White Matter

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Definition

White matter is a component of the central nervous system and represents the axons of neuronal cells. The cell bodies of neurons are termed gray matter. Axons, or white matter carries information to and from neuronal cell bodies. White matter acts as the communication highway upon which sensory and motor information travels throughout

the central nervous system. White matter gets its name from the distinctive white coloring of the axons. This coloring is visible during tissue dissection and on imaging and is caused by the deposition of myelin protein around each axon. The presence of myelin is responsible in part for the speedy relay of information between sites in and out of the central nervous system. For example, the pain you feel when placing a hand near a hot surface is relayed to your brain quickly because of the myelinated white matter pathways. This quick relay prevents deforming damage to your hand. White matter is found throughout the brain and spinal cord.