

# NORDIC OSTEOPATHIC JOURNAL

Nordic Osteopathic  
Congress 2021

- Side 8-11

.....

How osteopaths are  
thriving in the Nordic  
countries

- Side 14-15

.....

Working at home

- Side 20-22



NORSK  
OSTEOPATFORBUND



Svenska  
Osteopatiforbundet



Danske Osteopater



OSTEOPATÍA  
OSTEOPATAFÉLAG ÍSLANDS



## Redaktørens hjørne

Kjære alle lesere.

Nå var igjen tiden inne for årets Nordic Osteopathic Journal og siste utgaven i 2021. En fin måte å runde av året på, syns nå jeg. Vi har samlet sammen en rekke artikler som dere kan kose dere med i juleferien. Vi har som mål at hvert av de nordiske landene leverer to artikler hver. Vi har nesten klart det i år også, og jeg tror det skal være noe for enhver. Ved å engasjere skribenter i de representerte

landene favner vi et variert innhold og ulike perspektiver. Vi er veldig stolte av dette samarbeidet med de nordiske landene og gjør dette på tredje året nå, og jeg håper det er noe vi kan fortsette å vise dere. Jeg håper dere får en behagelig jul, med god mat og god lesning.

God jul og godt nytt år!

Mvh  
Ingrid Nicander, redaktør



## Sjefen har ordet

gi alle medlemmer grundig veiledning i hvordan man søker, når den tid kommer. Selve portalen for å søke vil først være i drift en tid etter at loven er endret.

Det vil være en overgangsordning. Alle som virker som osteopater i Norge kan fortsette sitt virke og bruke tittelen osteopat inntil videre. Vår holdning er at alle yrkesaktive medlemmer er kvalifiserte osteopater, og skal få en real og rettferdig vurdering av sin søknad. Det er dog opp til myndighetene å sette de nødvendige rammer for vurderingene, og her vil tiden vise hvor de legger lista i første runde. NOF skal jobbe aktivt med myndighetsoppfølging, og vi går inn i dette med optimisme.

«Nordic Osteopathic Alliance» lever i beste velgående. Magasinet du holder i hånden er et resultat av våre forente krefter. Det er også «Nordic Osteopathic Congress» et bevis på. I år var Finland vertskap, og de leverte en superversjon i digitalt format. Neste år blir det konferanse i Danmark, og jeg håper at jeg vil treffe mange norske kollegaer der. Det blir garantert en bra kongress – les mere i denne utgaven.

Jeg ønsker dere alle en riktig God Jul og et Godt Nytt År!

Mvh  
Tomas Collin, leder NOF

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NORSK  
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## Index:

- |       |  |       |  |
|-------|--|-------|--|
| 4     | Nordic Osteopathic Alliance  | 14-15 | How osteopaths are thriving in the Nordic countries                                |
| 5     | Dear colleagues / Etisk hjørne   | 16-17 | Perspectives on person-centredness and knowledge traditions                        |
| 6-7   | Osteopathic care of patients with persistent physical symptoms: an enactive-ecological framework | 17-18 | Osteopathy and Mental Health: An Embodied, Predictive, and Interoceptive Framework |
| 8-11  | Nordic Osteopathic Congress 2021   | 20-22 | Working at home  |
| 12-13 | EFFO: Population and regulation overview   | 22-23 | From challenges to strengths   |



# Nordic Osteopathic Alliance

## ICELAND



### Haraldur Magnússon

President of the Icelandic Osteopathic Association

Regulated since: 2005

Number of members: 3 and a few more pending



### Tomas Collin

President of the Norwegian Osteopathic Association

leder@osteopati.org  
www.osteopati.org

Number of members: 440



### Laura Lee Kamppila

President of the Finnish Osteopathic Association

puheenjohtaja@osteopaattiliitto.fi  
www.osteopaattiliitto.fi

Regulated since: 1994  
Number of members: 208

## FINLAND

## SWEDEN



### Erik Gry

Acting President of the Swedish Osteopathic Association

ordforande@osteopatforbundet.se  
www.osteopatforbundet.se

Number of members: 365

## NORWAY

## DENMARK



### Hanna Tómasdóttir

President of the Danish Osteopathic Association

hanna@danskeosteopater.dk  
www.danskeosteopater.dk

Regulated since: 2018  
Number of members: 251



Follow "Nordic Osteopathic Alliance" on Facebook to keep updated



nordic\_osteopathic\_alliance

# Dear colleagues,

2021 comes to an end with a taste of optimism. The pandemic is still around with an impact on everyday life. Throughout the Nordic region though, business has moved towards normality. People travel, meet, and enjoys the fact that we as humans flourish when we can participate in real life – together.

Last year has been an active one for the five members of the Nordic Osteopathic Alliance (NOA). The associations in Finland, Sweden, Denmark, Iceland, and Norway, have continued our joint venture that includes the magazine you are now reading, the Nordic Osteopathic Journal (NOJ), in addition to the Nordic Osteopathic Congress (NOC), this year hosted by Finland. We, the five presidents, keep in touch as we go, helping each other to solve both small and major issues. A true supportive team – that is greatly appreciated.

This year's edition of the Nordic Osteopathic Congress was a virtual event, with many attendees. The lecturers also joined via digital solutions and was then broadcasted from a live TV-studio, with presidential hosts leading the way. We congratulate the Finnish team lead by Laura Lee Kamppila, with a congress well done. Read more about the congress in this issue of NOJ.

High standards of osteopathic healthcare provision have been an important topic for NOA this year. We continuously work to ensure that osteopathic education is delivered at the right level, preferably delivered by officially accredited higher teaching institutions. Recent developments in the Nordics have again made it very clear that high standards in education is a necessity, when regulating the osteopathic profession. This winter we expect osteopathy to be regulated as a health care

profession in Norway. With this in place, only Sweden remains unregulated. The NOA will continue our efforts to make osteopathy regulated in the whole Nordic region, in compliance with previous statements from the Nordic Ministry. The Nordics stand out as a region where people very easily can make the transition from one country to the other, to work. In the future, we see this also applying for osteopaths.

Kind regards,

The NOA presidents.

*Laura Lee Kamppila, Finland*

*Erik Gry, Sweden*

*Hanna Tómasdóttir, Denmark*

*Tomas Collin, Norway*

*Haraldur Magnússon, Iceland*



## Etisk hjørne

**Text:** Etisk Komité

### Etisk tenkning innebærer en refleksjon over egne holdninger, verdier og hvordan vi utfører vårt yrke.

En osteopat skal verne menneskets helse. Osteopaten skal informere og veilede pasienten, og bistå pasienten å gjenvinne helse. Osteopaten skal arbeide helsefremmende og sykdomsforebyggende.

Osteopaten skal bygge sin fagutøvelse på respekt for grunnleggende menneskerettigheter og humane verdier. Disse verdiene omfatter sannhet og rettferdighet med tanke på pasienten og samfunnet, samt prinsipper om medbestemmelse, likeverd, informert samtykke og personlig integritet.

Osteopaten plikter å være kjent med og overholde den lovgivning, herunder

Helsepersonell loven, og de forskrifter, avtaler og helsepolitiske føringer som til enhver tid regulerer osteopatens yrkesutøvelse.

Medlem av NOF plikter å opplyse pasienten om hva som er osteopati-behandling og skille osteopati fra andre yrker.

v/ Etisk komité







# Osteopathic care of patients with persistent physical symptoms: an enactive-ecological framework

**Text:** Jorge E Esteves, PhD

Osteopathy recognises that each patient's clinical signs and symptoms are the consequences of the interaction of multiple physical and non-physical factors. Osteopathy emphasises the importance of the patient-practitioner relationship in the therapeutic process and can therefore be regarded as a person-centred approach to healthcare. Person-centred care requires a solid therapeutic alliance, which is influenced by biopsychosocial factors (Miciak et al., 2018; Söndenå, Dalusio-King and Hebron, 2020). An effective therapeutic alliance enables osteopaths to assist patients in making sense of their illness experiences by developing new body narratives about their altered or changing physical capacities (Gale, 2011). Despite the claimed person-centredness of osteopathic care, clinicians have traditionally focused on cause-effect body-centred care models (Esteves et al., 2020). Here, I summarise the arguments presented at the keynote that I had the privilege to deliver at the Norwegian Osteopathic Association meeting in Oslo on 13th November. I build upon the challenges and opportunities to provide effective person-centred osteopathic care to propose a reconceptualization of osteopathic care under the enactive and active inference framework—underpinned by a robust therapeutic alliance, osteopaths help patients make sense of their illness experiences by creating new body narratives about their changed or changing physical capacities and ensuing effects on their identity, relationship with their environment and meaning in their lives (Esteves et al., under review).

We possess an ever-changing capacity to adapt to our environment. Each one of us creates our own *Umwelt* (an environment or "life-world" that is unique to us) as a combined creature-environment "bubble" out of those features perceived to be uniquely relevant to its purposes (Tyreman, 2018). The dynamical interplay of causal factors, the person and their own *Umwelt* predict illness and dysfunction difficult—attribution cause and effect can be highly challenging. Osteopaths should consider their patients as a dynamic, complex adaptive system. Osteopathy cannot simply be conceptualised as a body-centred intervention informed by aetiological models of care: human functioning is complex, unique to the person and unpredictable. Instead of considering their individual patient's clinical presentation as a set of complex aetiological cause-effect relationships, health and disease should be seen concerning life and the person within their environment (Hoover, 1963; Tyreman, 2018). Osteopaths should therefore evaluate the person seeking care within an inconstant ecological system (Tyreman, 2018).

