THE ROLE OF OSTEOPATHY IN SPORTS

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DEFINITION OF OSTEOPATHY

"Osteopathy is a system of medicine that emphasizes the theory that the body can make its own remedies, given normal structural relationships, environmental conditions, and nutrition. It differs from allopathy primarily in its greater attention to body mechanics and manipulative methods in diagnosis and therapy. »

World Health Organization (WHO)

OSTEOPATHY AS A THERAPY:

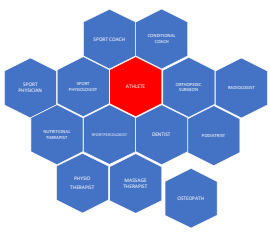
Hands-on therapy using manual techniques such as soft tissue techniques, mobilisation, manipulation, stretching,… to restore the function & mobility and to optimise the blood flow on all levels of the body.

To restore the function of the body as a unit, we reinforce the capacity of the body in its self heeling mechanism.

THE OSTEOPATHIC PHYSICIAN:

An osteopathic physician is trained to evaluate the body structurally to determine whether somatic dysfunction exists. Somatic dysfunction is defined as tissue texture changes, asymmetry, restricted range of motion, and tenderness.

OSTEOPATHY IN SPORTS



OSTEOPATHY IN SPORTS:

It is biomechanically intuitive to use manual medicine in treating athletes, as sport performance is primarily on an orthopaedic point of view a function of the neuromusculoskeletal system.

SPORT PERFORMANCE:

Sport performance is the capability of the athlete to produce the optimal neuromuscular outcome over and over again.
The repetition of this outcome causes some mechanical load and stress on the tissues.
When this stress exceeds the strength of the tissue, it can cause some damage.
The extent of the damage is related to the magnitude, rate, and frequency of loading.
Training, recovery and rehabilitation must incorporate the body's ability to adapt and recover from these mechanical loads.

SPORT INJURIES:

When the body is not able to adapt or recover from these mechanical loads, injury can occur.

Previous injury, Weakened muscles, bones, tendons or ligaments, Increase in activity, Fatigue, Overtraining, Change in playing surface, Change in or poor Equipment, Dehydration, Lack of nutrients, Muscle imbalance, Poor mechanics, Functional discrepancies, Structural discrepancies,… influence the impact of the mechanical load and also influence the ability to adapt or recover from this load.

ROLE OF OSTEOPATHY:

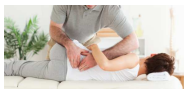
The goal of osteopathy is to restore the function & mobility and to optimise the blood flow in the treated area to reinforce the capacity of the body in its self heeling mechanism.

Curative:
Restore optimal environment to stimulate healing mechanism

Preventive:
Maintain the capacity of the body to adapt and recover from mechanical load

THE ATHLETE AND THE OSTEOPATHIC CLINIC:

Due to our personal experience there are two typical encounters.
In the first typical encounter, an athlete will present (referred by doctor, physiotherapist or by own initiative) with a painful structure that impedes performance; manipulation may be indicated as part of the treatment for that particular symptom.
Other athletes that present at the clinic request structural evaluation and manipulation because they feel their performance is enhanced after receiving those treatments.



EVIDENCE ON OSTEOPATHIC MANIPULATION

In today's age of evidence-based medicine, studies involving osteopathic manipulation are often criticized.

Critics point out that there is insufficient evidence to truly determine the benefit of manipulation over other forms of treatment.

When evaluating evidence, one must take into consideration the many factors involved with research. Osteopathic manipulation is not a drug, but it is often studied using a "pharmaceutical" approach. To fit into the double-blind, placebo-controlled research model, researchers must construct "sham" treatments and compare these with "real" osteopathic manipulation treatments. The problem is that osteopathic treatment is the application of a set of procedures, and therefore should be studied under protocols that evaluate medical procedures.

Manipulation is one of the techniques the osteopathic physician uses in his set of procedures to perform a treatment.

Osteopathic treatment is often used congruently with pharmaceuticals, lifestyle modifications, physical therapy, and other modalities.

EVIDENCE OF OSTEOPATHIC MANIPULATION FOR THE SPINE

In 1994, a comprehensive evaluation of spinal manipulation for low back pain undertaken by the Agency for Health Care Policy and Research in the United States concluded that spinal manipulation can be helpful for patients with acute low back problems without radiculopathy when used within the first month of symptoms.

