

## Provisional programme, September 16th ,2017

### FIMM/NVAMG 2017 International Scientific Spine Conference

**Saturday, September 16th, 2017 Scientific Spine Conference - Diagnostics, interventions and epidemiology – the latest insights**

Location:	NH Hotel Utrecht Center	
Time	Title	Speaker
08.00-08.45	Registration and Reception	
08.45-09.00	Welcome - Henk Bultman and Nando Liem (NVAMG)	Henk Bultman and Nando Liem
09.00-09.30	<a href="#">Teaching the Diagnosis of Pain- a workshop for teachers</a>	Simon Vulfsons
09.30-10.00	<a href="#">Modic Changes - MRI</a>	Hugues Brat
10.00-10.30	<a href="#">Modic Changes - Clinical aspects</a>	Marc-Henri Gauchat
10.30-11.00	Coffee/tea Break	
11.00-11.30	<a href="#">Subgrouping low back pain: Modic changes</a>	Michiel Schepers
11.30 - 12.00	<a href="#">An update on intradiscal procedures</a>	Michiel Schepers
12.00-13.15	Lunch	
13.15-13.45	<a href="#">Nociception</a>	Wolfgang von Heymann
13.45-14.15	<a href="#">The principles of Counter strain</a>	Mike Kuchera
14.15-14.45	Buffer session	
14.45-15.15	Coffee/tea Break	
15.15-15.45	Back Pain with Leg Pain- a Neurogenic or Myogenic Problem?	Negev Bar
15.45-16.15	<a href="#">Clinical Trial and Evidence on the effectiveness and safety of Chuna manual medicine</a>	Byung-Cheul Shin and Me-riong Kim
16.15-16.45	<a href="#">Epidemiological Outcomes Netherlands</a>	Wouter Schuller
16.45-17.15	Epidemiological Outcomes Israel	Yacov Fogelman
17.15-17.45	<a href="#">Expert opinion-case presentation</a>	Nando Liem and guest
17.45-18.15	Closing speaker - Vision for FIMM 2018	Henk Bultman-French delegates
18.15	Drinks - informal reception / Freshen up for Social Program	
19.00	Social Program	Walking Dinner (3 course) optional



## Teaching the Diagnosis of Pain—a workshop for teachers – Simon Vulfsons

The accurate diagnosis of pain is the cornerstone of successful treatment of any patient suffering from musculoskeletal pain.

As experienced therapists, we all find ways to practice diagnosis in the clinic but is there a good system for teaching this to our students simply, quickly and enjoyably?

In this workshop, those who are interested in teaching students and junior physicians the art of musculoskeletal diagnosis will learn:

- a) a simple heuristic for history taking and physical examination
- b) A congruent pathophysiologic approach to the diagnosis of musculoskeletal pain
- c) a simple tool for evaluating the bio-psych-social-spiritual involvement on the patient
- d) and how to define a therapeutic plan

This workshop will be run by Dr. Simon Vulfsons, director of the Institute for Pain Medicine, Rambam Health Care Service, Haifa Israel

Past chairman ISMM (Israel Society for Musculoskeletal Medicine)

President FIMM (International Federation of Musculoskeletal Medicine)



## Modic Changes on MRI

Hugues Brat, MD – Groupe3R, Sion, Switzerland

### Disc aging:

- Early disc degeneration (also known as chemical disc) is related to a proteolytic activity and generates pro-inflammatory cytokines (If, IL, Tnfa) stimulating nociceptors at the vertebral endplate and outer annular fibers.
- Late disc degeneration (known as mechanical disc) allows diffusion of chemical nociceptor stimulators through annular and endplate fissures, reaching centripetal neo-innervation with new pain receptors.

### Modic on MRI:

MRI depicts Modic 1 changes such as inflammatory processes, erosions and reactive bone marrow edema as **hypointense** endplate changes on T1 weighted images (T1w), **hyperintense** on T2w and **hyperintense** on T1w after fat suppression and i.v. Gadolinium injection.

Modic 2 changes are chronic erosions and bone marrow fatty transformation, seen as **hyperintense** endplate changes on T1w, **hyperintense** on T2w and **hypointense** on T1w after fat suppression and i.v. Gadolinium injection.

Modic 3 changes are represented by osteosclerosis and **hypointense** on all sequences.

There is **no continuum** from Modic 1 to 2 and from 2 to 3.