Despite proposals to frame osteopathy as ecological medicine (Hoover, 1963)—osteopaths have long focused on the fallacy that removing a structural cause of dysfunction could cure disease. This aetiological model is, for many, an attractive way of approximating osteopathy from orthodox medicine. However, it has been argued that it is far from what Andrew Taylor Still originally envisaged for osteopathy—a way of addressing changes that interfered with an individual's function and their impact on their activities of daily living (Hoover, 1963). In recent years, several attempts have been made to move away from heavy reliance on aetiological structure-function models of care by endorsing the biopsychosocial model as the foundation for person-centred osteopathic care (Penney, 2013; Thomson, Petty and Moore, 2013;

(Bohlen et al., 2021; Zegarra-Parodi et al., 2021; Esteves et al., under review).

According to enactivism, cognition and perception develop due to a dynamic interaction between an acting organism and its environmental constraints, referred to as affordances (Thompson, 2010; Tschacher, Giersch and Friston, 2017)—affordances are opportunities for action, e.g., a door for opening or a ball for catching, rather than an action-independent representation of the 'way things are' (Seth, 2021). Therefore, the mind, body, and environment are highly interdependent elements of an ecological system (Tschacher, Giersch and Friston, 2017). A fundamental notion of enactivism is sense-making—the evaluative interaction of an organism with its environment (de Haan, 2020). Recently, Stilwell and Harman (2019) have proposed that pain should be regarded as a relational and emergent process of sense-making through a lived body, which cannot be separated from the world that we shape and that shapes us.

Interestingly, Littlejohn (1905), in his early conceptual framework for osteopathy, focused on the functional adaptation of the body in relation to the external environment. He viewed osteopathy as person-centred care, which is based on four key pillars: adaptation, function, environment and immunity (Gevitz, 1982). Although many of these early osteopathic care concepts were lost to a predominantly cause-effect disease-based model, we argue that these ideas can be reconciled under the Free Energy Principle (FEP) and the enactivist and active inference frameworks.

The FEP explains how dynamic adaptive systems maintain their integrity, i.e., non-equilibrium steady-state, by restricting themselves to a limited number of characteristic states (Hipolito, 2019). Any adaptive change made by an organism or biological system must minimise its long-term average surprise, where surprise scores the implausibility of a system being in a particular state (e.g., it would be surprising to find a fish out of water). Clinically, this mandates the mitigation of unpredicted and uncharacteristic sensations (Edwards et al., 2012). The long-term average of surprise is associated with the entropy (dispersion) of sensations: a failure to minimise surprise would therefore lead to an unbounded increase in entropy (sensory disorder) and dissolution of self-organisation and consequent homeostasis (Edwards et al., 2012). Living systems typically resist a natural tendency to disorder by minimising surprise and uncertainty by acting on the world and updating their internal states—through active inference (Friston, 2009; Ramstead et al., 2019). This active inference can be read as se-



Esteves et al., 2020). Despite the centrality of the biopsychosocial model in contemporary healthcare practice, the model does have its limitations. It has been argued that the biopsychosocial model has been biomedicalised, lacks a framework that integrates all dimensions in a non-reductionist manner, and it fails to show how its dimensions interrelate (Stilwell and Harman, 2019; de Haan, 2020). An enactive approach to acute and chronic pain and mental health disorders has been proposed to address these limitations (Stilwell and Harman, 2019; de Haan, 2020; Coninx and Stilwell, 2021). In line with these developments, we have also recently proposed enactivism as a robust framework to underpin the development of an integrative model for person-centred care in osteopathy

lecting the most likely course of action under an internal narrative or generative model of the world (and body) that covers the consequences of action. A breakdown in adaptive capacity of the person seeking care due to an inflexible or distorted updating of such models will lead to illness. A robust therapeutic alliance may be necessary for healthy adaptation—by facilitating a revision of their generative model or narrative that renders it apt for changes in their world (and body). While the body 'disappears' in states of health and wellbeing, it typically 'reappears' at times of pain and dysfunction (Leder, 1990, p. 4). Therefore, physical or emotional pain affects the very foundation on which the sense of self rests (Arikan, 2019). The physiological arousal, which occurs in persistent pain and other persistent physical symptoms, prompts the individual to focus attention on their body (Van den Bergh et al., 2017). In this context, pain and other physical symptoms should be viewed as an action problem—when a nociceptive signal travels up from the periphery via the spinal cord, it presents the brain with the question, "what is to be done"? (Morrison, Perini and Dunham, 2013). The nervous system is organised to anticipate potential pain and adjust behaviour before tissue damage becomes critical. Regulatory processes occur dynamically at different levels and in a Bayesian way, i.e., using previous experiences as they are represented in the brain as an estimate of the likelihood that a specific clinical condition applies (Morrison, Perini and Dunham, 2013; Van den Bergh, Zacharioudakis and Petersen, 2018). A critical point in cases of pain and dysfunction is that the body does not simply become 'visible'—it becomes the focus of attention. This selective attention to the body disrupts the individual's ability to interact with the environment and others, i.e., their sense of agency. Arguably, illness becomes a loss of agency—the person's inability to perform goal-oriented actions in the usual expected way marks the beginning of

becoming a patient. In predictive processing formulations of active inference, the deployment of attention is generally thought of as covert action. Many active inference formulations of chronic pain emphasise this attentional aspect. Chronic pain represents the hypothesis "I am in pain"—a hypothesis that is verified by selectively attending to appropriate sources of sensory evidence, primarily, in the interoceptive and nociceptive domain. Expressed in this way, therapeutic revision of a self-model rests on exploring alternative hypotheses (i.e., self-models) that generate a different attentional set—and a different precision weighting of prediction errors.

On this view, pain and 'illness' are not attributes of sensations, but they are carefully crafted narratives over long periods of suffering and engagement with one's body and healthcare practitioner. They are the best explanations at hand for what one is experiencing. When one thinks of pain or dysfunction, it is not the content and prior beliefs that underwrite their commitment to their narrative that they suffer from chronic pain. Instead, it is the fact that they cannot attend away from the information or the sensory evidence that must be explained in that way (Edwards et al., 2012). Individuals with persistent pain and other physical symptoms are unable to ignore, attend away or attenuate selectively different sources of sensory evidence to deploy precision in the context of selective attention or to attenuate or augment it in the context of sensory attenuation (Friston, 2009; Edwards et al., 2012; Pareés et al., 2014).

Osteopathic care can be considered in terms of inference about others, based on the notion that we model and predict our sensations—sensations that other agents like ourselves generate. This viewpoint leads to osteopathic care based on a generative model or narrative shared by agents who exchange sensory signals. The dyadic or participatory

sense-making process is informed by selectively attending and attenuating sensory information. Attending to interoceptive, exteroceptive and proprioceptive sensations enables agents to predict each other's sensory input. Conversely, attenuating relevant interoceptive and exteroceptive input enables one to articulate the narrative by realising proprioceptive predictions (e.g., movement). The mental states—hidden states of patients are not observable, and they need to be inferred, and, arguably, osteopaths achieve this through communication, touch, movement and exercise. In the keynote presentation, I proposed a reconceptualization of osteopathy under the enactive and active inference framework to provide a rationale and future directions for the broader concept of psychologically-informed osteopathic care. Arguably, this offers an integrative framework for osteopathy, which can evince the mechanisms underpinning dyadic exchanges and osteopathic care outcomes. As an ecological niche, the patient-practitioner dyad provides the osteopath and the patient with a set of affordances that can promote adaptations and restoration of productive selfhood. The clinical encounter provides opportunities to identify maladaptive priors and beliefs and implement strategies to engage with the world as participatory sense-making.

This article is based on Esteves, Cerritelli, Kim and Friston (under review). Reconceptualising osteopathic care under the active inference framework.

