

BrainPOP Related Reading - Nervous System

There's one important component to the human nervous system that Tim doesn't mention in the movie: **glial cells**, also known as **neuroglia**. Unlike neurons, glial cells don't have axons or dendrites. But without them, your nervous system wouldn't be able to function. In fact, they outnumber neurons 10 to 1!

Just like a pit crew serves a racecar driver, glial cells work hard to make sure that the central nervous system remains in optimum condition. The word "glial" comes from the Latin word for "glue," and that's exactly what glial cells do—hold the nervous system together.

Glial cells make sure that every neuron is connected to a fresh supply of blood. And they provide neurons with glucose and other nutrients, so that they have enough energy to complete their important tasks.

After chemical messengers called neurotransmitters are released into the synapses between neurons, glial cells capture and recycle them, preventing too much of the chemicals from accumulating. They also "clean up" the environment around neurons by removing excess ions, and they form the essential "blood-brain barrier" that prevents chemicals in the bloodstream from entering the brain.

Glial cells also "digest" neurons that have died and produce myelin, which forms a protective sheath around neurons' axons, allowing electrical messages to be relayed quickly and efficiently. Finally, glial cells create, secrete, and help circulate cerebrospinal fluid.

