

# Evidence Informed Practice in Osteopathic Medicine

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## Introduction

The purpose of this series of articles is to provide a review of the scientific evidence regarding the demographic, practice and patient characteristics of European osteopathic practitioners, the effectiveness, safety, cost-effectiveness and patients expectations and experiences of osteopathic care, and to inform patients, osteopathic practitioners, other healthcare professionals and policymakers about osteopathic care as a treatment option for a variety of musculoskeletal and non-musculoskeletal conditions.

In view of the speed with which new developments happen within the osteopathic profession, these articles must be considered as a snapshot in time. They will, therefore, have to be continuously reviewed for their validity and practical value, based on new insights and changes in the professional practice and research literature.

It is the intention of this consortium to merge all these articles into a complete osteopathic healthcare provision report that will be updated every three to five years.

This article explores why evidence informed practice in osteopathic medicine is an essential part of its evolution.

## Context

Osteopathic medicine is an independent primary contact healthcare profession, which is practised by more than 200,000 osteopathic practitioners all over the world <sup>a</sup>.

Osteopathy is regulated in eleven European countries (Cyprus, Finland, France, Iceland, Denmark, Lichtenstein, Malta, Norway, Portugal, Switzerland and the UK) and recognized in three others (Belgium, Italy and Luxembourg). Other countries like USA, Australia, New Zealand and Russia also have specific regulation for the practice of osteopathic medicine.

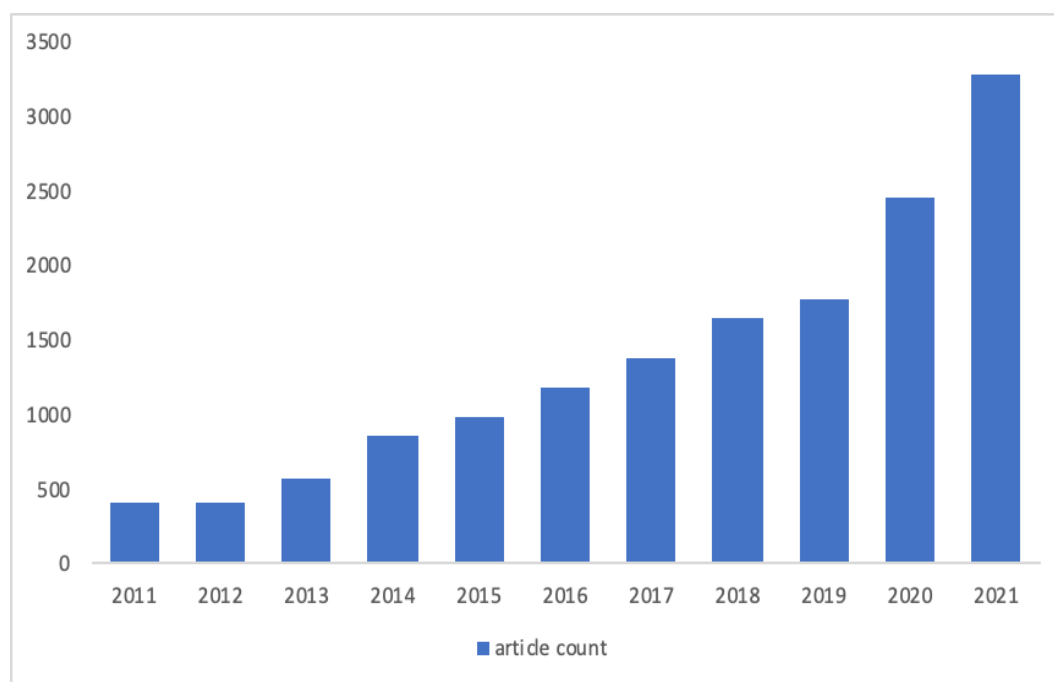
The European Committee for Standardization (CEN), issued a European Standard EN 16686 on 'Osteopathic Healthcare Provision' in 2015, sets minimum benchmarks for clinical practice, education, safety and ethics for osteopathic care in Europe and has been published in 33 European countries. According to the CEN Standard, osteopathy is *'a primary contact and patient-centred healthcare discipline, that emphasizes the interrelationship of structure and function of the body, facilitates the body's innate ability to heal itself, and supports a whole-person approach to all aspects of health and healthy development, principally by the practice of manual treatment'*.<sup>1</sup>

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<sup>a</sup> Note: For convenience the notion "osteopathic practitioner" will be used in this series of articles, knowing that under certain conditions and in certain countries osteopath or osteopathic physician is meant.

## Evidence informed practice in osteopathic medicine

Osteopathy is a healthcare discipline that emerged at the end of the 19th century in the USA and appeared in Europe at the beginning of the 20th century. Historically, research and performing research activities were not priorities of the osteopathic profession<sup>2,3</sup> and even more recently the topic is sometimes only ambivalently discussed and practiced<sup>4,5</sup>. The academic development of the profession was initially based on the transmission of knowledge from teachers to students without a clear focus on the critical reasoning. The emergence of the Evidence-Based Medicine (EBM) movement in the nineties produced a shift in the profession, resulting in an increase in scientific production year after year (Fig. 1). Today, osteopathy is resolutely advancing along the path of science and already has a body of considerable evidence of high methodological quality supporting its approach to healthcare.

