

Nervous system



The Brain The nervous system is the most important system in the human body. It is in charge of coordinating all aspects of the body from processes such as our heart beating to typing a paper. This is achieved through a network of extensive neurons, which are located throughout the body with the highest concentration residing in the brain. Communication is achieved through electrochemical signals, which cause a release in neurotransmitters. The brain is a highly organized structure with sections called lobes. The lobes are the temporal lobe, occipital lobe, parietal lobe, and frontal lobes. Each is charged with a specific cognitive function and even though they are separate, they still communicate and work together with each other in order to process, integrate, and store information. Sometimes in cases of head trauma and other incidents, parts of the brain become damaged to the point where behavior and some cognitive functions become impaired (Squire, 2003). The primary function of the temporal lobe is the processing of auditory stimuli as well as processing some memory functions. It is also where the hippocampus is housed, which is responsible for long-term memory formation. Because this area plays a key role in memory integration, any damage to this area would affect the way in which memories are formed, leading to different types of amnesia. In addition, the ways in which hearing and visual stimuli are processed would also be affected. The parietal lobe is a part of the brain, which is responsible for integrating all of the senses from the different sensory systems together, and processing them. It is also important due to the fact that it coordinates the understanding of things such as mathematical relationships as well as visuospatial processing. As a result, if damage was to occur in this area, a person might lose their ability to perform math tasks, as well as lose the

ability to visualize conceptually and literally. The medulla oblongata is located on the bottom half of the brain stem. The brain stem is the part of the brain, which connects the main part of the brain mass to the spinal cord serving as the connection between the nervous system and the rest of the body. The medulla oblongata is sometimes termed "little brain" due to its high importance to physiological functioning. This is an extremely vital part of the brain because it controls all the physiological responses and conditions that we are unaware of such as blood pressure, heart rate, oxygen consumption, etc. Due to this fact, if any damage is done to this area, these physiological processes would become compromised and a person's life would be in immediate danger. Death would eventually follow if the damage were unable to be repaired (Johnson, 2009). Damage to different parts of the brain results in different types of effects. The aspects of how this damage effects processing are still not completely known. Brain scans are useful in helping to determine which part of the brain is effected such as through blood flow, dyes, etc. By understanding how the brain works and is wired, medical practitioners and neurologists can find better ways of treating damage to the brain once it's done and developing surgical ways of correcting the damage. References Johnson, G. (2009). A guide to brain anatomy. Retrieved from <http://www.waiting.com/brainanatomy.html> Squire, L. (2003). Fundamental neuroscience. New York, NY: Elsevier.