarea.

Si se aproximan las pruebas estatales, es posible que su hijo necesite un Plan 504 inmediatamente. Este plan le permitirá más tiempo en una prueba. Un médico también puede escribir una carta pidiendo que el niño salte las pruebas por ahora.

Recuerde: usted puede hablar por su hijo. Confié en su instinto. Manténgase involucrado.

Observe los síntomas a lo largo del tiempo. Informe al médico de su hijo. Manténgase en contacto con la escuela. Los síntomas de un concusión son reales. Los síntomas te dicen que el cerebro todavía está sanando y necesita tiempo y apoyo en casa y en la escuela.





El mal comportamiento es a veces la primera señal de que un niño ha tenido una lesión cerebral. Su hijo puede estar confundido acerca de lo que está sucediendo. Su hijo puede estar frustrado o enojado por los cambios. Es posible que no tengan las palabras para explicar estos sentimientos. Sea paciente. Indague más hondo. Trate de averiguar si la dificultad está en su forma de pensar, escuchar o hablar.
Pídale ayuda a la maestra de su hijo.

TRES MESES DESPUÉS DE LA LESIÓN

¿Su hijo sigue enfrentando problemas? Puede que sea hora de hacer dos cosas:

- Pídale a la escuela que evalúe a su hijo para los servicios que necesita. Pídalo **por escrito**.

- Pregunte a la escuela sobre la programación de una "evaluación neuropsicológica". Esta es una prueba diferente hecha por un especialista del cerebro (neuropsicólogo). Esta persona está entrenada para entender cómo está trabajando el cerebro. Examinarán las partes más básicas del aprendizaje, como la atención, la memoria y la organización. Le darán ideas sobre cómo enseñar mejor a su hijo y sobre cambios útiles para el aula.
  - Con esta prueba y aportes, usted y la escuela decidirán si deben mantener (o comenzar) un Plan 504. O, podría ser mejor hacer un **Programa de Educación Individualizada (IEP)** para su hijo. Un IEP puede incluir trabajar con un educador especial, un terapeuta del habla o un terapeuta ocupacional en la escuela.
  - Consulte el Programa de Apoyo y Capacitación para Padres Excepcionales de Tennessee (STEP) para obtener ayuda con el proceso de educación especial. Para obtener más ayuda, consulte el sitio web del Centro de investigación y capacitación sobre lesiones cerebrales.

UNO O MÁS AÑOS DESPUÉS DE LA LESIÓN

A veces los síntomas parecen mejorar rápidamente. Luego, pueden aparecer problemas en la escuela un año o más después de la lesión en la cabeza de su hijo. El cerebro madura a medida que los niños crecen. No usamos algunas habilidades hasta que tengamos la edad suficiente para necesitarlas. **A medida que su hijo continúa en la escuela:**

- Solicite que la escuela evalúe si su hijo tiene algún tipo de problema. Esto podría incluir aprendizaje, comportamiento, emociones, o pensamiento.
  - Vea los pasos enumerados en "Tres meses después de la lesión"

- Informe a los maestros sobre la lesión de su hijo cada nuevo año escolar. Pídales que busquen cualquier señal de dificultad. Hablar con los maestros antes de tiempo puede prevenir problemas más grandes.

En algunas zonas hay clínicas especializadas que se centran sólo en los síntomas de las concusiones. Hable con su médico si estos son adecuados para su hijo.



Volviendo a los deportes y otras actividades físicas

Los actividades de estudiantes atletas deben ser aprobadas por un profesional médico antes de volver a jugar. Esta persona debe ser entrenada en la atención de concusiones. Probablemente recomendarán un regreso gradual a los deportes.

Su hijo no debe regresar a un deporte cuando aún esté tomando medicamentos para controlar el dolor. No debe regresar a los deportes cuando necesiten cambios o ajustes en sus clases.

Vea el Retorno a aprender/jugar de Tennessee: Pautas sobre el manejo de concusiones para poder volver mejor a las actividades.

COSAS A VERIFICAR EN EL TIEMPO(*VERIFIQUE LOS QUE VE*)

- ☐ Cambios de humor, se enoja fácilmente y cambia de personalidad.
- ☐ Problemas con la atención y el pensamiento.
- ☐ Problemas de memoria, especialmente las cosas que acaban de pasar.
- ☐ Ansiedad, depresión o dificultad para manejar el estrés.
- ☐ Dolores de cabeza.
- ☐ Comportamiento que no se ajusta al tiempo, lugar o personas (ruidoso en una biblioteca)
- ☐ Pobre dormir y sentirse cansado con demasiada facilidad.
- ☐ Comportamiento "Malo" o no deseado.
- ☐ Luego: Notas escolares bajando detrás de otros niños.

NOTA:

Cada lesión cerebral es diferente. No hay tiempo establecido para que termine la recuperación. Si su hijo tiene de cero a cinco años, solicite la guía para padres "de cero a cinco".

RECURSOS GRATIS

Programa de lesión cerebrales traumáticas de Tennessee
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Iniciativa Safe Stars de la Liga Deportiva de Tennessee
https://www.tn.gov/health/health-program-areas/fhw/vipp/safe-stars-initiative.html

KidCentral
https://www.kidcentraltn.com

Centro de Investigación y Entrenamiento de Lesiones Cerebrales
https://www.cbirt.org/

Centros de Control y Prevención de Enfermedades
https://www.cdc.gov/headsup/index.html

Family Voices de Tennessee
https://familyvoicestn.org

Brain Links

https://www.tndisability.org/brain

@BrainLinksTN

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención No. 90TBSG0024-01-00 y, en parte, por el Departamento de Salud de TN, Programa de Lesiones Cerebrales Traumáticas.

WHEN CONCUSSION SYMPTOMS ARE NOT GOING AWAY

A GUIDE FOR ADULTS WITH CONCUSSION



FIRST THING AFTER INJURY

- Go to the doctor or hospital.
- Rest for the first one to three days as needed.
- Follow the doctor's care plan.
- Watch carefully for changes.
- Have someone else watch, too.

Get a doctor's letter saying that you have a concussion (or mild brain injury) and when you may return part-time or full-time to school or work.

HAVE YOU HAD A CONCUSSION?

If you have had a concussion, also called a mild brain injury, there are things you can do to feel better. Usually concussion symptoms will go away by three months. Most people feel better in two to four weeks. However, some people have symptoms that last longer than three months.

Remember: You don't have to hit your head to get a concussion. A hard bump to the body can also cause a concussion.

If you have an active lifestyle, three months may be too long to wait to see if symptoms go away. You need to act sooner to safely and successfully return to school, work and physical activity.

FIRST FEW DAYS TO WEEKS AFTER INJURY

After three days, start to ease back into daily routine, but try not to do too much. Too much activity can make symptoms last longer. **Did you know that research also shows that too much rest can do the same?** It is safest to find a balance. If you can, put off big work, legal or financial decisions during this time.

TRY NOT TO PUSH THROUGH YOUR SYMPTOMS

RETURNING TO COLLEGE
(OR OTHER TRAINING AFTER HIGH SCHOOL)



Ease back into school. You may need to start with a shorter schedule. Leave class as symptoms get worse and before they become too bad.
Take a break when you need one.
Start by talking to each teacher. Show them the doctor's note. Tell them what happened. Let them know how you are feeling and what you think may help you or what you may need to do.

Examples of helpful changes:

- "*I may need to wear sunglasses because I'm sensitive to light.*"
- "*I may need to put my head down to rest. I'd like to do this rather than leave so I can still listen.*"
- "*I can't handle a whole class yet, so I may need to leave early.*"
- "*I may need extra time for this test/project because it takes longer for me to think and plan.*"

Let teachers know that you do not expect these changes to last long, but you do need them now in order to do your best. If you need help in making these changes, talk to the school's Disability Services office.

Tennessee's TBI Service Coordinators are people who can help you at no cost.
They know about concussion (brain injury) and can help with what you need. **800-882-0611**

RETURNING TO WORK

You may need to give your employer the letter from your doctor that tells why you were out and gives the okay to return.
If possible, work with your employer to return slowly (half day at first) to see if your symptoms get worse.

In some jobs, you can make changes without asking the employer. Maybe you can turn off your private office light, turn down the brightness on your computer, or close the door? Make any changes that you know are okay to make on your own. Work with your employer to make other changes. Tell them that these changes may not last long. It may help to talk with your Human Resources office.



FOUR TO SIX WEEKS AFTER INJURY

If your symptoms have not gone away by four weeks after injury, you may need to see a symptom specialist. **What is a symptom specialist?** New research shows that there are different types of symptom groups like having problems with thinking, headaches and balance. Treatment for your symptom group can help you feel better sooner. Talk to your doctor about sending you sooner if needed. **Talk about your injury and problems that have started with the specialist.**

Below are some of the problems and who your doctor might send you to see:

Problem	Referral (Specialist who can help)
Thinking (Cognitive) and Tiredness (Fatigue)	Neuropsychologist, specialized concussion clinic, brain trauma clinic, Speech Language Pathologist
Balance (Vestibular)	Physical Therapist, specialized concussion clinic
Problem with eye movement (Ocular-Motor)	Neuro-ophthalmologist, Occupational Therapist
Headache/Migraine	Neurologist
Neck pain (Cervical)*	Chiropractor, Physical Therapist
Changes in feelings, Sad, Angry (Mood, Anxiety)	Psychologist, Counselor, Neuropsychologist, Psychiatrist

**If the neck is out of place, it can cause headaches and other concussion symptoms.*

ONGOING

Continue to use your helpful changes at work and school. If you start new classes and jobs, you may need to think of new changes for those. Look at a strategy list like the Strategies and Accommodations Tool at: https://www.tndisability.org/resources-0 for ideas or talk to a specialist.

Choose a key person in your life to help you with ideas for helpful changes while you heal. It is good to know and to ask for what you need.

DANGER SIGNS

If you see any of these signs, CALL 911 or go to the hospital immediately



- *Nausea (very sick stomach) or vomiting*
- *One pupil larger than the other*
- *Headache that does not go away*
- *Seizures: eyes fluttering, body going stiff or shaking, staring into space*
- *Loss of consciousness, even brief*
- *Disoriented/confused*
- *Hands shake, body shaking, muscles get weak, loss of muscle tone*

https://www.cdc.gov/headsup/basics/concussion_danger_signs.html

OLDER ADULTS

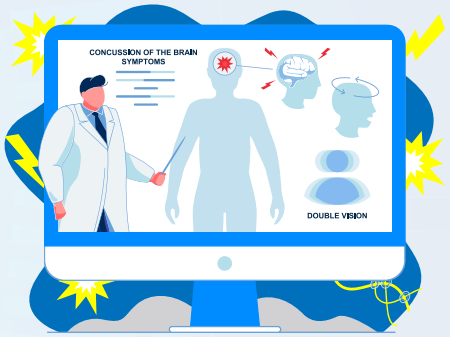
As we age, changes can take place in our brains. A fall or other accident is more likely to cause a concussion or even a brain bleed. A bleed may take more time to show up in someone who is older, so they need to be watched more closely over several days. **If any danger signs are seen (see box) - in anyone at any age - call 911 or go to the hospital right away.**

WHAT'S GOING ON? IS THERE REALLY ANYTHING WRONG WITH ME?

Concussion symptoms can seem to come and go or get worse. Sometimes you may even doubt if there is a problem. When symptoms seem to change, it is usually because your body or your mind is tired. Symptoms can also change if you drink alcohol or take a drug (even legal medicine). Being sick, being upset, in pain, or stressed can also cause changes. The better you can manage these other things, the better your symptoms will be. Symptoms are real. They tell you that the brain is still healing and needs time.

Take time to make helpful changes at home, school and work until you don't need them.

- TN Statewide Crisis Phone Line: **855-CRISIS-1**
- See the Personal Guide for Everyday Living after Concussion/Traumatic Brain Injury at **https://www.tndisability.org/resources-0**



BEHAVIOR CHANGES

Sometimes angry behavior, like yelling at others, is the first sign that you have had a brain injury. You may be mad or sad that you can't do something that was easy before the injury. Others may not understand. Be patient with yourself. Try to figure out what the real problem is.

Ask yourself these questions: Can I pay attention? Has my vision changed? Am I in pain? Maybe you just can't handle things like you used to. Try to figure out if there are any helpful changes you can make. Talk with someone who can help you - a trusted friend, family member or a specialist.

RETURNING TO SPORTS AND OTHER PHYSICAL ACTIVITY AND PHYSICAL JOBS

Student athletes, recreational athletes and people with physical jobs should be cleared by a medical professional before going back to their sport or to a job.

- You should not return to sports (or a physical job) if you still have concussion symptoms.
- You should also not return when you are still taking medicine for pain or other concussion symptoms. See the National Collegiate Athletic Association guidelines: **https://www.ncaa.org/sport-science-institute/concussion**

THINGS TO WATCH FOR OVER TIME



Check all those that you see:

- ☐ Mood swings, getting mad easier, changes in how you act
- ☐ Trouble with staying on task and thinking
- ☐ Memory problems - things that just happened
- ☐ Anxiety, depression, or problem handling stress
- ☐ Headaches
- ☐ Behavior that doesn't fit the time, place or people (loud in a library)
- ☐ Poor sleep and feeling tired too easily
- ☐ Later: Problems with work at school or job

EVERY BRAIN INJURY IS DIFFERENT.
There is no set time that getting better takes.

DOMESTIC VIOLENCE

If your injury is the result of someone you know who is hurting you, ask for help.
Tell the doctor. **Call 911** if it is an emergency.
Call the Tennessee Statewide Domestic Violence Helpline at **800-356-6767**.
You can find help at the Tennessee Coalition to End Domestic Violence and Sexual Violence: **https://www.tncoalition.org/.**

For a child: https://www.tn.gov/dcs/program-areas/child-safety/reporting/child-abuse.html or call 877-237-0004

For an older person: https://www.tn.gov/aging/learn-about/elder-abuse.html or call 888-277-8366



ALCOHOL ABUSE

Many people feel that alcohol changes them more than it did before their injury. Thinking becomes harder and their emotions are more out of control. It is wise to avoid alcohol and drugs while you are getting better. Never drink or use drugs and drive.

FREE RESOURCES

Tennessee Traumatic Brain Injury Program:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Tennessee Traumatic Brain injury Service Coordinators:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/support-groups.html

Tennessee Vocational Rehabilitation:
https://www.tn.gov/humanservices/ds/vocational-rehabilitation.html

Supported Employment:
https://www.tn.gov/behavioral-health/mental-health-services/ips-supported-employment/supported-employment.html

Benefits to Work Program:
https://www.tndisability.org/benefits-work

Brainline:
https://www.brainline.org/

Brain Injury Association of America:
https://www.biausa.org/

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

CUANDO LOS SÍNTOMAS DE CONMOCIÓN CEREBRAL NO DESAPARECEN

UNA GUÍA PARA ADULTOS CON CONMOCIÓN CEREBRAL



¿HA TENIDO UNA CONMOCIÓN?

Si usted ha tenido una conmoción cerebral, también llamada una lesión cerebral leve, hay cosas que puede hacer para sentirse mejor. Usualmente los síntomas de conmoción desaparecerán a los tres meses. La mayoría de la gente se siente mejor en dos o cuatro semanas. Sin embargo, algunas personas tienen síntomas que duran más de tres meses

Recuerde: **Una conmoción cerebral no siempre surge de golpearse en su cabeza. Una colisión fuerte en el cuerpo también puede ocasionar una conmoción.**

Si tiene un estilo de vida activo, tres meses pueden ser demasiado tiempo de espera para ver si los síntomas desaparecen. Usted necesita actuar más pronto para regresar con seguridad y éxito a su escuela, trabajo y actividad física.

LO PRIMERO DESPUÉS DE LA LESIÓN

- Diríjase al médico o al hospital.
- Descanse de uno a tres días, según sea necesario.
- Siga el plan de cuidado del médico.
- Vigile cuidadosamente si hay algún cambio.
- Pida a otra persona que también lo vigile.

Obtenga una carta de su médico diciendo que tiene una conmoción cerebral (o una lesión cerebral leve) y cuándo puede regresar a la escuela o al trabajo ya sea medio tiempo o tiempo completo.

DE LOS PRIMEROS DÍAS A UNAS SEMANAS DESPUÉS DE LA LESIÓN

Después de tres días, comience a regresar de nuevo a su rutina diaria, pero trate de no hacer demasiado. Demasiada actividad puede hacer que los síntomas duren más tiempo. **¿Sabía que los estudios también muestran que demasiado descanso puede hacer lo mismo?** Es más seguro encontrar un balance. Si puede, aplace trabajos grandes, y decisiones legales o financieras durante este tiempo.

TRATE DE NO SEGUIR ADELANTE SI TIENE SÍNTOMAS

REGRESANDO A LA UNIVERSIDAD
(U OTRA CAPACITACIÓN DESPUÉS DE PREPARATORIA)



Regrese paulatinamente a la escuela. Usted quizá necesite comenzar con un horario reducido. Deje las clases si los síntomas empeoran y antes de que se tornen demasiado malos. Tome un descanso cuando lo necesite.
Comience hablando con cada maestro. Muéstreles la nota del médico. Dígales lo que sucedió. Comuníqueles cómo se siente y lo que piensa que puede ayudarle o lo que quizá necesite hacer.

Ejemplos de cambios útiles:

- "*Quizá necesite usar lentes oscuros porque estoy sensible a la luz.*"
- "*Quizá necesite recostar la cabeza para descansar. Quisiera hacer esto en vez de salir, de modo que aún pueda escuchar.*"
- "*No puedo tomar una clase completa, así que quizá necesite salir temprano.*"
- "*Quizá necesite tiempo extra para este examen/proyecto porque me toma más tiempo pensar y planear.*"

Informe a sus maestros que no espera que estos cambios duren mucho, pero los necesita ahora para dar lo mejor de usted. Si necesita ayuda para hacer estos cambios, hable con la oficina de Servicios de Discapacidad de su escuela.

Los Coordinadores de Servicio de TBI pueden ayudarle sin costo.
Ellos conocen acerca de la conmoción (lesión cerebral) y pueden ayudarle con lo que requiera. **800-882-0611**

REGRESANDO AL TRABAJO

Quizá necesite darle a su patrón la carta de su médico que dice por qué usted estuvo ausente y que da la autorización para regresar. Si es posible, negocie con su patrón para regresar lentamente (primero medio tiempo) para ver si sus síntomas empeoran.

En algunos trabajos, usted puede hacer cambios sin preguntarle al patrón. Quizá pueda apagar la luz de su oficina privada, reducir el brillo de su computadora, o cerrar la puerta. Haga cualquier cambio que sepa que está bien hacerlo usted mismo. Negocie con su patrón para hacer otros cambios. Dígale que estos cambios quizá no duren mucho. Tal vez ayude hablar con su oficina de Recursos Humanos.



CUATRO A SEIS SEMANAS DESPUÉS DE LA LESIÓN

Si sus síntomas no han desaparecido a las cuatro semanas después de la lesión, podría necesitar ver a un especialista en síntomas. **¿Qué es un especialista en síntomas?** Los nuevos estudios muestran que hay diferentes tipos de grupos de síntomas como tener problemas al pensar, dolores de cabeza y equilibrio. Un tratamiento para su grupo de síntomas puede ayudarle a sentirse mejor más pronto. Hable con su médico acerca de enviarlo antes si es necesario. **Hable con el especialista acerca de su lesión y los problemas que han comenzado.**

Abajo hay algunos de los problemas y a quién podría enviarlo su médico:

Problema	Referir a (Especialista que puede ayudar)
Pensamiento (Cognitivo) y Cansancio (Fatiga)	Neuropsicólogo, clínica especializada en conmociones, clínica de trauma cerebral, patólogo de lenguaje hablado
Equilibrio (Vestibular)	Terapeuta físico, clínica especializada en conmociones
Problema con movimiento del ojo (ocular-motriz)	Neuro-oftalmólogo, terapeuta ocupacional
Dolor de cabeza / migraña	Neurólogo
Dolor de cuello (Cervical)*	Quiropráctico, terapeuta físico
Cambios en sentimientos, triste, enojado (Estado de ánimo, Ansiedad)	Psicólogo, consejero, neuropsicología, psiquiatra

**Si el cuello está fuera de lugar, puede ocasionar dolores de cabeza y otros síntomas de conmoción.*

CONTINUAMENTE

Continúe usando sus cambios útiles, en el trabajo y la escuela. Si comienza nuevas clases y trabajos, quizá necesite pensar en nuevos cambios para ellos. Vea una lista estratégica como la Herramienta de estrategias y acomodo en: https://www.tndisability.org/resources-0 para obtener ideas o hable a un especialista.

Escoja una persona clave en su vida para ayudarle con ideas para cambios útiles mientras sana. Es bueno saber y solicitar lo que necesita.