Jorge E Esteves  
PhD



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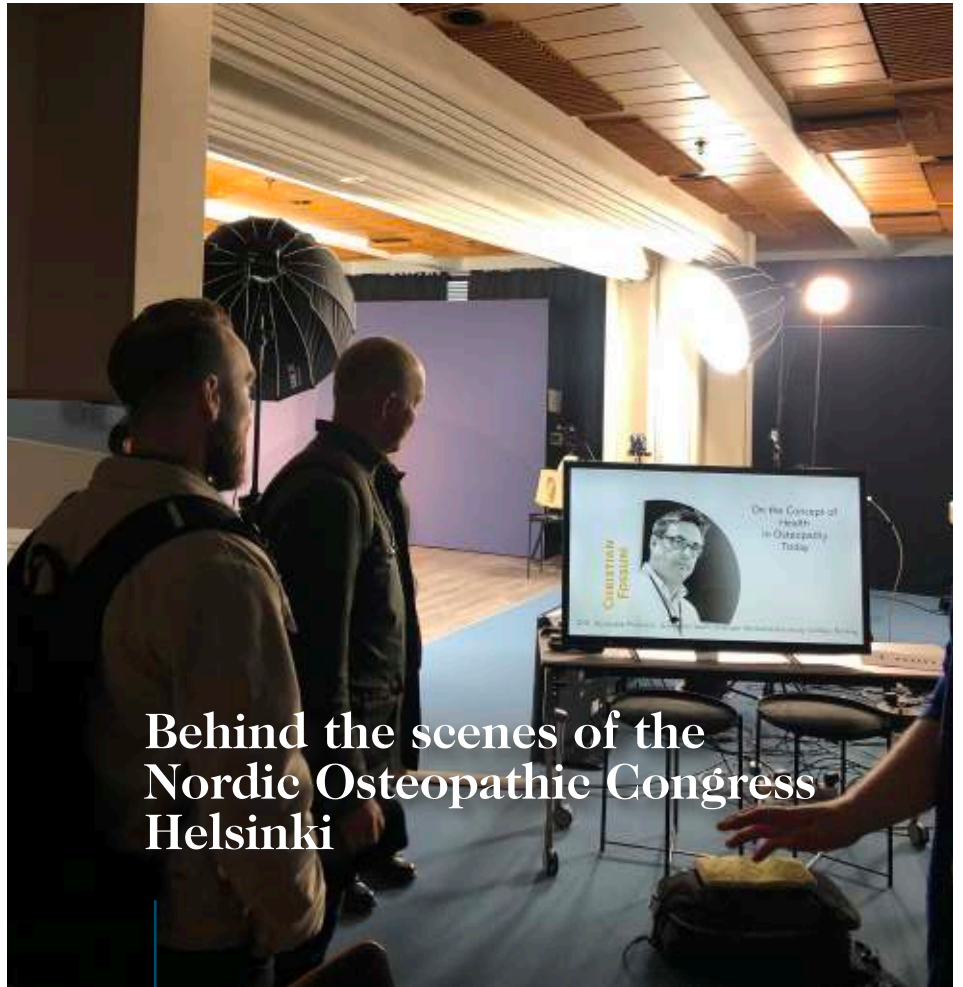
# Nordic Osteopathic Congress 2021

**Text:** Ingrid Nicander

A lot of people have done a great amount of hard work in order to present the Nordic osteopathic congress this year. It was scheduled last year, but due to the circumstances it had to be postponed. We have been to Gothenburg and Oslo, and this time it was the Finnish boards' time to show us their hard work.

The Finnish board and association had booked a premium real-life TV-studio for the broadcasting of the congress. Way to think smart! Two days of learning, socializing, smiling, and a few nervous sweat drops on the foreheads. It had never been done at this level before, and it had a different kind of stress to it. Lecturers connecting online, computers not working, sound that was off, PowerPoint presentations not being able to transfer. But I must say, they all made it work – and more than that, they really presented good information in a spectacular way.

The conference started on Saturday morning with Laura in the lead and lecturer Christian Fossum kicking it off.



## Behind the scenes of the Nordic Osteopathic Congress Helsinki

Jonas and Tomas waiting anticipating about learning more on the subject "On concept of health in Osteopathy today" with Fossum.



Laura is ready to start, sound and video checks.



The man who made all the technical work giving Laura points

During the two days in Helsinki and the Nordic Osteopathic Congress we heard five lecturers, live guided meditation, coffee breaks where the online participants could discuss, and updated information from the boards. You can read more about the presentations and lecturers later in the magazine.





The importance of not having a shiny forehead on screen



The presidents of Finland, Sweden, Denmark, and Norway in studio live with Monika Ebner  
After almost two years of not seeing our colleagues, the weekend was very much needed. What happened on-screen and off-screen plays a big part of making this congress.



The studio and all the screens and techs that made it possible



Vikings by night

Thank you to Christian Fossum, Oliver Thomson, Monika Ebner, Francesco Cerritelli and Dawn Carnes for giving us very much appreciated lectures. And thank you to Laura Lee Kampila and her boardmembers, Erik Gry, Hanna Tómasdóttir and Tomas Collin for all your work and making this possible.

**Ingrid Nicander**  
Osteopath D.O and editor





# Nordic Osteopathic Congress 2021

*Text: Jonas Bjarnason*

The 2021 edition was held and presented online from Helsinki, Finland, and this year the theme was «Finding & Supporting Health 2.0».

Here are some of the takeaways from this year's talks and topics:

## **Psycho-Neuro-Endocrino-Immunology (PNEI) meets Osteopathy, by Monika Ebner (MSc., D.O., PT)**

– Neuro, endocrine and immune systems are all important in understanding the patient's health. The systems talk and interact with each other by biochemical and anatomical pathways. The messenger molecules neurotransmitter, cytokines and hormones make up the biochemical connections, while fascia, innervations and vascularization are the anatomical connections. Though they are different systems they connect and influence the functions of the whole body. What can we as osteopaths do to make a change?

### **«Instead of searching for the problem, we need to look at the patients capabilities rather than disabilities»**

– The most valuable tool is guiding the patient. Ask about their sleep, energy level, mood, concentration, digestion, movement etc. This will give us valuable information so that we can give the patient advice on how to cope with their problems. Give back the responsibility of their body by making them understand how to do it. Small changes in their everyday lifestyle could give them big changes when managing their problems. Cooperating with other healthcare personal and guide them to the right person is also healthcare.

**Understanding people, practice and osteopathy through theory and research, by Oliver Thomson (PhD, Associate Professor/Osteopath and Host of The Words Matter Podcast)**

– «The hard high ground» – where problems are well defined and lend themselves to solutions through the use of research-based theory and technique, might not be the case in clinical practice. Messy, confusing, complex, unpredictable and ambiguous problems as in

the swampy lowlands, often present themselves in clinical practice.

– «The swampy lowlands» – understanding the lived pain by the patient related to every individual will help us adjust our therapeutic approach towards professional artistry rather than trying to fix the «machine». Instead of searching for the problem, we need to look at the patients capabilities rather than disabilities. Qualitative theory can help us better understand each individual patient giving us leverage when motivating the patient and promote health. Sometimes we need to leave the sunny high hard ground and explore the swampy lowlands.

**On the concept of health in Osteopathy today, by Christian Fossum (D.O., Associate Professor, School of Health Sciences, Kristiania University College, Norway)**

The etiological approach where the osteopath is looking for medical pathology and

### **«Cooperating with other healthcare professionals and guiding them to the right person is also healthcare»**

«Find it, fix it and leave it alone»

The ecological way, involving the patient, understanding the patient and talking to them in a way they understand are key factors. Being the facilitator supporting and understanding the patient through communication, touch and empathy is an important integration in a clinical setting. Combining the patient's narrative and looking at every individual as a dynamic unit of functions will help us better understand and support the patient.

«Interactions of body, mind and spirit»

Understanding the health of the patients through both approaches and not splitting



lesions to fix is well known historically. Picking the body apart and breaking it into parts and then looking for pathology and things to repair, is that the holistic approach?

them apart is necessary for the holistic side of view. Rather than looking at what the patient can't do we need to be aware of what they can do.



**Contemporary Osteopathy - Supporting national future health needs, by Dawn Carnes (Trained osteopath, psychologist and health services researcher (B.Sc. (Hons) Psych, P.G.Dip. Hum. Res., B.Sc. (Hons) Ost., Ph.D)**

- The importance of patient needs, and recognition of the patient is more central than ever. With aging population, complex comorbidities and long-term conditions, the important of shift in thinking is the future of the profession. Shifting the focus from patient health to patient care, in both clinical practice and research, will help optimizing our services. More qualitative research looking at outcomes like quality of life, wellbeing, coping and satisfaction with care are valuable going forward. The profession needs to stay sustainable and growing and meet the health care needs in the nation. To do that we need better education, more research and be visible for the patients.

- Research shows that manual therapy delivered by trained practitioners is a relatively

safe and effective option for patients. It's a strong and growing evidence base of benefit for pain and improvement in function and the patients are satisfied. Osteopaths are well placed to optimize aspects of care in health.

**Interoception's Contribution to Health Promotion: from Theory to Practice, by Francesco Cerritelli (PhD in neuroscience, DO – President of Foundation COME Collaboration)**

**«We are not fixing a car,  
it's much more complex  
than that»**

- The interoceptive nervous system (INS) monitors the homeostatic state of the body and orchestrates automatic responses there to. Touch is known as a powerful tool regarding the patient's wellbeing and emotional state. Stimulation of C-tactile fibers through

ffective touch can release some chemical responses and give the patient sensation of wellbeing. Some studies also show that this stimulus is influenced by the subject's attention. In fact, the cognitive status of who is administering the touch also produces changes in the brain of the subject being touched. This could mean that the therapeutic focus is important to increase the effect of touch.

- The patient-practitioner relationship could make a difference on the outcome of the treatment. Making a safe environment, explaining the treatment affecting patient's mindset are important steps to think about. This is all connected to patients' emotions, feelings and environment. It stakes the importance of patient centred care in clinical practice. We are not fixing a car, it's much more complex than that.

**Jonas Bjarnason**  
Osteopath D.O



**4th Nordic Osteopathic Congress 2022**

# The Future of Manual Therapy

*from an osteopathic perspective*

Save the date:

**September 24-25 | 2022**  
**Copenhagen**



in association with





**Text:** Hanna Tómasdóttir

## Dear Nordic colleagues

On behalf of the EFFO Board, I would like to thank our amazing colleagues and hosts in Norsk Osteopatiforbund, for all their effort, planning and for taking good care of us all, during the EFFO Board Meeting and the Autumn Conference & General Meeting held in beautiful Oslo, from 30. September to 2 October this year. We have only received constructive and positive feedback from our membership, and the newly formed Committees plans and visions, presented at the meeting, are very promising for the osteopathic community and the future of osteopathy in Europe.

