ACTIVATE THE BRAIN TO ENHANCE A CHILD'S CAPACITY TO LEARN

The Australian Centre for Autism and Neurodevelopment (AusCan) provides a pathway for parents and caregivers looking to maximise their child's capacity to learn – and potentially thrive – following an autism or neurodevelopment diagnosis.

Our combined approach of bringing neurodevelopment and behavioural therapies together is an Australian first and enables families to isolate and target areas of concern from a multi-disciplinary capacity.

AusCan is led by qualified and reputed professionals and backed by a belief that diagnosis holds no boundaries; our client outcomes are testiment to this.

AusCan represents a positive and optimistic environment that understands, inspires and supports families through these critical yet enlightening early years.

JOIN OUR COMMUNITY

AusCan regularly hosts scheduled information events, many available as webinars for a national and international audience.

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Australian Centre for Autism and Neurodevelopment

TRANSCRANIAL DIRECT STIMULATION (tDCS)

STIMULATE THE BRAIN

Part of the Australian Centre for Autism and Neurodevelopment (AusCan) services suite

www.australianautismcentre.com.au

WHAT IS TRANSCRANIAL DIRECT STIMULATION (TDCS)

Transcranial Direct Stimulation (tDCS) is a non-invasive technique that uses a constant, low-power electrical current that is delivered directly to targeted, specific regions of the brain by using two tiny electrodes attached to the scalp.

The basics about tDCS were established over 100 years ago, in the 19th century. Initial results of electrical stimulation in both psychotic and depressive patient groups were very promising, but largely supplanted by pharmacological and drug-based solutions in the early 20th century.

After a brief resurgence in the early 1960s, recent studies in the 2000s have placed tDCS solidly within the mainstream of mental treatment technologies as the premiere way to induce excitability changes in the cortex and neurological material of the brain.

HOW DOES TDCS WORK?

Research conducted in the last ten years has shown that tDCS can have helpful applications in many different areas of the brain and, when applied as a neuromodulation method, shows promise as a way to enhance mathematical capabilities and language abilities, increase focus and attention span, and provide boosts to coordination, memory, and problem solving.

The effect on the underlying tissue depends on the polarity of the electrode. Cathodes (negative electrodes) decrease the excitability neurons in the brain, while anodes (positive electrodes) increase the activity level of the neurons and cerebral cortex.

Taken together, these two effects can provide drastic, long-lasting impact on brain function. The most promising effect of this technique is that it's not limited to the duration of treatments – long lasting effects can be achieved that remain long after treatment periods are finished.

The precise long-term synaptic changes that are achieved by tDCS vary, depending on the length and intensity of treatment, and the specifics of the targeted brain areas.