SEÑALES DE PELIGRO

Si ve cualquiera de estas señales LLAME AL 911 o vaya al hospital de inmediato



- *Náuseas (malestar estomacal) y vómito*
- *Una pupila más grande que la otra*
- *Dolor de cabeza que no desaparece*
- *Espasmos, ojos que se mueven con rapidez, rigidez o convulsiones en el cuerpo, se queda viendo al vacío*
- *Pérdida de la conciencia, incluso si es breve*
- *Desorientación/confusión*
- *Manos temblorosas, temblores corporales, músculos debilitados, pérdida de tono muscular*

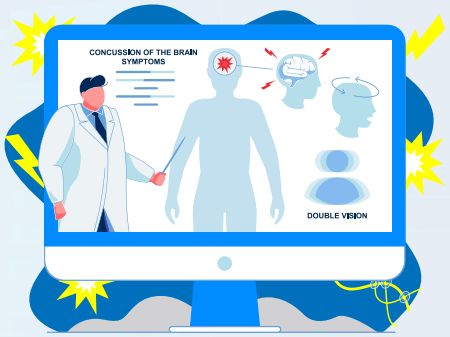
https://www.cdc.gov/headsup/basics/concussion_danger_signs.html

ADULTOS MAYORES

Conforme envejecemos, pueden tener lugar cambios en nuestros cerebros. Una caída u otro accidente causa con mayor probabilidad una conmoción o incluso un sangrado cerebral. Un sangrado puede tomar más tiempo en mostrarse en alguien de mayor edad, así que necesita ser vigilado con más cercanía durante varios días. **Si se ven señales de algún daño (vea el recuadro) - en cualquier persona de cualquier edad - llame al 911 o vaya al hospital de inmediato.**

¿QUÉ ESTÁ PASANDO? ¿HAY REALMENTE ALGO MALO CONMIGO?

Puede parecer que los síntomas de conmoción vienen y se van, o que empeoran. Algunas veces quizá hasta dude si hay un problema. Cuando los síntomas parecen cambiar, es usualmente porque su cuerpo o su mente están cansados. Los síntomas también pueden cambiar si toma alcohol o una droga (incluso una medicina legal). Estar enfermo, enojado, con dolor o estresado puede ocasionar cambios también. Mientras mejor pueda manejar estas otras cosas, su síntomas serán mejores. Los síntomas son reales. Le dicen que el cerebro todavía está sanando y necesita tiempo. **Tómese el tiempo de hacer cambios útiles en la casa, la escuela y el trabajo, hasta que no los necesite.**



- Línea telefónica estatal de crisis en TN: **855-CRISIS-1**
- Consulte la Guía personal para vivir cada día después de una conmoción o lesión cerebral traumática en: **https://www.tndisability.org/resources-0**

CAMBIOS EN EL COMPORTAMIENTO

Algunas veces un comportamiento con enojo, como gritarle a otros, es la primera señal de que tiene una lesión cerebral. Puede estar enojado o triste por no poder hacer algo que era fácil antes de la lesión. Quizá otros no lo entiendan. Sea paciente con sigo mismo. Trate de averiguar cuál es el problema verdadero.

Hágase estas preguntas: ¿Puedo poner atención? ¿Mi vista ha cambiado? ¿Tengo dolor? Quizá tan sólo no puede de manejar las cosas como solía hacerlo. Intente averiguar si hay algún cambio útil que pueda hacer. Hable con alguien que pueda ayudarle - un amigo, familiar o especialista en quien confíe.

REGRESANDO A DEPORTES Y OTRAS ACTIVIDADES FÍSICAS Y TRABAJOS CON ESFUERZO FÍSICO

Los estudiantes atletas, atletas recreativos y personas con trabajos con esfuerzo físico deben ser autorizadas por un profesional médico antes de regresar a su deporte o trabajo.

- Usted no debe regresar a los deportes (o a un trabajo con esfuerzo físico) si aún tiene síntomas de conmoción cerebral.
- Tampoco debe regresar cuando aún está tomando medicina para el dolor o para otros síntomas de conmoción cerebral. Consulte las directrices de la Asociación Nacional de Atlética Colegial: **https://www.ncaa.org/sport-science-institute/concussion**

COSAS A VIGILAR DURANTE CON EL TIEMPO



Marque todos los que vea:

- ☐ Cambios de estado de ánimo, se enoja fácilmente, cambios en cómo actúa
- ☐ Problema para quedarse en una tarea y para pensar
- ☐ Problemas de memoria - cosas que acaban de pasar
- ☐ Ansiedad, depresión o problemas manejando el estrés
- ☐ Dolores de cabeza
- ☐ Comportamiento que no se ajusta al tiempo, lugar o personas (ruidoso en una biblioteca)
- ☐ Sueño deficiente y sentirse cansado con demasiada facilidad
- ☐ Más tarde: Problemas con los trabajos de la escuela o el trabajo

CADA LESIÓN CEREBRAL ES DIFERENTE.
No hay un tiempo establecido para sentirse mejor.

VIOLENCIA DOMÉSTICA

Si su lesión es el resultado de que alguien que conoce le está lastimando, pida ayuda.
Dígale al doctor. **Llame al 911** si es una emergencia.
Llame a la Línea telefónica de Ayuda para Violencia Doméstica del Estado de Tennessee al **800-356-6767**.
Puede encontrar ayuda en la Coalición de Tennessee para Detener la Violencia Doméstica y la Violencia Sexual: **https://www.tncoalition.org/.**

Para niños: https://www.tn.gov/dcs/program-areas/child-safety/reporting/child-abuse.html
o llame al 877-237-0004
Para una persona mayor: https://www.tn.gov/aging/learn-about/elder-abuse.html o llame al 888-277-8366



ABUSO DE ALCOHOL

Mucha gente siente que el alcohol los cambia más de lo que lo hacía antes de su lesión. Pensar se vuelve más difícil y sus emociones están más fuera de control. Es sabio evitar el alcohol y las drogas mientras está mejorándose. Nunca conduzca si toma o ha consumido drogas.

RECURSOS GRATIS

Programa de Lesiones Cerebrales Traumáticas de Tennessee:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Coordinadores de Servicio de Lesión Cerebral Traumática de Tennessee:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/support-groups.html

Rehabilitación Vocacional de Tennessee:
https://www.tn.gov/humanservices/ds/vocational-rehabilitation.html

Empleo Apoyado:
https://www.tn.gov/behavioral-health/mental-health-services/ips-supported-employment/supported-employment.html

Programa Beneficios para el Trabajo:
https://www.tndisability.org/benefits-work

Brainline:
https://www.brainline.org/

Asociación de Lesiones Cerebrales de América:
https://www.biausa.org/

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención N° 90TBSG0024-01-00 y en parte por el Departamento de Salud de Tennessee, Programa de Lesiones Cerebrales Traumáticas.

BRAIN HEALTH

HOW TO HAVE A HEALTHY BRAIN THROUGHOUT LIFE

Our brain controls everything about us: our moods and emotions, our movements, thoughts and words. Some habits like eating junk food, not exercising, smoking and drinking alcohol can harm our brain. Unhealthy habits can lead to early loss of memory and thinking skills and sometimes dementia - a disorder that effects memory, personality and reasoning.

We can make changes right now - no matter what age we are - that will improve our brains and the quality of our lives.

HERE'S WHERE TO START:

Suggestions are based on current research.



EAT WELL

- The best diet for a healthy brain includes lots of vegetables, fruits, whole grains, healthy fats (avocados, nuts and seeds), and legumes (beans, peas and lentils) and NO eggs, meat or dairy. This is a **vegan diet.**
- If you feel that you can't be a vegan, the next best choice for brain health is **vegetarian,** which is no meat or fish. If you can't be a vegetarian, eat as many healthy, meatless meals as you can.
- Beware of trendy diets. They can often help you lose weight in the short term, but may not be good for your body in the long term.

Avoid junk food, fast food restaurants and most processed (man-made, factory-made) **foods.**
These foods often contain a lot of sugar, salt and fat.

Guidelines for the Prevention of Alzheimer's Disease: "Vegetables, legumes (beans, peas, lentils), fruits, and whole grains should replace meats and dairy products as primary staples of the diet."
Journal of Neurobiology of Aging, 2014

? **GREEN TEA:** Did you know that **green tea** is both **neuro-protective (protects the brain)** and **neuro-restorative (heals the brain)**?
That means if you drink green tea and have an accident that hurts your brain, it will help protect your brain from injury. Even if you begin to drink the tea *after* the injury, it will help.

PLANT FOODS VS ANIMAL FOODS: Did you know that **plant foods have 64 times more antioxidants** than animal foods? Antioxidants help protect cells in your body from damage, including brain cells.

DR. GREGER'S DAILY DOZEN APP: This free app helps you **keep track of the healthy foods** that you eat and helps you figure out what you are missing.

EXERCISE

Cardiovascular exercise - **any exercise that raises your heart rate** - is good for your whole body, including your brain. Other exercise, like yoga, is very good for your body and for relaxation. To really benefit your brain, add cardiovascular exercise which will **increase blood flow to your brain.** Examples of this type of exercise are **walking quickly, jogging, dancing and riding a bike.**
Too little exercise actually hurts the brain.

Cardiovascular exercise has been proven to:

- Fight Depression
- Manage Stress
- Control Blood Sugar Levels
- Help Fight Colds and Diseases
- Increase Focus
- Lower Blood Pressure
- Maintain a Healthy Weight
- Improve Memory



Exercise and better food choices can help you to keep a healthy weight. Studies have shown that having a heavier body makes us have a smaller brain. **So keep your weight down and your brain healthy!**

BE SOCIAL



Get out and **be with your friends and family**. If you can't visit or they are far away, talk on the phone or use a computer app where you can see each other. Having positive social interactions is very healthy for your brain. Not being social can create negative changes in the brain. Spending time with others has been proven to:

- Help Slow Dementia
- Help Fight Colds and Diseases
- Make Depression Go Away
- Lower Stress
- Help The Brain Make New Connections

Get Hearing Aids if you need them. They help you to stay social and keep the brain healthy!

LEARN

We all need to **keep learning throughout our lives**, not just while we are in school. NEW learning helps keep and make strong connections in our brain. Ongoing learning (something new for you) helps prevent dementia. Besides learning in school, learn for work or learn a new hobby. You don't have to master each thing. The point is to use your brain differently by challenging yourself. Try to learn in different ways - through reading, doing, watching and listening. **Learning can be purely for fun!**



TAKE CARE OF YOUR MENTAL HEALTH

If you are anxious, depressed or have another mental health problem, talk with a doctor or counselor for support. Begin making healthy changes and let your support person know. Many of the tips on these pages can help. For instance, exercise was proven to be just as good as depression medications after 12 weeks. After 10 months, exercise was actually better. Eating healthfully and getting together with friends also improves mental health. It's okay to start small.

Other ways to improve your mental health:

- *Adopt a pet or volunteer at an animal shelter*
- *Meditate*
- *Do deep breathing exercises*

Let go of stress and worry. Instead of worrying, take steps to make the situation better. Or, if there is nothing to be done, realize that and relax. Most of the time when we worry, the thing we worry about never happens. **Recognize your own Automatic Negative Thoughts (ANTS)** and replace those ANTs with happy and positive thoughts or do something active like going for a walk. For more help with ANTs, see Dr. Daniel Amen, amenclinics.com.

Be Grateful - Our brains send positive chemicals out when we are grateful. These chemicals are good for our brain and the rest of our body. Journaling, or **writing down what you are grateful for each day** has been shown to produce positive changes in our lives. No matter what is going on in our lives, we can find something or someone to be happy or grateful for.

BE RESILIENT

Resilience is our ability to recover quickly from difficulty. Staying in a negative state causes unhealthy stress in our bodies. Try to deal with what's wrong, then get back to your normal, happier state. You are not alone. Everyone's life includes hard times. **Moving in a positive direction helps us to limit the bad effects of stress in our bodies.** Ways to be resilient:

Commit to finding meaning in a struggle • Believe that you can create a positive outcome
Be willing to grow • CHOOSE to laugh and be grateful (Bonano)

To Become More Resilient, Ask Yourself

1. "What could possibly be right about this situation?"
2. "What in my life or myself can I be grateful for right now?"

MJ Ryan

FIND PURPOSE AND JOY

Having a sense of purpose is very good for the brain. Purpose helps to hold off Alzheimer's disease (a type of dementia) from showing up in your life, even if you already have the changes in your brain.

You may already have something in your life that gives you a feeling of purpose. It can be something simple like taking care of a child, a pet, getting together with friends or knitting blankets for those in need.

If you don't have that feeling of purpose, look for ways to create it through a job, a hobby or relationships. Joy is important because, without it, purposeful things often don't feel purposeful anymore. **It may seem like it should come naturally, but it is okay to branch out and actively find your joy.**



PREVENT BRAIN INJURIES

As you might expect, all types of brain injuries, (strokes, falls, being violently shaken, car accidents, and tumors) can change you brain.

After one brain injury, people are more likely to have another because of changes in physical abilities and decision-making. **Avoid rough sports and risky situations.**

Think first with any activities about how to avoid another injury. **Always** wear a helmet when needed and **always** wear a seatbelt. Many tips on these pages, like eating right and exercising, can help you avoid a stroke.

AVOID THINGS THAT ARE TOXIC

Things that are toxic can harm the brain. Toxic things might include pesticides on food, hormones injected into meat, and some chemicals used in beauty products like shampoos and creams.

- Buy organic fruits and vegetables when you can. Be aware of what you are putting on your body.
- An app like Think Dirty can help you figure out if your housecleaning and beauty products are safe.
- Avoid smoking, vaping, illegal drugs and alcohol which are **all** toxic to your body and brain.
- **You may need support to make these changes.** You might benefit from a local support group. If you smoke or use recreational drugs (including opioids), make a plan to quit, set a date, and tell your family or friends so they can help you stay on track.
  End smoking: https://www.cdc.gov/tobacco/campaign/tips/ and http://www.tnquitline.org/index.php
  Alcoholics Anonymous: https://aa.org and
  https://www.tn.gov/behavioral-health/substance-abuse-services.html
  Narcotics Anonymous: https://na.org and https://natennessee.org/
- Even toxic people (including family members) and relationships can harm your healing and cause further symptoms and damage.
- For mental health and/or substance use disorders, call SAMHSA's National Helpline, 1800-662-HELP (4357) or TTY: 1-800-487-4889 or search https://www.samhsa.gov/find-help/national-helpline

GET ENOUGH SLEEP

Did you know that your brain cleans itself of toxins and plaques as you sleep? If not cleaned, you develop brain fog, memory issues or dementia. **Get enough sleep for your age.**
https://www.cdc.gov/sleep/about_sleep/how_much_sleep.html

Treat sleep apnea (loud snoring and short periods of not breathing)
Get 7-8 hours of sleep a night (if you are an adult) • Reduce/manage stress
Reduce use of electronic devices at night • Stick to a regular schedule
Reduce caffeine, especially at night • Drink chamomile tea
Get rid of your Automatic Negative Thoughts (see Mental Health section)



MAKING CHANGE

Changing from old, unhealthy habits to new, healthier ones can be hard. But improvements in your health will be worth it. The best way to change someone else's habits - like a child, a spouse or a friend - is to **change yourself first**. There are several ways you can get started.



- Make **one small change** at a time. Maybe you stop drinking soda this month and give up red meat next month. Keep adding to the changes.
- Clean up **one area** at a time. This month you switch to veganism or vegetarianism and next month you work on adding cardiovascular exercise to your routine.
- Change **everything** at once. Focus on food choices, add exercise, change your cleaning products, start a gratitude journal, etc.

Find a way that works best for you to stay on track, like setting goals for every month. If you can, get a family member or friend to make healthy changes with you.

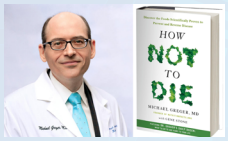
MORE BANG FOR YOUR BUCK

COMBINE two or more healthy changes to get more benefits:

- Begin a new hobby that also helps others
- Exercise with a friend or your pet
- Have meatless Monday meals with a partner
- Stop smoking with a coworker
- Go for a walk to a healthy grocery store
- Go to a farmer's market and plan a healthy meal or picnic
- Turn off television earlier at night and make a short gratitude list before bedtime
- Limit caffeine or trade last cup of coffee for decaf green tea and challenge a friend to do the same



ADDITIONAL RESOURCES



Book: How not to Die by Dr. Michael Greger

Dr. Greger's Daily Dozen App
Nutritionfacts.org



Book: Memory Rescue by Dr. Daniel Amen

https://forksoverknives.com

National Alliance on Mental Illness:
https://www.nami.org/home

There are many good books and websites with information and recipes for vegan or vegetarian cooking.

Brain Links

https://www.tndisability.org/brain

@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Published 1/21

SALUD CEREBRAL

CÓMO TENER UN CEREBRO SALUDABLE DURANTE TODA SU VIDA

Nuestro cerebro controla todo de nosotros: nuestros estados de ánimo y emociones, nuestros movimientos pensamientos y palabras. Algunos hábitos como comer alimentos chatarra, no hacer ejercicio, fumar y tomar alcohol, pueden dañar nuestro cerebro. Los hábitos no saludables pueden llevar a una pérdida temprana de memoria y de habilidades del pensamiento, y algunas veces demencia: una enfermedad que afecta la memoria, la personalidad y el razonamiento.

Podemos hacer cambios justo ahora - sin importar qué edad tengamos - eso mejorará nuestros cerebros y la calidad de nuestras vidas.

ASÍ ES CÓMO PUEDE EMPEZAR:

Las sugerencias están basadas en las investigaciones actuales.



COMA ADECUADAMENTE

- La mejor dieta para un cerebro saludable incluye muchos vegetales, frutas, granos enteros, grasas saludables (aguacates, nueces y semillas) y legumbres (frijoles (porotos), guisantes y lentejas) y NO INCLUYE huevos carne ni lácteos. Esta es una **dieta vegana.**
- Si siente que no puede ser vegano, la siguiente mejor elección para la salud cerebral es ser **vegetariano**, es decir no consumir carne ni pescado. Si no puede ser vegetariano, coma tantos alimentos alimentos saludables sin carne como pueda.
- Tenga cuidado con las dietas de moda. Pueden ofrecerle ayuda para perder peso en un corto plazo, pero pueden no ser buenas para su cuerpo en el largo plazo.

Evite comida chatarra, como restaurantes de comida rápida y la mayoría de la comida procesada (hecha por el hombre, hecha en fábrica)**.** Estos alimentos a menudo contienen mucha azúcar, sal y grasa.

Directrices para la prevención de la enfermedad de Alzheimer. "Los vegetales, las legumbres (frijoles, guisantes, lentejas), frutas y granos enteros deben remplazar las carnes y productos lácteos como artículos imprescindibles en la dieta".

Journal of Neurobiology of Aging *(Publicación científica, Neurobiología del Envejecimiento, 2014)*

? **TÉ VERDE:** ¿Sabía que el **té verde** es tanto un **neuroprotector (protege al cerebro)** como **neuro-restaurador (sana al cerebro)**?
Eso significa que si toma té verde y tiene un accidente que lastime a su cerebro, el té le ayudará a proteger su cerebro de una lesión. Incluso si usted comienza a tomar el té *después* de la lesión, le ayudará.

ALIMENTOS PROVENIENTES DE PLANTAS VS. ALIMENTOS DE ORIGEN ANIMAL: ¿Sabía que los **alimentos que provienen de plantas tienen 64 veces más antioxidantes** que los que provienen de animales? Los antioxidantes ayudan a proteger las células de su cuerpo de daños, incluyendo las neuronas.

APP "DAILY DOZEN" DEL DR. GREGER: Esta app gratuita le ayuda a **mantener un registro** de los alimentos saludables que usted come y le ayuda a entender qué le está faltando.

EJERCICIO

Ejercicio cardiovascular - **cualquier ejercicio que eleve su pulso cardiaco** - es bueno para todo su cuerpo, incluyendo su cerebro. Otros ejercicios, como el yoga, son buenos para su cuerpo y para relajarse. Para realmente beneficiar su cerebro, haga ejecricio cariovascular, el cual incrementará el flujo sanguíneo a su cerebro. Algunos ejemplos de este tipo de ejercicio son: **caminar rápidamente, trotar, bailar y andar en bicicleta.** Muy poco ejercicio de hecho es dañino para el cerebro.

Se ha demostrado que el ejercicio cardiovascular:

- Lucha contra la depresión
- Ayuda a manejar el estrés
- Controla los niveles de azúcar en la sangre
- Ayuda a luchar contra resfriados y enfermedades
- Incrementa la concentración
- Baja la presión
- Mantiene un peso saludable
- Mejora la memoria



El ejercicio y mejores decisiones alimenticias pueden ayudarle a mantener un peso saludable. Los estudios han mostrado que tener un cuerpo más pesado, hace que tengamos un cerebro más pequeño **¡Así que mantenga su peso bajo y su cerebro saludable!**

SEA SOCIABLE



Salga y **pase tiempo con sus amigos y familiares** Si no puede visitarlos o ellos están lejos, hable por teléfono o use una aplicación para computadora, donde puedan verse el uno al otro. Tener interacciones sociales positivas es muy saludable para su cerebro. No ser sociable puede crear cambios negativos en el cerebro.

Pasar tiempo con otros ha demostrado:

- Ayudar a retardar la demencia
- Hacer que la depresión se retire
- Ayuda al cerebro a crear nuevas conexiones
- Ayuda a luchar contra resfriados y enfermedades
- Bajar el estrés

Consiga aparatos auditivos si los necesita. !Estos le permitirán mantenerse en contacto social y mantener el cerebro saludable!