### Clinical correlation:

Modic 1 changes are predictive of a symptomatic disc and extension is proportional to functional impairment (not to pain severity).

Mixed Modic 1 and 2 might be symptomatic as well, but less than pure Modic 1.

### Imaging Treatment:

A target population with chronic spine pain, Modic 1 changes, epidural steroid infiltration with partial effect and a positive discography for a chemical disc, might benefit from an intradiscal steroid injection in order to sedate pain at 1 month.

### Modic 1 Differential Diagnosis:

Acute annular tear with peridiscal inflammation might mimic Modic 1 changes.



Early ankylosing spondylitis is a common pitfall.

Severe facet joint inflammatory rash can extend to posterior aspect of endplates.

Conclusion: Modic 1 changes are

- related to degeneration,
- indicate endplate edema and inflammatory changes,
- are painful,
- limit function in proportion to their extent,
- should not be mistaken with AS,
- can sometimes be sedated with intradiscal steroids.



## Modic Changes - Clinical aspects

Dr. Marc-Hendri Gauchat

" Many patients are asking for an MRI imaging to investigate their LBP, even in the absence of radicular symptoms in contradiction with all the actual guidelines. Modic changes 1 and 2 are often described . What do they mean? Is there a correlation with the clinical picture ? What are the implications for the MM physician ? It is a beginning process with more questions than answers !"



## **Subgrouping low back pain: Modic changes**

In low back pain more and more subgroups can be identified.

One of these is painful endplate edema called modic type 1 and Modic type 2 changes as seen on the MRI .

Recent studies have shown that there are treatment options which seem promising for this specific population.

These treatments will be discussed.

Michiel Schepers MD

Musculoskeletal medicine and pain management

Senior instructor S.I.S (Spine intervention society)



## **An update on intradiscal procedures**

And overview will be given on the current minimal invasive treatments for discogenic low back pain.

Rationale and evidence or lack of evidence will be discussed.

Michiel Schepers MD

Musculoskeletal medicine and pain management

Senior instructor S.I.S (Spine intervention society)



## Nociception

Wolfgang von Heymann: „Nociception“

Nociception is the first step in the line of body protection. Normal short-term nociception leads to reflexes and reactions necessary to prevent further damage after a mechanical (trauma), physical (temperature, radiation) or chemical threat, while continuous nociceptive afferents may lead to a change of the behavior of the peripheral and/or central nervous system, the so-called neuroplasticity. The latter nociception is a major cause for chronic pain and hence is the knowledge about nociception crucial to analyze chronic pain and to decide an appropriate therapeutic approach. Therefore, it is important to know the pathways of nocigeneration and nociception from skin surface or visceral organs to the central nervous system on a segmental, a plurisegmental level and on the level of processing nociceptive information into the brain. The presentation aims to outline the actual state of knowledge from data of basic research about these pathways.





## The Principles of Counterstrain

(Prof. Dr. Michael L. Kuchera)

Counterstrain is an indirect form of manual medicine technique that involves:

- Diagnosis of somatic dysfunction including identification of the most tender point within the tissue texture abnormality to be treated.
- A therapeutic component described as “spontaneous release by positioning” in which the body is positioned in such a fashion that pressure tenderness over the point is reduced by at least 70%.

The diagnosed somatic dysfunction is considered to be the result of a continuing, inappropriate strain neuroreflex that can be inhibited or reversed by maintaining a position of mild strain in the direction exactly opposite that of the false strain reflex for an appropriate period of time (usually 90 seconds) ... thus “counterstrain.” Counterstrain technique is easily taught and its principles are readily transferable to most regions and tissues of the musculoskeletal system.

New research has documented that in addition to reducing pain and reestablishing normal joint and muscle function, counterstrain may also be useful in reducing edema and producing a mechanotransduction mediated reduction in pre-inflammatory interleukins and apoptosis.

Because of the underlying mechanisms-of-action proposed or documented for counterstrain and because by definition it is administered by positioning the passive patient away from pain and tissue tension, this manual technique is particularly useful in treating acutely painful conditions, reducing or eliminating myofascial trigger points, and/or for use in the emergency department or hospitalized settings.

Exemplars will be provided in this presentation and a practical workshop demonstrating the ease and efficacy of counterstrain will be presented on Sunday, September 17.