Since the merger between the European Federation of Osteopaths (EFO), and the Forum for Osteopathic Regulation in Europe (FORE), in March 2018, the EFFO has become a strong members engaged and member driven organization, with more clear aims and vision.

In our Autumn Meeting, the EFFO Policy Committee presented the very first overview of how the osteopathic profession is regulated in Europe: 'Regulation of the Osteopathic Profession in Europe – an Overview'. The document is based on information collected by the EFFO Policy Committee, with contributions from all our

membership, in 2021, and was published online on our website in the beginning of October. The content in this document will be updated annually, or when needed, and the latest updated version can always be downloaded for free from our website.

We are looking forward to our two face-to-face meetings and conferences next year: The Spring Conference & Annual General Meeting, which will be held 25.-26. March 2022, and our Autumn Meeting & the 4th Nordic Osteopathic Congress in Osteopathy, which will be held September 24.-25., 2022, in Copenhagen, Denmark, in association with the EFFO.

Last but not least, we would like to thank all the Nordic Osteopathic Associations for your great support and all the effort you are making for our profession and our community in Europe. Osteopathy is soon to be regulated in four out of the five Nordic Countries! You have come far due to your strong co-operation: and publishing a Nordic Osteopathic Journal and hosting the Nordic Osteopathic Congress annually, in close partnership, is truly empowering the Nordic Council vision for the Nordic Region as the most sustainable and integrated region in the world.

Warmest regards,



**Hanna Tómasdóttir**  
President  
European Federation  
& Forum of Osteopathy



Scan the QR-code to download our EFFO-informationbrochure.



## Population and Regulation

### Iceland

Population	368,000
Osteopaths in Total	8
Primary Health Care	Yes
Title 'Osteopath' Protected	Yes
Legislation based on CEN/WHO Benchmark	No <sup>1</sup>

### United Kingdom

Population	68 million
Osteopaths in Total	5,500
Primary Health Care	Yes
Title 'Osteopath' Protected	Yes
Legislation based on CEN/WHO Benchmark	No <sup>1</sup>

### France

Population	67 million
Osteopaths in Total	25,600
Primary Health Care	No
Title 'Osteopath' Protected	Yes
Legislation based on CEN/WHO Benchmark	No <sup>1</sup>

### Switzerland

Population	8.6 million
Osteopaths in Total	1,300
Primary Health Care	Yes
Title 'Osteopath' Protected	Yes
Legislation based on CEN/WHO Benchmark	No <sup>1</sup>

### Portugal

Population	10.1 million
Osteopaths in Total	2,050
Primary Health Care	Yes
Title 'Osteopath' Protected	Yes
Legislation based on CEN/WHO Benchmark	No

<sup>1</sup> No - legislation passed prior to CEN publication

<sup>2</sup> No - CEN has been presented to the Ministry

<sup>3</sup> Yes - Norway is in process of regulation

<sup>4</sup> Not yet - Italy is in process of regulation

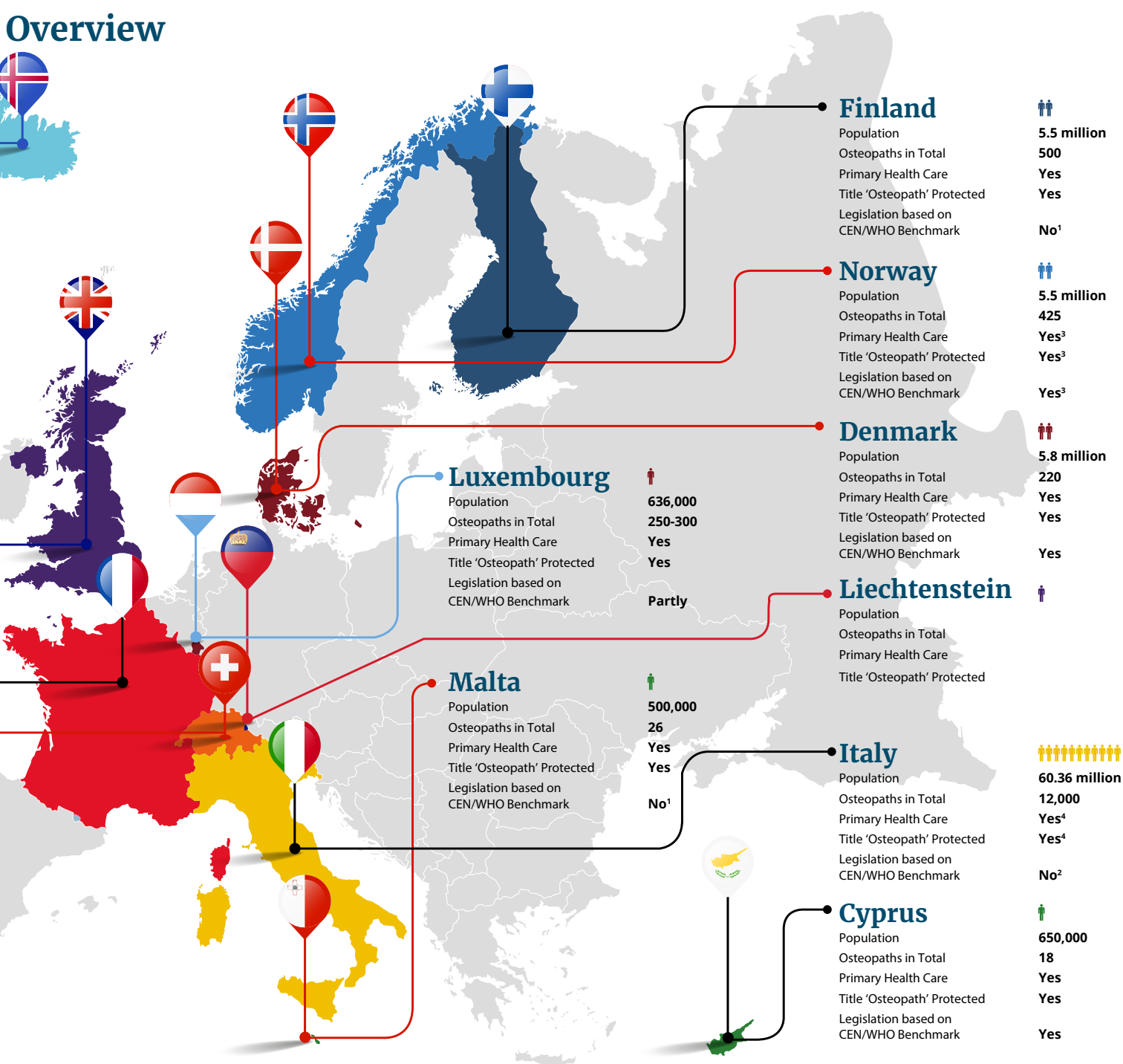


## The EFFE strongly urge all governments across Europe to recognise and regulate osteopathy as an independent, primary healthcare profession.

Patients should be able to consult an osteopath, confident in the knowledge that the practitioner is able to practise efficiently, effectively and safely. Countries which have properly trained and regulated osteopaths see the benefits of high patient satisfaction, safe practise and good patient outcomes.

Osteopathy is currently regulated in eleven European countries: **Cyprus, Denmark, Finland, France, Iceland, Liechtenstein, Luxembourg, Malta, Portugal, Switzerland and the UK.** Italy is in the process of regulation, and the Norwegian Parliament voted in favour of regulating osteopathy as a first contact primary healthcare profession, in December 2020, and are currently working towards finalizing the legislation.

## Overview





# How osteopaths are thriving in the Nordic countries

**Text:** Hanna Tómasdóttir

## A flourishing profession

The osteopathic profession in the Nordic countries is relatively young and there are small numbers of osteopaths, compared to physiotherapists and chiropractors, even though osteopathy has existed since the late 1800s (Gevitz, 2014; Nordic Osteopathic Alliance et al., 2021). To give an example of the size ratios, the Danish Patient Safety Authority has currently issued 184 osteopathy authorisations (license to practice) as an osteopath in Denmark, compared to 21,829 physiotherapy and 1,079 chiropractic authorisations (Autorisationsregistret, 2021). According to the leaders of the other Nordic Osteopathic Associations in Finland, Iceland, Norway and Sweden, there are similar ratios between the three healthcare professions, in the respective countries (Nordic Osteopathic Alliance et al., 2021).

The very first osteopath to practice within our profession in the Nordic countries, was the Norwegian female osteopath, Siri Aane-land, who graduated from Kirksville in 1904, whereafter she practiced partly in the US and partly in Norway (Fossum, 2019). Sten Bolin, who graduated from the Andrew Taylor Still College in London, was the first osteopath to practice in Sweden, in 1973 (Nordic Osteopathic Alliance et al., 2021). Jane Nind and Steen Steffensen, both graduates from the British School of Osteopathy (BSO) – now University College of Osteopathy (UCO) – moved to Denmark to practice osteopathy in 1988 (Nind & Zangenberg, 2019). Christer Pellas was the first practicing osteopath in Finland in 1988. He also worked as a lecturer within the profession and established an association in Finland. The couple, Þórunn Björnsdóttir Bacon and Simon Bacon, both graduates from the British College of Osteopathic Medicine (BCOM), moved to Iceland to practice, although for one year only, in 1995 (Nordic Osteopathic Alliance et al., 2021).

