Peripheral Nerve Stimulation (PNS) – Information Sheet

Supporting Brain Activation, Regulation, Sensory Processing & Functional Development

At Children's Therapy Services, we use a range of evidence-informed, functional neurology approaches to support children's neurological, sensory, and developmental needs. Peripheral Nerve Stimulation (PNS) is one of these tools, providing targeted stimulation to support brain activation, regulation, and communication between the brain and body.

What Is Peripheral Nerve Stimulation (PNS)?

Peripheral Nerve Stimulation (PNS) is a non-invasive technique that uses low-level electrical stimulation to activate specific nerves in the body. In our clinic, this is commonly applied to the tongue and trigeminal nerve regions to support neurological activation and integration.

The stimulation provides targeted sensory input to the nervous system, helping to improve communication between the brain and body, strengthen neural pathways, and support functional development.

It is used to:

• Stimulate cranial and peripheral nerve pathways

• Enhance brain activation and neural connectivity

• Support sensory processing and integration

• Improve motor control and coordination

• Support regulation and functional engagement

Why We Use PNS in Our Clinic

Children who experience challenges with regulation, coordination, or sensory processing may have differences in how their brain is activating and communicating with the body. PNS provides direct neurological input, helping to activate under-responsive pathways and improve integration across systems.

PNS may be used to support:

• Improved sensory processing and awareness

• Enhanced motor control and coordination

• Better oral-motor function and speech support

• Improved regulation and attention

• Greater engagement in therapy and daily activities

Understanding How PNS Supports Therapy

Cranial Nerve Activation (Tongue & Trigeminal)

• Stimulates key cranial nerves linked to sensory and motor function

• Supports oral-motor control, speech, and feeding

• Enhances communication between brainstem and higher brain centres

Sensory-Motor Integration

• Provides targeted sensory input to the nervous system

• Improves coordination between sensory input and motor output

• Supports more organised and efficient movement patterns

Neuroplasticity & Brain Activation

• Encourages development of new neural pathways

• Supports brain adaptability and learning

• Enhances readiness for therapy and skill development

Regulation & Functional Engagement

• Supports nervous system regulation

• Improves attention and engagement

• Helps children access learning and therapeutic activities

How PNS Is Used

Peripheral Nerve Stimulation is used during therapy sessions under professional supervision, with protocols tailored to each child's needs.

A typical session may include:

• Initial assessment and identification of target areas

• Application of gentle stimulation to the tongue or trigeminal regions

• Short stimulation periods integrated into therapy activities

• Monitoring response and adjusting intensity or duration

• Combining with other therapy approaches for optimal outcomes

What Are the Benefits?

✅ Improved sensory processing and awareness

✅ Enhanced motor control and coordination

✅ Better oral-motor function and speech support

✅ Improved regulation and attention

✅ Increased engagement in therapy and learning

Who May Benefit?

Peripheral Nerve Stimulation may support children who experience:

• Sensory processing challenges

• Oral-motor or speech difficulties

• Motor coordination challenges

• Attention and regulation difficulties

• Developmental or neurological differences

Is PNS Safe?

Yes. Peripheral Nerve Stimulation is a non-invasive technique using low-level electrical stimulation and is safe when delivered under professional guidance. Stimulation levels are carefully controlled and tailored to each child to ensure comfort and safety.

Our Approach at Children's Therapy Services

Peripheral Nerve Stimulation is integrated into a whole-child, individualised therapy plan which may include functional neurology, speech therapy, occupational therapy, and sensory integration approaches. All interventions are aligned with meaningful, functional outcomes for each child.