



PLTW Virtual Learning

Medical Detectives

Lesson 29

May 14, 2020



**7 & 8 Grade Medical Detectives
Lesson: Brain Injuries, May 14, 2020**

**Objective/Learning Target:
Lesson 29, Part 7**

Students will be able to explain different types of head injuries, possible symptoms and types of treatment.

Warm-Ups:



What do you know about brain injuries?

How do they happen?

What can help prevent them?

What are the symptoms?

How are they treated?

Have you ever hit your head or had a brain injury?

What did you experience?

Take a minute and write down your answers.

[One Minute Timer](#)



Lesson Introduction/Background Information:

What is a head injury? Watch the video [Traumatic Brain Injury](#) to learn more.

A head injury is any sort of injury to your brain, skull, or scalp. This can range from a mild bump or bruise to a traumatic brain injury. Common head injuries include concussions, skull fractures, and scalp wounds. The consequences and treatments vary greatly, depending on what caused your head injury and how severe it is.

Head injuries may be either closed or open. A closed head injury is any injury that doesn't break your skull. An open (penetrating) head injury is one in which something breaks your scalp and skull and enters your brain.

Practice:

What are some of the major types of head injuries?

1. **Hematoma** - This is a collection, or clotting of blood outside of the blood vessels. Clotting can lead to pressure building up inside the skull, causing someone to lose consciousness or have permanent brain damage.
2. **Hemorrhaging** - Uncontrolled bleeding in the brain. Can be a type of stroke.
3. **Concussion** - Can happen when the impact on the head is severe enough to cause brain injury or from a whiplash-type injury. A concussion results in an altered mental state, including unconsciousness.
4. **Edema** - The swelling of the brain which can be the result of a brain injury. Your skull cannot stretch to accommodate the swelling which leads to pressure build up against the skull.
5. **Skull fracture** - an impact or a blow to the head that's strong enough to break the bone.

Practice:

Symptoms of brain injuries can vary depending on the type and degree of the injury and the individual.

Common symptoms of minor head injuries can include:

1. Headache
2. Lightheadedness
3. A spinning sensation
4. Mild confusion
5. Nausea
6. Temporary ringing in the ears



****Head injuries should never be taken lightly. See your doctor right away, or call 911, if you think you have any of the symptoms of a head injury.**

<https://www.healthline.com/health/head-injury#symptoms>

Practice:

The symptoms of a severe head injury may include many of the symptoms of minor head injuries and can possibly include:

1. A loss of consciousness
2. Seizures
3. Vomiting
4. Balance or coordination problems
5. Serious disorientation
6. An inability to focus the eyes
7. Abnormal eye movements
8. A loss of muscle control
9. A persistent or worsening headache
10. Memory loss
11. Changes in mood
12. Leaking of clear fluid from the ear or the nose

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<https://www.healthline.com/health/head-injury#symptoms>



Practice:

What are some ways head Injuries are treated? The treatment for head injuries depends on both the type and the severity of the injury.

1. With medication
2. By having surgery
3. With rehabilitation, including various types of physical therapy, occupational therapy, and sometimes speech therapy.

Watch the video to learn more about [Treating Traumatic Brain Injuries](#).

****Head injuries should never be taken lightly. See your doctor right away, or call 911, if you think you have any of the symptoms of a head injury.**

Self Assessment:

Answer the questions about human brain injuries to see what you have learned.

1. To determine the location and severity of a brain injury, doctors will use a _____ or _____.
2. Three common head injuries include concussions, skull fractures and scalp wounds. True or False _____
3. A closed head injury is any injury that doesn't break your skull. True or False _____
4. List four common symptoms of minor head injuries. _____, _____, _____, _____
5. A loss of consciousness, seizures and vomiting are symptoms of a severe head injury. True or False _____
6. Medication and surgery are forms of treating head injuries. True or False _____
7. Rehabilitation includes physical therapy and _____ therapy.
8. Head injuries should always be taken seriously and never ignored. True or False _____

Extend Your Learning/Continued Practice:

The following are some of the best games for brain injury patients to enhance their recovery. How many of these games have you played? Can you see why these games would be beneficial?

1. Go Fish and other card games
2. Uno
3. Scattergories
4. Scrabble
5. Chinese Checkers
6. Pandemic
7. Mindtrap
8. Risk
9. Jenga
10. Concentration
11. Mastermind
12. Sudoku
13. Chess

Answer Key:

Self Assessment Quiz Answers

1. Doctors use a CT Scan or an MRI
2. True
3. True
4. Headache, Lightheadedness, Spinning Sensation, Mild Confusion, Nausea, Temporary Ringing in the Ears
5. True
6. True
7. Occupational
8. True

