

Detailed Course Outline (The Brain, Pain and the Jaw, Head and Face)

Please Note: Throughout all 9 Sessions over the weekend, attendees will be positioned at treatment tables, in groups of 3, throughout the session, enabling smooth transition from didactic to practical to didactic.

Saturday

SESSION 1: 8.30-9.30 (Russ)

The Field of Craniofacial Pain

Background

Headache, Jaw and Face pain is a common reason for people attending the clinics of manual therapists of all kinds. Yet too often we stop at the upper cervical spine and occiput in our biomechanical evaluation and treatment.

The function and pathophysiology of the articulations and myofascia of the skull, jaw and stomagnathic system can be a complex and sometimes mysterious realm for many physical therapists, yet treatment targeted at these structures can be pivotal in finding lasting solutions for many suffering from craniofacial pain.

In this introduction, Russell will give you an overview of the field of craniofacial pain, who are the players, what they're doing and some of the research behind what is being done.

The aetiology, epidemiology and functional anatomy will be reviewed and he will outline the approach that we will take over the next 2 days in bringing you up to speed in your assessment and management of these patients.

THEORY OBJECTIVES:

- 1A. The aetiology, epidemiology, risk factors for, and the biomechanical treatment approaches to, craniofacial pain**
 - 1B. Regional anatomy review**
-

SESSION 2: 9.30-10.30 (Paul)

Central Pain in the Chronic Head and Face Pain Patient-Where does it come from? How Do We Clinically Assess it?

Background

Clinical neuroscience research is flooding the everyday, average, suburban manual therapy practice. Regions of the CNS that were afterthought inclusions in a neuroscience curriculum 20 years ago are now postulated as primary locations of dysfunction in the chronic pain patient.

How do we keep up with it?

In this introductory hour, Paul will alleviate your stress. He will introduce the concept of central pain sensitization, where in the CNS dysfunction might be localised, and introduce what you should be listening for in your patient's history, and what you should be looking for in your patient's examination. Topics covered:

THEORY OBJECTIVES: (9.30- 10)

2A. Neuron Theory and The Neurological Central Integrative State (CIS)

2B. Neural Network Theory and the Chronic Central Pain Patient

HANDS-ON PRACTICAL OBJECTIVES: (10-10.30)

2a. How to Grade 5 Clinical Signs of Neuronal Fatigue in your Chronic Central Pain Patient

This will be a systematic evaluation of both "Failure" and "Release" neurological signs easily detected in your chronic pain patient.

10.30 to 10.50 morning tea

SESSION 3: 10.50-12.50 (Russ)

TMJ Assessment and examination

Background

Understanding how to quickly and easily assess a patient who presents with head, jaw or face pain is essential. In this 2-hour session demonstration and practice will be integrated. You will be shown the fundamentals of a biomechanical assessment of the temporomandibular joint and guided through performance of these procedures.

Participants will be provided with assessment forms that will form the basis for an assessment of your colleagues on the day and can be utilised in practice into the future.

THEORY OBJECTIVES:

3A. The relevant elements of history taking for the craniofacial pain patient

3B. Rationale for performing assessment of the jaw joint. Normal and abnormal.

3C. A quick look at imaging procedures for the TMJ

HANDS-ON PRACTICAL OBJECTIVES:

3a. Development of manual skills necessary to assess the function of the TMJ. This will include assessment of; active and passive ROM, myofascia, joint noise, joint play and pain mapping.

12.50 to 1.30 LUNCH

SESSION 4: 1.30-3.30 (Paul)

The Role of the ANS in Centrally Mediated Head and Face Pain

Background

The Autonomic Nervous System remains poorly understood and integrated in the modern manual therapy practice. Many practitioners are still under the illusion of segmental autonomic function. The management of centrally mediated head pain demands a more adequate explanation of the role of the ANS in the diagnosis and management of chronic head and face pain. During this session, Paul will review the evidence based literature, explain the functionality of the ANS and explore the role the ANS plays in chronic pain. He will integrate a practical session, demonstrating how to regionally assess the ANS, and tease out dysfunctional neural networks, from the neocortex to the thoracic spine, that might be involved in ANS mediated central pain syndromes.

THEORY OBJECTIVES: (1.30- 2.30)

- 4A. Neocortical Laterality and the ANS
- 4B. The Mesencephalon and the ANS
- 4C. The Vagus
- 4D. The IML
- 4E. Trigeminal Pain and the ANS, a brainstem model.