Osteopathy is a growing healthcare profession in the Nordic countries, measured in membership size within the five Nordic Osteopathic Associations: Danske Osteopater (Denmark), Norsk Osteopatforbund (Norway), Osteópatafélag Íslands (Iceland), Suomen Osteopaattiliitto Ry (Finland) and Svenska Osteopatiförbundet (Sweden). According to the recently published: 'OIA Global Report: Global Review of Osteopathic Medicine and Osteopathy 2020', the profession in Denmark has grown by 312% between 2013-2020. Within the same period of time the profession in Finland has grown by 62%, in Norway by 37%,

and 78% in Sweden (Osteopathic International Alliance, 2020).

The osteopathic profession first gained statutory regulation in the Nordic countries in Finland, which includes title protection, back in 1994 (Nordic Osteopathic Alliance et al., 2021). Statutory regulation means: 'that the title 'osteopath' is protected by law, and that osteopaths and/or osteopathic physicians can only use the titles if they meet certain statutory conditions in terms of competencies and registration and/or licensure.' (Osteopathy, 2021, p. 5). Iceland was the second Nordic country to regulate the profession in 2005, followed by Denmark in 2018. The Norwegian Government is currently finalising the legislation for regulation of the osteopathic profession in Norway, leaving Sweden as the only non-regulated country in the Nordic countries (Osteopathy, 2021).

New emerging results from an international profile of the practice of osteopaths: a systematic review of surveys, has shown that more than half of the surveyed osteopaths in the UK and central Europe are sole practitioners, who worked on average for 29.6 hours, treating between 20-50 patients a week (Ellwood & Dawn, 2021). Whether these numbers also apply in the Nordic context, time will tell.

A multi-country Patient Reported Outcome Measurements (PROMs) study, measuring effects and outcomes of osteopathic care for patients receiving osteopathic treatment, is currently being piloted by the European Federation and Forum for Osteopathy (EFO), in six countries in Europe. The study is led by The National Council of Osteopathic Research (NCOR), and the PROMs platform used was developed in the UK by the NCOR, and supported by the European Federation & Forum for Osteopathy (EFO) (Fawkes & Carnes, 2020). The results are promising, showing high levels of patient satisfaction with osteopathic treatment. The PROMs is currently being carried out in Sweden and planned to be carried out in Denmark in 2022. Norway and Finland have also plans to implement PROMs in the near future (Nordic Osteopathic Alliance et al., 2021).

## Are osteopaths flourishing as individuals?

A literature search on the topic of how osteopaths are flourishing at work, or their work-related well-being, has not resulted in a single study on the topic. While the author

of this article has not found any available data of perceived stress amongst osteopaths either, Danish self-reported data has shown that physiotherapists are one of the most stressed healthcare professionals in Denmark, ranking as second in a long list of professions (Arbejdsmiljø). Some of the reasons for the high volume of perceived stress among physiotherapists can be due to steadily increasing documentation requirements in form of record keeping, increased focus on evidence-based practice, and increasing scope of interdisciplinary communication and interactions with various administrative stakeholders (Jørgensen, 2013). All these work-related administrative tasks, on top of what must be considered as the physiotherapists' primary work – rehabilitation and treatment of their patients – leave the practitioners vulnerable in terms of perceived stress, potentially resulting in decreased subjective well-being. There are many reasons to believe that osteopathic practitioners, as physiotherapists, due to the similarity in work tasks and framework for clinical practice as regulated healthcare professionals, are at risks of developing long term stress and other symptoms of languishing.

The author of this article has carried out a small pilot study on cultivating well-being, in her Masters degree project in Positive Psychology in 2017. The study explored whether a four-week intervention based on an introduction in PERMA's well-being theory, and a short introduction in VIA Character Strengths, would result in increased well-being of self-employed physiotherapists in a private clinic located near Copenhagen. The purpose of the intervention was to provide participants with better understanding of, and give them prerequisites for acquiring an increased awareness of the five elements of PERMA theory, as well as the ability to implement and apply simple exercises in their everyday lives to cultivate their own well-being.

PERMA's five elements contribute together, according to Martin Seligman, to the phenomenon of well-being. No single element of the PERMA theory thus defines well-being as all elements are assumed to contribute and lead to increased well-being by the virtues of increased Positive emotions, Engagement, Relationships, Meaning, and Accomplishments (Seligman, 2018).



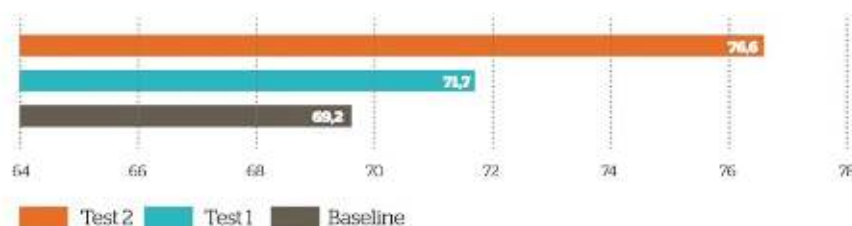
The table shows the participant's total scores within the PERMA's five elements, as well as calculations of the difference from baseline to Test 1 and Test 2, respectively, stated in % and P values.

PERMAH	Baseline (B)	Test 1 (T1)	B-T1, forhal 1 %	P-value B-T1	Test 2 (T2)	B-T2, forhal 1 %	P-value B-T2
Positive emotions	69,2	71,7	3,60%	0,3314	76,6	10,70%	<b>0,00831</b>
Engagement	57,1	63,37	10,98%	0,136	68,7	20,30%	<b>0,03379</b>
Relationships	41,1	71	72,75%	<b>0,00001898</b>	54,4	32,40%	<b>0,004375</b>
Meaning	67,7	75	10,78%	0,1299	78,1	15,40%	<b>0,05091</b>
Accomplishments	68,3	72	5,42%	0,2613	74,5	9,30%	<b>0,00444</b>
Health	65	71,3	9,69%	<b>0,008664</b>	69,2	6,50%	0,08751
<b>Total</b>	<b>368,4</b>	<b>424,37</b>			<b>421,5</b>		
Forhal 1 %		15,20%			14,40%		

The intervention consisted of a four hour wellbeing workshop, which included a brief introduction to the 24 Character Strengths, and a theoretical review of the five elements of PERMA's wellbeing theory. All participants then completed six different exercises as a group, to explore the five elements of the PERMA theory. In addition to the exercises trained in the workshop, all participants were assigned two individually designed exercises, chosen by themselves from the five PERMA ele-

ments and with regards to their signature strengths, to apply and cultivate at home. After four weeks of well-being training, the participants, measured as a team, exhibited a significant increase in all five PERMA elements: Positive emotions, Engagement, Relationships, Meaning, and Accomplishments (Tómasdóttir (Njalsdóttir), 2017). The results were measured by using the PERMAH Workplace Survey, based on 'The PERMA-Profiler' and applied in a working context (Butler & Kern, 2016).

#### Positive Emotions



The bar graph shows the participants' total score in points within the element of positive emotions, from baseline, Test 1 and Test 2.

By mapping individual osteopaths well-being at work in the Nordic countries, we can gain important data of how our colleagues, and the profession in general, is flourishing. Due to the relatively small numbers of osteopathic practitioners and the strong co-operation within the Nordic Osteopathic Alliance, we have a unique opportunity for setting the ground for a prophylactic and innovative research project, based on theories from the field of Positive Psychology and Positive Psychological Interventions. Courses and workshops, with the aim of increasing the awareness of the construct well-being, based on previously gathered data for the well-being of the Nordic osteopaths, can be arranged by offering theory-based lectures, and instructions in simple self-administrated exercises from Positive Psychology. This can be done as online courses and face-to-face learning, or/and as a combination, both cost-effective and good for our health economics, not to mention our individual well-being. Cultivating subjective well-being, training our brains, should be considered as im-

portant as regular physical activity is, to avoid effects of detraining. There are many well documented health benefits of cultivating our subjective well-being, through Positive Psychology Interventions, which can be measured in terms of increased resilience, reduced perceived stress, reduced depression, increased productivity, improved physical health and overall improved satisfaction with life (Bolier et al., 2013; Donaldson et al., 2014; DPhil et al., 2015; Harzer & Ruch, 2015; Niemiec, 2013; Sin & Lyubomirsky, 2009).

Would you like to explore and cultivate your well-being?

**Hanna Tómasdóttir**  
President  
European Federation  
& Forum of Osteopathy



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# Perspectives on person-centredness and knowledge traditions

**Text:** Niklas Sinderholm Sposato

**Osteopathic practitioners, as well as other health care professionals from both clinical and research settings, tend to migrate towards either a naturalistic “outside” perspective or a humanistic “inside” perspective.**

Subsequently, one may assume an inclination to emphasize the importance of one of these knowledge traditions over the other. Advocates for a more naturalistic approach in healthcare may praise the idea of presumed objectivity and quantifiable data, which could generate transferable knowledge and provide insights on biological processes and mechanisms. A proclaimed humanist caregiver/researcher on the other hand would probably stress the importance of the patients' experiences and individual circumstances, as knowledge about these could aid in establishing a respectful and constructive patient practitioner relationship (Kelly et al., 2015; Mootz, 2005). Even though constructs of these two perspectives are prevalent and there are those who would identify with one rather than the other, reality is most often found in an instable equilibrium between both. Person-centred care (PCC) as a practical ethic that draws from person-centredness as a philosophical point of view has the potential to, not only bridge the gap between objectivity and subjectivity, but also to enclose these seemingly disparate perspectives as one. However, in the same way as the term “evidence-based” has been misinterpreted and/or misused, “person-centred” carries the same risk (Greenhalgh et al., 2014; Howick, 2011; Loughlin, 2014; Miles & Loughlin, 2011).