APRENDA

Todos necesitamos **mantenernos aprendiendo a través de nuestras vidas**, no sólo mientras estamos en la escuela. El aprendizaje de cosas NUEVAS nos ayuda a crear conexiones fuertes en nuestro cerebro. El aprendizaje continuo (algo nuevo para usted) ayuda a prevenir la demencia. Además de aprender en la escuela, aprenda para su trabajo o aprenda un nuevo pasatiempo. No es necesario que domine cada cosa. El punto es que use su cerebro de maneras diferentes para desafiarse a sí mismo. Intente aprender de diferentes maneras: A través de la lectura, haciéndolo, mirando y escuchando.

¡Aprender puede ser por mera diversión!



CUIDE SU SALUD MENTAL

Si está ansioso, deprimido o tiene otro problema de salud mental, hable con un doctor o terapeuta para obtener ayuda. Comience a realizar cambios saludables e infórmelos a alguien de confianza. Muchas de las sugerencias en estas páginas le pueden ayudar. Por ejemplo, el ejercicio ha demostrado ser tan bueno como los medicamentos para la depresión después de 12 semanas. Después de 10 meses, de hecho el ejercicio fue mejor. Comer saludablemente y reunirse con amigos también mejora su salud mental. Está bien comenzar con poco.

Otras maneras de mejorar su salud mental:

- *Adoptar una mascota o servir como voluntario en un refugio para animales*
- *Meditar*
- *Hacer ejercicios de respiración profunda*

Deje ir el estrés y las preocupaciones. En vez de preocuparse, tome los pasos que harán que mejore su situación. O si no hay nada que hacer, acéptelo y relájese. La mayoría de las veces cuando nos preocupamos, aquello por lo que estamos preocupados nunca sucede. **Reconozca sus propios Pensamientos Negativos Automáticos (ANT, por sus siglas en inglés, "Automatic Negative Thoughts")** y remplace esos ANTs con pensamientos alegres y positivos o haga algo de actividad como ir a caminar. Para más ayuda con los ANTs, consulte al Dr. Daniel Amen, amenclinics.com.

Sea agradecido - nuestros cerebros envían químicos positivos cuando somos agradecidos. Estos químicos son buenos para nuestro cerebro y para el resto de nuestro cuerpo. Escribir un diario, o **escribir por qué está agradecido cada día** está demostrado que produce cambios positivos en nuestras vidas. No importa lo que suceda en nuestras vidas, podemos encontrar alguna cosa o a alguien con quien estar feliz o por quien estar agradecido.

SER RESILENTE

La resilencia es nuestra capacidad de recuperarnos rápidamente de las dificultades. El mantenerse en estado negativo ocasiona estrés perjudicial en nuestros cuerpos. Intente abordar lo que está mal, luego regrese a su estado normal más feliz. No está solo. La vida de todos incluye tiempos difíciles. **Moverse hacia una dirección positiva nos ayuda a limitar los efectos malos del estrés en nuestros cuerpos.** Maneras de ser resiliente:

Comprométase a encontrar significado en una lucha • Crea que puede crear un resultado positivo • Esté dispuesto a crecer • ESCOJA reír y ser agradecido (Bonano)

Para hacerse más resilente, pregúntese

1. "¿Qué podría estar bien acerca de esta situación?
2. ¿De qué puedo estar agradecido en mi vida o en mí mismo ahora mismo?

MJ Ryan

ENCUENTRE PROPÓSITO Y ALEGRÍA

Tener un sentido de propósito es muy bueno para el cerebro. Tener un propósito ayuda a mantener a raya la enfermedad de Alzheimer (un tipo de demencia) evitando que se muestre en su vida, incluso si usted ya tiene cambios en su cerebro.

Puede que ya tenga algo en su vida que le de un sentimiento de propósito. Puede ser algo simple como cuidar de un niño, una mascota, reunirse con amigos o tejer mantas para las personas necesitadas.

Si no tiene ese sentimiento de propósito, busque maneras para crearlo a través de un trabajo, un pasatiempo o de relaciones personales. El gozo es importante porque sin él, las cosas con propósito a menudo ya no se sienten como tales. **Puede parecer como que debe surgir naturalmente, pero está bien diversificar y encontrar activamente su gozo.**



EVITE LESIONES CEREBRALES

Como puede esperar, todos los tipos de lesiones cerebrales (derrames cerebrales, caídas, sacudidas violentas, accidentes automovilísticos y tumores) pueden cambiar su cerebro.

Después de una lesión cerebral, la gente es más susceptible a tener otra, debido a cambios en las capacidades físicas y en la toma de decisiones. **Evite deportes bruscos y situaciones de riesgo.**

Piense primero, con cualquier actividad, acerca de cómo evitar otra lesión. **Siempre** porte un casco cuando se necesite y **siempre** use el cinturón de seguridad. Muchas sugerencias en estas páginas, como comer correctamente y hacer ejercicio, pueden ayudarle a evitar un derrame cerebral.

EVITE SUSTANCIAS TÓXICAS

Sustancias tóxicas pueden dañar el cerebro. Sustancias tóxicas incluyen pesticidas en la comida, hormonas inyectadas en la carne, y algunos químicos usados en productos de belleza como champús y cremas.

- Compre frutas y vegetales orgánicos cuando pueda. Esté consciente de lo que pone en su cuerpo.
- Una app como *Think Dirty* puede ayudarle a darse cuenta si sus productos de limpieza del hogar o de belleza son seguros.
- Evite fumar, usar cigarros electrónicos, drogas ilegales y consumir alcohol. **Todos** ellos son tóxicos para su cuerpo y cerebro.
- **Quizá necesite apoyo para hacer estos cambios.** Usted podría beneficiarse de un grupo de apoyo local. Si usted fuma o usa drogas recreativas (incluyendo opioides), haga un plan para dejar de fumar, fije una fecha y dígale a su familia o amigos, para que puedan ayudarlo a mantenerse en el camino.
  Dejar de fumar: https://www.cdc.gov/tobacco/campaign/tips/ y http://www.tnquitline.org/index.php
  Alcohólicos Anónimos: https://aa.org y
  https://www.tn.gov/behavioral-health/substance-abuse-services.html
  Narcóticos Anónimos: https://na.org y https://natennessee.org/
- Incluso las personas tóxicas (incluyendo familiares) y las relaciones tóxicas pueden dañar su recuperación y causar síntomas y daños adicionales.
- Para trastornos de salud mental y de uso de sustancias, llame a la línea de ayuda nacional de SAMHSA 1800-662-HELP (4357) o TELEX: 1-800-487-4889 o busque https://www.samhsa.gov/find-help/national-helpline

DUERMA LO SUFICIENTE

¿Sabía que su cerebro se limpia a sí mismo de toxinas y placas mientras duerme? Si no se limpia, desarrollará dificultades para concentrarse, problemas de memoria o demencia. **Duerma lo suficiente para su edad.**
https://www.cdc.gov/sleep/about_sleep/how_much_sleep.html

Sometase a tratamiento para la apnea del sueño (ronquidos fuertes y periodos cortos sin respirar)
Duerma de 7 a 8 horas por noche (si es un adulto)
Reduzca el uso de dispositivos electrónicos durante la noche
Reduzca la cafeína, especialmente durante la noche
Deshágase de los Pensamientos Negativos Automáticos (consulte la sección de Salud Mental)

- Reduzca/maneje su estrés
- Apéguese a un horario regular
- Tome té manzanilla



REALIZANDO CAMBIOS

Puede resultar difícil cambiar los hábitos viejos y poco saludables por hábitos nuevos y más saludables. Pero las mejoras en su salud valdrán la pena. La mejor forma de cambiar los hábitos de otra persona –como un hijo, cónyuge o amigo– es **cambiando uno mismo primero**. Hay varias maneras en que puede comenzar.



- Haga **un cambio pequeño** a la vez. Quizá usted deje de tomar gaseosas este mes y abandone la carne roja al siguiente mes. Siga haciendo cambios.
- Limpie **un área** a la vez. Este mes hágase vegano o vegetariano, y el siguiente mes trabaja en añadir ejercicio cardiovascular a su rutina.
- Cambie **todo** a la vez. Enfóquese en las elección de alimentos, añada ejercicio, cambie sus productos de limpieza, comience un diario de gratitud, etc.

Encuentre una manera que le funcione mejor para mantenerse avanzando como establecer metas para cada mes. Si puede, pida a un familiar o amigo que haga los cambios saludables con usted.

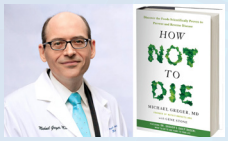
OBTENGA AÚN MÁS BENEFICIOS

COMBINE dos o más cambios saludables para obtener más beneficios.

- Comience un nuevo pasatiempos que también ayude a otros
- Haga ejercicio con un amigo o con su mascota
- Tenga comidas de "lunes sin carne" con su pareja
- Deje de fumar junto con un compañero del trabajo
- Vaya caminando a una tienda de productos saludables
- Vaya a un mercado de agricultores y planee una comida o picnic saludable
- Apague la televisión más temprano en la noche para hacer una lista corta de gratitud antes de dormir
- Limite su consumo de cafeína o cambie la última taza de café por una de té verde descafeinado y rete a un amigo(a) a que haga lo mismo



RECURSOS ADICIONALES



Libro: Cómo no morir por Dr. Michael Greger



Libro: Rescate de la memoria por Dr. Daniel Amen

App "Daily Dozen" del Dr. Greger
Nutritionfacts.org

https://forksoverknives.com

Alianza Nacional para las Enfermedades Mentales:
https://www.nami.org/home

Hay muchos buenos libros y sitios web con información y recetas para cocina vegana o vegetariana.

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención N° 90TBSG0024-01-00 y en parte por el Departamento de Salud de Tennessee, Programa de Lesiones Cerebrales Traumáticas.
Publicado en enero de 2021

Bell Let's Talk

Let's talk about

CONCUSSIONS & MENTAL HEALTH

Mental health issues are common after sustaining a concussion. The information below can help you identify, get help for, and recover from any mental health challenges you face after a concussion.

SYMPTOMS



IRRITABILITY
ANXIETY
MOOD SWINGS
DEPRESSED MOOD
APATHY
IMPATIENCE

Know what to look for.

Symptoms of mental health problems can affect your wellness, ability to function in daily life, and relationships with others. Identifying symptoms early will prevent them from getting worse and interfering with your recovery.

DIAGNOSIS



Talk to your primary healthcare provider about your mental health.

Let your doctor know if you experience any mental health issues after your concussion and if you have had mental health challenges in the past. They will ask you questions and observe your behaviour to make a diagnosis and recommend treatment. They might also talk to your family members to find out more information about your symptoms.

TREATMENT



Get on the road to recovery with an individualized treatment plan.

You may need counseling, talk therapy, or medications (sometimes a combination is best). Your primary healthcare provider will create your treatment plan based on your the type and severity of your symptoms. You might be referred to a mental health specialist if your symptoms are complex.

RECOVERY



Recovery takes time. Build a strong support system to help you through this process.

Having a support system of close friends and family members is important. Avoid isolation and reintegrate yourself into daily activity as symptoms allow. Connect with a peer support group, create a consistent routine, exercise regularly, and eat balanced meals to support recovery.

LEARN MORE AT OUR WEBSITES:
BRAININJURYGUIDELINES.ORG CONCUSSIONSONTARIO.ORG

Ontario Neurotrauma Foundation
Fondation ontarienne de neurotraumatologie

FOR MORE RESOURCES IN TENNESSEE

National Alliance of Mental Illness (NAMI)TN
https://www.namitn.org/

Mental Health America of the Midsouth
https://www.mhamt.org/

TN Voices for Children
https: //tnvoices.org/

TN Department of Mental Health & Substance Abuse Services
https://www.tn.gov/behavioral-health.html

Brain Links
http://tndisability.org/brain

Thank you to Ontario Neurotrauma Foundation for the use of their document.

NOTES

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

HEALTHCARE PROVIDERS TOOLKIT

SEND HOME WITH PATIENT

OPTIONAL

USE THE LINKS BELOW TO VIEW A SPECIFIC RESOURCE

CDC Concussion Fact Sheet for Parents - CDC HEADS UP Program – focuses on athletes. Good to give out at sports physicals and clinics; has some prevention and identification

CDC Flyer for Families - basic concussion and return to school information

Signs and Symptoms Handouts - Use age-appropriate version. Helps family understand what to look for

Signs and Symptoms for the Young Child, English / Español – for the young child and those who communicate without words

Signs and Symptoms for the Older Child English / Español – for use with the school-aged child.

Signs and Symptoms for Adults: When Your Head Has Been Hurt – Includes information for the elderly

Recognizing Concussion in People Who Communicate Without Words: A tool for those who care for people who communicate without words including family members, healthcare professionals, service providers and more.

A Guide to Possible Changes After Brain Injury – A tool to help watch for changes that may follow brain injury. FYI the word may is italicized on purpose but please remove the highlight.

For Young Children Ages 7 and Under, English

For School-Aged Children and Adults, English/ Español

Driving After Traumatic Brain Injury – Tips, concerns, and steps for returning to driving from the TBI Model Systems Knowledge Translation Center.

Brain Injury and Mental Health from the Brain Injury Association of Virginia / Español

TN Traumatic Brain Injury Service Coordination Program Brochure – only for patients with injuries that require case management (help people with brain injuries and their families to assess their current resources and needs at no cost)

Brain Links Regional Contact Information

Brain Links

TENNESSEE

CONCUSSION FACT SHEET FOR PARENTS



WHAT IS A CONCUSSION?

A concussion is a type of traumatic brain injury. Concussions are caused by a bump or blow to the head. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

WHAT ARE THE SIGNS AND SYMPTOMS OF CONCUSSION?

If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs of a concussion:

SYMPTOMS REPORTED BY ATHLETE:

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light
- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Just not "feeling right" or is "feeling down"

SIGNS OBSERVED BY PARENTS / GUARDIANS:

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior, or personality changes



Brain Links

Tennessee Traumatic Brain Injury Program
https://www.tn.gov/content/tn/health/health-program-areas/fhw/vipp/tbi.html
800-882-0611

Tennessee Safe Stars Initiative
https://www.tn.gov/health/health-program-areas/fhw/vipp/safe-stars-initiative.html

Tennessee Disability Coalition / Brain Links
https://www.tndisability.org/brain

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

DANGER SIGNS

Be alert for symptoms that worsen over time. Your child or teen should be seen in an emergency department right away if s/he has:

- One pupil (the black part in the middle of the eye) larger than the other
- Drowsiness or cannot be awakened
- A headache that gets worse and does not go away
- Weakness, numbness, or decreased coordination
- Repeated vomiting or nausea
- Slurred speech
- Convulsions or seizures
- Difficulty recognizing people or places
- Increasing confusion, restlessness, or agitation
- Unusual behavior
- Loss of consciousness (even a brief loss of consciousness should be taken seriously)

WHAT SHOULD YOU DO IF YOU THINK YOUR CHILD HAS A CONCUSSION?

1. **SEEK MEDICAL ATTENTION RIGHT AWAY**
   A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to regular activities, including sports.
2. **KEEP YOUR CHILD OUT OF PLAY.**
   Concussions take time to heal. Don't let your child return to play the day of the injury and until a health care professional says it's OK. Children who return to play too soon - while the brain is still healing - risk a greater chance of having a second concussion. Repeat or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.
3. **TELL YOUR CHILD'S COACH ABOUT ANY PREVIOUS CONCUSSION.**
   Coaches should know if your child had a previous concussion. Your child's coach may not know about a concussion your child received in another sport or activity unless you tell the coach.

HOW CAN YOU HELP YOUR CHILD PREVENT A CONCUSSION OR OTHER SERIOUS BRAIN INJURY?

- Ensure that they follow their coach's rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity. Protective equipment should fit properly and be well maintained.
- Wearing a helmet is a must to reduce the risk of a serious brain injury or skull fracture.
  - However, helmets are not designed to prevent concussions. There is no "concussion-proof" helmet. So, even with a helmet, it is important for kids and teens to avoid hits to the head.

HOW CAN I HELP MY CHILD RETURN TO SCHOOL SAFELY AFTER A CONCUSSION?

Children and teens who return to school after a concussion may need to:

- Take rest breaks as needed
- Spend fewer hours at school
- Be given more time to take tests or complete assignments
- Receive help with schoolwork
- Reduce time spent reading, writing, or on the computer

Talk with your child's teachers, school nurse, coach, speech-language pathologist, or counselor about your child's concussion and symptoms. As your child's symptoms decrease, the extra help or support can be removed gradually.

HEADS UP

JOIN THE CONVERSATION www.facebook.com/CDCHeadsUp

TO LEARN MORE GO TO >> WWW.CDC.GOV/CONCUSSION

Content Source: CDC's Heads Up Program. Created through a grant to the CDC Foundation from the National Operating Committee on Standards for Athletic Equipment (NOCSAE).

HELP YOUR CHILD BE SUCCESSFUL AT SCHOOL AFTER A TBI



Parents and families play a crucial role in helping children return to school and activities after a Traumatic Brain Injury (TBI).

Most of the recovery process happens after your child leaves the medical setting. The more you know about TBI, the more you can help make sure your child is feeling well, and is successful at school.

TBI Effects can Last a Lifetime

Most children are resilient and recover well, but some effects can show up later in life.

It is important to

RECOGNIZE
MONITOR
& CARE

for your child as he or she grows up.

WHAT IS A TBI?

A Traumatic Brain Injury disrupts the normal functioning of the brain. A bump, a blow, or a jolt to the head can cause a TBI. With the brain still developing, a child is at greater risk for long-term effects after a TBI. These injuries range from mild to severe. Mild TBI, referred to as mTBI or concussion, is most common.

> CDC's Report to Congress outlines current gaps in TBI care, and provides clear opportunities for action to improve the management and outcomes of TBI in children.

COORDINATION IS KEY

Children recovering from a TBI need ongoing monitoring with coordinated care and support for best outcomes. Parents and families are often the ones taking care of children as they grow and develop.

COMMUNICATE

- Talk with your child's healthcare provider regularly, and attend all follow-up appointments.
- Notify your child's school about the TBI, and share updates from their healthcare provider.
- Communicate with the school about the need to monitor your child, and inform you about changes in your child's behavior or school work.

MONITOR

- Observe your child's symptoms and school work. Report concerns to your child's healthcare provider and school staff.
- Keep records about your child's head injuries, recovery, and recommendations from your doctor about services for your child, such as speech therapy.
- Watch for signs of changes in your child's behavior or school performance, as these may not show up right after a TBI.
- Keep track of the number of brain injuries your child has experienced, and consider this when making decisions about participation in activities like contact sports.

Help Your Child Return to School

Most students who return to school after a TBI benefit from a short-term plan that includes individualized accommodations, such as:

- **Physical rest**
- **Extra time on tests**
- **Reduced homework load**
- **More frequent breaks**
- **Individualized help at school**

Students who have learning or behavioral challenges after a TBI may be eligible for special education services, including individualized instruction, speech-language therapy, physical therapy, or educational support. Regardless of the available services, maintaining frequent communication with your child's teachers can be one of the most important actions you can take in your child's recovery process.

FIND SUPPORT FOR YOUR FAMILY

Understanding the effects of a TBI on your child, and finding the right services to meet their needs can be a gradual process. It also may be important to find care for yourself through support groups or other services available in your community.

CONNECT

Support groups provide encouragement and valuable help for parents and caregivers.

- Parent Training Information Centers (PACER Family-to-Family Health Information Centers: www.pacer.org/about/PACERfacts.asp)
- Brain Injury Association of America (BIAA): www.biausa.org
- United States Brain Injury Alliance (USBIA): www.usbia.org
- National Association of State Head Injury Administrators (NASHIA): www.nashia.org

LEARN

Educational resources can help inform your child's recovery.

- www.cdc.gov/TraumaticBrainInjury
- www.cdc.gov/headsup/parents
- www.brainline.org



ENGAGE

Problem-Solving Therapy (PST) can help families and children cope with a TBI. In PST, families receive training in:

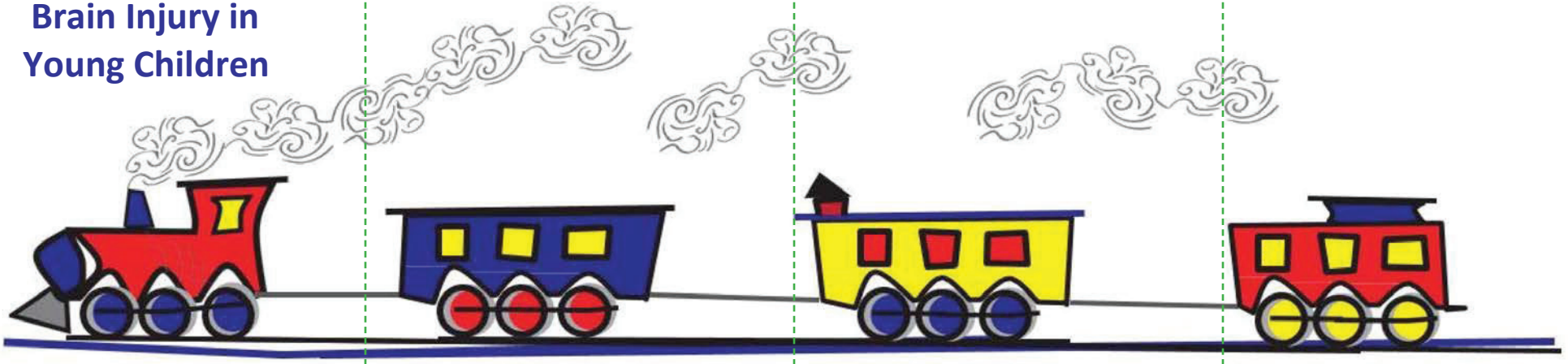
- Staying positive
- Step-by-step problem-solving
- Family communication skills
- Education about the effects of a TBI

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

LEARN MORE

TBI: www.cdc.gov/TraumaticBrainInjury
HEADS UP: www.cdc.gov/HEADSUP

Brain Injury in Young Children



Prevention is the Only Cure

Falls are the leading cause of traumatic brain injury in children between 0 and 4 years.