HANDS-ON PRACTICAL OBJECTIVES: (2.30-3.30)

- 4a. ANS laterality-detecting the difference within the functionally disconnected right and left neocortex
- 4b. Mesencephalon and the ANS- the mesolimbic assessment
- 4c. The Vagal Vine, detecting and assessing dysfunction within the vagal distribution
- 4d. IML, and dysfunctional sympathetic tone, how do we tell?
- 4e. The Trigeminal ANS assessment.

3.30-3.50 AFTERNOON TEA

SESSION 5: 3.50-5.30 (Russ)

Assessment of dental occlusion, dental treatment approaches and multidisciplinary co-operation

Background

The management of TMJ disorder requires a basic understanding of the way the teeth come together and the part this may play in the development and perpetuation of craniofacial pain. As

manual therapists we need to be able to look inside a mouth and determine if the occlusion may be a factor in aetiology and/or may need to be a focus for treatment. We also need to have some appreciation for what can be done dentally to contribute to the management of this patient. In acquiring this knowledge, we are better able to determine if we need dental assistance.

Understanding the way that dentists manage this type of patient and some of the procedures they use, contributes greatly to better coordination of treatment and avoids conflicting information that may confuse the patient. It also enhances communication between treating practitioners.

THEORY OBJECTIVES:

5A. What to look for with the dental occlusion and why.

5B. What are some common dental approaches to the treatment of TMJ disorder.

5C. How to find a dentist that might be useful in co-treatment

HANDS-ON PRACTICAL OBJECTIVES:

5a. Acquire the skills necessary to evaluate the dental occlusion for risk factors for TMD

Sunday

SESSION 6: 8.00-10.00 (Paul)

The Role of the Dorsal Anterior Insula and Cerebellum in Centrally Mediated Head and Face Pain

Background

The Dorsal Anterior Insula? Certainly a mouthful! But this region is where the chiropractic spinal adjustment might do its greatest work. So much so, *psychologists* are attempting manual therapy to improve function in this region and reduce pain in their patients!!

The Cerebellum and Pain? It is important that manual therapists realise just how important a functional cerebellar assessment is when devising management strategies for chronic pain patients

Mounting evidence suggests that aetiology for Centrally-mediated Head and Face Pain lies within fatiguing, dysfunctional lateralised neural networks within the neocortex, the dorsal anterior insula, the subcortical structures such as the basal ganglia-thalamic networks, and within the complex reticular formation of the brainstem. These regions present significant complexity pertaining to the in-office clinical assessment and directing targeted therapy. During this session of the weekend, Paul will concisely detail the neurological regions most likely involved in the Central Head and Face Pain Patient, and take you through a systematic examination protocol of these regions. You will be able to easily apply information learned during this section into your everyday practice.

THEORY OBJECTIVES: (8am-9am)

- 6A. Clinical Anatomy of Neo-Cortical/Dorsal Anterior Insula Dysfunction in the Centrally Mediated Head and Face Pain Patient
- 6B. Clinical Anatomy of Basal Ganglia-Thalamus Neural Network Dysfunction in the Centrally Mediated Head and Face Pain Patient
- 6C. Clinical Anatomy of Mesencephalon Dysfunction in the Centrally Mediated Head and Face Pain Patient
- 6D. Clinical Anatomy of Brainstem/Reticular Formation Dysfunction in the Centrally Mediated Head and Face Pain Patient
- 6E. Clinical Anatomy of Cerebellar Dysfunction in the Centrally Mediated Head and Face Pain Patient

HANDS-ON PRACTICAL OBJECTIVES: (9am-10am)

- 6a. Clinical Assessment of Dysfunctional Neo-Cortical Laterality: Detecting Dysfunction in The Lateral and Medial Frontal Lobe, the Parietal Lobe, the Lateral and Medial Temporal Lobe, The Insula, The Right Limbic Lobe
- 6b. Clinical Assessment of Dysfunctional Mesolimbic-Basal Ganglia-Thalamic Networks the Centrally Mediated Head and Face Pain Patient
- 6c. Clinical Assessment of the Dysfunctional Mesencephalon-Tectospinal, Rubrospinal, and Ocular Tropisms and Phorisms
- 6d. Clinical Assessment of Brainstem/Cerebellar Networks in the Centrally Mediated Head and Face Pain Patient
- 6e. Putting it Together: A Brain-Based Functional Assessment of the Trigeminal System

10.00-10.20 MORNING TEA

SESSION 7: 10.20 -12.20 (Russ)

TMJ disorder diagnosis and management

Background

Putting together the information we have acquired in the examination process we are able then to, hopefully, come up with a differential diagnosis.