## A Person-Centred Perspective and Person-Centred Care

To enable PCC as a contextualized form of person-centredness, one is obliged to recognise person-centredness as a non-discipline-specific philosophical standpoint. PCC views a patient as first and foremost a person, and as such both a vulnerable and capable existence (Ekman, 2020; Ekman et al., 2011; Paul, 2011). Furthermore, PCC acknowledges the inert unequal circumstances that come with being a patient. As such, the caregiver should strive to provide independence and to empower the patient by all reasonable means (Ekman, 2020). This ambition rests on the belief that all persons deserve to be met in a just and dignified manner, and that every person carries with them experiences that can translate into ongoing stories, which all account for who someone is (Ekman, 2020; Paul, 2011).

In 1992, the French philosopher Paul Ricoeur (1913–2005) formulated his so-called “little ethic” as follows; aiming for the good life, with and for others in just institutions (Ricoeur, 1994). This ethic resonates well with PCC, which in addition to the emphasis on a person's narrative also stresses the importance of establishing a partnership between caregiver and caretaker, thus enabling a starting point for shared decision-making (Miles & Mezzich, 2011). Yet for such collaborative practice to be truly fruitful, one needs to clearly define the external boundaries, competences, and responsibilities of the involved parties, i.e., determine expertise.

Taking into account also the function of “just institutions” as declared in Ricoeur's ethic, these may potentially include all forms of societal constructs with the purpose of providing to its members equal opportunities to lead a good life (Ekman, 2020; Paul, 2011). Contemporary political philosopher Martha Nussbaum adds to these ideas through her thoughts and suggestions on how to further human development and capabilities (Nussbaum, 2011). In contrast to many of her predecessors, Nussbaum anchors her “capabilities approach” to a set of distinct human rights that she declares as fundamental to achieving an equal and just society. In essence these capabilities represent one's actual opportunities to reach further as a person, with consideration of both internal and external factors, e.g., perceptions of self, bodily integrity, functions and health, social, religious and cultural context (Nussbaum, 2011). For representatives in a health care system and in terms of PCC, these viewpoints could provide an important frame of reference, from which PCC could be implemented in daily clinical practice.



## From Theoretical Discourse to Practical Application

Advances regarding the implementation of PCC in health care systems have not, nor will they ever come without major challenges. Among these are questions that relate to representation, starting with academia and the different foci of health care educational programmes. To achieve PCC, person-centredness needs to be understood to a reasonable extent in a similar way by those who strive to provide it. Currently, there is an overwhelming risk of several all too disparate understandings of PCC existing in parallel to each other. Consequently, a reluctance to engage further in promoting PCC would be understandable, i.e., why spend time and effort on something that is perceived to be already in place? Other obstacles may derive from attitudes and traditions. As stated above, a person-centred approach in health care has the potential to pair naturalistic objective perspectives with a person's lived experiences, thereby offering an inclusive and dynamic practical ethic. From an osteopathic perspective, a general paradigm shift towards PCC ought to resonate well with the core professional tenet of treating the patient (person) as a whole.

Finally, and in an attempt to concretise these reflections on some level, the representation of osteopathy as an allied health profession is steadily growing in the Nordic countries. Therefore, one would hope that the osteopathic community will continue to take part in the evolution and implementation of PCC as an inclusive, just, and dignified model of health care.

**Niklas Sinderholm Sposato**  
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Ph.D. Student



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# Osteopathy and Mental Health: An Embodied, Predictive, and Interoceptive Framework

**Text:** Robert Shaw

Osteopathy and Mental Health: An Embodied, Predictive, and Interoceptive Framework

For me, the story behind this paper began in 1989 when I graduated from what was then called the British School of Osteopathy. In my first few years in practice, I was struck by how many patients talked to me about difficult psychological issues, and I felt ill equipped to deal with the stories that patients were telling me. I then embarked on a journey to explore the psychological aspects of osteopathic practice, including training in psychotherapy, and studying for a PhD exploring the concept of embodiment in the therapeutic relationship. This article, therefore, represents an important landmark in my practice career.

Another significant moment in the story occurred at the Nordic Conference in Göteborg two years ago, when the 'International Osteopathic Research Leadership and Capacity Building Program' was introduced. I was fortunate to be chosen to represent the Svenska Osteopatförbundet, and although due to the pandemic, we have not been able to meet up physically as planned, other collaborations have emerged. Through my involvement in the program, I was invited to join the 'Active Inference Research Group' headed up by Francesco Cerritelli and Jorge Esteves. These international collaborations are significant, in that the osteopathic profession now has a critical mass of engaged and proficient researchers, who can shape a research agenda that can be owned by the profession.

The 'Active Inference Research Group' has been working over the past few years to develop a series of papers to integrate some specific ideas from neuroscience, into a conceptual framework that can help to develop osteopathic theory and practice. There are

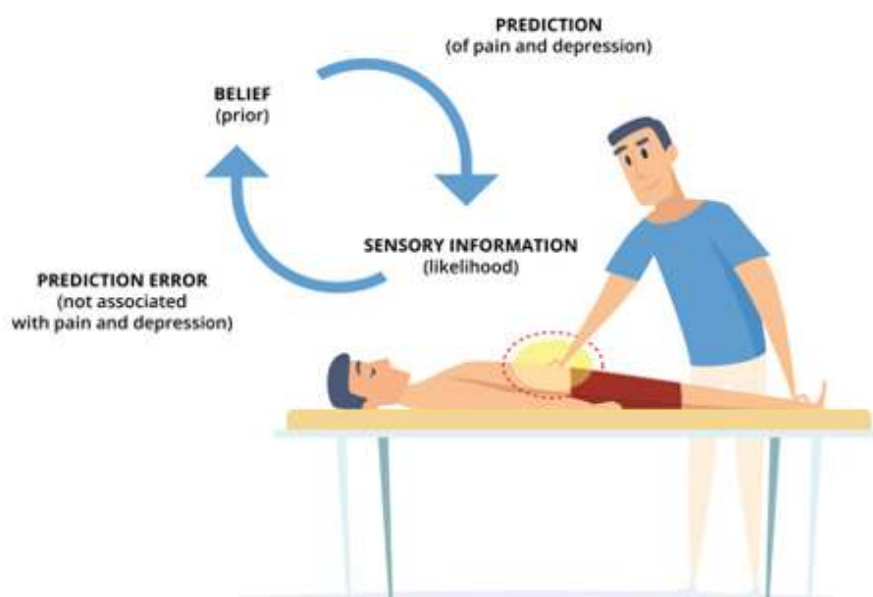
several papers in the pipeline for publication, and it is hoped that these papers will begin to shape a research agenda for osteopathic practice over the next few years.

The first paper to be published by this group is presented in this article, and much credit must go to lead author Lucas Bohlen. The purpose of this first paper is to set out a clear position on how osteopathy can begin to incorporate the ideas from Active Inference (AI) to develop, and inform theoretical and research thinking over the next few years. The papers that will follow will focus on the therapeutic alliance, and more detailed analysis of how

to apply these ideas in practice.

Over one billion people are estimated to be affected by mental health issues. There is now a growing call for multi-disciplinary approaches to deal with this pervasive problem. We suggest that osteopathy is ideally positioned to help with this endemic problem as a part of a multi-disciplinary approach.

We have chosen to focus on mental health here because mental health problems and musculoskeletal disorders often co-exist and poses a significant resource problem for healthcare services worldwide.



**Figure 1** (reproduced by kind permission of Lucas Bohlen) An embodied, predictive, and interoceptive framework to osteopathy and mental health. If a patient expects treatment to be painful or depressive, and it is not, this causes a mismatch between expected and actual interoceptive experience. One possible consequence is the reduction of symptoms.



There is, though, little research exploring the potential benefit of osteopathic treatment for people with mental health problems. This paper begins to address this issue by proposing a theoretical model based on research from embodied cognition, predictive coding, and interoception. An understanding of embodied cognition is crucial as this provides a clear theoretical framework for understanding the close link between perception of external experiences, interoceptive states, emotional experience, and how past experience can modify these experiences. In other words, our past experiences and our minds and bodies are all inextricably linked.

By using theoretical constructs taken from AI theory we propose that people who suffer from chronic pain, which frequently co-exist with mental health issues, have difficulties in processing certain sensory information.

AI theory is based on the work of Karl Friston and others (Friston et al. 2016, Seth and Friston, 2016, Parr and Friston, 2019, Friston et al. 2020). It provides a mathematical model using in part the Bayesian brain model to help predict the most favourable situation at any given moment. These ideas are integrated into a model that helps us to understand how we operate in the 'lived-world'.