Play safely: Make sure playground equipment is properly designed and maintained, and have a safe, soft landing surface in case a child falls.

Make home safety improvements: Install stair gates, guard rails, and guards on windows above ground level.

Keep sports safe: Make sure your child wears a helmet when bike riding, skating, or playing active sports.

Supervision is key: Always supervise a young child around stairs and playground equipment.

Signs & Symptoms

Brain injury looks different in every child. Have a doctor examine your child if any of the following changes persist after a blow to the head:

- decreased strength or coordination
- behavior & sleep changes
- appetite changes, changes in sucking or swallowing
- decreased smiling, vocalizing or talking
- frequent rubbing of the eyes or head
- decreased ability to focus the eyes, unequal pupil size
- stomachaches
- increased sensitivity to light or sound
- extreme irritability

Multiple Injuries

Sustaining multiple concussions is particularly dangerous to young children.

Even when a blow to the head seems minor, a second equally-minor injury can have devastating results. One injury is bad enough; a second can be catastrophic.

Keep a record of any injuries to the head that your child sustains. Symptoms of an early brain injury may not appear until a child reaches late elementary or middle school years.

Knowing how to prevent brain injuries helps keep children safe.

Brain injury lasts a lifetime.

For More Information

For more information:

TN Traumatic Brain Injury Program
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Brain Injury Association of America
https://www.biausa.org

Brain Links
https://www.tndisability.org/brain

Brain Links

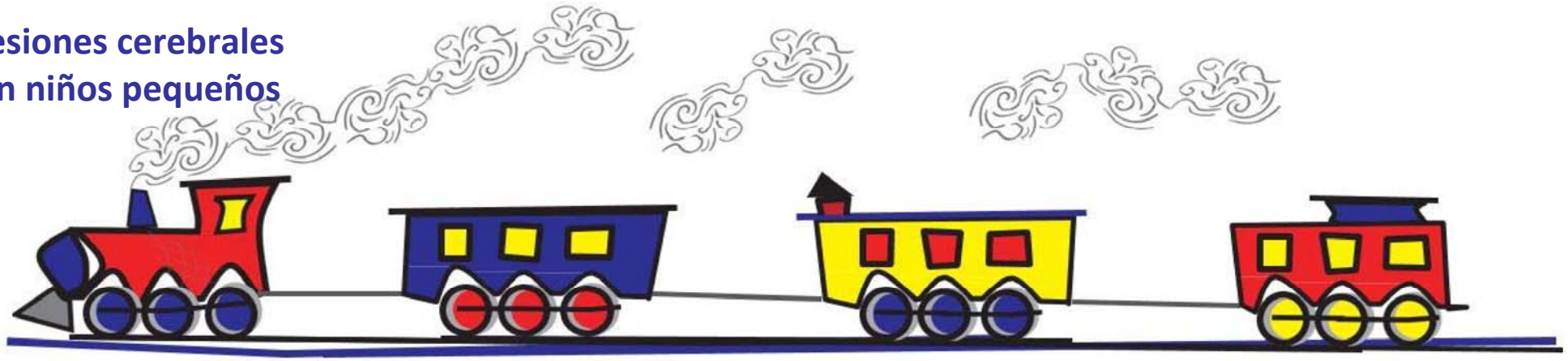
Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the Tennessee Department of Health, Traumatic Brain Injury Program.

kidcentral tn

Brain Links 2019 & Project BRAIN 2016

Adapted with permission from the Nebraska Brain Injury Advisory Council's Task Force on Children and Youth

Lesiones cerebrales en niños pequeños



La prevención es la única cura

Las caídas son la causa más importante de lesiones cerebrales traumáticas en niños entre 0 y 4 años de edad.

Juego seguro: Asegúrese de que el equipo del patio de recreo esté diseñado apropiadamente y que reciba mantenimiento, y que tenga una superficie segura y suave en el piso en caso de que un niño caiga.

Realice mejoras en la seguridad del hogar: Instale puertas para escaleras, pasamanos y guardas en las ventanas por encima del nivel de piso.

Seguridad en los deportes: Asegúrese de que su hijo use casco cuando ande en bicicleta o patines, o cuando juegue deportes de actividad.

La supervisión es la clave: Siempre supervise a los niños pequeños cerca de escaleras y patios de recreo.

Señales y síntomas

Las lesiones cerebrales se aprecian de modo diferente en cada niño. Llévelo a examinar con un médico si alguno de los siguientes cambios persiste después de un impacto en la cabeza:

- fuerza o coordinación reducidas
- cambios en el comportamiento y sueño
- cambios en el apetito, la succión de amamantado o al deglutir
- sonríe menos, o se reduce su vocalización o habla
- se frota frecuente los ojos o la cabeza
- menor capacidad para enfocar los ojos, tamaño de pupilas desigual
- dolores de estomago
- mayor sensibilidad a la luz o a los sonidos
- irritabilidad extrema

Lesiones múltiples

Recibir varias conmociones cerebrales es particularmente peligroso para los niños pequeños.

Incluso cuando un impacto en la cabeza parezca pequeño, una segunda lesión también pequeña puede tener resultados devastadores. Una lesión ya es de por sí mala; una segunda puede ser catastrófica.

Mantenga un registro de cualquier lesión en la cabeza que sufra su hijo. Los síntomas de una lesión cerebral temprana pueden no aparecer sino hasta los últimos años de la primaria o en la secundaria.

Conocer cómo evitar lesiones cerebrales ayuda a mantener seguros a sus hijos.

Las lesiones cerebrales duran toda la vida.

Para mayor información

Para mayor información

Programa para Lesiones Cerebrales Traumáticas de Tennessee
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Brain Injury Association of America (Asociación para Lesiones Cerebrales de EE.UU.)
https://www.biausa.org/

Brain Links
https://www.tndisability.org/brain

Brain Links

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL, por sus siglas en inglés) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención No. 90TBSG0024-01-00 y, en parte, por el Departamento de Salud de Tennessee, Programa de Lesiones Cerebrales Traumáticas.

kidcentral tn

Brain Links 2019 y Proyecto BRAIN 2016
Adaptado con permiso del Grupo Operativo del Comité Consultivo para Lesiones CEREBRALES de Nebraska para Niños y Jóvenes.



When Your Child's Head Has Been Hurt:

HEADS UP TO PARENTS

A head injury can happen to anyone in every day life: at home, at school or in sports. Many children who hurt their heads get well and have no long-term problems.

- *You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury.*
- *"Concussions are caused by a bump or blow to the head. Even a 'ding,' 'getting your bell rung,' or what seems to be a mild bump or blow to the head can be serious.*
- *If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away."*

(Adapted from the Centers for Disease Control Heads up www.cdc.gov/Concussion)

HEALTH PROBLEMS

Headaches

- headache that keeps coming back
- pain in head/neck
- pain below the ear
- pain in the jaw
- pain in or around the eyes

Balance Problems

- dizziness
- trouble with balance

Sensory Changes



- bothered by smells
- changes in taste or smell
- appetite changes



- feels too hot
- feels too cold
- doesn't feel temperature at all



- ringing in the ears
- hearing loss
- bothered by noises
- can't handle background noise

If your child has any of these problems, see a doctor right away.

- disoriented: loss of memory/amnesia
- nausea or vomiting that returns
- one pupil larger than the other
- headache that does not go away or get better
- seizures: eyes fluttering, body going stiff, staring into space
- hands shake, tremors, muscles get weak, loss of muscle tone

For infants and toddlers:

- all items already listed
- will not stop crying, can't be consoled
- will not nurse or eat

A concussion is a type of traumatic brain injury (TBI). All concussions are serious.

Sleep Problems

- can't sleep through the night
- sleeps too much
- days and nights get mixed up

Pain Problems

- neck and shoulder pain that happens a lot
- other unexplained body pain



- blurry vision
- seeing double
- hard to see clearly (hard to focus)
- bothered by light



BEHAVIOR and FEELINGS

(Changes in personality, mood or behavior)

- is irritable, anxious, restless
- gets upset or frustrated easily
- overreacts, cries or laughs too easily
- has mood swings
- wants to be alone or away from people
- is afraid of others, blames others
- wants to be taken care of
- does not know how to act with people
- takes risks without thinking first
- is sad, depressed
- is slow to respond
- is tired, drowsy
- takes off clothes in public
- has different sexual behavior
- eats too little, eats all the time, or eats things that aren't food
- trips, falls, drops things, is awkward
- starts using or has a different reaction to alcohol or drugs
- doesn't want to do anything, can't "get started"

- ✓ See a doctor
- ✓ Inform school of the injury
- ✓ Take time to recover
- ✓ Gradual return to learn/ school
- ✓ Cleared by a doctor before returning to play sports

THINKING PROBLEMS

- has trouble remembering things
- has trouble paying attention
- needs more time to process information
- thinks slowly and reacts slowly
- takes things too literally, doesn't get jokes
- understands words but not their meaning
- thinks about the same thing over and over
- has trouble learning new things
- has trouble putting things in order (desk, room, papers)
- has trouble remembering to do things on time
- has trouble planning, starting, doing, and finishing a task
- has trouble making decisions
- makes poor choices



TROUBLE COMMUNICATING

- changes the subject, has trouble staying on topic
- has trouble thinking of the right word
- has trouble listening
- has trouble paying attention, can't have long conversations
- does not say things clearly

Children and teens who show or report one or more of the signs and symptoms listed below, or simply say they just "don't feel right" after a bump, blow, or jolt to the head or body, may have a concussion or more serious brain injury.

Signs Observed by Parents or Guardians:	Symptoms Reported by Athlete:
Appears dazed or stunned	Headache or "pressure" in head
Is confused about assignment or position	Nausea or vomiting
Forgets an instruction	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or blurry vision
Moves clumsily	Sensitivity to light
Answers questions slowly	Sensitivity to noise
Loses consciousness (even briefly)	Feeling sluggish, hazy, foggy, or groggy
Shows mood, behavior, or personality changes	Concentration or memory problems
	Confusion
(Adapted from the Centers for Disease Control www.cdc.gov/Concussion)	Just "not feeling right" or "feeling down"

It's better to miss one game than the whole season.

Brain Links

TN Disability Coalition/Brain Links
615-383-9442 888-643-7811
https://www.tndisability.org/brain

TN Traumatic Brain Injury Program
800-882-0611
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

TN Return to Learn/Return to Play:
Concussion Management Guidelines
https://www.tn.gov/content/dam/tn/health/documents/Returning_to_Learn_Guidelines.pdf

TN Sports Concussion Law Training & Resources
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/tennessee-concussion.html

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

kidcentral tn

Cuando Su Niño Ha Recibido Un Golpe En La Cabeza:

ALERTA PARA LOS PADRES



Un lesión en la cabeza puede ocurrirle a cualquiera en la vida cotidiana: en casa, en la escuela o practicando un deporte. Muchos niños que reciben golpes en la cabeza se recuperan y no quedan con problemas de largo plazo.

- *No es fácil detectar una conmoción cerebral. Es posible que se presenten los síntomas de conmoción cerebral exactamente en el momento de la lesión o pueden aparecer o evidenciarse días o semanas después de la lesión.*
- *"Las conmociones cerebrales son ocasionadas por un golpe en la cabeza. Aún los golpes en la cabeza que supuestamente sólo generan un zumbido en los oídos o que parecen ser golpes muy suaves, pueden ser graves.*
- *Si su niño se queja de algún síntoma de conmoción cerebral o si usted nota los síntomas, busque atención médica inmediatamente."*

(Adaptado de ALERTAS para los Centros para el Control de Enfermedades en www.cdc.gov/Concussion)

PROBLEMAS DE SALUD

Dolores de cabeza

- dolor de cabeza que se presenta con mucha frecuencia
- dolor en la cabeza/cuello
- dolor debajo de los oídos
- dolor en la mandíbula
- dolor en o alrededor de los ojos

Problemas de equilibrio

- mareos
- problema con el equilibrio

Cambios en los sentidos



- se siente molesto por los olores
- cambios en el gusto o en el olfato
- cambios en el apetito

- siente mucho calor
- siente mucho frío
- no siente ni frío ni calor





- zumbido en los oídos
- pérdida de la audición
- se siente molesto por los ruidos
- no resiste el ruido de fondo

Si su niño presenta alguno de estos problemas, vea a su médico inmediatamente.

- desorientado: pérdida de memoria/amnesia
- náusea o vómito recurrente
- una pupila más dilatada que la otra
- dolor de cabeza permanente que no desaparece
- convulsiones, parpadeo continuo, rigidez en el cuerpo, pérdida de acierto al dar la mano, temblores, debilitamiento de los músculos, pérdida de tono muscular

Para bebés y niños pequeños:

- todos los síntomas indicados anteriormente
- no deja de llorar, no es posible consolarlo
- no amamanta ni se alimenta

Una conmoción cerebral es un tipo de lesión cerebral traumática (TBI). Todas las conmociones cerebrales son graves.

Problemas para dormir

- no puede dormir durante la noche
- duerme demasiado
- se le confunden los días con las noches

Problemas de dolor

- dolor en el cuello o en los hombros que ocurre con mucha frecuencia
- otros dolores inexplicables en el cuerpo



- visión borrosa
- visión doble
- dificultad para ver claramente (dificultad para enfocar)
- se siente molesto por la luz



COMPORTAMIENTO y SENTIMIENTOS

(Cambios en la personalidad, de humor o de comportamiento)

- irritable, ansioso, inquieto
- se altera o se frustra fácilmente
- reacciona exageradamente, llora o ríe con mucha facilidad
- tiene cambios de humor
- desea estar a solas o alejado de los demás
- siente temor por los demás, culpa a otros
- desea que se le dedique atención
- no sabe cómo actuar ante los demás
- actúa en forma arriesgada sin pensarlo antes
- está triste, depresivo
- se demora en responder
- permanece cansado, apático
- se quita la ropa en público
- presenta un comportamiento sexual diferente
- come poco, come todo el tiempo o come cosas que no son alimentos
- se resbala, cae, deja caer cosas, adopta posiciones desgarbadas
- empieza a consumir drogas o bebidas alcohólicas o reacciona en forma diferente a las bebidas alcohólicas
- no desea hacer nada, no le es posible "empezar"

- ✓ Vea a un médico
- ✓ Informe a la escuela acerca de la lesión
- ✓ Déle tiempo a la recuperación
- ✓ Regreso gradual al aprendizaje/escuela
- ✓ Autorizado por un médico antes de regresar a practicar deportes

PROBLEMAS CON EL PENSAMIENTO

- tiene problemas recordando cosas
- tiene problemas para prestar atención
- necesita más tiempo para procesar la información
- piensa con lentitud y reacciona lentamente
- toma las cosas demasiado en serio, no admite bromas
- comprende las palabras pero no su significado
- piensa en lo mismo una y otra vez
- tiene problemas para aprender cosas nuevas
- tiene problemas para colocar cosas en orden (el escritorio, el cuarto, papeles)
- tiene problemas para recordar que debe hacer cosas a tiempo
- tiene problemas para planificar, iniciar, hacer y terminar tareas
- tiene problemas para tomar decisiones
- hace selecciones deficientes



TIENE PROBLEMAS PARA COMUNICARSE

- cambia el tema de conversación, tiene problemas para mantener el tema de conversación
- tiene problemas para seleccionar la palabra correcta
- tiene problemas para escuchar
- tiene problemas para prestar atención, no puede sostener conversaciones prolongadas
- no dice las cosas con claridad
- tiene problemas para leer
- habla demasiado

Si su niño ha recibido un golpe en la cabeza durante la práctica de un deporte, busque los siguientes signos y síntomas de una conmoción cerebral:

Signos observados por padres o tutores:	Síntomas que se presentan en los deportistas:
Parece vacilante o desconcertado	Dolor de cabeza o "presión" en la cabeza
Está confundido acerca de la asignación o la posición	Nausea o vómito
Olvida una instrucción	Problemas de equilibrio o mareo
Se siente inseguro ante el juego, la puntuación o el oponente	Visión doble o borrosa
Se mueve torpemente	Sensibilidad a la luz
Responde las preguntas lentamente	Sensibilidad al ruido
Pierde la conciencia (así sea brevemente)	Se siente con pereza, perdido, confundido o aturdido
Presenta cambios de humor, comportamiento o personalidad	Problemas de concentración o de memoria
	Confusión
	Sólo "no me siento bien" o "no me siento de humor"

(Adaptado de los Centros para el Control de Enfermedades en www.cdc.gov/Concussion)

Es mejor perderse un juego que toda la temporada.

Brain Links

Coalición para Discapacitados de TN/Proyecto BRAIN
615-383-9442 888-643-7811
https://www.tndisability.org/brain

Programa para Lesiones Cerebrales Traumáticas de TN
800-882-0611
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

TN Regresar a Aprender / Regresar a Jugar:
Pautas para el manejo de una contusión cerebral
https://www.tn.gov/content/dam/tn/health/documents/Returning_to_Learn_Guidelines.pdf

Capacitación y recursos acerca de la ley sobre Contusiones Cerebrales en el Deporte de TN
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi/tennessee-concussion.html

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL, por sus siglas en ingles) del Departamento de Salud y Servicios Humanos de los EE. UU. bajo la subvención No. 90TBSG0024-01-00 y en parte por el Departamento de Salud de TN, Programa de Lesiones Cerebrales Traumáticas.

kidcentral tn

When Your Head Has Been Hurt: Signs and Symptoms

A head injury can happen to anyone at any age at any time.

Many people who hurt their heads get well and have no long-term problems.

Concussions are caused by a bump, blow or jolt to the head or body. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury.

If you notice any symptoms of concussion seek medical attention right away.

(Adapted from the Centers for Disease Control HEADS UP www.cdc.gov/Concussion)

Problems at the Time of Injury

Headaches

- headache that keeps coming back
- pain in head/ neck
- pain below the ear
- pain in the jaw
- pain in or around the eyes

Balance Problems

- dizziness
- trouble with balance

Sensory Changes

- changes in taste or smell
- appetite changes
- too hot/ cold
- ringing in the ears
- bothered by noises
- can't handle background noise
- vision changes
- bothered by light



If you have any of these problems, see a doctor right away.

DANGER SIGNS

- nausea or vomiting
- one pupil larger than the other
- headache that does not go away
- seizures, eyes fluttering, body going stiff, staring into space
- loss of consciousness, even brief
- disoriented/ confused
- hands shake, tremors, muscles get weak, loss of muscle tone

www.cdc.gov/Concussion

A concussion is a type of traumatic brain injury (TBI). All concussions should be taken seriously.

WHAT TO DO:

Seek help & referrals.

Treatment for concussion is available.

Your doctor may refer you to:

- Neurologist
- Neuropsychologist
- Specialized concussion center
- Brain injury rehabilitation center
- Specialist in your particular symptom

Sleep Problems

- can't sleep through the night
- sleep too much
- days and nights get mixed up

Pain Problems

- neck and shoulder pain that happens a lot
- other unexplained body pain



PROBLEMS TO WATCH FOR OVER TIME

Changes in Mood Personality or Behavior

- irritability, anxiety, restlessness
- upset or frustrated easily
- overreacts, cries or laughs too easily
- mood swings
- want to be alone or away from people
- sad, depressed
- tired, drowsy
- trips, falls, drops things, is awkward
- does not want to do anything, can't "get started"



Trouble Communicating

- trouble thinking of the right word
- trouble listening
- trouble paying attention, can't have long conversations
- does not say things clearly
- trouble reading
- talk too much/ too little

Thinking Problems

- trouble remembering things
- trouble paying attention
- more time needed to process information
- take things too literally, doesn't get jokes
- think about the same thing over and over
- trouble learning new things
- trouble putting things in order (desk, room, papers)
- trouble remembering to do things on time
- trouble planning, starting, doing, and finishing a task
- trouble making decisions
- make poor choices

Concussion In Older Adults

- Older adults are more likely to get a concussion from a bump, blow or jolt to the head.
- Even falling to your knees or bumping your head on a doorway can cause a concussion.
- Signs and symptoms may be delayed in someone who is older.
- Diagnosing a concussion can be harder in someone who already has changes in their thinking or behavior because of aging.



Other Things To Think About!