## Clinical Trial and Evidence on the effectiveness and safety of Chuna manual medicine

Byung-Cheul Shin 1,2, Kyeong-Tae Lim 1,3, , Eui-Hyoung Hwang 1,2, In Heo 1,3, Byung-Jun Kim 1,3

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### **Purpose:**

A research project (June, 2015 ~ May, 2018) is ongoing for creating clinical evidence of Chuna manual medicine (CMM) in Korea. The aim of this presentation is to introduce results from the research project which contains evidence from systematic reviews and clinical trials from a randomized controlled trial (RCT) on CMM for non-acute low back pain (LBP).

### **Methods/Design:**

We conducted systematic reviews on the effectiveness and safety of CMM for various kinds of conditions. Especially, musculoskeletal disorders are analyzed more in depth. Additionally, a pilot, three-armed, multicenter, pragmatic randomized controlled pilot trial (n=60; Chuna group (n=20), usual care group (n=20), or Chuna plus usual care group (n=20) for 6 weeks of treatment) was conducted in 2016 for exploring the feasibility of main clinical trial. From the pilot randomized trial, then we analyzed powered sample size (n=194) and are conducting a confirmative, pragmatic, multi-centered, randomized controlled clinical trial from 2017 to 2018. The primary outcome was numerical rating scale (NRS) of LBP, Secondary outcomes include NRS of leg pain, Oswestry disability index (ODI) and lumbar range of motion (ROM).

### **Results:**

Based on the systematic review on the effectiveness of CMM, 28 systematic reviews and 778 RCTs of CMM for various conditions were found. Of them, about 120 RCTs were related on musculoskeletal conditions. For safety, 47 adverse reactions from 78 literatures were detected. For pilot trial, total 60 patients were included in the intention-to-treat analysis and there were significant differences ( $P < 0.01$ ) in NRS scores of each group (Chuna ;  $-3.28 \pm 1.73$ , UC ;  $-1.95 \pm 1.85$ , Chuna+UC  $-1.75 \pm 2.02$ ). Based on pilot trial, we estimated 194 were powered sample size for main trial. A confirmative, pragmatic RCT is ongoing (118/194 were randomly allocated, 60.8%) and will be finished May, 2018.

### **Conclusions:**

Based on our systematic reviews, musculoskeletal conditions are most clinically researched area and CMM showed an improvement on pain and function, but quality of evidence is low. Though safety is generally good, however several serious adverse events were reported. Through our clinical trial results, we suggest that CMM might have a comparative effectiveness on



non-acute LBP. A large, well-designed main study based on pilot results will be finalized in 2018.

**Key words;** Clinical Trial, Evidence, Chuna manual medicine, systematic review, effectiveness, safety, randomized controlled trial



## Epidemiological Outcomes Netherlands

Between 2010 and 2016 the Dutch Association for Musculoskeletal Medicine conducted a large observational cohort study in cooperation with the VU University Medical Center and the Amsterdam Public health research institute. A group of 31 MSK physicians recorded basic patient data in a web-based registry. Patients thus registered were asked to participate in the study by filling in web-based questionnaires. During this whole time period physicians recorded baseline data about age and gender, the type and duration of main complaint, and concomitant complaints. At the end of treatment the number of treatment sessions and the type of treatment were recorded. While the physicians recorded the same data throughout the whole study period, patients were presented with different sets of questionnaires at different time periods. A first cohort of patients completed a numerical rating scale for pain, and questionnaires concerning global perceived effect and satisfaction with the treatment. A second cohort of patients completed the PROMIS Pain Behavior and Pain Interference item banks, the Roland Disability Questionnaire, the Neck Disability Index, the Disabilities of the Arm, Shoulder and Hand, or the Lower Extremity Function Scale. A third cohort completed an expanded set of questionnaires at baseline and at 6 follow-up measurements during a period of one year. Measurement included global perceived effect, a numerical rating scale and specific instruments measuring functional limitations. Instruments measuring functional limitations were tailored to the main complaint. At three months follow-up this was supplemented with a questionnaire asking about the occurrence, the type, the duration and the severity of adverse effects. Preliminary analyses of the data will be presented at the conference.



## Expert opinion-case presentation

Sport Physician combined with (Ortho)Manual Medicine

Nando Liem

The work of a sport physician with (Ortho)Manual Medicine skills in international sports: World Tour of Cycling and Dakar rally. Live case presentation with cooperation of one of the most famous rally riders (former top 10 finisher and several stages winner in the Dakar rally).

