

# WATSON HEADACHE® INSTITUTE

EDUCATING HEALTH PROFESSIONALS ABOUT CERVICOGENIC HEADACHE AND THE ROLE OF  
C1-3 CERVICAL AFFERENTS IN PRIMARY HEADACHE SINCE 1994

## 'Cervicogenic Headache & the Role of C1-3 Cervical Affents in Primary Headache'

Level 1 Foundation Headache Course

3 days, 50% Theory & 50% Practicum

Dean Watson Ph.D, Course Author and Presenter

### 1. Introduction and Philosophy of the Course:

In manual therapy circles, the concept of cervicogenic headache is universally accepted. However to just consider cervicogenic headache i.e. a noxious disturbance in the upper cervical spine is interpreted as residing in trigeminal territory, does a disservice to the role of cervical afferents in primary (tension/migraine/cluster etc) headache conditions. This course challenges traditionally held beliefs and will change perspectives on the role of upper cervical afferents in primary headache.

This is a highly practical, interactive course is based on contemporary research, Dean's unparalleled clinical experience (see CV) and his groundbreaking Ph. D findings and focuses on the assessment (identification of) and management of cervicogenic headache and relevant cervicogenic dysfunction in primary headache.

The **subjective examination** of headache is arguably more important than in any other musculoskeletal condition for three reasons:

- in other musculoskeletal conditions there are reproducible objective signs which can be reassessed but this is not the case in headache – there is an increased reliance on the subjective features;
- recognition of the '**Red Flags**' – intracranial pathology; tumours (particularly in children) or a low volume slow leaking aneurysm which are misdiagnosed significantly – up to 60 per cent; and
- potential **instability** – it has been argued that at best, it is presumptive of us, and at worst dangerous, for us as manual therapists to be assessing the craniovertebral ligamentous structures; the ability to recognise instability before you lay your hands on is crucial.

Research has demonstrated that cervicogenic dysfunction exists in different headache forms but is it relevant?

Dean has developed innovative examination techniques, which not only ascertain if cervicogenic dysfunction is relevant to primary headache conditions but can also determine which of the spinal segments or combination thereof is responsible. This diagnostic accuracy underpins successful management.

**Reproduction and lessening of headache** (as the technique is sustained) is crucial otherwise a false impression may be gained. Reproduction with subsequent lessening of symptoms implies that upper cervical afferents are instrumental in the headache/ migraine condition and, combined with knowledge of the relevant biomechanics and recognition of clinical patterns, it is possible to determine at a segmental level the source of the headache during a headache free period.

Are you not confident using high velocity thrust techniques (HVTTs) in the upper cervical spine? The treatment of relevant movement abnormalities **does not involve HVTTs**. This course will demonstrate assessment and treatment on participants with headache or migraine and also Dean examines unseen patients – this brings it all together and constitutes a superior learning experience.

The course also reviews the standard examination techniques of craniocervical stability (and the subjective features suggestive of potential instability). Dean's perspective is that traditionally taught tests are unnecessarily aggressive (even dangerous), perhaps stressing already vulnerable structures... there is no need to produce cardinal signs of cord compression to identify instability. Alternative, sophisticated testing, which is not reliant on cord compression and which minimise impact on possibly already compromised structures will be demonstrated and practised.

Each subsequent day begins with a 30-40 minute review/consolidation exercise in which participants (in groups of three) work through and practice the content of the previous day.

## 2. Aims:

- To conduct a sensitive, discerning, comprehensive and effective subjective examination;
- To improve your ability to recognise "Red flags" and potential instability;
- To improve your ability to identify relevant segmental (CO-C3) dysfunction;
- To improve your ability to localise which segmental level (or combination thereof) is the source of headache;
- To lessen the impact of your manual examination (and treatment) on potential craniocervical instability;
- To provide an effective alternative (to HVTTs) for the management of upper cervical hypomobility; **and**
- To add another dimension to each participant's treatment of not only cervicogenic headache but also enable treatment of primary headache.

### 3. Learning Outcomes of the Course:

On completion of the course participants will be able to:

- Conduct a comprehensive, sensitive (to 'Red Flags' and potential instability) and effective subjective examination;
- Perform a responsible and sensitive assessment of the craniovertebral ligamentous status;
- Determine the relevancy of C1-3 afferents to the headache/ migraine;
- Determine which segment or segments are the source of the headache/ migraine;  
and
- Treat hypomobility of the upper cervical segments without the use of HVTTs.