- ✓ Tell work of the injury
- ✓ Return to activities/ work gradually
- ✓ Be cleared by a doctor before returning to strenuous physical activity

TN Disability Coalition/ Brain Links
615-383-9442 888-643-7811
https://www.tndisability.org/brain
@BrainLinksTN

TN Traumatic Brain Injury Program
800-882-0611
https://www.tn.gov/content/tn/health/health-program-areas/fhw/vipp/tbi.html

Brain Links

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

ACL Administration for Community Living

TBI SPP Traumatic Brain Injury State Partnership Program

Cuando te hieres la cabeza: Señales y síntomas

Una concusión en la cabeza puede pasarle a todos, a cualquier edad y en cualquier momento. Muchas personas que se lastiman la cabeza se recuperan y no tienen problemas a largo plazo.

Las concusiones cerebrales son causadas por un golpe, impacto o sacudida de la cabeza o el cuerpo. Incluso un "golpe", "sonarte la cabeza" o lo que parece ser un golpe leve o un golpe en la cabeza puede ser grave.

No se puede ver una concusión cerebral. Los signos y síntomas de conmoción cerebral pueden aparecer inmediatamente después de la lesión o pueden aparecer o notarse hasta días o semanas después de la concusión.

Si nota algún síntoma de una concusión cerebral, busque atención médica de inmediato.

(Adaptado de los Centros para el Control de Enfermedades HEADS UP www.cdc.gov/Concussion)

Problemas en el momento de la lesión

Dolores de cabeza

- dolor de cabeza repetido
- dolor en la cabeza/cuello
- dolor debajo del oído
- dolor en la mandíbula

Problemas de equilibrio

- mareos
- problemas con el equilibrio

Cambios sensoriales

- cambios en el gusto o el olfato
- cambios en el apetito
- demasiado caliente/frío
- zumbido en los oídos
- molestia por los ruidos
- no puede resistir ruido de fondo
- cambios en la visión
- sensibilidad a la luz



Si tiene alguno de estos problemas, consulte a un médico de inmediato.

SEÑALES DE PELIGRO

- náuseas o vómitos
- una pupila más grande que la otra
- dolor de cabeza que no desaparece
- convulsiones, ojos con espasmos, cuerpo rígido, mirada perdida
- pérdida de la conciencia, incluso aunque sea breve
- desorientación/confusión
- manos temblorosas, temblores corporales, perdida de tono múscular

www.cdc.gov/Concussion

Una concusión cerebral es un tipo de Traumatismo Encéfalo Craneano (TEC). Todas las concusiones cerebrales deben tomarse en serio.

Problemas para dormir

- no puede dormir toda la noche
- duerme demasiado
- los dias y las noches se confunden

Pain Problems

- dolor de cuello y hombros casi todo el tiempo
- otro dolor corporal inexplicable



¿QUÉ HACER?

Busque ayuda y referencias.

Existen tratamientos para una concusión cerebral.

Su médico puede referirlo a un:

- Neurólogo
- Neuropsicólogo
- Centro especializado de concusiones cerebral
- Centro de rehabilitación de lesiones cerebrales

PROBLEMAS A CONTEMPLAR EN EL TIEMPO

Cambios de humor Personalidad o Comportamiento

- irritabilidad, ansiedad, inquietud
- molestarse o frustrarse fácilmente
- reacciones exageradas, llorar o reír
- con demasiada facilidad
- cambios de humor
- quiere estar solo o alejado de personas
- tristeza, depresión
- cansancio, somnolencia
- tropiezos, caídas, dejar caer cosas es incomodo
- no quiere hacer nada, no puede "empezar"



Problemas para comunicarse

- problemas para pensar en la palabra correcta
- problemas para escuchar
- problemas para prestar atención
- no puedo tener conversaciones largas
- no se expresa claramente
- problemas para leer
- habla demasiado o muy poco

Problemas al pensar

- problemas para recorder
- problemas para prestar atención
- necesita más tiempo para procesar información
- toma las cosas demasiado literalmente
- no entiende chistes
- piensa en lo mismo una y otra vez
- problemas para aprender cosas nuevas
- problemas para poner las cosas en orden (escritorio, cuarto, papeles)
- problemas para recordar hacer cosas a tiempo
- problemas para planificar, iniciar, hacer y terminar una tarea
- problemas para tomar decisiones

Concusiones cerebrales en adultos mayores

- Adultos mayores tienen más probabilidades de sufrir una concusión cerebral por un golpe, impacto o sacudida de la cabeza.
- Incluso caer de rodillas o golpearse la cabeza contra una puerta puede causar una concusión cerebral.
- Los signos y síntomas pueden demorarse en personas mayores.
- Diagnosticar una concusión cerebral puede ser más difícil para alguien que ya tiene cambios en su forma de pensar o en su comportamiento debido al envejecimiento.



¡Otras cosas para considerar!

- ✓ Avise de la lesión en el trabajo
- ✓ Regrese a las actividades o trabajo gradualmente
- ✓ Obtenga autorización de un médico antes de volver a actividades físicas extenuantes

Asociación de discapacitados de Tennesse/
Brain Links 615-383-9442 888-643-7811
https://www.tndisability.org/brain

@BrainLinksTN

Programa para Lesiones Cerebrales Traumáticas de Tennessee
https://www.tn.gov/content/tn/health/health-program-areas/fhw/vipp/tbi.html

Brain Links

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención No. 90TBSG0024-01-00 y, en parte, por el Departamento de Salud de TN, Programa de Lesiones Cerebrales Traumáticas.

ACL Administration for Community Living

TBI SPP Traumatic Brain Injury State Partnership Program

RECOGNIZING CONCUSSION

In People Who Communicate Without Words

A tool for those who care for people who communicate without words including family members, healthcare professionals, service providers and more.



Concussions are caused by a bump, blow or jolt to the head or body. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury.

(Adapted from the CDC https://www.cdc.gov/headsup/index.html)

Common Problems at the Time of Injury

Headaches

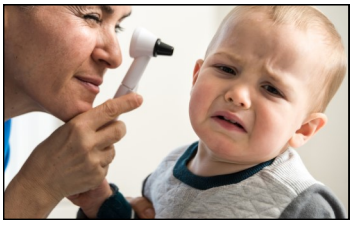
- headache that keeps coming back
- pain in head/ neck
- pain below the ear
- pain in the jaw
- pain in or around the eyes

Balance Problems

- dizziness
- trouble with balance

Sensory Changes

- changes in taste or smell
- appetite changes
- too hot/ cold
- ringing in the ears
- bothered by noises
- can't handle background noise
- vision changes
- bothered by light



If you have any of these problems, see a doctor right away!

DANGER SIGNS

- **nausea or vomiting**
- **one pupil larger than the other**
- **headache that does not go away**
- **seizures, eyes fluttering, body going stiff, staring into space**
- **loss of consciousness, even brief**
- **disoriented/ confused**
- **hands shake, tremors, muscles get weak, loss of muscle tone**

Adapted from the CDC: https://www.cdc.gov/headsup/basics/concussion_danger_signs.html

A Concussion is a Type of Traumatic Brain Injury (TBI).

All Concussions Should Be Taken Seriously.

A Head Injury Can Happen to Anyone at Any Age at Any Time.

Sleep Problems

- can't sleep through the night
- sleep too much
- days and nights get mixed up

Pain Problems

- neck and shoulder pain that happens a lot
- other unexplained body pain



WHAT TO DO:

Seek help & referrals.

Treatment for concussion is available.

Your doctor may refer you to:

- Neurologist
- Neuropsychologist
- Specialized concussion center
- Brain injury rehabilitation center
- Specialist in your particular symptom

Common Concussion Symptoms

Cognitive/ Communication

- feeling dazed or in a fog
- slower to understand

Emotional/ Behavioral

- irritability
- quick to anger
- decreased motivation
- cries easily



Physical

- headaches or neck pain
- changes in vision
- sleep changes
- fatigue
- balance/ dizziness
- bothered by light or sounds



Signs of Pain

- excessive crying
- anxious or agitated
- a lot of physical movement
- changes in breathing
- increased muscle tightness
- facial changes (tense or stressed)



Identifying a concussion can be more difficult in someone who communicates without words.

Look for:



- disrupted sleep
- stomachaches
- changes in eating habits
- decreased engagement, changes with things they once loved
- poorly controlled behaviors or behaviors that change quickly
- continence issues, bedwetting or uncontrolled bladder & bowels

What Symptoms Might Look Like

- covering, squinting or closing eyes
- changes in appetite, not eating favorite foods
- changes in sleep, night walking, not able to stay in bed for as long
* touching/ holding their head
* bothered by light or noises
* forgetting routines
* changes in any skill they already had
* more clingy/ emotional or withdrawn
* change in appetite or sleep
* more tantrums/ disruptive
* stomach issues



* This information is adapted from a study on very young children (3-5 years old) who often don't have the words to describe their symptoms: Suskauer, S. J., Rane, S., Reesman, J., & Slomine, B. S. (2018). Caregiver-report of symptoms following traumatic brain injury in a small clinical sample of preschool-aged children. Journal of Pediatric Rehabilitation Medicine,11(1), 7-14. doi:10.3233/prm-160424

Brain Links / TN Disability Coalition
615-383-9442 ~ tbi@tndisability.org
https://www.tndisability.org/brain

@BrainLinksTN
YouTube Training Channel

TN Traumatic Brain Injury Program
800-882-0611
https://www.tn.gov/content/tn/health/health-program-areas/fhw/vipp/tbi.html

Brain Links is supported by the Administration for Community Living (ACL) by the U.S. Department of Health and Human Services under Grant NO 90TBSG0024-01-11 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Oct-2019

RECONOCIENDO UNA CONMOCIÓN CEREBRAL

En las personas que se comunican sin palabras

Una herramienta para aquellos que atienden a personas que se comunican sin palabras, incluyendo familiares, profesionales de la atención médica y proveedores de servicios, etc.



Las concusiones cerebrales son causadas por un golpe, impacto o sacudida de la cabeza o el cuerpo. Incluso un "golpe", "quedar aturdido por una sacudida" o lo que parece ser un golpe leve o un golpe en la cabeza puede ser grave.

No se puede ver una conmoción cerebral. Los signos y síntomas pueden aparecer inmediatamente después de la lesión o pueden aparecer o notarse hasta días o semanas después de la conmoción.

(Adaptado de la CDC https://www.cdc.gov/headsup/index.html)

Problemas comunes al momento de la lesión

Dolores de cabeza

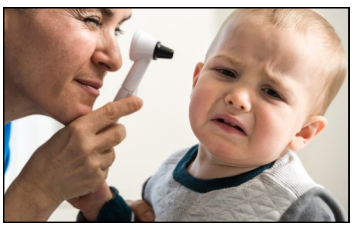
- dolores de cabeza que regresan constantemente
- dolor en la cabeza/cuello
- dolor detrás de la oreja
- dolor en la quijada
- dolor alrededor de los ojos

Problemas de equilibrio

- mareo
- problemas con el equilibrio

Cambios sensoriales

- cambios en gusto u olfato
- cambios de apetito
- demasiado caliente/frío
- zumbido en los oídos
- molestia con ruidos
- no puede manejar ruido de fondo
- cambios en la visión
- molestia con la luz



Si tiene alguno de estos problemas, ¡Consulte a un médico de inmediato!

SEÑALES DE PELIGRO

- **náuseas o vómitos**
- **una pupila más grande que la otra**
- **dolor de cabeza que no termina**
- **espasmos, ojos que se mueven con rapidez, rigidez en el cuerpo, se queda viendo al vacío**
- **pérdida de la conciencia, incluso si es breve**
- **desorientación/confusión**
- **temblor en las manos, sacudidas, músculos que se debilitan, pérdida de tono muscular**

Adaptado de la CDC: https://www.cdc.gov/headsup/basics/concussion_danger_signs.html

Una conmoción (o concusión) cerebral es un tipo de Traumatismo Encéfalo Craneano (TEC).

Todas las conmociones cerebrales deben tomarse en serio.

Una lesión en la cabeza puede sucedernos a cualquier persona, a cualquier edad y en cualquier momento.

Problemas para dormir

- no puede dormir durante la noche
- duerme demasiado
- los días y noches se confunden

Problemas con dolores

- hay dolor en cuello y hombros a menudo
- otros dolores en el cuerpo inexplicables



¿QUÉ HACER?:

Busque ayuda y referencias.

Existen tratamientos para una concusión cerebral.

Su médico puede referirlo a:

- Neurólogo
- Neuropsicólogo
- Centro especializado en conmoción cerebral
- Centro de rehabilitación de lesión cerebral
- Especialista en su síntoma particular

Los materiales de Brian Links son recursos educativos. Consulte con un doctor para todas las necesidades de atención médica.

Síntomas de conmoción cerebral comunes

Cognitivo / comunicación

- se siente aturdido o en una niebla
- lentitud para entender

Emocional / de comportamiento



- irritabilidad
- rápido para enojarse
- disminución en motivación
- llora con facilidad

Físico



- dolores de cabeza o de cuello
- cambios en la visión
- cambios al dormir
- fatiga
- falta de balance/ mareo
- molestia por luz o sonidos

Señales de Dolor

- llanto excesivo
- ansioso o agitado
- mucho movimiento físico
- cambios en respiración
- incremento en tirantez de músculos
- cambios faciales (tenso o estresado)



Identificar una conmoción cerebral puede ser más difícil en alguien que se comunica sin palabras.

Busque:



- sueño interrumpido
- dolor de estómago
- cambios en hábitos alimenticios
- disminuye su involucramiento, cambios con cosas que antes le encantaban
- comportamientos controlados deficientemente o comportamientos que cambian rápidamente
- problemas de continencia, moja la cama o presenta vejiga e intestinos incontrolados

Cómo pueden lucir los síntomas

- cubre o cierra los ojos o los hace bizcos
- cambios en apetito, no come sus alimentos favoritos
- cambios en sueño, sonambulismo, incapacidad de mantenerse en cama por mucho tiempo



* tocar/sostener su cabeza
* le molestan la luz o los ruidos
* olvida las rutinas
* cambios en cualquier habilidad que ya tenía
* más apegado / emocional o apartado
* cambios en apetito o sueño
* más rabietas / destructivo
* problemas estomacales

* Esta información está adaptada de un estudio sobre niños muy pequeños (3-5 años) que a menudo no tienen las palabras para describir sus síntomas: Suskauer, S. J., Rane, S., Reesman, J., & Slomine, B. S. (2018). Informe de cuidadores sobre síntomas después de una lesión cerebral traumática en una muestra clínica pequeña de niños de edad prescolar. Journal of Pediatric Rehabilitation Medicine,11(1), 7-14. doi:10.3233/prm-160424

Brain Links / Coalición de Discapacidad de TN
615-383-9442 ~ tbi@tndisability.org
https://www.tndisability.org/brain
@BrainLinksTN
YouTube Training Channel

Programa para Lesiones Cerebrales Traumáticas de Tennessee
800-882-0611
https://www.tn.gov/content/tn/health/health-program-areas/fhw/vipp/tbi.html

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) por el Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención N° 90TBSG0024-01-11 y, en parte, por el Departamento de Salud de TN, Programa de Lesiones Cerebrales Traumáticas.

Oct-2019

A GUIDE TO POSSIBLE CHANGES AFTER BRAIN INJURY

FOR YOUNG CHILDREN AGES 7 AND UNDER

This guide was designed to help parents and caregivers watch for changes that may follow a brain injury in young children.

Changes after brain injury may happen even years after a child's treatment ends, whether they completed rehabilitation, stayed at the hospital, etc. This guide addresses changes and gives tips for keeping your child's brain healthy throughout their life. **Keep this guide handy in case there are questions or concerns. You may never need this, but it will be helpful if your child does develop challenges.**

OUTCOMES AFTER BRAIN INJURY REHAB ARE DIFFERENT FOR EVERYONE

THEY WILL DEPEND ON MANY THINGS INCLUDING:

- Injury severity/Types of changes
- Support from family
- Mental health (depression, anxiety)
- Age at the time of injury
- Complications (infections, seizures, other injuries, etc.)
- Funding for rehab/Length of rehab/Willingness or ability to participate in rehab
- Assistance with transitioning from hospital to home and childcare/school
- As they get older: Motivation to improve, ability to adapt to changes and support from friends



There is no cut-off date for brain injury recovery. Improvement happens quickly for some children and more slowly for others. Some children may have negative changes over time as they develop. The choices you make for your child today can prevent some of those. Positive changes can continue throughout life.

THINGS TO WATCH FOR IN YOUNG CHILDREN - First weeks or months after injury

Expect the best, plan for the best...but be armed with knowledge.

Once your child comes home, their physical injuries may heal quickly, but they may continue to struggle in other areas like remembering and learning. Changes in these other areas can be hard to see if you don't know what to look for. Your young child can't tell you areas where they need help. Watch for changes in thinking, behavior and slower development.



Consider whether the following types of problems may be related to the injury. Be sure to tell your child's doctor if they have any of these symptoms:

Changes	Watch for these Changes Since Injury	Specialist
Emotions/Feelings	Irritable/fussy, crying or tantrums, sad/depressed, more nervous, change from happy to tantrum quickly, have trouble calming themselves, upset and you can't tell why, hard to adjust to new situations, feeling overwhelmed or alone	Counselor, Psychologist
Sleep	Sleeps more or less than usual, tired during day, trouble falling asleep, wakes often at night, wets the bed, nightmares	Pediatrician, Neurologist
Appetite/Food	Eats more or less since injury, stomachaches	Pediatrician
Cognitive/Thinking	Thinks slowly and reacts slowly, has trouble putting things in order, harder to concentrate, forgetting	Neuropsychologist, Speech Language Pathologist, Occupational Therapist
Development/Progress	Struggling to learn new skills, needs to relearn skills like: using a spoon, tying a shoe, potty training, counting, handwriting, typing	Occupational Therapist, Physical Therapist, Neuropsychologist
Play	Less interested in toys or books, can't stay on task playing, struggles with how to use/play with toys, doesn't pretend play like other children their age	Speech Language Pathologist, Occupational Therapist
Social/Friends/Behavior	More hitting, pushing, taking toys, less sharing, harder to make friends, withdrawn, clingy	Speech Language Pathologist, Counselor, Behavior Specialist
Flexibility/Changes	Upset by changed routine, schedule or people	Behavior Specialist, Neuropsychologist
Language/Talking	Difficultly naming objects, understanding directions, telling stories. Using shorter sentences than before injury.	Speech Language Pathologist
Physical	Headaches, dizziness, head or neck pain, tightness, weakness, balance, visual problems, reduced stamina, fatigue, sensitive to lights and sounds, seizures	Pediatrician, Physical Therapist, Neurologist, Chiropractor, Neuro-Ophthalmologist

THINGS TO WATCH FOR AS THEY GROW

Watch for any problems as your child grows and goes through **preschool, elementary, middle school and high school**. Of course, all children have difficulties at some point. Not all will be caused by the injury. In adults, it can be easy to see changes, but it can be harder to notice problems in a child because they are still changing and developing. Brain injury can affect new learning and skills during brain development. It is still important to remind the child's school and doctor about the injury every time a problem arises and to **be aware that the injury may be causing what you see**.



If your child has special services at school, include him/her in the process as their age allows. Ask them what they need, what could help and encourage them to speak for themselves in planning adjustments. You can learn more from Support and Training for Exceptional Parents: https://tnstep.org/.

Academic (School) Problems: Falling behind in class, difficulty learning new information, putting off schoolwork, forgetting homework, leaving items behind at school, trouble saying or writing what they mean.

Social Problems: Losing friends, difficulty making new friends, not knowing how to act or speak in different situations, not understanding facial cues or social skills (like knowing it is time to end a conversation or that they are making someone uncomfortable), acting younger than their friends, laughing or crying too easily.

Behavior Problems: Not acting like themselves, getting into fights, acting without thinking, making poor decisions, making inappropriate sexual comments, using abusive words or tone, letting friends talk them into doing the wrong things, letting others mistreat or abuse them, alcohol or drug problems, taking risks, trouble with the law.

Physical Problems: Pain, a physical change from the injury that gets worse, sleep changes, coordination changes like: trouble learning to tie shoes, handwriting, riding a bike or kicking a ball.

Mental Health Problems: Becoming depressed or anxious, difficulty coping with change or handling stress, worrying and not sleeping, pushing friends and family away, spending too much time alone, doing things to hurt themself, feeling stuck or unmotivated, developing addictive behaviors like: overeating, overexercising, fasting, drugs or alcohol.

Suicide is the second leading cause of death for ages 10-34.
CDC

Subtle Warning Signs of Suicide in Children: https://www.psycom.net/children-and-suicide
General Suicide Warning Signs, TN Dept of Health: https://bit.ly/3oaBoXnSuicideWarningSigns
Facts About Suicide, CDC: https://www.cdc.gov/suicide/facts/index.html
How to Recognize Signs of Mental Health Problems and Teen Suicides, Kidcentral: https://bit.ly/3KT0ZOcMentalHealthTeenSuicide

Relationships: Struggling to keep healthy relationships with family or friends; being very needy; being verbally, physically, emotionally, or sexually abusive in a relationship; being a victim of an abusive relationship.

WHAT TO DO IF YOU SEE CHANGES IN YOUR CHILD

What you do depends on what you see happening.

Teach A Skill: The child may just need to learn or relearn how to do the things that are difficult (tying a shoe, starting or stopping a conversation, learning how to do a type of math problem or learning how to use a computer or device). They may need **extra time** to learn, **repetition** of directions or **to be shown** how to do it.

