Integrated Kinetic Neurology Approach Level 1

Day 1:

9-10:30am

- ***Applied Neurology & Musculoskeletal Rehab Integration Overview***
- Neurology of undisturbed movement vs real-world movement
- Neurology of pain through an IKN lens
- Neurology of stress and its influence on movement control
- Importance of adaptation resources, environmental resilience, and robustness
- Bottom-up & top-down control: "X" pattern approach

10:45-11:45am (Practical breakout for each section)

- ***Identifying the neurological/psychological state of the client***
- Practical assessments to determine how clients manage gravity
- Identifying sensory re-weighting ability (proprioceptive- visual- vestibular)
- How to use biofeedback markers to guide treatment plan
- Understand the influence of ocular reflexes on muscles tone/tension
- How to use reflexes to reduce muscle tone and facilitate ideal environment

11:45-12:45pm (practical breakout for each section)

- ***Breathing & Neurology***
- How breathing patterns impact muscle tone
- Rib cage mechanics and their influence on spine-related pain
- Breathing strategies to reduce muscle tone and improve spinal/rib cage coordination
- Layering breathing strategies, ocular reflexes, and proprioceptive load to influence pain

1:45-4:00pm (practical breakout for each section)

- ***Proprioceptive assessment & loading***
- Introduction to midline vs limb assessment and rehabilitation
- Hands-on upper & lower limb synergy assessment
- How to improve "cortical mapping" before progressing with graded exposure rehab
- Layering "cortical mapping" techniques with isometric rehab for pain and movement
- How to create a unique rehab pain using breath, visual load, and proprioceptive load

4:00pm-5:00pm (practical breakout for each section)

- ***Neuro-Balancing Movement***
- Leveraging inter-limb neural coupling for pain & movement issues
- Desensitization strategies through redistributing mechanical stress & force
- Central pattern generators and their influence on movement & coordination
- How to use spinal reflexes to reduce sensitivity and improve load tolerance

Day 2:

9am-9:45am

- Review/Case examples using day 1 practical material

9:45am-10:30pm (Practical breakout for each section)

- ***Multi-Sensory Integration***
- Visual system and its influence on muscle tone, pain, and movement coordination
- Vestibular system and its influence on muscle tone, pain, and movement coordination
- Influence of the cerebellum on movement control and pain expression
- Sensory mismatch influence on persistent pain

10:30-12:00pm

- ***Vestibular System Integration***
- Vestibular system load capacity testing
- Vestibular reflexes and their influence on spinal control
- Treatment strategies for vestibular “load discrepancies”
- Layering vestibular drill with specific proprioceptive loading strategies
- Integrating the vestibular system into a graded exposure rehab plan
- Case examples

1:00pm-2:30pm

- ***Visual System Integration***
- Visual system load capacity testing
- Extra-ocular muscle/eye movement coordination assessment
- Treatment strategies for poor eye muscle coordinative load capacity
- Visual integration with specific proprioceptive loading strategies
- Integrating the visual system into a graded exposure rehab plan
- How to get buy in for top-down sensory loading & case examples

2:30pm-4:00pm

- ***TMJ & Cerebellar Integration***
- Trigeminal nerve/jaw influence on spinal & upper extremity pain presentations
- TMJ load capacity testing & integration
- Specific TMJ loading strategies and layering techniques with spine and extremities
- Manual strategies for TMJ loading
- Cerebellum assessment & integration

4:00pm-5:00pm

- ***Structuring Multi-sensory Graded Exposure Rehab Plans***
- Step by step case examples to build multi-sensory rehab plans
- Specific conditions that require more “top-down integration”