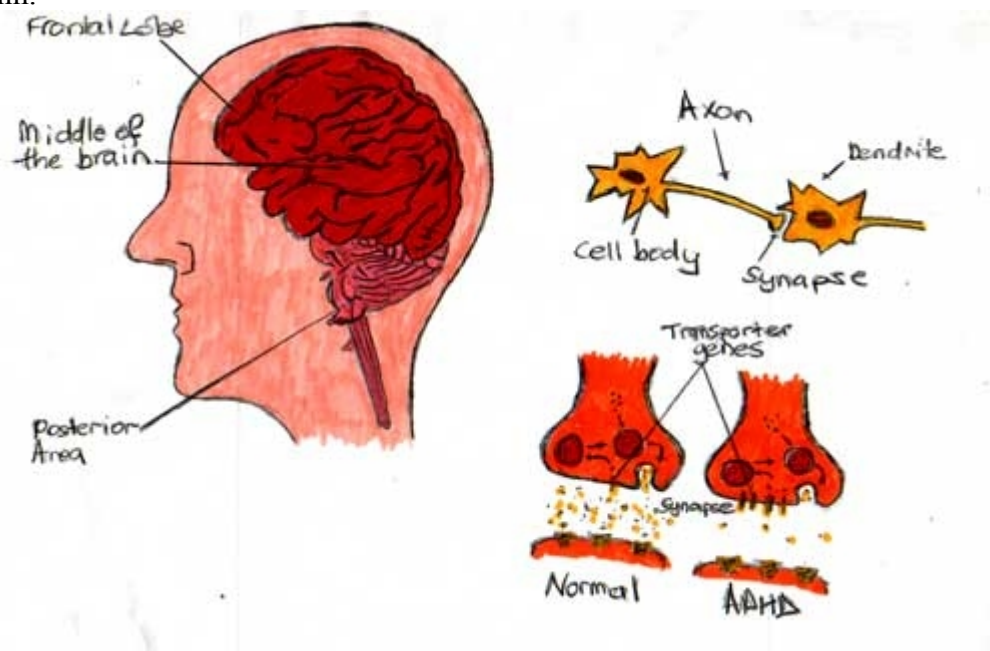


ADHD The Brain and the Role of Medication

ADHD is known to affect specific areas of the brain;

- The frontal lobe (attention span, control over responses, understanding reward and punishment)
- Middle of the Brain (emotions, memory, motivation and movement)
- Posterior area (prioritizing incoming information, automatic responses)

Brain cells have a cell body and a stalk called an axon. The axon links with the cell body of the next cell, but does not touch. The small gap called the synapse. Messages (information) passes from cell to cell by jumping across the synapse. This takes a fraction of a second. Chemicals called neurotransmitters, which are manufactured in the brain, enable this to happen. There are several types of neurotransmitter. Those that affect people with ADHD most are dopamine, noradrenaline and serotonin.



The brain re-cycles any neurotransmitters that are left over. This is done by transporter genes. Research suggests that people with ADHD have either overactive transporter genes, or too many transporter genes in the areas of the brain that are affected by ADHD. SO neurotransmitters are recycled too quickly. This means that there are not enough neurotransmitters left to make the leap across the synapses, which leaves those areas of the brain less active than they should be. This causes ADHD symptoms.

Certain drugs (medication) appear to block or slow down the transporter genes, so that more dopamine is available to pass the messages from cell to cell. This means that the affected areas of the brain can function more normally.

Some of the brandnames of these drugs are Ritalin, Equasym, and Dexedrine. They can provide beneficial effects for up to 3-4hours, so people need at least 2 doses a day. Concerta releases medication into the bloodstream slowly and lasts for between 8 and 12 hours.

Taking medication helps concentration, to be able to pay attention and remember things; be less impulsive and hyperactive; to stay calm and be more in control; think more clearly; improve relationships; make wiser choices and decisions.