### 4. Structure of the Course (see also Course Program):

- **The Medical Model of Headache.** (Interactive Lecture) A review of the traditional medical model of headache and the diagnostic criteria of the 3 primary headache groups – and also how Model views cervicogenic headache.
- **'The Sensitive New Age Migraine.'** (Interactive Lecture) What's in a diagnosis? Diagnosis is after all based on a set of signs and symptoms, which do not give any indication as to the underlying pathophysiology. This section comprises an extensive review of the literature which supports Dean's clinical experience i.e. C1-3 afferents have the potential to instrumental in primary headache conditions. Contemporary research demonstrates that primary headache conditions share a common disorder... a sensitised brainstem. Elementary neuro anatomy ordains a potential (sensitising) role for C1-3 afferents.
- **The Subjective Examination.** (Interactive Lecture) There is an increased reliance of the subjective features of headache for signs of improvement. The participants will be guided through a detailed subjective examination, highlighting the features of 'Red Flags' and potential instability along with reliable, useful reassessment features as indicators of progress. This lecture will also involve reviewing the features of the routine upper cervical x-ray views.
- **The Anatomy and Kinematics of the CO-C3 Complex.** (Lecture; delegates will work with life sized articulated models of the upper cervical spine). The relevant (to stability assessment and examination and treatment techniques) anatomy and kinematics will be presented as it is described in the 'ideal world' ... but we do not live in an ideal world. The issues of the considerable asymmetry, which exists in the CO-C3 complex, will be discussed.
- **The Objective Examination.** (Demonstration / Practical; delegates work in groups of 3 (to promote discussion / comparison of palpation findings) and will be guided through the Objective Examination including:
  - New and non aggressive assessment procedures for the craniovertebral ligamentous structures based on biomechanical principles

- New positioning (involving retraction) procedures of the neck during headache which can determine which segment(s) are involved
- New passive accessory and physiological vertebral examination techniques which not only confirm the relevancy of C1-3 afferents (by reproduction and lessening of headache symptoms) to the headache mechanism but also enables isolation of the dysfunction to a specific segment/s
- **Examination of patients.** (Interactive / Demonstration) Dean will examine unseen patients, demonstrating the Subjective and Objective examinations and the use of the examination techniques in treatment.
- **Treatment.** (Interactive Lecture / Demonstration) This section involves discussion of the examination techniques as treatment techniques; the progression of techniques; frequency of sessions and home strategies / exercises.

### 5. Teaching and Learning Strategies:

- Lecture
- Interactive Lectures / Group discussion
- Sophisticated 3D videos/animations of neurophysiological principles and examination and treatment techniques
- Practical sessions with ongoing feedback from fellow delegates and coaching from myself
- Life-sized articulated model of the upper cervical spine
- Extensive 100+ page manual

The course is programmed such that the lectures / interactive lectures and demonstrations prepare you for the practical component. Participants will work in groups of 3 ensuring feedback from an 'observer' and the 'patient', with articulated upper cervical models .

### 6. Course Numbers:

Maximum 15 (no exceptions unless Dean is assisted by an authorised Watson Headache<sup>®</sup> Institute Clinical Tutor)

### 7. Formative Assessment:

Participants will:

- receive feedback from fellow participants
- complete an Evaluation Questionnaire
- and
- may also complete an 'online' multiple-choice/self assessment examination

### 8. Learning Resources:

A comprehensive course manual (approx. 100 pages) will be issued.

## 9. Course Program:

(Note: Morning and Afternoon Refreshment breaks will be at 10.40 and 3.10 for 15-20 minutes. Forty minute Lunch breaks are scheduled for 1.00.)

### DAY ONE

- 8.30 Registration
- 9.00 Classification (Medical Model) of Headache (Lecture/theory)  
'Sensitive New Age Migraine'/ Contemporary Research (Lecture/theory)  
Anatomy and Kinematics (Lecture/theory)  
Objective Examination (Demonstration/practical)
- 5.00 Conclusion Day 1

### DAY TWO

- 9.00 Review Day 1 (Theory/Practical)  
Subjective Examination (Lecture/theory)  
Objective Examination (Demonstration/practical)  
Patient Examination (Demonstration/discussion/practical for some participants)
- 5.00 Conclusion Day 2

### DAY THREE

- 9.00 Review Day 2 (Theory/Practical)  
Objective Examination (Demonstration/practical)  
Patient Examination (Demonstration/discussion/practical for some participants)  
Treatment (Lecture/theory) Discussion/Questions/Summary/  
Closing Comments
- 5.00 Conclusion Level 1 Seminar.