Q: What is “TBI”?  
A: Traumatic Brain Injury is often just called “TBI”.

Q: What is a traumatic brain injury (TBI)?  
A: A blow to the head can cause TBI, but not all blows to the head result in TBI. Whether or not there is damage to the brain after the blow depends on the circumstances and severity of the blow.

Q: What happens to the brain in TBI?  
A: If the blow is severe enough, it can damage the brain in two ways. First, the blow can directly damage tissues. For example, the skull can fracture, blood vessels can rupture and leak blood in around the brain, and nerve fibers within the brain can be torn. After this first damage, the harmed brain may become swollen and blood supply to the brain may be reduced, causing further damage.

Q: What are some signs of traumatic brain injury (TBI)?  
A: The signs of TBI can be very different depending on the severity of injury. A mild injury, also called a “concussion”, can cause confusion, disorientation, memory loss, and brief loss of consciousness, but the person stays awake after that with eyes open. A moderate injury causes a loss of consciousness for longer than 20 minutes; the person is lethargic but will open eyes when stimulated. A person with severe TBI is unconscious and the eyes do not open, even with stimulation.

Q: How is the diagnosis of TBI made?  
A: It is very important to report exactly how the brain injury happened, if the patient lost consciousness and for how long, and any symptoms the patient had after the injury. In the emergency room, physicians will quickly assess the level of alertness, ability to open eyes and follow commands. If the injury is mild and there are no other concerns, imaging may not be necessary. If the injury is moderate or severe, patients will have imaging studies to assess any damage to the tissues of the brain and skull.

Q: Which imaging tests should be done?  
A: The imaging test that is usually done first is called a Computed Tomography of the head (CT head). This test will have x-ray exposure, but is the quickest test to find fractures of the skull and bleeds in or around the brain. This test is also used to follow bleeds in and around the brain. When there is concern for torn nerve fibers, a Magnetic Resonance Imaging (MRI) of the brain is done. This imaging does not involve x-ray exposure, but it is not as fast as a CT scan and does not show skull fractures so well.