

Neuroplasticity, Contemporary NDT and Evidence - Interconnected?

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This presentation, originally prepared for the 2014 NDTA Conference, is an opportunity for NDT Certified paediatric practitioners to explore the possible link between neuroplasticity and contemporary NDT, and to learn research methods used to provide evidence of NDT efficacy - the 'NDT Measurement Model'. The possible link between the 'Science of Brain Plasticity' and NDT, and the evidence base for NDT will be addressed and discussed. Topics will include:

- What is neuroplasticity and how does it work?
- From descriptions of each field of practice - 'Brain Plasticity Based Therapeutics' and NDT - can we hypothesise that NDT is a plasticity-based treatment?
- Is the positive change we observe and measure in the performance of tasks intensive contemporary NDT skill/task related intervention
- a result of neuroplastic change?
- Can we, as clinicians, design randomised controlled trials (RCTs) to measure functional change and, hence, add to the body of evidence for NDT efficacy?
- Could this progress be evidenced by neuro-plastic change - as observed, for example, in fMRIs?
- Could there be connections between neuro-plasticity, evidence from clinical trials, and contemporary NDT?

Practice sessions will include learning a number of NDT treatment strategies for specific change in task/skill performance for children with cerebral palsy. In addition, participants will practise applications of an 'NDT Measurement Model' - a child-friendly model comprising both quantitative and qualitative outcome measures. The measures include Goal Attainment Scaling (GAS), video analysis and parent surveys. Practical sessions will include exercises in empirically measuring change in task/skill performance.

At the conclusion of this presentation, participants will be able to:

- Recognise that principles of contemporary NDT must be adhered to for 'fidelity' in NDT research,
- Identify potential links between contemporary NDT and 'brain neuroplasticity based therapeutics',
- Explain why examples of evidence of measurable functional outcomes following intensive contemporary NDT therapy might result from neuroplastic change in the CNS,
- Experience NDT intervention - treatment strategies targeted towards specific change in task/skill performance.