

AN AMAZING GIFT FROM YOUR PARENTS - YOUR BRAIN

Approximately 9 months prior to your birth a single sperm from your father entered an egg-cell of your mother and you - as an embryo - began.

To build the more than 100 billion neurons that are normal for a newborn baby, your brain grew at the rate of about 250,000 nerve cells per minute throughout the course of your mother's pregnancy.

It was not the volume of growth alone that made the production of your brain so amazing, but the great number of functions that your brain carried out - and the specificity with which these were assigned and assembled - that were stunning in their complexity.

The development of your brain during your mother's pregnancy was a highly complex project on a tight schedule. In your 12- to 14-week-old embryo, nerve cells were growing at a rate of about 15 million per hour.

The first few years of your life were a time of rapid brain growth. At birth, every neuron in the cerebral cortex has an estimated 2,500 synapses - small gaps between neurons where nerve impulses are relayed. When you were three years of age the number grew to a whopping 15,000 synapses per neuron.

Your brain was, and still is the most complex organ in your body - a 1360 gram mass of grey and white matter at the centre of all activity - you need it to drive a car, to enjoy a meal, to breathe, to create, to imagine, and to enjoy sporting activities.

Your brain regulates your body's basic functions, enables you to interpret and respond to everything you experience, and shapes your behaviour. Your brain is you - everything you think and feel, and who you are.

Your brain is often likened to an incredibly complex and intricate computer - the fastest and most efficient in the world. The silicon chips that control your billions of cells - called neurons - are organized into circuits and networks. Each neuron acts as a switch controlling the flow of

information. When a neuron receives enough signals from other neurons connected to it, it fires and sends signals on to other neurons in the circuit.

Your brain is constantly searching for new and stimulating experiences - with people who constantly crave stimulation in danger of developing addictive behaviour such as dangerous thrill-seeking, drug abuse and gambling.

Please respect the most amazing gift that your parents gave to you. One day you may like to help pass it on to your children.