In 1999, Andersson et al. compared osteopathic spinal manipulation with standard care for patients with low back pain in 178 patients. His study found that both standard care and OMM plus standard care have similar clinical results, although those subjects treated with OMM used less medication than those with standard care alone

In 2003, Licciardone et al. published a study evaluating osteopathic manipulative treatment for chronic low back pain
The study concluded that OMM and sham OMM provided an additional benefit when used with usual care for the treatment of chronic nonspecific back pain.

Another study coducted in England on 201 subjects with neck or back pain of 2-12 wk duration, also published in 2003, concluded that receiving osteopathic manipulation in addition to usual care improved short-term physical outcomes and long-term psychological outcomes, over usual care alone, at little extra cost

In 2003, Korthals-de Bos and colleagues studied the cost effectiveness of physiotherapy, manual therapy, and general practitioner care for neck pain. The study showed that participants who received OMM had faster recovery and experienced fewer days off work than those who received standard physical therapy or general medical care. The OMM arm also appeared less expensive then the other two approaches, but the researchers limited the allowed OMM sessions, making direct cost comparisons questionable

KCE REPORT CHRONIC LOW BACK PAIN (KCE REPORT 48A, 2006)
There is moderate-quality evidence that spinal manipulative treatment/mobilization is more effective than no treatment but only at short-term.
There is moderate-quality evidence that spinal manipulative treatment is not more effective than traditional treatments such as efficacious NSAID, GP care, physical therapy, exercise and back schools.
There is few conflicting literature on safety of manipulative treatment for low back pain. Minor secondary effects seem frequent and self-limiting.
Major complications seem very uncommon but are potentially dramatic.

KCE REPORT ASPECIFIC NECK PAIN (KCE REPORT 119A, 2009)
Whether manipulation and mobilization as only treatment for acute or chronical aspecific neck pain is effective, remains doubtful (moderate evidence).
Manipulation and/or mobilization within a multimodal approach (combination of minimum 2 different therapy modalities), as for example body exercises, seem to be effective in case of chronical aspecific neck pain, as well for pain as for functionality (high evidence).

EVIDENCE OF OSTEOPATHIC MANIPULATION FOR OTHER SEGMENTS

Lack of studies.

The immediate effect of lumbopelvic manipulation on EMG of vasti and gluteus medius in athletes with patellofemoral pain syndrome: A randomized controlled trial. Man Ther. 2016 Apr;22:16-21
Lubmopelvic manipulation might improve patellofemoral pain and functional level in athletes with patellofemoral pain syndrome. These effects could be due to the changes observed in EMG activity of gluteus medius and vasti muscles. Therefore, the lubmopelvic manipulation might be considered in the rehabilitation protocol of the athletes with patellofemoral pain syndrome

Preventive osteopathic manipulative treatment and stress fracture incidence among collegiate cross-country athletes.
J Am Osteopath Assoc. 2013 Dec;113(12):882-90
There was a statistically significant decrease in the cumulative annual incidence of stress fractures of the lower extremity in male, but not female, cross-country athletes after receiving OMT

The efficacy of manual joint mobilisation/manipulation in treatment of lateral ankle sprains: a systematic review.
Br J Sports Med. 2014 Mar;48(5):365-70
For acute ankle sprains, manual joint mobilisation diminished pain and increased dorsiflexion range of motion. For treatment of subacute/chronic lateral ankle sprains, these techniques improved ankle range-of-motion, decreased pain and improved function

Manual or exercise therapy for long-standing adductor-related groin pain: a randomised controlled clinical trial.
Man Ther. 2011 Apr;16(2):148-54
Athletes who received a multi-modal treatment profram returned to sports quicker than athletes in the Excercise therapy group. Only 50-55% of athletes in both groups made a full return to sports. There was no difference between the groups in objective outcome or VAS during sports.

CASE 1:

Male basketball player 2nd division, 36y old.
Referred by the team physio.
Constant lower back pain, aspecific, a bit more on the left, no radiation.
Stopped with practice (mid of the week, as important competition game during weekend).

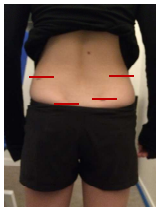
BEFORE TREATMENT

AFTER TREATMENT

CASE 2:

Female tennis player, 16y old.
History of stress fracture L5, shint splint.

BEFORE TREATMENT



AFTER TREATMENT

CASE 3:

Male prof tennis player, 18y old.
Pain adductors on the left.
Clinically, structurally:

SB right limited, block low Lx and TLO

Tilting pelvis

Limited rotation right

THANK YOU!