

DOGS NERVOUS SYSTEM VS HUMANS NERVOUS SYSTEM

What is the Nervous System

Have you ever wondered how you move? Most people think it is just the muscles and bones. What if I told you they were wrong? There is one more thing that helps you move. I'll give you a hint: What tells you to move? It's not just the brain ... it's the nervous system! The nervous system is a way for the brain and other cells, tissue, and organs, to communicate. Without the Nervous System, you would be paralyzed, and almost dead, because it is like a road that connects your brain and spinal cord, to your body, and sends messages. In this quick essay, you will learn about humans and dogs nervous system and how it compares and contrasts. The nervous system is REALLY IMPORTANT!

DOGS:

The difference between Nerves and Neurons: Neurons are the building blocks of nerves. Nerves are bundles/ropes of neurons to create types of highways. Neurons are cells, while nerves are the roads. Nerves are really just a projection of neurons. In a way, neurons are thin threads, that make up a rope.

Nervous System Development: When a dog is born, the nervous system is NOT fully developed. They are not only blind, but they are also deaf and cannot walk. Usually, they will only sleep and eat at that stage. After a few weeks, their eyes will start to open, they will be able to hear, and maybe even clumsily walk. Soon, they can run, if a bit wobbly, but still the dog will be more active.¹

Central Nervous System: Also known as CNS, this part is made out of the brain, brain stem, and spinal cord. These nerves send signals to the other parts of the system so the order can be given either from the brain, or to the brain. These are only neurons.

Peripheral Nervous System: Peripheral Nerves are also known as Motor Nerves. They receive instructions from the spinal cord or brain, and then they control the muscles and give them the signal / chemical reaction which makes the muscle move. They are the nerves that control movement and reflexes. Peripheral nerves that go back to the brain are called Sensory Nerves. They are the nerves that tell the brain what the muscles are feeling. (e.g. pain from finger.) This part is also known as PNS.

Autonomic Nervous System: These are the nerves that come out of the CNS and spread throughout the body. It controls all automatic movements such as breathing and habits. Dogs have no control over this system. We might be able to control our habits, and make our breathing faster and slower, but dogs can do neither of the sort.

HUMAN:

Human nervous system:

We also have the ANS, PNS, and CNS. The ANS is also usually the main cause of the fight or flight choice. Really, we are almost the same as a dog's nervous system. The neurons are basically the same, and they function the same way.

Our neuron is made up out of 3 main parts: a dendrite, cell body, and axon. There are other

¹ "Nervous System Anatomy & Development in Dogs - Pet Education." <http://www.peteducation.com/article.cfm?aid=329>. Accessed 8 Nov. 2017.

parts, but the main are these. All these parts are futile to send signals throughout you. Dendrites receive the signal from the previous neuron, and moves it to the cell body, and the axon picks up the signal and sends the signal to the axon terminal, which connects to another neuron. When the axon reaches the end of a nerve, it crosses a gap, A.K.A. a synapse. This is how the body communicates. When it reaches the end, and reaches the brain, muscle, or spinal cord, it gives the message and either replies, or acts accordingly.

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Cause and Effect

1. Dog neurons in cerebral cortex= 160 million neurons

Human neurons in cerebral cortex= 100 billion - 86 billion

Cause and effect= Dogs actually can be as smart as a two year old ranging from 165 words (gestures included) to 250 words. It make sense mostly because they have actually more neurons in the cerebral cortex. Also, human neurons actually die away which gives us less neurons, and separates the difference greater than before. This shows that even dogs have the same capabilities as humans.

2. Cause: Some type of nerve disorder

Effect: Could be paralyzed for a long time

Now That You Know...

Now that you know a bit about a dog's nervous system and our nervous system, see if you can find out more! Since the nervous system is really complicated, people are still discovering more. It's a lifelong hobby! Remember; The nervous system is REALLY IMPORTANT!

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