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There are many types of traumatic brain injury, but the injuries I'm going to cover in this post are penetrating brain injury, contusion, hematoma, concussion, anoxia & hypoxia, diffuse axonal injury, and coup contrecoup injuries. These are some of the main types of injury we typically confront as brain injury lawyers.

First let's talk about penetrating brain injury. This involves an actual penetration into an area of the skull by a foreign object, resulting in damage to the brain. There's damage to the tissue and the vessels, and it can create the potential to develop infections, such as [encephalitis](#), [meningitis](#), or other debilitating, life threatening conditions.

The next type of injury is contusion. When the brain experiences trauma, there can be bruising, just like your arm or your leg. When the brain crashes inside of the skull, it can break blood vessels, causing bleeding and bruising. The bruising can be associated with swelling, as well, and there can be a whole host of issues that can arise from that.

Next is hematoma. This is literally where blood leaks from the vessels and structures that carry the blood through the brain, and you have leakage of blood into the brain itself, again creating pressure and dysfunction within the brain. This can be subdural or epidural.

The human brain has around it a casing called the dura. The dura is like a balloon that surrounds the brain, and the brain sits in our cerebral spinal fluid that's like water. Your brain is protected inside this water that is encased in the dura. Traumatic brain injury can cause this leakage, this hematoma, into the brain, into the subdural space, meaning the area between the brain and the dura, or the epidural space, the area between the dura and the skull. And as blood leaks into a space and creates a pocket of blood, putting pressure on an area of the brain, this can cause ischemic injury, which is a loss of blood flow to the area affected.

Another type of injury that most people have heard of is [concussion](#). You've probably heard the word before, or perhaps you've known someone who's been diagnosed with a concussion. Maybe they were in an auto accident, or they fell, or had something hit their head - a baseball, golf ball - you name it. Well, a concussion is an injury to the brain at the cellular level, where cells are literally sheared apart. Since it happens at a microscopic level, it's often not diagnosed on CT scans or MRI's. What we know about the concussion typically is based on the history that the patient gives, and perhaps some imaging that may show some bleeding (which we talked about above). But the concussion itself often isn't documented.

The next type of injury is really an awful and problematic injury. That's [anoxia and hypoxia](#). Anoxia means "no oxygen," or the starving of oxygen from the brain. Hypoxia means starving the brain of some oxygen, but not all of it. We've seen this in birth injuries, when babies are born and there's a problem during delivery where the airway is restricted and oxygen isn't able to reach the baby in time, resulting in an anoxic brain injury. We've seen it in patients who have had cardiac events. Their heart stopped and CPR was implemented, but for some reason the heart didn't get started quickly enough. When the heart stops and the blood doesn't flow, there's not enough fresh oxygen being delivered to the brain. Then the brain is starved of oxygen and diffuse areas throughout the brain die. Anoxia and hypoxia are catastrophic injuries that affect all aspects of the brain, and from which the client will not likely recover.

Next, we come to the [coup contrecoup injury](#). This may be seen in an auto accident, such as a head-on vehicle collision. If you imagine the brain floating in the liquid inside the skull as two vehicles collide, the driver's body moves forward, gets stopped by the seatbelt or the airbag, and their head moves forward and the brain goes crashing forward inside the skull. And then, as the body moves backwards, the brain then crashes into the back of the skull. That is the coup contrecoup injury. It can cause diffuse, global harm to the person's brain, and can involve all of the other injuries discussed here - hematoma, contusion, diffuse axonal injury. It's a common type of brain injury, and again, often not properly diagnosed.

Finally, we have [diffuse axonal brain injury](#). This is similar to the coup contrecoup injury, only more severe damage occurs at a cellular level during rapid acceleration and deceleration events. Going back to the head-on collision where the brain crashes inside the skull, the pressure that is exerted on the brain as it is moving causes cells to be ripped apart from one another. This type of injury often has devastating results.

For more information on traumatic brain injury, visit our online [Traumatic Brain Injury Resource Center](#). There you will find a wealth of information on the human brain, brain injuries, treatment and recovery options, and educational resources for those living with long term disability resulting from a brain injury.