BrainDriver – Information Sheet

Supporting Brain Hemisphere Balance

At Children's Therapy Services, we use a range of evidence-informed functional neurology tools to support children's sensory processing, brain development, emotional regulation, and learning. One of these tools is BrainDriver, a gentle transcranial direct current stimulation (tDCS) device used to help activate specific brain areas and promote improved communication between the two hemispheres.

What Is BrainDriver?

BrainDriver is a non-invasive neuromodulation device that delivers a very low-level electrical current through soft electrodes placed on the scalp. This gentle stimulation is designed to activate under-functioning brain networks and support improved neuroplasticity (the brain's ability to change and strengthen connections).

In functional-neurology practice, BrainDriver is used to help bring the left and right hemispheres into better balance, particularly when one side of the brain is processing information less efficiently.

BrainDriver allows therapists to gently:

- Increase activation in under-responsive brain areas
- Support whole-brain communication
- Prime the nervous system for learning
- Enhance regulation, attention, and sensory processing
- Complement movement, sensory, and cognitive therapy tasks

Why Do We Use BrainDriver in Our Clinic?

Many children with developmental, behavioural, sensory, or learning challenges show signs of hemispheric imbalance, where one hemisphere is less active or slower to respond.

Using gentle stimulation alongside movement-based and sensory-based therapy can help strengthen weaker networks and improve communication between both hemispheres.

BrainDriver may assist with:

- Improved attention and focus
- Reduced emotional reactivity
- Better sensory modulation
- Enhanced learning readiness
- More efficient motor planning
- Increased engagement in therapy

Because BrainDriver "primes" the brain, it can make other therapy interventions more effective by preparing neural pathways for activation.

Understanding Hemisphere Activation with BrainDriver

BrainDriver can be set up to support either the left or right hemisphere depending on the child's neurological profile.

Right-Hemisphere Activation (when underactive)

The right hemisphere supports:

• Emotional regulation
• Sensory processing
• Social understanding
• Body/spatial awareness
• Big-picture thinking
• Nonverbal communication

Right-side activation may be considered when children show:

• Emotional dysregulation
• Sensory overwhelm
• Difficulty reading social cues
• Poor balance or body awareness
• Rigidity or difficulty shifting tasks
• Challenges with global or contextual thinking

Left-Hemisphere Activation (when underactive)

The left hemisphere supports:

• Focused attention
• Language and communication
• Sequencing and organisation
• Logic and step-by-step thinking
• Reading and writing
• Working memory

Left-side activation may be considered when children show:

• Distractibility
• Difficulty following instructions
• Slow processing speed
• Learning challenges
• Poor organisation
• Difficulty sequencing or planning tasks

How BrainDriver Helps Children

For ADHD children

BrainDriver may help:

• Increase activation in attention networks
• Strengthen pathways linked to focus and impulse control
• Support sustained attention
• Regulate both under-arousal and hyperactivity

For Autistic Children

BrainDriver may help:

• Activate right-hemisphere networks involved in emotional/social processing
• Support sensory regulation
• Improve body awareness
• Strengthen whole-brain integration for improved flexibility and regulation

For Sensory Processing Differences

BrainDriver may:

• Reduce sensory overwhelm
• Improve sensory registration and integration
• Support better brain-body communication
• Strengthen vestibular, tactile, and visual pathways

For Developmental Delays or Learning Challenges

BrainDriver may:

• Enhance neuroplasticity
• Support reading, writing, and sequencing skills
• Improve processing speed
• Strengthen left/right hemisphere communication
• Prime the brain for learning and cognitive tasks

How Is BrainDriver Used During a Session?

Your therapist will:

1. Conduct a detailed functional neurology assessment, including reflexes, sensory profiling, balance, eye movements, and hemispheric indicators.
2. Determine which hemisphere requires support and select appropriate electrode placement.
3. Apply gentle stimulation (up to 30 minutes) while the child engages in integrated therapy tasks such as:
   • Balance and vestibular activities
   • Reflex integration movements
   • Cognitive tasks (reading, visual scanning, sequencing)

- Visual-motor coordination
- Emotional regulation strategies

4. Monitor changes in attention, posture, behaviour, and arousal throughout the session.

BrainDriver is always used as part of a broader therapeutic program — never in isolation.

What Are the Benefits?

BrainDriver may support:

✅ Improved attention and focus
✅ Better emotional regulation
✅ Increased sensory organisation
✅ Enhanced left/right brain communication
✅ Stronger activation of under-functioning brain networks
✅ Faster processing and learning readiness
✅ Improved motor planning and coordination
✅ Better engagement in therapy tasks

Is BrainDriver Safe?

Yes. BrainDriver uses very low-level, non-invasive electrical stimulation and is considered gentle and safe when used with professional guidance.

Children are closely monitored throughout the session, and stimulation levels are kept low and comfortable.

Our Approach at Children's Therapy Services

BrainDriver is integrated within a whole-child framework alongside:

- Functional neurology assessments
- Occupational Therapy
- Sensory modulation and sensory-motor programs
- Primitive reflex integration
- Visual-motor and vestibular development
- Behavioural and emotional regulation support
- Individualised learning readiness programs

Every therapy plan is personalised according to the child's neurological profile, developmental goals, and areas of strength.