Teach A Strategy: A strategy is a way to do something that is hard in a different way. For example: using a thick crayon to help coloring, using a brace to help with pain or weakness, sing a song to remember new information.

Use All Senses (multisensory): A child may need to learn using more than one sense (like including vision or touch) to help them do a task. Use a schedule made with pictures, a timer, or picture cues (for example, place pictures for all of the steps to brushing teeth above the bathroom sink).

Talk To The Daycare Provider: They should share what works with elementary school teachers and support people (counselor, school nurse). They may have faced the issue your child is having before and they may have suggestions to help.

Talk To The Teacher: The teacher can help figure out what to try in the classroom or next steps within the school. Options might be extra help, a tutor, a 504 Plan or an IEP (Individualized Education Program). **If your child does not qualify for services now, it does not mean that they won't in the future**. You can also get help privately if your child does not qualify for services in school. If your child uses or does something at home that helps, share that with the teacher.



Check adjustments often to see if they are still working or if they need to be changed.

Seek Symptom-Specific Treatment: Get treatment for your child's specific symptoms. Treatment can be helpful even years after an injury. Demands in your child's life can change. These changes can make it a good time to get a "tune-up" and find a new specialist that fits their symptoms. If you are not sure who to go to, you can ask your child's doctor. Talk about the injury and changes since it occurred. Ask to see a specialist (see chart on previous page). It is best to see someone who understands brain injury.

Stay Positive: As your child grows, always help them understand their strengths and weaknesses. When pointing out a weakness, include something positive or show them a way around it. For instance, "I like that you made your bed. I notice that sometimes you forget to put things away, but when you use the check-off list, you do a great job!"

COMMUNITY SUPPORT

Get Support: It is important to find support for your child, their siblings and yourself. Start with people who understand brain injury like the school or hospital social worker, school counselor, local counselors and psychologists, and your child's neuropsychologist. They can help you get resources for you and your family.

- Find options for support at Kidcentral TN: https://bit.ly/33TgDIUChildwithDisability
- Disability information and resources at Tennessee Disability Pathfinder: https:www.tnpathfinder.org/
- For brain injury support groups in Tennessee: https://bit.ly/3s2TlrQTNBrainInjSupportGroups

There are also in-person and virtual support groups for specific symptoms like seizures, decreased balance and migraines. It may help to think outside of the box, like looking for a support group for similar types of symptoms or experiences to connect with other children, siblings and parents.



Keeping supportive people in your family's life is very important.

- Schedule play dates.
- Stay connected to friends in person, by phone or computer apps.
- Meet and connect with other people through church, scouts, classes, lessons, volunteering.
- You can also find private Facebook or social media groups that focus on brain injury or specific symptoms.

KEEP YOUR CHILD'S BRAIN HEALTHY

Keeping our brains healthy is important for everyone, and it is extra important for people who have had a brain injury.

- Eat healthy foods
- Get enough sleep
- Be social
- Take care of mental health
- Get exercise
- Do not smoke, vape, drink alcohol or use drugs
- Keep learning
- Avoid another injury - see below.



Be a good role model with your food choices, exercise and relationships. **To take control of your brain health**, visit https://www.tndisability.org/brain-health.

PREVENTION

Preventing another injury is very important. Brain injury survivors have a higher risk for another injury. Talk to their doctor to plan a safe return to the classroom, playing, physical education, and sports. Make good decisions about social interactions and safety. Avoid rough sports and activities. With any activity, think first about how to avoid another injury. Children should always wear a helmet when needed and always wear a seatbelt.

FREE RESOURCES

Tennessee Resources

Tennessee Traumatic Brain Injury Program Service Coordination: https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html
help with referrals, insurance issues and more

TN Statewide Crisis Phone Line at 855-CRISIS-1 (855-274-7471)

Return to Learn/Return to Play: Concussion Management Guidelines https://bit.ly/3g6Kf7XTNReturntoLearnPlay

Brain Links: https://www.tndisability.org/brain

Family Voices of Tennessee: https://www.tndisability.org/family-voices-tennessee
families supporting families of children with special healthcare needs, chronic illnesses or disabilities

Kidcentral TN: https://www.kidcentraltn.com
find parenting tips, track child milestones and more

School and Work Resources

Tennessee Early Intervention Services (TEIS): https://bit.ly/3KSNeijTNTEIS
provides services to children birth to age three who have disabilities or other developmental delays

Support and Training for Exceptional Parents: https://tnstep.org/ helps parents with support and training for a child's educational needs

Center on Brain Injury Research and Training (CBIRT): https://cbirt.org/
helpful school resources for families and educators

National Resources

Brainline: https://www.brainline.org/ information on living with brain injury

Brain Injury Association of America: https://www.biausa.org/
national resource on brain injury

Psychology Today: https://www.psychologytoday.com/us/therapists/traumatic-brain-injury
find a local counselor/therapist

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0051-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.
Published 2/22

A GUIDE TO POSSIBLE CHANGES AFTER BRAIN INJURY

FOR SCHOOL-AGED CHILDREN AND ADULTS

This guide was designed to help people watch for changes that *may* follow a brain injury.

Changes after brain injury may happen even years after the person's treatment ends, whether they completed rehabilitation, hospitalization, etc. This guide gives ideas about how to address these changes. It will also give tips for keeping your brain healthy throughout your life.

Keep this guide handy in case there are questions or concerns.

OUTCOMES AFTER BRAIN INJURY REHAB ARE DIFFERENT FOR EVERYONE



THEY WILL DEPEND ON MANY THINGS INCLUDING:

- Injury severity/Types of changes
- Support from family and friends
- Motivation to improve and ability to adapt to changes
- Mental health (ie depression, anxiety)
- Age at the time of injury
- Complications (things like infections, seizures, other injuries, etc.)
- Supports for transitioning to home or work (employer, transportation, etc.)
- Funding for rehab/Length of rehab/Willingness or ability to participate in rehab

There is no cut-off date for brain injury recovery. Positive change can continue for years. Improvement happens quickly for some people and more slowly for others. Some people may have negative changes over time or as they age. Some negative changes can be prevented by the choices you make today.

THINGS TO WATCH FOR IN CHILDREN

Your child's immediate physical injuries may heal quickly, but they may continue to struggle in other areas.
The changes in these other areas can be hard to see if you don't know what you are looking for. Consider whether the following types of problems may be related to the injury.



Academic (School) Changes: Falling behind in class, difficulty learning new information, putting off school work, forgetting assignments, leaving items behind at school, trouble saying or writing what they mean

Social Changes: Losing friends, difficulty making new friends, not knowing how to act or speak in different situations, not understanding facial cues or social skills (like knowing it is time to end a conversation or that they are making someone uncomfortable), acting younger than their friends, laughing or crying too easily

Behavior Changes: Not acting like themselves, getting into fights, acting without thinking first, making poor decisions, making inappropriate sexual comments, using abusive words or tone, letting friends talk them into doing the wrong things, letting others mistreat or abuse them, alcohol use disorder, drug use disorder, trouble with the law

Physical Changes: Pain, a physical change from the injury that gets worse, reaching developmental milestones more slowly, sleep changes

Mental Health Changes: Becoming depressed or anxious, difficulty coping with change or handling stress, worrying at night and not sleeping, pushing friends and family away, spending too much time alone, doing things to hurt yourself, feeling stuck or unmotivated, developing addictive behaviors

See Suicide Warning Signs: https://www.tn.gov/health/health-program-areas/fhw/vipp/suicide-prevention/warning-signs.html

THINGS TO WATCH FOR IN ADULTS

See the list for children. Most are the same for adults, too.
Watch for those and other changes:

Work: Trouble at work, unable to complete tasks as before, being fired from jobs, moving from one job to another

Finances: Making poor money decisions, buying before thinking, borrowing money, making late payments

Relationships: Struggling to keep healthy relationships with family, friends and co-workers, being verbally, physically, emotionally or sexually abusive in a relationship, being taken advantage of in a relationship, being very needy

There is no cut-off date for brain injury recovery

What To Do If You See Changes In Yourself or Family Members



What you do depends on what you see happening.

Teach A Skill: The person may just need to learn or relearn how to do the things that are difficult (tying a shoe, using an escalator, starting or stopping a conversation, learning how to do a type of math problem or learning how to use a computer or device, learning a new task at work).

Teach A Strategy: A strategy is a way to do something that is difficult in a different way. For example: using a thick pen to help handwriting, using an outline to organize writing, using a checklist to remember steps or items, using a brace to help with pain or weakness, using a notebook, telephone app or post-it notes to help memory.

Talk To The Teacher: The teacher can help figure out what to try in the classroom or next steps within the school. Options might be extra help, a tutor, a 504 Plan or an IEP (Individualized Education Program). Even if your child had an IEP in the past and "graduated" from it, it may be a good choice again now. If the child doesn't qualify for the services in school, you can look to get help privately.

Talk To Your Human Resource Specialist, Your Work Supervisor or Co-Worker: Dealing with problems at work can be tricky. First you need to decide if and how to disclose (tell someone about) your injury. Meet with your Human Resource Specialist (HR) to get started. HR can help communicate with your supervisor. The supervisor may not know how to help or may not understand brain injury. HR can educate your supervisor on brain injury and your needs. You are entitled to "reasonable accommodations" for your disability under the Americans with Disabilities Act. These accommodations might include: installing a ramp, providing screen reader software, adjusting a work schedule, providing written instructions, noise cancelling earplugs. In some jobs, you can make changes without asking the employer. Maybe you can turn off your private office light, turn down the brightness on your computer, or close the door. Make any changes that you know you can make on your own. Work with your employer to make other changes. Set up your work environment so you can be successful. See askjan.org for more brain injury accommodations.

Seek Symptom-Specific Treatment: Take control of your own health. Keep a list of things that help you and things that worsen your symptoms. Sharing this list may also help a **symptom specialist**. Treatment can be helpful even years after an injury. Demands in your life can change. These changes can make it a good time to get a "tune-up" that fits your symptoms. If you are not sure who to go to for your issues, you can ask your doctor. It will probably be best to see someone who understands brain injury.

SPECIALISTS & THEIR SYMPTOM-SPECIFIC TREATMENT

Specialist	Symptoms
Physical Therapist	Pain and tightness, balance changes, weakness, reduced stamina
Occupational Therapist	Difficulty with a life task like cooking or budgeting, fine motor changes like trouble writing or texting, vision changes
Speech Language Pathologist	Difficulty communicating in a new environment, poor social skills, difficulty with thinking skills, changes in swallowing
Neurologist	Migraines, dizziness, pain management, sleep disorders, seizures
Neuro-ophthalmologist	Vision issues related to the injury
Counselor	Depression, anxiety, help adjusting to new circumstances, feeling overwhelmed or alone, behavioral problems
Neuropsychologist	Difficulty with cognitive (thinking) abilities, depression, anxiety, and behavioral issues (may provide counseling or work with a counselor and other specialists)
Chiropractor	Back and neck pain, headaches
Support Groups	Find support from other people who understand brain injury. For support groups in Tennessee, see: https://www.tn.gov/content/dam/tn/health/program-areas/tbi/Brain_Injury_Suppt_Groups.pdf There are also in-person and virtual support groups for specific symptoms like seizures, decreased balance and migraines.
Medical Doctor	Your doctor can help with sudden medical issues that come up and can help you figure out who to go to for your symptoms. When going to *any* doctor for *any* reason, tell them about the brain injury. The new problem could be related.
Vocational Therapist or State Vocational Rehab Counselor	Help with work issues, including the return to work and keeping a job. TN Vocational Rehab: https://www.tn.gov/humanservices/ds/vocational-rehabilitation.html Benefits to Work: https://www.tndisability.org/benefits-work







COMMUNITY SUPPORT

Keeping supportive people in your life is very important. We all need people around us. Some ways to do that are to:

- Become part of a spiritual or social group.
- Join a group that does a fun activity like bowling, quilting, hiking or reading.
- Stay connected to friends in person, by phone or computer apps.
- Connect with other people with brain injury in safe, private online groups to learn from others.

KEEP YOUR BRAIN HEALTHY

Keeping our brains healthy is important for everyone, and it is extra important for people who have had a brain injury. Proven things you can do to keep your brain healthy:

- Eat healthy foods like fruits, vegetables, whole grains, nuts, seeds, and beans. Use healthy fats like avocado and olive oil. Avoid or limit dairy, meat and processed (junk) foods.
- Get regular exercise that raises your heart rate like fast walking, running or dancing.
- Get enough sleep for your age. Children, including teens, need more sleep than adults.
- Use natural cleaning and health care products.
- Do not smoke, vape, drink alcohol or use drugs.
- Be social - stay connected to friends and family.
- Continue to learn new things that interest you.
- Take care of your mental health.
- Avoid another injury - see below.



For more information on Brain Health, see https://www.tndisability.org/resources-o

PREVENTION

It is very important to prevent another injury from happening. People who have had a brain injury are more likely to have another. Make good decisions about social interactions and safety. Avoid rough sports and activities. With any activity, think first about how to avoid another injury. **Always** wear a helmet when needed and **always** wear a seatbelt.

EXPECT THE BEST, PLAN FOR THE BEST...BUT BE ARMED WITH KNOWLEDGE

FREE RESOURCES

Tennessee Resources

Tennessee Traumatic Brain Injury Program Service Coordination:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html
help with referrals, insurance issues and more

TN Statewide Crisis Phone Line at 855-CRISIS-1 (855-274-7471)

Return to Learn/Return to Play: Concussion Management Guideline
https://www.tn.gov/content/dam/tn/health/program-areas/tbi/2020%20Tennessee%20Department%20of%20Health%20Return%20to%20Learn.Return%20to%20Play%20Guidelines.pdf

Empower Tennessee: https://empowertennessee.org/

Brain Links: https://www.tndisability.org/brain

Family Voices of Tennessee:
https://www.tndisability.org/family-voices-tennessee
families supporting families of children with special healthcare needs, chronic illnesses or disabilities

kidcentral tn - https://www.kidcentraltn.com

School and Work Resources

Support and Training for Exceptional Parents: https://tnstep.org/
help parents with support and training for a child's educational needs

Benefits to Work: https://www.tndisability.org/benefits-work

Center on Brain Injury Research and Training (CBIRT):
https://cbirt.org/

Job Accommodations Network: https://askjan.org/

National Resources

BrainLine Website: https://www.brainline.org/
information on living with brain injury

Brain Injury Associations of America: https://www.biausa.org/
national resource on brain injury

Psychology Today:
https://www.psychologytoday.com/us/therapists/traumatic-brain-injury
to get help or find a local counselor/therapist

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.
Published 2/21

UNA GUÍA PARA POSIBLES CAMBIOS DESPUÉS DE UNA LESIÓN CEREBRAL

PARA NIÑOS EN EDAD ESCOLAR Y ADULTOS

Esta guía fue diseñada para ayudar a personas a estar atentas a los cambios que *pueden* ocurrir después de una lesión cerebral.

Los cambios después de una lesión cerebral pueden suceder incluso años después de que termine el tratamiento de una persona, aún si ha completado su rehabilitación, hospitalización, etc. Esta guía da ideas acerca de cómo abordar estos cambios. También dará algunas sugerencias para mantener su cerebro saludable durante toda su vida.

Mantenga esta guía a la mano, en caso de que tenga más preguntas o inquietudes.

LOS RESULTADOS DESPUÉS DE UNA REHABILITACIÓN POR LESIÓN CEREBRAL SON DIFERENTES PARA CADA PERSONA



DEPENDERÁN DE MUCHOS FACTORES, INCLUYENDO:

- Severidad de la lesión/tipos de cambios
- Apoyo de familiares y amigos
- Motivación para mejorar y la habilidad de adaptarse a los cambios
- Salud mental (es decir, Depresión, ansiedad)
- Edad al momento de la lesión
- Complicaciones (como por ejemplo: infecciones, espasmos, otras lesiones, etc.)
- Apoyo para hacer la transición a la casa o al trabajo (patrón, transporte, etc.)
- Fondos para rehabilitación / duración de la rehabilitación / disposición o capacidad para participar en la rehabilitación

No hay fecha límite para la recuperación de una lesión cerebral. El cambio positivo puede continuar por años. La mejora sucede rápidamente para algunas personas y más lentamente para otras. Algunos pacientes pueden tener cambios negativos a lo largo del tiempo o conforme envejecen. Algunos cambios negativos pueden evitarse con las decisiones que tome hoy.

COSAS A OBSERVAR EN LOS NIÑOS

Las lesiones físicas inmediatas de los niños pueden sanar rápidamente, pero podrían continuar batallando en otras áreas. Los cambios en estas otras áreas pueden ser difíciles de ver si no sabe lo que está buscando. Considere si los siguientes tipos de problemas pudieran estar relacionados con la lesión.



Cambios académicos (escuela): Retrasarse en las clases, dificultad para aprender información nueva, posponer las tareas escolares olvidar las tareas, dejar cosas olvidadas en la escuela, problemas diciendo o escribiendo lo que quieren comunicar.

Cambios sociales: Perder amigos, dificultad para hacer nuevos amigos, no saber cómo actuar o hablar en diferentes situaciones, no entender las expresiones faciales o habilidades sociales (como saber que es momento para terminar una conversación o que ellos están haciendo que alguien se sienta incómodo), actuar como si tuvieran menor edad que sus amigos, reír o llorar fácilmente

Cambios en el comportamiento: No actuar como ellos mismos, involucrarse en peleas, actuar sin pensar primero, tomar malas decisiones, hacer comentarios sexuales inapropiados, usar palabras o tono abusivo, permitir que sus amigos les induzcan a hacer cosas incorrectas, permitir que otros los maltraten o abusen de ellos, trastorno por uso de alcohol o drogas, problemas con la ley

Cambios físicos: Dolor, algún cambio físico causado por la lesión que ha empeorado. alcanzar logros de desarrollo más lentamente, cambios en el sueño

Desórdenes de salud mental: Deprimirse o estar ansiosos, dificultad para sobrellevar los cambios o manejar el estrés o manejo de estrés, preocuparse en la noche y no dormir, alejar a amigos y familiares, pasar mucho tiempo a solas, hacer cosas para herirse a sí mismos, sentirse atorados o sin motivación, desarrollar comportamientos adictivos

Consulte las señales de advertencia de suicidio: https://www.tn.gov/health/health-program-areas/fhw/vipp/suicide-prevention/warning-signs.html

COSAS A OBSERVAR EN ADULTOS

Vea la lista para niños. La mayoría son las mismas para los adultos también.
Observe si hay estos u otros cambios:

Trabajo: Problemas en el trabajo, incapacidad para completar las tareas como lo hacía antes, ser despedido de los trabajos, cambiar de un trabajo a otro

Finanzas: Tomar decisiones malas con el dinero, comprar antes de pensar, pedir dinero prestado, hacer pagos atrasados

Relaciones: Batalla para mantener relaciones sanas con familiares, amigos y compañeros del trabajo, ser abusivo verbal, física, emocional o sexualmente en una relación; que se aprovechen de usted en una relación; ser muy necesitado

No hay fecha límite para recuperarse de una lesión cerebral

Qué hacer si ve cambios en su persona o en sus familiares



Que hacer depende en lo que vea que está sucediendo.

Enseñar una habilidad: La persona podría sólo necesitar aprender o reaprender cómo hacer las cosas que son difíciles (atar un zapato, usar una escalera eléctrica, comenzar o detener una conversación, aprender cómo resolver algún tipo de problema matemático, o aprender cómo usar una computadora o algún dispositivo, aprender una nueva tarea en el trabajo).

Enseñar una estrategia: Una estrategia es una manera para hacer algo que es difícil en una forma diferente. Por ejemplo: usar un bolígrafo grueso para ayudar a escribir a mano, usar un boceto para organizar la escritura, usar una lista de comprobación para recordar los pasos o artículos, usar un soporte para ayudar con el dolor o la debilidad, usar una libreta, una app de teléfono o Post-its para ayudar con la memoria.

Hablar con el maestro: El(la) maestro(a) puede ayudar a encontrar qué intentar en el salón de clase o los siguientes pasos dentro de la escuela. Las opciones pueden ser: ayuda adicional, un tutor, un plan 504 o un IEP (Programa de educación individualizada). Incluso si su hijo tuvo un IEP anteriormente y se "graduó" del mismo, puede ser una buena opción nuevamente ahora. Si el/la niño/a no califica para los servicios en la escuela, puede buscar obtener ayuda de forma privada.

Hable con su especialista de Recursos Humanos, su supervisor o compañero de trabajo: Tratar con problemas en el trabajo puede ser complicado. Primero necesita decidir si va a divulgar su lesión (decirle a alguien acerca al respecto) y cómo lo hará. Reúnase con su especialista de Recursos Humanos (RH) para comenzar. RRHH puede ayudar a comunicarse con su supervisor. Es posible que el Supervisor no sepa como ayudar o no etienda lo que es una lesión cerebral. RRHH puede capacitar a su supervisor sobre lesiones cerebrales y sus necesidades. Usted tiene derecho a un "acomodo razonable" por su discapacidad bajo la Ley de Estadounidenses con Discapacidades. Estos acomodos pueden incluir: instalar una rampa, proveer software para leer la pantalla, ajustar un programa de trabajo, proporcionar instrucciones por escrito tapones para los oídos con cancelación de ruido. En algunos trabajos, usted puede hacer cambios sin preguntarle al patrón. Quizá puede apagar la luz de su oficina privada, reducir el brillo en su computadora, o cerrar la puerta. Haga cualquier cambio que usted sepa que puede hacer por sí mismo. Trabaje con su patrón para hacer otros cambios. Configure su ambiente de trabajo de modo que pueda ser exitoso. Consulte askjan.org para conocer más acomodos para lesiones cerebrales.