A basic premise of AI is that living organisms constantly scan their environment, and then make judgements about their surroundings based on what is experienced externally, and interoceptively. A key assumption is that we have a limited ability to 'know' what is in the outside world. Our capacity to predict and in-

terpret is also based on our past experiences. If we apply this to osteopathic practice. Patients may make predictions about their environment which may be unhelpful or unhealthy. Osteopathic treatment has the potential to challenge these so called 'prediction errors' (see figure one). This can be done by 'bottom up' physical sensory input, but also by 'top down' input by the advice and suggestions we verbally give our patients. The importance of how we speak and conduct ourselves cannot be overstated. We suggest that viewing osteopathic treatment through this lens provides a radically different explanation for how treatment maybe perceived by patients and understood by practitioners. This perspective views treatment as an alternative sensory input and may challenge the person's interoceptive prediction. This in turn can lead to an updating of previous predictions, and have the potential to have an alternative, and hopefully more helpful and healthy interoceptive experience. The result being a reduction in physical and mental symptoms.

However, there is a broader message in this paper. That is, the theories discussed are clearly adaptable to how people experience pain and in particular chronic pain. The implications of this theoretical paper are that this can inform future thinking around osteopathic theory and develop a clearer research agenda to explore osteopathic practice.

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**Text:** Pål Andre Amundsen

## Impacts of working at home – lessons learned

Working partly or fully at home is not a new phenomenon, but when the pandemic struck almost all non-essential employees had to stay home in longer periods depending on national regulations. There is conflicting evidence about health-related consequences of working at home, and myths have risen given the focus on working at home during the pandemic. Evidence based knowledge on the topic will aid our decision making when managing patients and in our communication with media, employers and organisations or other stakeholders.

### Working at home

Staying and working at home (WAH) is a coping strategy for controlling Covid-19 transmission. Few have doubts about the positive consequence of reducing mobility, thus reducing incidences and fatality of Covid-19 infections (Alipour, Fadinger, & Schymik, 2021; Fowler, Hill, Levin, & Obradovich, 2020). However, there is a growing trend around the globe for having more people WAH (van der Lippe & Lippényi, 2020). Even though voluntary or compulsory stay-at-home strategies are effective for preventing Covid-19 exposure, we know that it may cause challenges for the individual and the society, such as physical inactivity, weight gain, behavioural addiction, and social isolation (Lippi, Henry, Bovo, & Sanchez-Gomar, 2020; van der Lippe & Lippényi, 2020). However, it is important to consider research findings in relation to the context of the given population. Presumably, there are differences in reported health effects when: 1) working at home voluntarily (flexible arrangement), 2) compulsory work at home, and 3) stay-at-home isolation (including either work, or absence of work). The latter may for example be associated with psychological disorders, sleep disturbance and serious phobias, such as "coronaphobia" (Asmundson & Taylor, 2020; Fallon et al., 2020; Giorgi et al., 2020). Care must be taken not to imply that the latter negative health effects also apply to the WAH population, and likewise between compulsory vs voluntary WAH population, and pre-pandemic vs pandemic WAH.

### Mental shortcuts

Over the last two years mainstream media has focused on the adverse health effects on WAH. One particularly described adverse effect is pain, and within both mainstream and social media there has been a great focus on challenges of ergonomics when WAH. Fair enough, as ergonomics seems to generally be important for some body regions, even though

there is conflicting evidence on the importance of ergonomics on preventing musculoskeletal pain when it comes to the classic stationary office work (Jun, Zoe, Johnston, & O'Leary, 2017; S. Lee, FC, CSM, & T., 2021; Pieper, Schröder, & Eilerts, 2019; Rodrigues, Leite, Lelis, & Chaves, 2017; Steffens et al., 2016; van Niekerk, Louw, & Hillier, 2012). However, for the working force, employers and health professionals this focus on ergonomics may cause some cognitive bias. A systematic error in thinking may occur when processing and interpreting loads of specific information on one topic which ultimately affects our decisions, i.e., "ergonomics is extremely important". This mental shortcut may cause patients, healthcare providers, employers and others to overlook other factors we know are important for well-being.

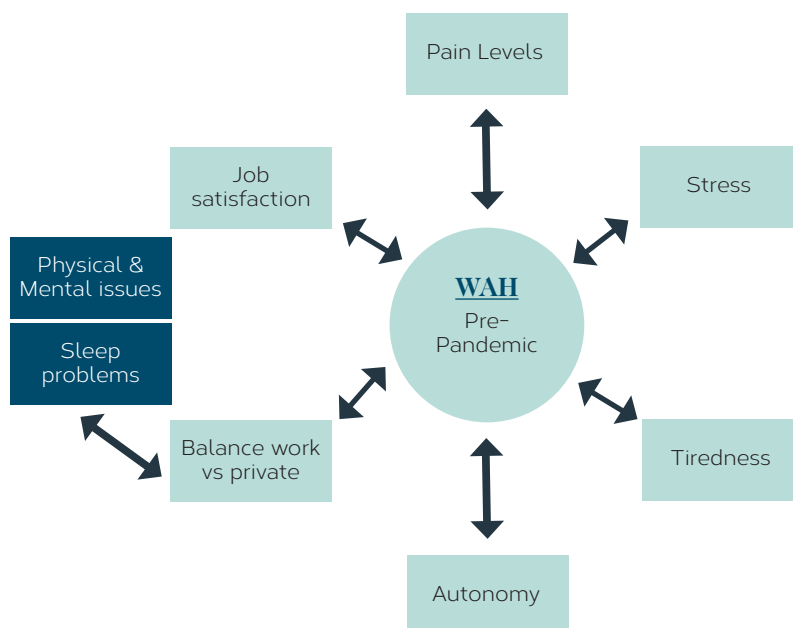
The purpose of the next section is not at all to be a systematic review, but to give some insights into research conducted before and during the pandemic, focused on WAH with an open perspective on the reported consequences or benefits. As osteopaths we see a range of patients, and people within stationary office work is probably one of the more frequent patient populations we manage. Hopefully this text will provide insights to an important topic and new knowledge to be applied within the clinical setting.

### Pre-pandemic Research

Some research indicates that WAH lowers the level of pain, stress and tiredness. We know that several work-related risk factors

are associated with headache and neck pain, but WAH does not seem to present the same risks (Oakman, Kinsman, Stuckey, Graham, & Weale, 2020; Song & Gao, 2020; Ye, Jing, Wei, & Lu, 2017). According to a study, working set-up does not have a significant impact on headache and neck pain as headache-related disability is the only associated factor of future headache episodes and neck-pain (Houle et al., 2021).

Those working at home seem to experience a greater level of autonomy, which is associated with increased work efficiency (Gajendran, Harrison, & Delaney-Klinger, 2015). Greater autonomy and thereby possibilities to balance demands from work and private life is linked to better work satisfaction (Fonner & Roloff, 2010; Morganson, Major, Oborn, Verive, & Heelan, 2010). An important element is the choice of having the option to work at home, which is quite highly associated with both job satisfaction and sense of justice within the work organisation (D. Lee & Kim, 2017). A downside to WAH is the possibility for a lack in balancing work and private life which is associated to both physical and mental health issues, and furthermore may give risk to sleep problems (Minnotte, Minnotte, & Bonstrom, 2015; Vleeshouwers, Knardahl, & Christensen, 2019). Figure 1 shows a simplified summary. Generally, it is difficult to say whether it is positive or negative for all to work at home in a normal non-pandemic time. Single studies may show positive effects, while others show negative effects. Most studies focus on single outcomes, such as pain levels or



**Figure 1.** Simple overview of reported outcomes within research conducted before the pandemic. Green = mainly positive. Yellow = very uncertain. Red = mainly negative. This is the impression from the author rather than a systematic review

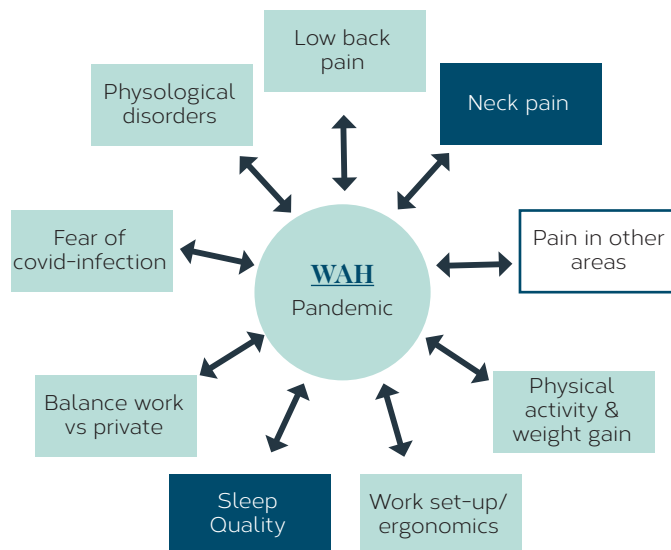


work satisfaction. Few studies focus on the integration of factors that may influence for example pain levels. There is a need for a knowledge base that provides insight into these relationships and to the contextual factors involved so that we can be more certain on who WAH may be beneficial or harmful for. As an example, the perceived complexity of given tasks within the work and the degree of voluntary WAH might be enough for a person to report more harmful effects when WAH (Golden & Gajendran, 2019).

