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| **TITLE: Neuroplasticity for Neurology, Geriatrics, and Orthopedics: Your How-to Guide** |
| **Participant Level:**Intermediate |
| **COURSE DESCRIPTION:**This is your "How-to" manual for neuroplasticity. How to maximize learning and ensure permanence in your patients with impairment in neurologic or orthopedic systems, at any age. We will reveal novel and intense clinical approaches that are well-suited to help a diverse of range of needs. From the patient with arthritis that needs to learn and perfect and automatize kinesthesia in the R knee, to the patient with neuropathy, and even covering central changes in persons more than 6 months post stroke, or have Multiple Sclerosis (MS), with Parkinson’s Disease (PD) after brain injury or surgery (from concussion, to TBI, to tumor). This approach includes interventions that are designed and built directly from evidence and are adapted with consideration for the unique attributes and presentations of each PERSON, more so than just diagnosis. Additionally, this application will reveal incorporation of recent advances in motivation, motor learning, and practice - displaying all through videotape case study demonstration. Attendees will be engaged in a thought-provoking presentation that challenges previous misconceptions about the timeline of recovery and potential for improvement building on recent evidence of high-intensity interval training, procedural memory training, circuit training, task specific overtraining, motor learning, OPTIMAL, forced-use and many more – across mobility, communication, cognition and ADL applications.  The course will provide the learner from all practice points with tools to rehabilitate clients regardless of equipment and technological availability. Consider what it looks like IN PRACTICE, to actually get neuroplasticity using the ONLY 3 ways it can be done: constraint, incentive, and avoidance. |
| **LEARNING OBJECTIVES:  Upon completion of this course, you will be able to:**   1. Identify neurophysiologic changes that occur in many individuals in chronic pain, or after months and years post CVA, brain injury, and with PD. 2. Apply recent evidence in motor learning and motivation to maximize the recovery for clients in in geriatrics, neurology, and orthopedics. 3. Apply recent evidence in practice structure, motivation, attention and feedback to maximize motor learning for all patients in rehabilitation. 4. Debunk rehabilitation myths about recovery dependence on timing and technology in effective rehabilitative outcomes. |
| **KEYWORDS:**stroke, degenerative disease, brain injury, chronic pain, neuroplasticity, motivation. |
| **Session Outline:**   * Introduction to the physiologic and morphologic changes in chronic stroke recovery, degenerative disease, and brain injury * Evidence in chronic stroke rehabilitation to date: successes, limitations and opportunities * Novel clinical application in chronic post stroke recovery: motivational and exercise attributes * Novel clinical application in chronic post stroke recovery: practice structure and feedback attributes * Case studies in chronic stroke, PD, MS, TBI recovery. Videotape application for use all points in the continuum of care * Questions and summary |

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| **Course Timeline:**  **FRIDAY, March 29  5:30 PM- 8:30 PM**   * 5:30   Introduction and Evidence-based learning for normal and impaired subjects/patients * 6:00   Enhanced Expectancies: Creating an environment of success and priming. * 7:05   Break * 7:20    Autonomous Support: Facilitating and maximizing attention, confidence and interest   **SATURDAY MARCH 30  9:00 AM-4:00 PM**   * 9:00 External Feedback: Improving the permanence of learning through goal-directed behavior * 10:05  Documentation in a manner that will demonstrate skilled therapy and justify reimbursement in neurology, geriatrics, or orthopedics for persons with impaired attention, motor learning, or motivation * 10:30 80 Case Studies * 11:45-12:45 Lunch * 12:45 The future of treatment: OPTIMAL-based learning advances in the clinic * 1:45:  Technological and scientific advances * 2:15  Break * 2:30 Videotape case studies * 3:30  Questions and summative comments |
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