

FACT SHEET:



ABIOS

Acquired Brain Injury Outreach Service

Category:
Behaviour

Audience:
Person with an ABI

For more information
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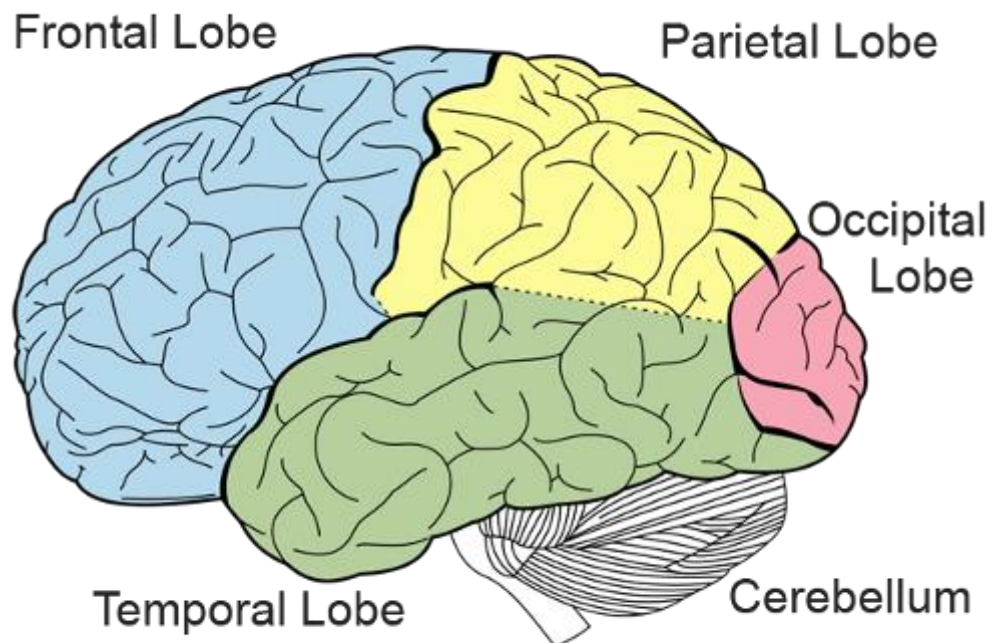
Reviewed Feb 2021

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ABIOS Neuropsychologist

Brain Functions and Changes in Behaviour

Introduction

Changes in behaviour are common after acquired brain injury. Many areas of the brain can be affected by severe traumatic or vascular injuries, affecting a person's cognitive, physical, communication, and behavioural functioning. The following table may be of assistance in understanding the relationship between different areas of the brain, and changes in behaviour.



PART OF THE BRAIN	WHAT IS IT FOR?	POSSIBLE CHANGES IN BEHAVIOUR
Frontal Lobe	<i>Planning and Organisation</i>	<p>Decreased ability to organise information, ideas, or activities</p> <p>Difficulty sequencing activities and behaviour</p> <p>Unpredictable behaviour due to poor planning</p> <p>May not complete activity or follow through</p> <p>Frustration & irritability when things don't go to plan</p> <p>Confusion about what to do and when to do things</p> <p>Clutter and lost items</p>
Frontal Lobe	Initiation of behaviour	<p>Low motivation & activity levels</p> <p>Apathy or lack of interest</p> <p>Difficulty following through to complete tasks and activities</p> <p>May get easily bored and frustrated</p>
Frontal Lobe	Self awareness and self monitoring Insight and adjustment	<p>Impaired social awareness and judgment</p> <p>Reduced motivation to change behaviour</p> <p>Lack of awareness of errors</p> <p>Lack of awareness of impact of own behaviour on others</p> <p>Poor awareness of emotions in self or others, so inability to self manage emotions</p>
Frontal Lobe	Flexibility in thinking & behaviour	<p>Concrete thinking</p> <p>Difficulty thinking of alternative ideas or behaviour</p> <p>Rigidity in ideas & behaviour, difficulty shifting or changing behaviour</p> <p>Argumentativeness</p> <p>Irritability with others</p> <p>Low frustration tolerance</p>

PART OF THE BRAIN	WHAT IS IT FOR?	POSSIBLE CHANGES IN BEHAVIOUR
Frontal Lobe	Thinking, reasoning & decision making	Misunderstanding of what others do or say Difficulty with logical reasoning and problem solving –coming up with more than one option Difficulty working out solutions to practical & social problems Poor judgment Impulsive decision-making May take longer to make decisions
Parietal and Temporal Lobes	Use of language to communicate with others <ul style="list-style-type: none"> • verbal • written 	Misunderstanding communication Misinterpretation of social communication and cues so may respond inappropriately Difficulty understanding others can lead to irritability, anger, frustration Difficulty expressing ideas, feelings, preferences Difficulty regulating voice tone, volume, rapid rate of speech - may seem irritable, angry
Temporal Lobe	Memory & new learning Remembering tasks, instructions, events Remembering own & others behaviour	Forgetting to do things Forgetting conversations, instructions, decisions that have been made Difficulty learning new tasks or behaviours Difficulty following through with behavioural change Misperception, confusion or memory loss – can lead to suspiciousness & paranoia Frustration with effort, difficulty or failure
Parietal Lobes	Spatial awareness Perception & location of objects and persons in space Understanding of own body in space and perceptual processing of information	Confusion or uncertainty Lack of trust & confidence in self, others and environment Effort & energy required for ADL leads to <ul style="list-style-type: none"> ✦ fatigue and tiredness ✦ frustration/irritability Misperception of sensory information – can lead to suspiciousness & paranoia

PART OF THE BRAIN	WHAT IS IT FOR?	POSSIBLE CHANGES IN BEHAVIOUR
Cerebellum and Brain Stem	Regulation of arousal and alertness	<p>Sleep regulation</p> <p>Control of physical functions and mobility</p> <p>Sleep disorders</p> <p>Tiredness or fatigue</p> <p>Sensitivity to noise, light, heat, cold, fatigue – can lead to irritability, low frustration tolerance</p> <p>May lack interest and motivation in previously enjoyed activities or interests</p>
Limbic System	<p>Perception and understanding of emotions and mood</p> <ul style="list-style-type: none"> • self • others <p>Regulation of emotional state</p>	<p>Emotional lability or rapid mood changes</p> <p>Lack of empathy or responsiveness to others emotions</p> <p>Egocentricity or focus on self -may seem self-centered</p> <p>Impatience or low tolerance of others</p> <p>May want needs met immediately and have difficulty waiting</p> <p>Irritability & anger</p> <p>Anxiety & depression</p>

Resources

See other Acquired Brain Injury Outreach Service (ABIOS) Information sheets at <http://www.health.qld.gov.au/abios/>

