Nervous system description

Family

Nervous System Nervous System (Human nervous system, n. d) The nervous system is one of the vital organ systems in animals which transmit signals between different parts of the body. All the organs in our body rely nervous system heavily for their functioning. Just like the central processing unit of a computer, nervous system can be considered as a master control unit inside our body. Basic function of nervous system is the controlling and coordination of body functions. It receives signals from sensory organs, analyze and interpret it and instruct the concerning organs to act in a particular way. For example, a football player strikes the ball towards the goal whenever he recognizes an opportunity. Here the opportunity is recognized by the organ eyes which is analyzed by the nervous system and instruct the leg and other body parts to take necessary actions to strike the ball (motor function). Another important function of nervous system is the storing of previous information for future use. For example, a child who touches a candle flame will never repeat that action in future because of the burning experience he suffered. The nervous system keeps records of such experiences and guides the child in his future actions. A network of specialized cells called neurons help nervous system in transmitting signals between different parts of body. Neurons are of different types; sensory neuron, motor neuron, and interneuron. Sensory neuron takes message from the sense organs and sends to the Central nervous system whereas the motor neuron takes the message from central nervous system and sends it to an effector, a muscle fiber or a gland. Signals travel in the form of electrochemical waves along some thin fibers called axons which liberate chemicals called neurotransmitters to be released at junctions called synapses. “ Neurotransmitters are chemicals that take a nerve signal across

the synaptic gap between a sending neuron, and a receiving one” (Nervous System, n. d). Parts and functions of nervous system Nervous system is usually divided into two parts; central nervous system and peripheral nervous system. The central nervous system consists of the spinal cord and the brain whereas the peripheral nervous system consists of nerves and the wiring. The major function of central nervous system is to collect information and send out instructions. On the other hand, peripheral nervous system collects the information from the central nervous system and distributes it to the rests parts of the body. Human central nervous system contains brain, spinal cord, and retina whereas the human peripheral nervous system consists of sensory neurons, clusters of neurons (ganglia) and nerves connecting to the central nervous system. As the name indicates, central nervous system is the central portion of every activity. It controls the entire activities of animals. As we know, brain takes decisions about all the information it receives through senses. Apart from motor functions, central nervous system controls or maintains body's homeostasis. “ It automatically regulates heartbeat and controls muscle contractions in the walls of blood vessels, digestive, urinary, and reproductive tracts. It also carries messages that help stimulate glands to secrete tears, mucus, and digestive enzymes” (Nervous System, n. d). “ Thirty-one pairs of spinal nerves originate from the spinal cord. They are all mixed nerves, and they provide a two-way communication system between the spinal cord and parts of the arms, legs, neck and trunk of the body” (Inner Body, 2011). Spinal cord acts as a bridge between brain and other parts of body. It ensures the to and fro motion of information between brain and different body parts. The major function of peripheral nervous system is to connect the central nervous system to the

limbs and other organs. Unlike central nervous system, peripheral nervous system is not protected by any bones, leaving it vulnerable to physical injuries. The peripheral nervous system is divided into two classes; the somatic nervous system and the autonomic nervous system. The somatic nervous system coordinates the body movements and it regulates activities that are under conscious control. The autonomic nervous system is responsible for controlling the physiological functions like the regulation of heartbeat and blood pressure along with activities like resting, feeling, digestion etc. Conclusions Nervous system is one of the most vital systems in animal body. It helps the animals to act properly to the external and internal stimuli. Nervous system can be divided into two broad categories; Central nervous system and peripheral nervous system. Central nervous system collects information, process it and send instructions to other organs in the body. Peripheral nervous system helps central nervous system in sending and receiving information between different parts of body. References 1. Human nervous system, (n. d). Retrieved from http://www. human-nervous-system. com/ 2. Inner Body, (2011). Retrieved from http://www. innerbody. com/image/nervov. html 3. Nervous system (n. d). Retrieved from http://universe-review. ca/R10-16-ANS. htm