Busque tratamiento específico para sus síntomas Tome el control de su propia salud. Mantenga una lista de cosas que le ayuden y cosas que empeoren sus síntomas. Compartir esta lista podría también ayudarle a un **especialista de síntomas**. El tratamiento puede ser útil incluso años después de la lesión. Las demandas en su vida pueden cambiar. Estos cambios pueden hacer que sea un buen momento para "afinar" que se adecúe a sus síntomas. Si no está seguro de a quién acudir para sus problemas, puede preguntarle a su doctor. Probablemente será mejor consulte a alguien que entienda sobre lesiones cerebrales.

ESPECIALISTAS Y SU TRATAMIENTO ESPECÍFICO PARA LOS SÍNTOMAS

Especialista	Síntomas
Terapeuta físico	Dolor y tensión muscular, cambios en balance, debilidad, reducción de vitalidad
Terapeuta ocupacional	Dificultad con tareas cotidianas como cocinar o hacer presupuestos, cambios de motricidad fina como problemas para escribir o enviar mensajes de texto, cambios en la visión
Logopeda (especialista en patologías del habla)	Dificultad al comunicarse en un ambiente nuevo, habilidades sociales deficientes, dificultad con habilidades de pensamiento, cambios al deglutir
Neurólogo	Migrañas, mareo, manejo del dolor, trastornos del sueño, del sueño, espasmos
Neuro-oftalmólogo	Problemas de la visión relacionados con la lesión
Consejero	Depresión, ansiedad, ayuda para ajustarse a las nuevas circunstancias, sentirse abrumado o solo, problemas de comportamiento
Neuropsicólogo	Dificultad con capacidades cognitivas (de pensamiento), depresión, ansiedad y problemas de comportamiento (puede proveer consejería o trabajar con un consejero y otros especialistas)
Quiropráctico	Dolor de espalda y cuello, dolores de cabeza
Grupos de soporte	Busque el apoyo de otras personas que entienden acerca de lesiones cerebrales. Para grupos de apoyo en Tennessee, visite: https://www.tn.gov/content/dam/tn/health/program-areas/tbi/Traumatic-Brain-Injury-Support-Groups.pdf También hay grupos de soporte en persona y virtuales para síntomas específicos como espasmos, disminución en equilibrio y migrañas.
Médico	Su doctor puede ayudarle con asuntos médicos repentinos que surjan y puede ayudarle a encontrar a quién acudir para sus síntomas. Cuando vaya a *cualquier* doctor por *cualquier* razón, infórmele sobre su lesión cerebral. El problema nuevo podría estar relacionado.
Terapeuta Ocupacional o Consejero Estatal de Rehabilitación Ocupacional	Ayuda con problemas de trabajo, incluyendo el regreso al trabajo y mantener un trabajo. Rehabilitación Ocupacional de Tennessee https://www.tn.gov/humanservices/ds/vocational-rehabilitation.html Beneficios para el Trabajo: https://www.tndisability.org/benefits-work







APOYO COMUNITARIO

Mantener personas que le apoyen en su vida es muy importante. Todos necesitamos personas a nuestro alrededor.

Algunas maneras de hacerlo son:

- Intégrese a un grupo espiritual o social.
- Únase a un grupo que haga actividades divertidas como jugar boliche, hacer colchas, practique senderismo o grupos de lectura.
- Manténgase conectado con amigos en persona, por teléfono o apps para computadora.
- Conéctese con otras personas con lesión cerebral en grupos seguros y privados en línea para aprender de otros.

MANTENGA SU CEREBRO SALUDABLE

Mantener nuestros cerebros saludables es importante para todos, y es sumamente importante para personas que tienen lesión cerebral. Algunas cosas comprobadas que puede hacer para mantener su cerebro saludable:

- Comer alimentos sanos como frutas, vegetales, granos enteros, nueces, semillas y frijoles. Use grasas saludables como el aceite de aguacate y de oliva. Evite o limite los lácteos, la carne y la comida procesada (chatarra).
- Haga ejercicio regularmente que eleve su pulso cardiaco como caminar rápidamente, correr o bailar.
- Duerma lo suficiente para su edad. Los niños, incluyendo los adolescentes, necesitan dormir más que los adultos.
- Utilice productos de limpieza y de cuidado de la salud que sean naturales.
- No fume ni use cigarros electrónicos, no beba alcohol ni use drogas.
- Socialice - manténgase conectado con amigos y familiares.
- Continúe aprendiendo nuevas cosas que le interesen.
- Cuide su salud mental.
- Evite otra lesión - vea abajo.



Para mayor información sobre salud cerebral, visite https://www.tndisability.org/resources-o

PREVENCIÓN

Es muy importante prevenir que suceda otra lesión. Las personas que han sufrido una lesión cerebral tienen mayor probabilidad de sufrir otra. Tome buenas decisiones acerca de interacciones sociales y seguridad. Evite deportes y actividades bruscas. Con cualquier actividad, piense primero cómo evitar otra lesión. **Siempre** use un casco cuando se necesite y **siempre** use el cinturón de seguridad.

ESPERE LO MEJOR, PLANEE PARA LO MEJOR... PERO ESTÉ PREPARADO CON EL CONOCIMIENTO

RECURSOS GRATIS

Recursos de Tennessee

Coordinación de Servicios del Programa de Lesión Cerebral Traumática de Tennessee:
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html
ayuda con referencias, problemas con seguros y más

Línea telefónica estatal de crisis en Tennessee: 855-CRISIS-1 (855-274-7471)

Regresar a aprender/Regresar a jugar: Pautas para el manejo de una contusión cerebral
https://www.tn.gov/content/dam/tn/health/program-areas/tbi/2020%20Tennessee%20Department%20of%20Health%20Return%20to%20Learn.Return%20to%20Play%20Guidelines.pdf

Empower Tennessee: https://empowertennessee.org/

Brain Links: https://www.tndisability.org/brain

Family Voices de Tennessee:
https://www.tndisability.org/family-voices-tennessee
familias apoyando a familias de niños con necesidades de atención médica especiales, enfermedades crónicas o discapacidades

kidcentral Tennessee - https://www.kidcentraltn.com

Recursos para la escuela y el trabajo

Apoyo y capacitación para padres excepcionales: https://tnstep.org/
ayuda a padres con apoyo y capacitación para las necesidades educativas de los niños

Beneficios para el trabajo: https://www.tndisability.org/benefits-work

Centro de Investigación y Capacitación en Lesiones Cerebrales (CBIRT):
https://cbirt.org/

Red de Acomodación en ell Trabajo https://askjan.org/

Recursos nacionales

Sitio web de BrainLine: https://www.brainline.org/
Información sobre cómo vivir con una lesión cerebral

Asociación contra las Lesiones Cerebrales de los Estados Unidos:
https://www.biausa.org/
recurso nacional para la lesión cerebral

Psychology Today:
https://www.psychologytoday.com/us/therapists/traumatic-brain-injury
para obtener ayuda o para encontrar un consejero/terapeuta

Brain Links
https://www.tndisability.org/brain
@BrainLinksTN

Brain Links cuenta con el respaldo de la Administración para la Vida Comunitaria (ACL) del Departamento de Salud y Servicios Humanos de los EE. UU. Bajo la subvención N° 90TBSG0024-01-00 y en parte por el Departamento de Salud de Tennessee, Programa de Lesiones Cerebrales Traumáticas.
Publicado en febrero de 2021

Driving after Traumatic Brain Injury

Traumatic Brain Injury Model System Consumer Information

For more information, contact your nearest TBI Model Systems. For a list of TBI Model Systems, go to: http://www.msktc.org/tbi/model-system-centers

This publication was produced by the TBI Model Systems in collaboration with the University of Washington Model Systems Knowledge Translation Center with funding from the National Institute on Disability and Rehabilitation Research in the U.S. Department of Education, grant no. H133A060070.

Driving is an important part of a person's independent lifestyle and integration into the community. Because we take our driving skills for granted, it is easy to forget that driving is the most dangerous thing we do in our everyday lives. A brain injury can affect the skills needed to drive safely. If and when an injured person may safely return to driving should be addressed early in recovery. The injured person, family members, and health professionals should all be included in this important decision. If anyone has concerns that that driving may put the injured person or others in danger, health professionals may recommend pre-driving testing.

How can a TBI affect driving ability?

A brain injury can disrupt and slow down skills that are essential for good driving, such as:

- Ability to maintain a constant position in a lane.
- Having accurate vision.
- Maintaining concentration over long periods of time.
- Memory functioning, such as recalling directions.
- Figuring out solutions to problems.
- Hand-eye coordination.
- Reaction time.
- Safety awareness and judgment.

Studies indicate that even mild thinking difficulties, which may not be recognized by the injured person, may add to increased risks while driving.

Warning signs of unsafe driving

- Driving too fast/slow.
- Not observing signs or signals.
- Judging distance inaccurately when stopping or turning.
- Slow to make decisions.
- Becoming easily frustrated or confused.
- Having accidents or near misses.
- Drifting across lane markings into other lanes.
- Getting lost easily, even in familiar areas.

Copyright © 2010 Model Systems Knowledge Translation Center (MSKTC). May be reproduced and distributed freely with appropriate attribution.

How often do individuals with TBI return to driving?

Between 40 and 60 percent of people with moderate to severe brain injuries return to driving after their injury. To lessen the risk of crashes, people with TBI may place limitations on their driving habits. They may drive less frequently than they did before the injury or drive only at certain times (such as during daylight), on familiar routes, or when there is less traffic. Having experienced a seizure after the TBI may be a barrier to driving. States often require that a person be free of seizures for a period of time, such as 6 months, before resuming driving. People who want to return to driving need to check with the laws in their state.

Driving evaluations and training

A driving evaluation is a crucial step in determining a person's ability to drive following recovery from a TBI. Research studies indicate that most TBI survivors are not thoroughly evaluated for driving skills before they begin driving after the injury, and this may put TBI survivors at risk for a crash.

While there is no standardized assessment test or process, a typical driving evaluation has two parts:

- Preliminary Evaluation: A review of cognitive (thinking) abilities, including reaction time, judgment, reasoning and visual spatial skills. Recommendations regarding the need for adaptive equipment and additional skills training are based on the results of the evaluation.
- On-the-Road: A test of the mechanical operation of a vehicle, either using a driving simulator or driving a vehicle on the roadway in the presence of the evaluator. This evaluation is used to assess safe driving skills in various traffic environments, as well as basic driving skills while a client uses the appropriate adaptive driving equipment.

Current research indicates that many individuals with TBI can become competent, safe drivers when given the proper training. Training serves to improve specific driving skills. Sometimes this involves practicing driving under the supervision of a driving evaluator. In some cases a training program might focus on specific skills such as rapid understanding of visual information.

Evaluations and training are often provided by professionals certified through the Association for Driver Rehabilitation (ADED). A list of certified professionals may be found on the ADED website, www.driver-ed.org.

Vehicle modifications

If an individual with TBI has physical disabilities but has well-preserved cognitive functions, the individual may be able to resume driving with adaptive equipment and/or other modifications to the vehicle.

Recommendations for adaptive equipment and modifications could include:

- Hand-controlled gas and brake systems.
- Spinner knobs for steering.
- Left foot accelerator.
- Lifts for entering and exiting the vehicle.

Legal and insurance considerations

A person who wishes to resume driving must have a valid driver's license. In some states there must be a formal evaluation performed by a licensing bureau before resuming driving after a brain injury. Insurance may also be required. The person should check local regulations relating to licenses and insurance.

Other transportation options

Accessible and reliable transportation is the most critical part of community integration following a TBI. If a person is not able to drive, there may be other options for transportation. Family members can provide transportation, and public transportation such as buses can be used. Some communities provide public transportation specifically for disabled riders.

Step-by-Step: Should you be driving?

1. Discuss your ability to drive with your doctor and/or health professionals, family members

2. Get a professional evaluation to determine your driving ability

3. Based on your evaluation you may be allowed to drive, need training or vehicle modification before returning to driving, or will need to use other transportation options

Recommended resources

- Brain Injury Association of America. *www.biausa.org*
- State Vocational Rehabilitation Offices. *www.jan.wvu.edu*
- Association for Driver Rehabilitation Specialists. *www.driver-ed.org*
- National Mobility Equipment Dealers Association. *www.nmeda.org*

Reference

Eby, D.W., Molnar, L. J. (2010) Driving Fitness and Cognitive Impairment. *JAMA*. 303(16):1642-1643.

Disclaimer

This information is not meant to replace the advice from a medical professional. You should consult your health care provider regarding specific medical concerns or treatment.

Source

Our health information content is based on research evidence whenever available and represents the consensus of expert opinion of the TBI Model Systems directors.

Authorship

Driving after TBI was developed by Thomas Novack, PhD and Eduardo Lopez, MD in collaboration with the University of Washington Model Systems Knowledge Translation Center. Portions of this document were adapted from materials developed by the University of Alabama TBI MS and JFK Johnson Rehabilitation Institute TBI MS and from Driving After Brain Injury reprinted with written permission from the Brain Injury Association of America, Inc. ©2007.

El conducir después de una lesión cerebral traumática

Información del Consumidor sobre el Sistema Modelo de Lesión Cerebral Traumática

Para más información, contacte al TBI Model Systems más cercano. Para una lista de TBI Model Systems vaya a: http://www.msktc.org/tbi/model-system-centers

Esta publicación fue producida por TBI Model Systems en colaboración con el Model Systems Knowledge Translation Center con fondos del Instituto Nacional de Investigación sobre la Discapacidad y Rehabilitación en el Departamento de Educación de los EE.UU., subvención núm. H133A060070.

Conducir es una parte importante del estilo de vida independiente y la integración de una persona en la comunidad. Debido a que damos por sentado nuestras destrezas para conducir, es fácil olvidar que conducir es una de las cosas más peligrosas que hacemos en nuestro diario vivir. Una lesión cerebral puede afectar las destrezas que necesitamos para conducir de manera segura. Cuándo y si una persona puede volver a conducir es algo que se debe considerar temprano en el proceso de recuperación. La persona lesionada, los familiares y los profesionales de la salud deben ser incluidos en esta importante decisión. Si alguien tiene alguna preocupación de que el conducir pudiera poner en peligro a la persona lesionada o a otras personas, los profesionales de la salud pudieran recomendar una prueba previa antes de conducir.

¿Cómo una lesión cerebral traumática afecta la capacidad de conducir?

Una lesión cerebral puede interrumpir y retardar destrezas que son esenciales para conducir bien, como:

- Habilidad para mantener una posición constante en un carril.
- Tener visión certera.
- Mantener concentración por periodos largos de tiempo.
- Funcionamiento de la memoria, como recordar indicaciones.
- Descifrar soluciones para problemas.
- Coordinación visomotora.
- Tiempo de reacción.
- Tener conciencia sobre seguridad y buen juicio.

Estudios indican que dificultades leves de pensamiento, que tal vez no son reconocidas por la persona lesionada, pudieran contribuir a mayores riesgos cuando se conduce.

Señales de aviso que indican que se conduce peligrosamente

- Conducir muy rápido/lento.
- No seguir los avisos o señales.
- Calcular distancias incorrectamente cuando se detiene o se da un viraje.
- Lentitud para tomar decisiones.

Derechos de autor ©2010 Model Systems Knowledge Translation Center (MSKTC).

- Frustrase o confundirse con facilidad.
- Tener accidentes o estar a punto de tener accidentes.
- Salirse de las marcas del carril e invadir otros carriles.
- Perderse con facilidad, aun en áreas familiares.

¿Con qué frecuencia vuelven a conducir las personas con una lesión cerebral traumática?

Entre un 40 y un 60 por ciento de las personas con lesiones cerebrales moderadas o severas vuelven a manejar después de una lesión. Para reducir el riesgo de accidentes, las personas con una lesión cerebral traumática (TBI, por sus siglas en inglés) tal vez establezcan límites a sus hábitos de conducir. Tal vez conduzcan con menos frecuencia que antes de tener la lesión o manejan solamente a ciertas horas (como durante el día), en rutas familiares o cuando hay menos tráfico. Haber tenido una convulsión después de TBI pudiera ser un obstáculo para conducir. Con frecuencia, estados requieren que una persona no haya tenido convulsiones por un periodo de tiempo, como por 6 meses, antes de volver a conducir. Personas que quieren volver a conducir deben consultar las leyes en su estado.

Evaluaciones y adiestramiento para conducir

Una evaluación para conducir es un paso crucial para determinar la habilidad que la persona tiene para conducir después de recuperarse de una TBI. Estudios de investigación indican que la mayoría de los sobrevivientes de TBI no son evaluados a fondo para determinar las destrezas de conducir después de la lesión, y que esto puede poner a los sobrevivientes de una TBI a riesgo de tener un accidente.

Aunque no hay una prueba o proceso estandarizado de evaluación, una evaluación típica para conducir tiene dos partes:

- Evaluación preliminar: Un repaso de habilidades cognitivas (pensamiento), inclusive tiempo de reacción, juicio, razonamiento y destrezas visual-espacial. Las recomendaciones sobre la necesidad de usar equipo adaptivo y destrezas adicionales se basan en los resultados de la evaluación.
- En la carretera: Una prueba de la operación mecánica de un vehículo, usando un simulador para conducir o conduciendo un vehículo en la carretera en presencia de un evaluador. Esta evaluación se usa para evaluar destrezas seguras para conducir en varios ambientes de tráfico, así como destrezas básicas para conducir mientras el cliente usa el equipo adaptativo para conducir que es adecuado.

Investigaciones recientes indican que muchas personas con una TBI pueden convertirse en conductores competentes y seguros cuando reciben adiestramiento adecuado. El adiestramiento sirve para mejorar destrezas específicas para conducir. A veces esto conlleva practicar cómo conducir bajo la supervisión de un evaluador para conducir. En algunos casos, un programa de adiestramiento podría enfocarse en destrezas específicas tales como comprensión rápida de información visual.

Frecuentemente, profesionales certificados a través de la Association for Driver Rehabilitation (ADED) ofrecen evaluaciones y adiestramientos. Se puede hallar una lista de profesionales certificados en el sitio web de la ADED, www.driver-ed.org.

Modificaciones del vehículo

Si una persona con una TBI tiene discapacidades físicas, pero tiene bien preservadas las funciones cognitivas, la persona pudiera volver a conducir con equipo adaptivo y/u otras modificaciones en el vehículo.

Las recomendaciones para equipo adaptivo y modificaciones pudieran incluir:

- Acelerador y sistema de frenos controlado con las manos.
- Botones de control del acelerador.
- Acelerador para el pie izquierdo.
- Rampas para entrar y salir del vehículo.

Consideraciones legales y de seguro

Una persona que desea volver a conducir debe tener una licencia de conducir válida. En algunos estados debe hacerse una evaluación formal de una agencia que otorga licencias antes de volver a conducir después de una lesión cerebral. Tal vez se requiera seguro. La persona debe consultar las regulaciones locales concernientes a licencias y seguro.

Otras opciones de transportación

Transportación accesible y fiable es la parte más crítica para la integración a la comunidad después de una TBI. Si una persona no puede conducir, pudiera haber otras opciones de transporte. Familiares pueden proveer transportación, y se puede usar transportación pública como autobuses. Algunas comunidades proporcionan trasportación pública específicamente para usuarios discapacitados.

Paso a paso: ¿Debiera usted conducir?

1. Hable con su médico y/o profesionales de la salud, familiares sobre su capacidad para conducir

2. Reciba una evaluación profesional para determinar su capacidad para conducir

3. Basado en su evaluación, tal vez le permitan conducir, requiera adiestramiento o requiera modificar el vehículo antes de volver a conducir, o tal vez requiera usar otras opciones de transporte

Recursos recomendados (en inglés)

- Brain Injury Association of America.
- www.biausa.org
- State Vocational Rehabilitation Offices.
- www.jan.wvu.edu
- Association for Driver Rehabilitation Specialists. www.driver-ed.org
- National Mobility Equipment Dealers Association. www.nmeda.org

Fuente

El contenido de nuestra información de salud está basado en evidencia investigativa y/o consenso profesional, y ha sido revisado y aprobado por un equipo editorial de expertos de TBI Model Systems.

Autoría

El conducir después de una lesión cerebral traumática fue desarrollado por Thomas Novack, PhD y Eduardo Lopez, MD en colaboración con el with the Model System Knowledge Translation Center. Porciones de este documento fueron adaptadas de materiales desarrollados por University of Alabama TBI MS y JFK Johnson Rehabilitation Institute TBI MS y de Driving After Brain Injury (reimpreso con permiso por escrito de parte de Brain Injury Association of America, Inc. ©2007).

