

The Brain and Nervous System

During the development of the brain it grows at an amazing rate. And while the brain is being developed 250,000 neurons are being added on every minute! At birth, almost but not all the neurons we need and have will be there. But still for a few years after birth the brain keeps growing. Then by around the age of 2, the brain is actually 80% of the adult size!



Some people wonder, and you might too! How does the brain keep growing if you get almost all the neurons when you are born? We can answer that for you!! The answer is glial cells. Glial keeps dividing and multiplying ~ continuously! It carries out lots of important functions for the normal brain function counting insulating nerve cells with myelin. The neurons in the brain also make many new connections after birth. The nervous system develops from embryonic tissue called the ectoderm. On about the 16th day of developing the nervous system the first sign you would see is the neural plate.

Then sometime over the next few days something called a "trench" is formed in the neural plate - this creates a neural groove. By about the 21st day of this being developed a neural tube is formed. This usually happens when the edges neural groove meets. The rostral (which is the front part of it) part of the neural tube goes on to develop into the brain and the rest of the neural tube develops into another thing called the spinal cord. Neural crest cells become the peripheral nervous system.

At the front end or part of the neural tube, three major brain areas are formed:

1. The prosencephalon (the forebrain)
2. The mesencephalon (midbrain)
3. Last of all the rhombencephalon (the hindbrain).
4. By the 7th week of development these three areas divide again.