In this session Russell will outline the criteria for making a diagnosis of the patient's condition. He will then move on to the therapeutic prescriptions for treatment suggested by these diagnoses and demonstrate the basic manual therapeutic procedures required to manage these patients.

THEORY OBJECTIVES:

- 7A. Understanding the decision making processes required to accurately diagnose craniofacial pain
- 7B. Understand the target tissues and their pathophysiology
- 7C. Understanding the theory behind the application of certain therapeutic intervention
- 7D. Observe and learn self-help exercises

HANDS-ON PRACTICAL OBJECTIVES:

- 7a. Learn and practice the skills required to effectively apply therapeutic intervention
- 7b. Learn how to demonstrate therapeutic exercises

12.20 to 1.00 LUNCH

SESSION 8: 1-3 (Paul)

Managing the Neurological Sequelae of the Centrally Mediated Head and Face Pain Patient

Background

How do we assemble the information learned so far into effective, office based clinical applications? Let's face it, all manual therapies struggle to find hard evidence to justify treatment or management choices. During this session, Paul will combine 20 years of clinical experience managing chronic pain patients with a functional clinical neuroscience model. He will share the latest research evidence with what he has found works within a chiropractic office setting. This session will build upon theory and practicals presented throughout the weekend, and will be a fully, hands on 2-hour session. Attendees will be taken, step by step, through a range of sensory, somatic and cognitive motor clinical applications that will assist you in identifying and managing the centrally mediated head and face pain patient.

8a: Sensory Motor Strategies for Hyperconnected Right Medial Fronto-Limbic Dysfunction

This will include demonstration of evidence-based clinical applications directed towards parietal lobe activation, dorsolateral frontal lobe activation, anterior cingulate and dorsal anterior insula regulation, as well as mid brain regulation.

8b: Sensory Motor Strategies for Hypoconnected Pallidal-Meso-Thalamic Dysfunction

This will include demonstration of evidence-based clinical applications directed towards regulation within the basal ganglia-midbrain network.

8c: Sensory Motor Strategies for Hypoconnected Cerebellar-Vestibular Dysfunction

This will include demonstration of evidence-based clinical applications directed towards regulation of the VOR, VSR and brainstem gaze stabilisation centres.

8d: Sensory Motor Strategies for Regulation of the ANS

This will include demonstration of evidence-based clinical applications directed towards regulation of brainstem vagal and reticular formation centres involved in the maintenance of autonomic tone

8e: Sensory Motor Strategies for management of the dysfunctional Trigemino-Cervical Complex (TCC)

This will include demonstration of adjunctive evidence-based clinical applications directed towards regulation of TCC when the primary therapy is cervical manipulative therapy

3.00-3.20 AFTERNOON TEA

SESSION 9: 3.20-5.00 (Russ)

Introduction to assessment and management of the Articulations and Myofascia of the skull and face

Background

All manual therapy approaches have a tradition of manipulation and mobilisation of the articulations and myofascial of the skull and face. Some of these approaches are more controversial than others as to scientific validity and effectiveness, yet can have a vital role in an holistic approach to management of craniofacial pain

In this session Russell will have a look at the history, theory and basis for cranial therapy. He will review the literature and attempt to demystify a body of knowledge that has persisted for a century or more despite significant scepticism.

He will put forward a scientifically sound ,rational treatment approach designed to bring this form of treatment into the mainstream.

THEORY OBJECTIVES:

- 9A. The history, theories and practices of cranial therapy**
- 9B. Towards a scientifically sound approach to manipulation and mobilisation of the articulations and myofascial of the skull and face**
- 9C. Assessment and treatment approaches to the cranium**

HANDS-ON PRACTICAL OBJECTIVES:

- 9a. Acquisition of the fundamentals of basic cranial manipulation techniques**
- 9b. Acquisition of the basics of assessment of biomechanical function of the cranium and its functional structures**