National Alliance of Mental Illness (NAMI)TN https://www.namitn.org/

TN Voices for Children https://tnvoices.org/

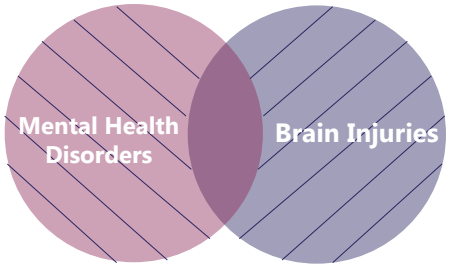
Brain Links http://tndisability.org/brain

QUICK GUIDE

Mental Health & Brain Injury

The relationship between brain injury and mental health is strong, but still under-researched. What we do know is while sometimes brain injury is an entirely separate issue to mental health, brain injury can lead to new mental health issues developing, and mental health issues can make brain injury symptoms worse. The effects of brain injury and mental illness can look very similar, which is why understanding the relationship between the two is important for individuals to advocate for themselves and for medical professionals to make accurate diagnoses.

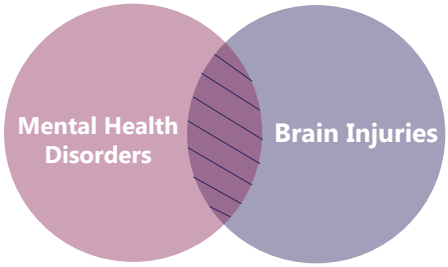
What are the differences between mental health disorders and brain injuries?



While many symptoms of a brain injury overlap with those of a mental health disorder, not all mental health issues that develop after a brain injury are severe enough to be considered "disordered." However, this does not mean the mental health issues an individual experiences are not real, important, or cause challenges. Talking about mental and emotional struggles with medical professionals can help determine whether or not they are related to a brain injury.

What are the similarities?

There are many symptoms caused by a brain injury that are also typical for different types of mental health disorders (see chart on next page). If a mental health issue or disorder is already present for an individual, a brain injury can also make those symptoms worse, creating more challenging problems. Tracking symptoms (like emotions and mental state) in a journal and trying to identify when they first started and compare that timeline to when the brain injury occurred can help the individual and medical professionals determine the root cause and best treatment options.



© Brain Injury Association of Virginia All Rights Reserved Permission was granted to adapt for Tennessee.

How do substance abuse disorders impact brain injuries and vice versa?

Substance abuse and addiction to drugs and alcohol is considered a mental disorder, and can be intertwined with the effects of a brain injury. Being under the influence of substances that impair judgment, motor functions, and memory increases the likelihood of being injured. The symptoms of a brain injury also increase chances of developing a substance abuse disorder. In fact, individuals with a brain injury are 11 times more likely to die of an overdose than people without a brain injury[1]. This means substance abuse can be both a cause and a symptom of brain injury, making it especially important to be aware of.

Overall, the symptoms* of some mental health disorders and brain injuries overlap in many ways:

	Concussion	Anxiety	Depression	Substance Abuse
Headaches	x	x	x	x
Drowsiness	x	x	x	x
Irritability	x	x	x	x
Poor memory	x	x	x	x
Fatigue	x	x	x	x
Poor sleep	x	x	x	x
Nausea	x	x	x	x
Dizziness	x			x
Blurred vision	x			x

*For a comprehensive list of mental health disorder and brain injury symptoms, please consult with a medical professional.

What does treatment and recovery look like?

There is no "cure" for brain injury or mental health disorders. However, there are many effective treatment options like cognitive-behavioral therapy and medication to help decrease symptoms and manage challenges. Be aware not all doctors who treat brain injury are mental health experts and vice versa, which is why being as honest as possible about your difficulties is key.

The TN Traumatic Brain Injury Program can help you better understand brain injury and consult with you about your personal situation. We can then direct you to services you might need in your area. Our services are confidential and free.

To get in touch: 1-800-882-0611

Visit the TN TBI Program
https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Contact Brain Links for "free" Training & Educational Information at: tbi@tndisability.org

1. Administration for Community Living National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) "Opioids and TBI" Brief, April 2019.

© Brain Injury Association of Virginia
All Rights Reserved

With permission from the Brain Injury Association of Virginia, this product has been adapted for Tennessee by Brain Links.

1.800.444.6443
biav.net

This project is supported [in part] through state general funds (Contract #16-002A) administered by the Virginia Department for Aging and Rehabilitative Services (DARS).

Alianza Nacional para las Enfermedades Mentales (Siglas en inglés: NAMI) TN
https://www.namitn.org/

Voces para los Niños TN
https://tnvoices.org/

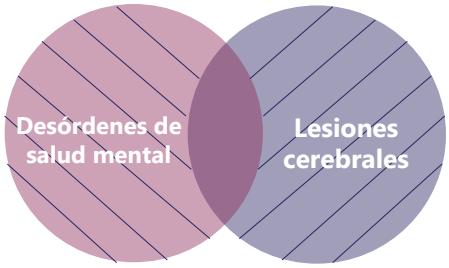
Brain Links
http://tndisability.org/brain

Salud Mental y Lesiones Cerebrales

GUÍA RÁPIDA

La relación entre las lesiones cerebrales y la salud mental es fuerte, pero aún falta investigación. Lo que sabemos es que aunque algunas veces las lesiones cerebrales son un asunto totalmente aparte de la salud mental, las lesiones cerebrales pueden llevar a que se desarrollen nuevos problemas de salud mental y los problemas de salud mental pueden hacer que los síntomas de lesiones cerebrales empeoren. Los efectos de una lesión cerebral y una enfermedad mental pueden parecer muy similares, por tal motivo, entender las relaciones entre ambas es importante para que las personas aboguen por sí mismas y para que los profesionales de la medicina hagan diagnósticos exactos.

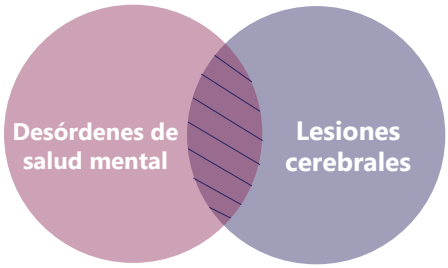
¿Cuáles son las diferencias entre los desórdenes de salud mental y las lesiones cerebrales?



Aunque muchos síntomas de una lesión cerebral se traslapan con los de un desorden de salud mental, no todos los problemas de salud mental que se desarrollan después de una lesión cerebral son lo suficientemente severos como para ser considerados “desordenados”. Sin embargo, esto no significa que los problemas de salud mental que una persona experimente no sean reales, importantes o desafiantes. Hablar acerca de las luchas mentales y emocionales con los profesionales médicos puede ayudar a determinar si dichos problemas son o no relacionados a una lesión cerebral.

¿Cuáles son las similitudes?

Hay muchos síntomas causados por una lesión cerebral que también son típicos para diferentes clases de desórdenes de salud mental (consulte el gráfico en la siguiente página). Si un problema o desorden de salud mental ya está presente para una persona, una lesión cerebral también puede hacer que empeoren esos síntomas, creando más problemas desafiantes. Registrar los síntomas (como emociones y estado mental) en un diario y tratar de identificar cuándo aparecieron por primera vez y comparar esa línea de tiempo al momento en que ocurrió la lesión cerebral puede ayudar a la persona y a los profesionales médicos a determinar la causa raíz y las mejores opciones de tratamiento.



© Asociación para Lesiones Cerebrales de Virginia, Todos los derechos reservados
Se otorgó permiso para adaptarlo para Tennessee.

¿Cómo impactan los desórdenes de abuso de sustancias a las lesiones cerebrales y vice-versa?

El abuso de sustancias y la adicción a las drogas y al alcohol se consideran un desorden mental, y pueden entrelazarse con los efectos de una lesión cerebral. Estar bajo la influencia de sustancias que deterioran el juicio, las funciones motrices y la memoria, incrementan la probabilidad de ser lesionado. Los síntomas de una lesión cerebral también pueden incrementar la probabilidad de desarrollar un desorden de abuso de sustancias. De hecho, las personas con una lesión cerebral son 11 veces más propensas a morir de una sobredosis que una persona sin una lesión cerebral1. Esto significa que el abuso de sustancias puede ser tanto una causa como un síntoma de lesión cerebral, haciendo que sea especialmente importante estar conscientes e ello.

En general, los síntomas* de algunos desórdenes de salud mental y lesiones cerebrales se traslapan en muchas formas:

	Conmoción cerebral	Ansiedad	Depresión	Abuso de sustancias
Dolores de cabeza	x	x	x	x
Somnolencia	x	x	x	x
Irritabilidad	x	x	x	x
Memoria deficiente	x	x	x	x
Fatiga	x	x	x	x
Sueño deficiente	x	x	x	x
Náuseas	x	x	x	x
Mareos	x			x
Visión borrosa	x			x

*Para una lista minuciosa de desórdenes de la salud mental y síntomas de lesiones cerebrales, favor de consultar con un profesional médico.

¿Cómo son el tratamiento y la recuperación?

No hay "cura" para la lesión cerebral o los desórdenes de salud mental. Sin embargo, hay muchas opciones de tratamientos efectivos como la terapia cognitiva-conductista y medicamentos para ayudarles a reducir los síntomas y manejar los desafíos. Tenga presente que no todos los doctores que tratan lesiones cerebrales son expertos en salud mental y vice-versa, razón por la cual, es un punto clave ser tan honesto como sea posible acerca de sus dificultades.

El programa para Lesiones Cerebrales Traumáticas de Tennessee puede ayudarle a entender mejor las lesiones cerebrales consultar con usted acerca de su situación personal. Luego, podemos referirlo a los servicios que pueda necesitar en su área.

Para ponerse en contacto:
1-800-882-0611
Póngase en contacto con Brain Links para Capacitación "gratuita" e información educativa al correo: tbi@tndisability.org

1. Administración para el Instituto Nacional de Vida Comunitaria sobre Discapacidad, Vida Independiente e Investigación de Rehabilitación (Siglas en inglés: NIDILRR) Resumen de "Opioides y TBI", Abril de 2019.

Brain Links

© Asociación para Lesiones Cerebrales de Virginia, Todos los derechos reservados

Con permiso de la Asociación para las Lesiones Cerebrales de Virginia; este producto ha sido adaptado por Tennessee por Brian Links.

Este proyectos es apoyado [en parte] a través de los fondos generales del estado (Contrato #16-002A) administrado por el Departamento de Servicios para el Envejecimiento y la Rehabilitación de Virginia (Siglas en inglés: DARS).

Service Coordination Contact Information

CHATTANOOGA
Chattanooga Area Brain Injury Association
Contact: Lisa Morgan
(423) 602-7246
chattanoogabraininjury@gmail.com

MEMPHIS
Regional One Health
Contact: Carolyn Chambers
(901) 545-8487
cchambers@regionalonehealth.org

NASHVILLE
Brain Injury Association of Tennessee
Contact: Angela Pearson
(615) 955-0673
apearson.biat@gmail.com

SOUTH CENTRAL
Disability Rights Tennessee
Contact: Holland Camara
(629) 702-7729
HollandC@disabilityrightstn.org

UPPER CUMBERLAND
Disability Rights Tennessee
Contact: Rick Hall
(629) 702-7727
RickH@disabilityrightstn.org

KNOXVILLE
Patricia Neal Rehabilitation Center
Contact: Patty Cruze
(865) 331-1499
PCruze@CovHlth.com

JACKSON AREA
West Tennessee Rehabilitation Center
Contact: Jimmie Lee Morris
(731) 541-4941
Jimmie.Morris@WTH.org

JOHNSON CITY AREA
Crumely House
Contact: Fredda Roberts
(423) 257-3644 x 6
fredda@crumleyhouse.com

***Please note that service coordinators do not have access to your medical information.**

Tennessee Department of Health
Traumatic Brain Injury Program
Family Health & Wellness, 8th floor, AJT
710 James Robertson Pkwy
Nashville, TN 37243

TN Department of Health

kidcentral tn
KIDCENTRALTN.COM

Tennessee Department of Health, Authorization No. 355600, 10,500 copies, January 2021. This public document was promulgated at a cost of $0.19 per copy.

Tennessee Traumatic Brain Injury

Service Coordination Program

Assisting people with brain injuries, their families and professionals



Tennessee Department of Health
Traumatic Brain Injury Program
1-800-882-0611



Service Coordination

What is Service Coordination?

The service coordinator's role is to work with people with brain injury and their families to assess needs and coordinate resources and services within the community. Service coordinators have a clear understanding of brain injury and are knowledgeable of the resources available in their community. The service coordinator:

- develops a comprehensive plan of care;
- provides referrals to available resources;
- coordinates services for individual client advocacy; and
- bridges gaps in the service delivery system.

Professionals can receive technical assistance, resource information and education to better understand the unique needs of people with brain injuries.

Service coordination is provided **free of charge.**

Why is Service Coordination Needed?

Traumatic brain injury, or TBI is a major cause of death and disability in the United States each year.

- Approximately 2.87 million TBI-related emergency department visits, hospitalizations and deaths occur each year.
- An average of 155 people in the United States die each day from injuries that include a TBI.
- Approximately 5.3 million Americans live with a TBI-related disability.
- Each year approximately 6,000 Tennesseans are hospitalized with a TBI.

Whether a brain injury is mild, moderate or severe, the effects can include a variety of cognitive, behavioral and emotional complications.

Those who survive a TBI can face effects that last a few days or a lifetime. The return home from a hospital or rehabilitation facility can result in a host of new challenges. Getting back to work or school, locating housing, securing transportation or even engaging in social activities may be difficult. Service coordinators collaborate and coordinate with available resources and services within the community and help to build a practical, community-oriented plan for a productive and independent life.





Scope of Services

All traumatic brain injury service coordinators provide the following services:

- offer information and education on traumatic brain injury;
- locate community-based resources;
- refer clients to qualified services;
- assist clients in applying for and accessing services;
- advocate in the area of individual/client rights and benefits;
- develop support groups; and
- assist or consult in the development of new programs and services.

Service Coordination Goal

The goal of service coordination is to improve the quality of life for people with brain injury and their families.

Brain Links Regional Contact

Program Director:

Paula Denslow, CBIS
Tennessee Disability Coalition
955 Woodland Street
Nashville, TN 37206
615-515-8616
paula_d@tndisability.org

East Tennessee:

Jennifer Rayman, Ed.S., CRC, CBIS
Brain Injury Specialist
865-951-2282
jennifer_j@tndisability

Middle Tennessee:

Wendy Ellmo, M.S., CCC-SLP, BCNCDS
Brain Injury Specialist
908-458-7532
wendy_e@tndisability.org

West Tennessee:

Carrie Carlson, BSW
Brain Injury Specialist
901-907-5731
carrie_c@tndisability.org

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

Healthcare Providers Toolkit Reference Page

Angela Lumba-Brown, MD1; Keith Owen Yeates, PhD2; Kelly Sarmiento, MPH3; et al, JAMA Pediatrics (November 5, 2018), Centers for Disease Control and Prevention Guideline on the Diagnosis and Management of Mild Traumatic Brain Injury among Children. Retrieved from: https://jamanetwork.com/journals/jamapediatrics/article-abstract/2698456

Centers for Brain Injury Research and Training (CBIRT) https://cbirt.org/

Centers for Brain Injury Research and Training, University of Oregon, Accommodations & Modifications in the Classroom for a Student with a Traumatic Brain Injury. Retrieved from: https://cbirt.org/sites/cbirt.org/files/resources/classroomaccommodations_ocamp.pdf

Centers for Disease Control and Prevention (April 27, 2016), Fact sheet for Parents. Retrieved from: https://www.cdc.gov/headsup/pdfs/custom/headsupconcussion_fact_sheet_for_parents.pdf

Centers for Disease Control and Prevention (April 27, 2016), HEADS UP to Health Care Providers: Tools for Providers. Retrieved from: https://www.cdc.gov/headsup/providers/tools.html

Centers for Disease Control and Prevention (February 16, 2015), Online Training for Healthcare Providers. Retrieved from: https://www.cdc.gov/headsup/providers/training/index.html

Centers for Disease Control and Prevention (January 22, 2016), Updated Traumatic Brain Injury Guideline for Adults. Retrieved from: https://www.cdc.gov/traumaticbraininjury/mtbi_guideline.html

Centers for Disease Control and Prevention (March 5, 2019), Concussion Signs and Symptoms Checklist. Retrieved from: https://www.cdc.gov/headsup/pdfs/schools/TBI_schools_checklist_508-a.pdf

Centers for Disease Control and Prevention, Pediatric mTBI Guideline (September 4, 2018), School Letter Return to School After a Concussion: Located under Provider Tools Tab, Retrieved from: https://www.cdc.gov/traumaticbraininjury/PediatricmTBIGuideline.html

Center for Disease Control and Prevention, Report to Congress on the Management of TBI in Children, (September 4, 2018), Flyer for Families. Located under Fact Sheets Tab, Retrieved from: https://www.cdc.gov/traumaticbraininjury/pubs/congress-childrentbi.html

Centers for Disease Control and Prevention, Traumatic Brain Injury & Concussion (September 4, 2018), Centers for Disease Control and Prevention Pediatric mTBI Diagnostic Recommendations. Retrieved from: https://www.cdc.gov/traumaticbraininjury/pdf/pediatricmtbiguidelineeducationaltools/2018-mTBI_AtAGlance_Diagnosis-508.pdf

Centers for Disease Control and Prevention, Traumatic Brain Injury & Concussion (September 4, 2018), Centers for Disease Control and Prevention Pediatric mTBI Guideline Management and Treatment Recommendations. Retrieved from: https://www.cdc.gov/traumaticbraininjury/pdf/pediatricmtbiguidelineeducationaltools/2018-mTBI_AtAGlance_Treatment-508.pdf

Centers for Disease Control and Prevention, Traumatic Brain Injury & Concussion (September 4, 2018), Centers for Disease Control and Prevention Pediatric mTBI Guideline Prognostic Recommendations. Retrieved from: https://www.cdc.gov/traumaticbraininjury/pdf/pediatricmtbiguidelineeducationaltools/2018-mTBI_AtAGlance_Prognosis-508.pdf

Gioia G PhD, Collins M PhD, Acute Concussion Evaluation (ACE), Physicians/Clinicians Office Version. Retrieved from: https://www.ncbi.nlm.nih.gov/books/NBK185341/figure/fig_C_3/?report=objectonly

Graham R, Rivara FP, Ford MA, et al., National Center for Biotechnology Information (February 2, 2014), Sports-Related Concussions in Youth: Improving the Science, Changing the Culture. Retrieved from: https://www.ncbi.nlm.nih.gov/books/NBK185341/

Job Accommodation Network, Publication Download, Accommodation and Compliance Series: Employees with Brain Injury. Retrieved from: https://askjan.org/disabilities/Brain-Injury.cfm?csSearch=2400138_1

Job Accommodation Network. Retrieved from: https://askjan.org/index.cfm

Tennessee Department of Health (July 20, 2017). Tennessee Return to Learn/Return to Play: Concussion Management Guidelines. Retrieved from: https://www.tn.gov/content/dam/tn/health/documents/Returning_to_Learn_Guidelines.pdf

Tennessee Department of Health, Traumatic Brain Injury Program. Retrieved from: https://www.tn.gov/health/health-program-areas/fhw/vipp/tbi.html

Tennessee Support and Training for Exceptional Parents. Retrieved from: https://tnstep.org/

UPMC Life Changing Medicine (2019), ReThink Concussions. Retrieved from: http://rethinkconcussions.upmc.com/

UPMC Life Changing Medicine (October 25, 2016), A Model for Understanding Concussion Assessment, Treatment, and Rehabilitation. Retrieved from: http://rethinkconcussions.upmc.com/2016/10/concussion-clinical-trajectories/

SPECIAL THANKS TO THE FOLLOWING FOR PERMISSION TO USE AND DISTRIBUTE THEIR MATERIAL IN THIS TOOLKIT:

- Gerard A. Gioia, PhD, Children's National Health System and George Washington University School of Medicine for the Post Concussion Symptom Inventories
- Center for Brain Injury Research and Training at the University of Oregon for their 504/ IEP Accommodations and Modifications chart
- University of Pittsburgh Medical Center, Rethink Concussions for their infographic on the Six Types of Concussion

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0024-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.

TRAUMATIC BRAIN INJURY/CONCUSSION

CHANGES TO WATCH FOR OVER TIME:

- Headaches
- Changes in sleep patterns
- Fatigue
- Changes in vision
- Balance, coordination changes, dizziness
- Mood swings, gets mad easily
- Changes in personality
- Not feeling like themselves
- Trouble with attention and thinking
- Memory problems, especially short term
- Depression/Anxiety
- Difficulty handling stress
- Inappropriate behavior
- Grades dropping, falling behind in class
- Changes in work performance



Brain Links

Bringing together professionals to recognize the far-reaching and unique nature of brain injury and to improve services for survivors.

ACL Administration for Community Living

TBI SPP Traumatic Brain Injury State Partnership Program

https://www.tndisability.org/brain

@BrainLinksTN

COALITION

kidcentral tn KIDCENTRALTN.COM

Brain Links is supported by the Administration for Community Living (ACL) of the U.S. Department of Health and Human Services under Grant No. 90TBSG0051-01-00 and in part by the TN Department of Health, Traumatic Brain Injury Program.