NDS Neurodynamic Solutions

In-Person Upper Quarter 1
2026

All courses on neurodynamics are based on Michael Shacklock's international best seller physical therapy text book, Clinical Neurodynamics, Elsevier, Oxford, 2005. They also internationally standardised and transferable to other countries.

Course Highlights - General

Fundamentals

Practical to theory - 65:35.

Strong hands-on and discussional elements.

Many new manual techniques for the most significant neural problems seen in musculoskeletal practice.

Systematic treatment progressions for:

- cervical radiculopathy
- shoulder and brachial plexus
- neural aspect to lateral elbow pain
- wrist pain.

Advanced

More clinical syndromes, diagnostic categories and advanced clinical reasoning illustrations of Shacklock's Clinical Neurodynamics system.

Detailed hands-on and discussional elements.

Many new techniques for manual diagnosis and integration of the nervous with musculoskeletal practice in advance of the fundamentals:

- multistructural nerve unloading techniques - 1c
- multistructural nerve loading and advanced movement techniques - 3c
- applied to neck and shoulder dyskinaesia.

What You Learn

How nerves move.

Painless nerve root mobilisations.

How to include or exclude neurodynamic disorders.

What is an abnormal neurodynamic test and what this means.

Differentiate between musculoskeletal and neurodynamic components

Make a neurodynamic diagnosis with diagnostic categories.

Technique progressions from low to high functional levels.

How to create, select and perform the best techniques for your patients.

Manual precision of neurodynamic technique.

How to detect contraindications for neurodynamic treatment.

How to apply clinical reasoning priniciples to selection and variations in treatment for patient uniqueness for movement strategies and pain.

Course Objectives

Fundamentals

Improve and develop:

- manual skills, specifically the ability to feel abnormalities in movement related to the nervous system in the upper quarter
- abilities in diagnosis and interpretation of neurodynamic testing and musculoskeletal relationships
- clinician’s repertoire of diagnosis and treatment of techniques safety in relation to neurodynamics
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- ability to diagnose functional disorders in neurodynamics
- ability to select appropriate treatment for specific functional disorders in neurodynamics
- ability to progress treatment from low to high functional levels
- ability to detect contraindications to neurodynamic treatment and when to stop treatment for safety reasons.

Advanced

Advance manual diagnosis and treatment skills to new and more complex areas of neurodynamics.

Learn diagnosis and treatment for more complex neurodynamic dysfunctions.

Expand the clinician's skills in diagnosis and treatment of neurodynamics in relation to the musculoskeletal system, including various dyskinaesias.

Update the research literature (evidence) in relation to neurodynamics: systematic, physical mechanisms, clinicial trials and systematic reviews.

NDS In-Person Upper Quarter

32 hours

NB: Daily start and finish times vary by country.

DAY 1 - 8:30 am - 5.30 pm

8:00-10.30 - Concept of neurodynamics: general and specific - theory

- convergence
- sliding, tensioning
- neurodynamic sequencing
- linking mechanics and physiology
- neurodynamic tests
- structural differentiation
- contralateral neurodynamic tests

10-30-10.50 - Morning tea

10.50-12.30 - Nerve palpation - practical

- median nerve at wrist and elbow, motor branch median nerve
- ulnar nerve at wrist and elbow
- posterior interosseous nerve at elbow
- radial sensory nerve
- brachial plexus lower cervical spinal nerves

12.30-1.30 Lunch

1.30-3.00 - Standard Neurodynamic Testing - practical

- median nerve 1 and 2, brachial plexus and nerve roots
- ulnar neurodynamic test
- radial neurodynamic test

3.00-3.20 - Afternoon tea

3.20-5.00 - Diagnosis with neurodynamic tests - theory/practical

- musculoskeletal, normal, abnormal covert and overt responses
- Planning physical examination and treatment - levels/types 0, 1, 2, 3a, b, c

DAY 2 - 8:30 am - 5.30 pm

8.00-10.00 - Diagnostic categories - theory

- interface: reduced closing, reduced opening
- neural tension dysfunction and their causes
- mechanisms of pathophysiology

10.00-10.30 - Method of treatment - theory

- pathophysiology
- pathomechanics
- progression system
- static openers, dynamic openers, dynamic closing techniques
- neural offloaders sliders, tensioners
- systematic of application and technique schema

10-30-10.50 - Morning tea

10.50-12.30- Treatment - practical

- neck pain and cervical radiculopathy
- opening and closing dysfunctions
- combined opening and closing dysfunctions with neural tension - multistructural