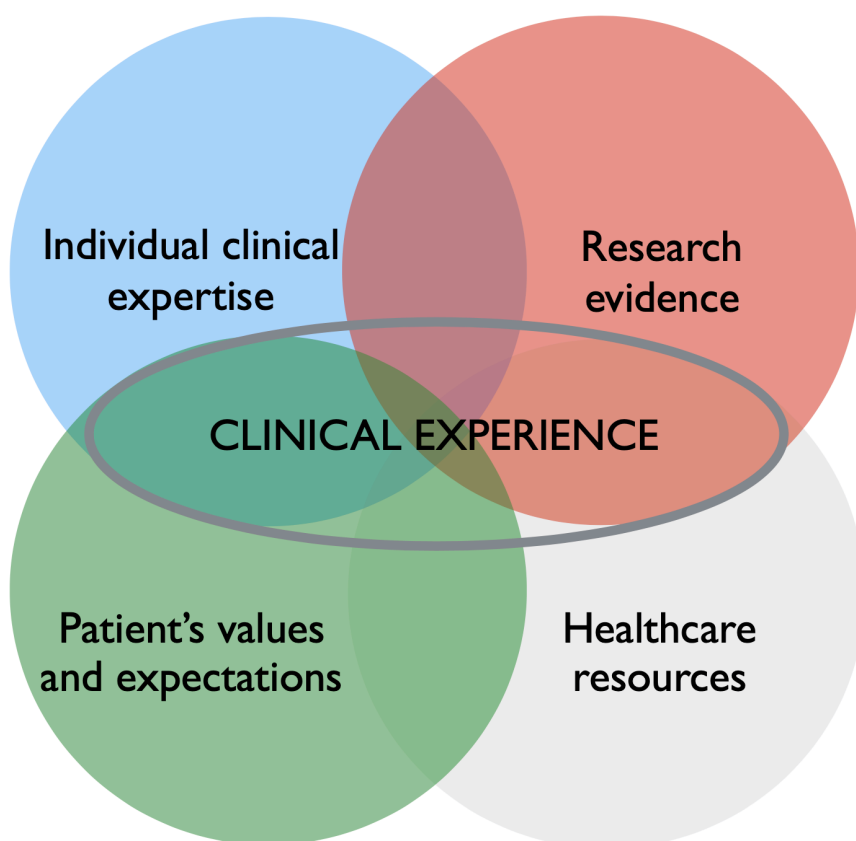


**Fig. 1:** Number of osteopathic publications over the last ten years on PubMed.

([https://pubmed.ncbi.nlm.nih.gov/?term=osteopathic\\*&filter=years.2000-2020&timeline=expanded](https://pubmed.ncbi.nlm.nih.gov/?term=osteopathic*&filter=years.2000-2020&timeline=expanded))

Globally, the osteopathic profession has recognized the need for more research and development of the evidence base for osteopathic healthcare. Therefore, there is now greater collaboration in research within the profession, both nationally and internationally, as well as with other

professions, which will probably facilitate broader studies with more robust methodological approaches. Certainly, in some fields, evidence is still scarce, of low quality, or even non-existent and, the plausibility of some interventions needs to be reviewed from a contemporary perspective. Nevertheless, the osteopathic profession is well aware that evidence informed practice in osteopathy has become indispensable as a basis for taking policy decisions, but above all, also for making decisions in everyday osteopathic practice <sup>1,6</sup>. Witness of this commitment to EBM is the expansion of research activity and an increasing number of osteopathic practitioners that are involved in research that is carried out to standards that are recognized across the healthcare professions <sup>6</sup>.



**Figure 2:** Evidence informed practice

Although osteopathic practitioners have moderate-level skills in evidence-based practice (EBP) and engage infrequently in EBP activities, they appear to support EBP and the majority of

osteopathic practitioners are interested in learning or improving skills necessary to incorporate EBP into their practice <sup>7-11</sup>.

Evidence informed practice in osteopathic medicine (EIP-OM) is indicated for the advancement of the profession and to fit in with the fundamental principles of the osteopathic care approach it needs to be person-centred. EIP implies that many different levels of evidence and types of evidence (e.g. clinical knowledge/expertise and knowledge related to the patient or population; see Fig. 2) are needed and used to support decisions in clinical practice <sup>12</sup>.

Evidence is sought to identify the potential benefits, harm and costs of any intervention and also to acknowledge that what works in one context may not be appropriate or feasible in another. EIP-OM brings together local experience and expertise with the best available evidence from research that is relevant to osteopathic care.

EIP-OM is a priority for our profession and is an integral part of osteopathic academic education. It is an intellectual choice of the profession to make clinical practice more scientific and empirically grounded and thereby to achieve safer and more cost-effective care.

Lately, the profession is also reconsidering its basic principles and critically reviewing and updating its clinical models and theoretical frameworks in line with recent developments in pain science and musculoskeletal care, while endorsing the osteopathic concept of person-centred care <sup>13-16</sup>. This has led the profession to be more open and reflective about its role in health care delivery.