### Research conducted during the pandemic

Not many published studies have focused on musculoskeletal pain so far, and the few identified within the scope of this text had conflicting evidence. Compared to those at work, rate of low back pain is higher, while rate of neck pain has conflicting results, and upper back, shoulder and hip/thigh seems to be lower (Guler, Guler, Guneser Gulec, & Ozdoglar, 2021; Radulović et al., 2021; Toprak Celenay, Karaaslan, Mete, & Ozer Kaya, 2020). Quality of sleep had conflicting evidence while fear of covid-19 infection were higher (Asmundson & Taylor, 2020).

Studies that focus on more multidimensional aspects reported lower overall physical and mental well-being, due to less physical activity and weight gain, poorer nutrition,



distractions while working, kids at home, adjusted work hours and their workstation set-up (Asmundson & Taylor, 2020; Fallon et al., 2020; Galanti, Guidetti, Mazzei, Zappalà, & Toscano, 2021; Giorgi et al., 2020; Guler et al., 2021; Lippi et al., 2020; van der Lippe & Lippényi, 2020; Xiao, Becerik-Gerber, Lucas, & Roll, 2021). Of those who reported lower productivity, it was associated with age of children, net income and if they had a separate home office (Huls et al., 2021). Figure 2 shows a simplified summary.

**Figure 2.** Simple overview of reported outcomes within research conducted during the pandemic. Green = mainly positive. Yellow = very uncertain. Red = mainly negative. This is the impression from the author rather than a systematic review

Some interesting differences can be observed in the results of when the research have been conducted and on whom. Before the pandemic many had voluntary WAH, and some were randomised into intervention groups to work at home for research purposes. Nonetheless, the context is quite different. From what we know with pain, questions may be relevant into what conclusions we actually can draw when we see that there are more reported negative health outcomes during the pandemic. For example, prior to the pandemic there is generally more positive consequences in terms of health-related outcomes with WAH (some exceptions), compared to during the pandemic. Can we say that this is due to WAH because of ergonomic factors, as indicated by very limited research, but most mainstream media? Even though ergonomics still is important to consider, it is probably more complex. One relevant example from prior the pandemic, is the close relationship between high job demands and low control which is linked to psychological issues, pain, sick-leave and cardiovascular issues (Amiri & Behnezhad, 2020; Hauke, Flintrop, Brun, & Rugulies, 2011; Kivimäki et al., 2012). I think I can assume that this might also have occurred during the pandemic and thus be a causal factor to the results we observe from pandemic research.

### Closing thoughts

As osteopaths we are patient-centred and consider all aspects of a person through a biopsychosocial lens. We know that pain is a complex phenomenon involving multiple domains within physical, mental and environmental factors. It might be a challenge in the day-to-day practice to emphasis all

these domains in equal respect, but nonetheless they are important to consider as one factor might amplify another. There is also a challenge with heterogeneity within the population of people WAH that might be key to what the results are showing, i.e. we are different, unique individuals that responds to external and internal stimuli/threats in highly different ways. Research might focus on an outcome, for example rates of neck pain, but we know that it will be affected by for example demands and requirements of the work which people will manage differently. The pandemic has shed light on the consequences of WAH, but within an extreme context. Health and work relationships are complex and will require consideration of broader system factors to optimise the effects of WAH on workers' health. Nonetheless, the increased focus on the topic has provided the opportunity to identify important factors to promote resilience of patients, health care professionals and organisations/employers. By adding this to our ever-increasing knowledge base, we can raise awareness for the need to promote healthy workplaces from an environmental and biopsychosocial perspective. This is important as it is likely mandated that WAH will continue to some degree, and that osteopaths have a natural role in workers' health, either directly or indirectly.



### Biography

Pål Andre Amundsen is an osteopath with a Master of Science in Clinical Pain Management from University of Edinburgh.

He is currently a PhD-Fellow working on the project "Returning people with persistent pain to work using Individual Supported Employment placements (ReISE)" led by Professor Robert Froud. ReISE was funded with 12 mill NOK from the Norwegian Research Council. He was formerly head of studies at the Osteopathy programme at Kristiania University College where he worked as an assistant professor, lecturer and researcher with published papers in back pain and work-health.

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Text: Tiina Lehmuskoski

**Four legs, a wagging tail and a cheerful greeting – these are the first impressions when opening the school door for Jyrki Hänninen. The cheerful greeting belongs to Jyrki, but the rest belongs to guide dog Iivari.**

Iivari guides Jyrki during the whole journey from Oulu to his school in Espoo, on the train and on the subway. Iivari's help is essential, as Jyrki is visually impaired and cannot manage without a guide dog. This team is highly skilled. Iivari is a trained guide dog and Jyrki is a computer expert, a trained masseur and he is in his second year of studying osteopathy.



Osteopathy student Jyrki and his guide dog Iivari

Jyrki has found his own field and own method of working. As a trained masseur, and as a future osteopath, he will be able to profit from skills acquired earlier in client service and marketing. Entrepreneurship suits Jyrki because he can determine what and how he works. Sometimes the fact that he is a visually impaired entrepreneur has been commented on as surprising, but he is not easily deterred and feels that challenges make life interesting.

"I recommend that all visually impaired accept courageously any professional and personal challenges. Limitations are not barriers, although they might work as speed bumps."

Osteopathy studies began with mutual discussions between the school and the student, exploring how studies should be organized and what adjustments would need to be made. "The student's active participation is important and necessary as we are not a school specifically designed for the visually impaired. But the motivation of our visually impaired student and of our school



# From challenges to strengths

have made it possible to pilot studies for our first visually impaired student. We have had the opportunity to study and delve into a new realm, and we are happy to state that familiarization of adaptation, equality and equality laws has increased student safety and security for all students, not just visually impaired students.” says Kati Kajander-Kiri, who is the student counselor for visually impaired students.

Visually impaired students work on an equal basis in their study group; practical lessons are integral. Theory lessons are in audio form and are done using the students’ own technical tools. “The digital learning platforms make studying possible, as learning materials in paper format would be out of the question for the visually impaired. Of course, it is necessary to practice using the learning platforms, but the same is true for the seeing students who are new to this platform as well. The student determines his or her own attitude and level of activity, and several times it has been Jyrki who helps seeing students in digital matters – this indicates how Jyrki faces challenges and carries responsibility for his own actions, and is to be admired” says Kati.



*Kati Kajander-Kiri  
Department of Osteopahty Atlas of Visually Impaired Students*

From the teacher’s point of view taking into consideration visual impairment has brought extra focus to teaching. Many descriptive words are used while teaching osteopathic techniques, but taking into account the vis-

ually impaired requires exact terminology. It is not enough to say where the hand is placed, it is necessary to say which hand, where exactly the hand is placed, which part of the hand touches the patient, in what position the hand is, in which direction the movement is made and the same detailed description goes for the other hand... Many of these details might be overlooked, but this exact description increases the quality of teaching and is beneficial to all students. Osteopathy as a profession suits the visually impaired very well, because the skills are manual and are also manually taught, be the student seeing or visually impaired.

## **How does the visually impaired student manage osteopathic studies?**

“Possibly the situation is most tellingly described by the fact that when a teacher for the first time teaches a group that includes a visually impaired student, they have to ask which students are visually impaired. During practical lessons it is impossible to observe which students are visually impaired, so when the student is motivated and wants to learn, the visually impaired manage very well. Written assignments and exams are a good measure of knowledge and skills and these theoretical studies are not a problem for our visually impaired students”, Kati says proudly.

Jyrki says that his previous studies and work experience have strengthened his nerves, especially in the computer field, where working rushed and under pressure increased his ability to withstand stress. “As a visually impaired person one has to keep calm and keep confident that one will manage, even when horrified. I have felt that after an initial nervousness, I can manage and can keep up with the others. My experience in computer science is a huge help and I have no problems with digital technical matters.”

Jyrki uses tools for the visually impaired in digital environments on the computer and on the smart phone. These tools enable listening to written material as if it were an audio book. This does not allow reading pictures, so it is necessary to have someone describe any pictures.

“Studying in pairs is essential, as I cannot see the blackboard of anything the teacher demonstrates. When studying in pairs, the seeing student uses their own hands to demonstrate the grip or technique. Occasionally I ask the teacher if I can stand next to him or her and follow the hand movements.”



*Osteopathy student Jyrki*

“During my studies I partially use my home community’s services for the impaired, of which one possibility is to have a personal assistant with me to help during the journey to the school and while living in the school vicinity. With my guide dog we are also quite independent and we want to demonstrate to other visually impaired that we are capable of going and doing, and we should courageously study demanding professions.”

Jyrki and Kati encourage all to react with interest and curiosity to new things, it is not necessary to know or be proficient in all things immediately. Help and assistance are to be found, when some research is done. “We started from a situation where as a school we had no experience in teaching the visually impaired. Frank and open conversation and consulting with the visually impaired themselves, and in addition consulting with the Finnish Federation of the Visually Impaired, have allowed us to create ways and means for mutual function. Studying in itself demands work, of course; it is impossible to study for someone and every seeing or visually impaired student needs to find their own method of studying. We can help and support, but of course the student has to do the actual work. Be it seeing or visually impaired student, attitude is the key. This is a matter that helps or hinders studying – but it is probably true in all sides of life.”

**Tiina Lehmuskoski**  
Physiotherapist,  
Osteopath, MSc





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Ingrid Nicander (redaktør)  
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Norsk Osteopatforbund  
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**Grafisk design:**

Appell Reklamebyrå AS,  
Drammen

**Trykk:**

Lier Grafiske