12.30-1.30 - Lunch

1.30-3.00 - Treatment (cont) - practical

- cervical neural tension dysfunction, contralateral level 1 nerve root techniques
- level 2, 3 neurodynamic technique
- progressions from protect to mobilisation strategies- complete cervical spine dysfunctions.
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3.00-3.20 - Afternoon tea

3.20-5.00 - Treatment - practical

- lateral elbow pain (supinator tunnel syndrome) opening, closing sliders, tensioners
- carpal tunnel syndrome, openers and closers, sliders and tensioners, multistructural

Day 3 - 8:30 am - 5.30 pm

8.00-10.30 - Advances in Neurodynamics - theory

- neurodynamics in perspective
- dyskinaesia in relation to nerve
- neurodynamic models: cooperative and competitive
- advances in neuropathodynamics
- advanced classification of techniques - 1a, b, c.

10-30-10.50 - Morning tea

10.50-12.30 - New neurodynamic tsts - practical

- contralateral and bilateral neurodynamic tests
- bilateral MNT
- bilateral SLR for neck pain.

Suprascapular and axillary nerves

- palpation, neurodynamic testing
- treatment.

12.30-1.30 - Lunch

1.30-3.00 - Thoracic outlet syndrome and shoulder dyskinaesia - practical

- level 1 (pain relief) to level/type 3c (high performance)
- costoclavicular space opener to closers
- pectoralis minor, brachial plexus and shoulder dynamics.

3.00-3.20 - Afternoon tea

3.20-5.00 - Advances in Neuropathodynamics - theory

Cervicobrachalgia - complex diagnoses:

- opening and nerve
- closing and nerve
- muscle hyperactivity and neural relationships.

Physical examination - practice

- observation and hypothesis generation
- physical testing of hypotheses
- planning treatment.

Day 4 - 8:30 am - 5.30 pm

8.00-10.30 - Treatment - nerve in conjunction with interface - practical

- levator scapulae
- upper trapezius
- anterior and middle scalenes.

10-30-10.50 - Morning tea

10:50-12:30 - Neural aspect to cervicogenic headache - theory

- dural and myofascial aspects:
- theory, specific anatomy and neurodynamics.

12.30-1.30 - Lunch

1.30-3.00 - Physical examination and treatment - practical

- palpation occipital nerves
- neurodynamic testing
- treatment of neurodynamics
- progressions - levels 1-3.

3.00-3.20 Afternoon tea

3.20-5.00 - Case discussions - clinical reasoning and problem solving.

Close - 5:30

Key References

Upper Quarter 1

Bueno Gracia, Pérez-Bellmunt A, Estébanez-de-Miguela E, López-de-Celis C, Caudevilla-Polo S, Shacklock M, González-Rueda V 2020 Effect of cervical contralateral lateral flexion on displacement and strain in the median nerve and flexor digitorum superficialis at the wrist during the ULNT1 – Cadaveric study. Musculoskeletal Science and Practice 50 (2020): 102244 DOI:10.1016/j.msksp.2020.102244.

Bueno-Gracia E, Ruiz-De-Escudero-Zapico A, Malo-Urriés, Shacklock M, Estébanez-De-Miguel E, Fanlo-Mazas P, Caudevilla-Polo C, Jiménez-Del-Barrio S 2018 Dimensional changes of the carpal tunnel and the median nerve during manual mobilization of the carpal bones. Musculoskeletal Science and Practice. DOI: 10.1016/j.msksp.2018.04.002.

Elmaazi A, Morse C, Lewis, Qureshi S, Mcewan I 2019 The acute response of the nucleus pulposus of the cervical intervertebral disc to three supine postures in an asymptomatic population. Musculoskeletal Science and Practice. DOI: 10.1016/j.msksp.2019.07.002.

Jiménez del Barrio S, Bueno Gracia E, Hidalgo García C, Estébanez de Miguel E, Tricás Moreno JM, Rodríguez Marco S, Ceballos Laita L 2018 Conservative treatment in patients with mild to moderate carpal tunnel syndrome: a systematic review. Neurología 33 (9): 590-601.

Shacklock M, Rade M, Poznic, Marčinko M, Fredericson M, Kröger H, Kankaanpää M, Airaksinen O 2022 Treatment of sciatica and lumbar radiculopathy with an intervertebral foramen opening protocol: pilot study in a hospital emergency and in-patient setting. Physiotherapy Theory and Practice. DOI: 10.1080/09593985.2022.2037797.