EPILEPSY NEW ZEALAND
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Epilepsy, Learning and the Brain



When considering the impact of epilepsy on learning, some of the factors that need to be taken into consideration are the type of epilepsy, its cause and the brain regions affected, as well as the prescribed treatment. The extent of the impact is very individual; some learners are greatly affected while others may not be.

Cognitive skills enable a person to process information, reason, remember and relate. They involve mental activities such as thinking, understanding, learning and remembering. The ability to make sense of new information is crucial to successful learning. Cognitive issues may be responsible for learning difficulties in people living with epilepsy, which may impact on their academic progress and their capacity to develop new skills. Some research suggests that certain types of epilepsy, such as frontal lobe epilepsy, are more associated with cognitive challenges (including attention and memory issues) than others.

Visual processing refers to how visual information is interpreted by the brain. This is different to difficulties with sight or with the sharpness of vision. Someone, for example, might have difficulty remembering visual information, or they may have difficulty recognising numbers, letters or symbols. As visual and spatial function is predominantly controlled by the right hemisphere of the brain, learners who experience focal seizures in this hemisphere may exhibit visual processing difficulties. As information processing is associated with handedness, learners who are left-handed are less likely to experience these difficulties.

Auditory processing refers to an individual's ability to analyse or make sense of information taken in through the ears. An auditory processing deficit can interfere directly with speech and language, but can affect all areas of learning. For example, it may negatively impact attention and concentration. This may look like the person isn't listening or is unable to follow verbal instructions.

The left temporal and parietal lobes of the brain are critical for reading and language development. Therefore, people who experience seizures in the left hemisphere of the brain may experience language difficulties. However, as information processing is associated with handedness, learners who are right-handed are less likely to experience these difficulties. Like auditory processing,

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difficulties with language abilities may look like poor concentration or attentiveness or memory problems, as well as difficulties reading, writing or spelling.

Memory is a complex process that occurs within our brain. It allows us to store, retain and recall information and experiences. Although not all people living with epilepsy experience memory difficulties, it is one of the most common challenges reported by those living with epilepsy. The types of memory difficulties that a person has may depend on the type of epilepsy and the underlying cause, and it may also be affected by their treatment.

Learning difficulties may be linked with the seizure activity and/or medication, or with the underlying neurological cause. Medication side effects may also have an impact on learning and cognition. Experiencing side effects is common, particularly in the early stages of starting a medication. Ask your doctor what side effects to look out for, and what you should do if you experience any side effects as there are sometimes ways of minimising any impacts experienced.

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