

Functional Neuro-Development - The Melillo Method

Draft Schedule of both weekends.

Based on outline previously provided by Rob:

Synopsis

Over 6 days (2 x 3-day weekends), Dr Melillo will provide the most cutting edge scientific research, functional assessment tools and techniques and the most advanced treatment modalities that are available today. This is based on over 30 years of clinical experience, research and publications and teaching experience, referred to as the 'Brain Development Blueprint' approach or known as the 'The Melillo Method'.

The Melillo Method is a complete methodology and tool-kit that aims to help both paediatric and adults patients with a range of neuro-developmental imbalance. History forms, diagnostic checklists, clinical rationale and treatment approaches have been developed for the practitioner in mind. The outcome is enabling the practitioner to easily create the most comprehensive and individualized treatment program for each patient no matter what their issues are and no matter what age they are.

In further detail, Dr Melillo will also discuss specific and accepted functional tests that can be used to measure based on normative data the functional degree of disability in all areas, motor, sensory processing, academic and cognitive areas. These act as baseline tests and can be periodically redone to show improvement and to help decide when treatment can end, it makes the treatment goal oriented. He will also discuss the most cutting edge functional imaging tools like QEEG and use this to understand functional connectivity and networks which is the state of the art in clinical neuroscience. The newest emerging field in clinical treatment is called "Digital Medicine" or "Digital Therapy", this is the concept that software and digital technology like video games, virtual and augmented reality, digital sound and music can be used to change the brain and the body. Dr Melillo will discuss his involvement in research and development (currently doing clinical trial for FDA approval) of these types of tools. Additionally, he will discuss the use of Laser, Electromedicine, Transcranial Direct Current Stimulation, Neurofeedback as well as sensory, motor, cognitive and educational therapy along with traditional manual and physical treatments.

Dr Melillo will also discuss the role of the polyvagal system and how it impacts autonomic function, immune regulation and development of the social engagement system and well as attachment and behavior.

Despite being an abridged version of his full (9 x 15 hour module) course, Dr Mellilo ensures it will be one of the most practical and impactful courses you will ever take and it will give you new skills that you will be able to implement in your practice immediately.

Weekend 1 (Melbourne March 6-8, 2020)

What is Functional Neuro-Development?

- Bottom up vs Top down development, and Inside out vs outside in brain
- Complexity and chaos theory and it's relationship to brain development
- Brain development stages primitive reflex, sensory motor, behavior and cognitive stages.
- The Brain Developmental Blueprint Approach to examination and in the development of specific treatment programs
- What is muscle tone? Why is it so important?

The Melillo Method Exam

A. Hemispheric postural Assessment /Tone and Symmetry/ Treatment options

- **The Dominance Profile / Treatment options**
 - o Why do we have a dominance profile, the phylogenetic and developmental origins

B. The Primitive Reflex Exam / Treatment options

- What are primitive reflexes, what is their purpose?
- How to properly assess and inhibit primitive reflexes infants, children, adolescents and adults
 - o Fear Paralysis Reflex
 - o Tonic Labrynthine Reflex
 - o Asymmetric Tonic Neck Reflex
 - o Moro Reflex
 - o Symmetric Tonic Neck Reflex
 - o The Spinal Galant
 - o The Babinski Reflex
 - o The Palmer Grasp Reflex
 - o The Rooting and Sucking Reflex

C. Core Stability and strength/ Treatment options

- The development of the postuomotor system, core stability and how to functionally assess
 - o Prone Core testing
 - o Supine Core testing
 - o Lateral Core testing
 - o Flex/Extension Functional Ratios
 - o Lateral flexion functional ratios
 - o Curl Ups
 - o Push Ups

D. Vestibular exam

- **Otolith Assessment /Balance exam/ Treatment options**
 - The development and function of the otoliths
 - Romberg
 - Sharpened Romberg
 - One leg Stand
 - Fukuda Test
 - Tandem Gait

- **Semicircular canal Assessment /Treatment options**
 - The development and Function of the Semicircular Canals and The Vestibular Ocular Reflex
 - VOR assessment
 - Head Thrust /Dolls eye maneuver
 - Head Shaking Nystagmus Testing
 - Post rotatory Nystagmus

Weekend 2 (Sydney March 14-16, 2020)

The Melillo Method Exam (cont)

E. Oculomotor Assessment/Treatment options

- Development and Function of the Oculomotor System
- Ocular Alignment Testing
- Optokinetic Testing
- Involuntary Saccades
- Smooth Pursuits
- Voluntary Saccades
- Antisaccades

F. Cranial Nerve/Brainstem Exam/ Treatment options

- Review functional anatomy and developmental stages of the Medulla, Pons, Mesencephalon
- Smell Assessment (CN 1)
- Pupillometry (CN 2)
- Oculomotor Function(CN3,4,6 ,Previously reviewed)
- Branchial Arch Cranial Nerves ,5,7,9,10,11,(Chewing, swallowing, ingesting, facial Tone and Symmetry, vocalization, Autonomic regulation, Gesturing, and the social engagement system
- Review the Development of the Autonomic System and the Polyvagal Theory
- Vestibulo/Acoustic Nerve Hearing

G. Cortical Assessment / Treatment options

- Cortical Neuroanatomy /Layers
- Fast and Slow Neurons, Thinking Slow and Thinking Fast
- Dorsal Vs ventral stream sensory processing
- Assessing the parietal vs the temporal lobe functions

- Coticostriatalcerebellothalmocortico network, the basis of all normal and abnormal human behavior
- Functional Neuroanatomy/Assessment/Treatment options
 - o Cerebellum
 - o Thalamus
 - o Basal Ganglia
 - o Prefrontal Cortex
- The Hyperdirect pathway and hemispheric regulation of behavior
- Prefrontal Cortex, areas and functional assessment/treatment options
 - o Premotor/Supplemental areas
 - o Frontal Eye Fields
 - o Dorsolateral Prefrontal Cortex
 - o Orbitofrontal Cortex
 - o Anterior Cingulate

H. Hemispheric Integration

- Development of the immune System and hemispheric regulation
- Reviewing the most current scientific literature as to what is actually happening in the brain of neurobehavioral disorders (right and left hemisphere syndromes) and what we can do about them.

I. **Functional Connectivity, Network Dynamics and Graph Theory**

- Hemispheric controls and concept of Functional Disconnection
- Systems Neuroscience, beyond neuroanatomy and neurochemistry. The Neurophysics of the Brain
- Oscillations, Synchronizations, Graph theory and Rhythms of the brain
- Measuring Brain Networks and their functions QEEG and Functional Assessments

Putting It all together, using The Melillo Method exam and treatment forms to formulate a specific and individualized treatment plan.