

FUNCTIONAL DEVELOPMENTAL BEHAVIORAL NEUROIMMUNOLOGY | MODULE 3

Module 3: How Is Reality Generated In The Brain?

The role of the immune System in Brain development. The Developing Vestibular System and Mapping Ones-self

Dr. Robert J Melillo & Dr. Peter Scire

Beginning October 1, 2023

NYC

MODULE 3 OUTLINE

DAY 1 |

1 HOUR | Dr. Robert Melillo

Neuroanatomy of The Self

Creating Maps in the brain, postural (proprioception, Tone & Core)

Vestibular

Otoliths

Semicircular canals

Tonotopic Maps

Occulomotor, Visual Maps

Interception (internal Maps) Pain, Temperature, hunger, thirst, urgency, fatigue)

Right Hemisphere

1.5 HOURS | Dr. Peter Scire

The role of microglia in the development of the brain:

1. The Immune Cell of the Brain: Microglia-morphology and development.
2. Discuss the functions of microglia in brain development.
3. Review of the role of various immune molecules in development such as Toll like receptors, complement proteins and MHCs.
4. Microglia and Neurocircuitry
5. Effect of early life environment on microglia trajectory.

1.25 HOURS | Dr. Robert Melillo

Neuroanatomy of the Cerebellum and vestibular system

3 layers, areas, evolution, and input to the cerebellum

The vestibulocerebellum anatomy and development

Surround inhibition

Vestibular neuroanatomy

Paper on upstream Vs downstream development of Cerebellum

Otolith function

Semicircular canal function

2 HOURS | Dr. Robert Mellilo

Video Case History – Presenting cases, from history through examination, therapy and treatment and full reevaluation and results.

Review case ADHD

1.75 HOURS | Dr. Peter Scire

Sensitive Periods of Development

1. How does the maternal immune system impact brain development?
2. Role of maternal cytokines on gestation.
3. What is Maternal Immune Activation (MIA)?
4. Physiological impact of MIA on the developing brain.
5. Environmental factors that impact MIA.

DAY 2 |

1.5 HOURS | Dr. Robert Melillo

Examination Procedures
Cerebellar assessments
Balance assessments
Otolith, vs vestibular examination
Otolith evaluation and rehab
Semicircular canal Evaluation and rehab
CORvs VOR assessments
Hands on training

1.75 HOURS | Dr. Robert Melillo

Treatment Forms (Therapy and Stimulation Forms)

Review all treatment options based on examination findings
Reflexive treatments
PR remediation stimulation
Core treatment levels
Vestibular therapies
Balance

1.5 HOURS | Dr. Robert Melillo

Neglect syndrome, Right hemisphere and research around somatosensory stimulation (TENS, Vibration, OPK, Vestibular etc.)

Demonstrate (TENS procedures and application)

1.75 HOURS | Dr. Peter Scire

Immune Lab Markers

1. Review which serum labs detect inflammation.
2. Discuss which cytokine markers are clinically relevant.
3. Discuss how to evaluate T and B lymphocyte profiles.
4. Discuss how to evaluate NK cell profiles