The desire to conduct scientifically robust and rigorous research exists, but there are some methodological challenges conducting clinical trials with interventions that are not pharmaceutical and involve active engagement with the person receiving the intervention.

One of the biggest methodological barriers to investigating the effectiveness of osteopathic care has been to conduct Randomised Controlled Trials (RCTs). There are two fundamental difficulties with using this methodological research approach: defining the intervention which for osteopathy is difficult as each treatment is bespoke / person-centred and designed to be delivered to meet individual needs, and the second is double blinding of practitioners delivering the intervention and patients receiving the intervention.

There is challenge with 'blinding' the recipients of the intervention to the active interventions. Although blinding might be less important than often believed <sup>17</sup>, it still remains a methodological

safeguard in clinical trials and osteopathic healthcare, like a number of other medical interventions (surgery, chiropractic, physiotherapy), does not lend itself to the ‘gold standard’ of double-blinded randomized controlled trials (RCTs) used in pharmaceutical research. Placebos are difficult to implement as patients know when they are being touched, and even “sham” interventions have a mechanical input, thus making blinding difficult. Having knowledge about these methodological challenges, osteopathic research is actively involved in critically reporting them and finding solutions <sup>18-20</sup>.

A relatively new paradigm of pragmatic trials are now a more common and accepted approach to investigate the effectiveness of complex interventions and is much more aligned with the osteopathic approach to care, making osteopathic effectiveness research more plausible. Pragmatic or ‘real world’ trials are designed to evaluate the effectiveness of interventions in real-life routine practice conditions and allow for some variation in clinical delivery to reflect practice.

The concept of ‘osteopathic research’ i.e. research done by osteopaths for osteopaths has limited the professions outlook in previous decades, in part because there was very little ‘osteopathic’ research available. Osteopathy is a complex, multi component treatment approach and it is now recognised that a wider, broader perspective to include all research relevant to osteopathy is important to consider and engage with. In addition as the profession has grown there are more osteopaths trained in research with an invested interest to explore care provision in this field.

However, funds are still relatively scarce for osteopathic research worldwide, despite this the profession is determined to advance along the path of EBM and is constantly increasing its scientific publications (Fig. 1).

Part of the professions scientific papers is published in specific journals or in more general ‘scope’ journals. In the same way, like any other health professional, osteopathic practitioners make use of all available scientific literature to conduct an informed evidence practice.

The osteopathic profession is actively involved in producing research from case reports <sup>21,22</sup> working up the evidence pyramid to meta-analyses concerning its effectiveness <sup>23,24</sup>. It is important to note that there is evidence available and that, over the last decade, the number of studies demonstrating the link between osteopathic care and an improvement in several specific clinical conditions has increased significantly <sup>25</sup>.

In addition, osteopathic care relies on knowledge within the basic scientific disciplines such as anatomy, physiology and biomechanics. Osteopathic medicine as a professional group and osteopath researchers actively contribute to a deepening and broadening of this basic scientific knowledge<sup>26-28</sup>.

Table 1 provides a list of specific databases, peer- and non-peer-reviewed osteopathic journals, and osteopathic research centres and networks, that are available to the osteopathic profession.

## Conclusions

The osteopathic profession is growing and maturing and provides health care to a significant proportion of the population. There is widespread recognition within the profession of the need to engage with, and apply research findings to promote and enhance the care that osteopaths deliver to patients. The profession is building its capacity to do and fund research and develop further an evidence informed culture.



<b>Databases</b>	<ul style="list-style-type: none"> <li>• <a href="#">Osteopathic Medical Digital Repository</a>: Database powered by the American Osteopathic Association (AOA) and the American Academy of Colleges of Osteopathic Medicine (AACOM) that brings together scientific output from the following sources:               <ul style="list-style-type: none"> <li>○ Journal of Osteopathy v.4 (2,4-12) 1897; v.5 (1-7) 1898</li> <li>○ JAOA - 2000 to 2006 from AOA's webpage / full issues / pdf</li> <li>○ JAOA - 1990's full issues / most in pdf</li> <li>○ JAOA - 1980's full issues / currently implementing pdf</li> <li>○ Bibliographic Records from OSTMED</li> </ul> </li> <li>• <a href="#">Osteopathic Web Research</a>: Fruit of the collaboration between the Wiener Schule für Osteopathie and several schools of Osteopathy in Europe, it agglutinates references and abstracts of research projects carried out in these academic institutions.</li> </ul>
<b>Peer-reviewed osteopathic scientific journals</b>	<ul style="list-style-type: none"> <li>• <a href="#">European Journal Osteopathy &amp; Related Clinical Research</a></li> <li>• <a href="#">International Journal of Osteopathic Medicine (IJOM)</a> <a href="#">IJOM metrics</a></li> <li>• <a href="#">Journal of Osteopathic Medicine</a> <a href="#">JAOA metrics</a></li> <li>• <a href="#">Mains Libres</a></li> <li>• <a href="#">Osteopathic Family Physician</a> <a href="#">OFP metrics</a></li> <li>• <a href="#">La Revue de l'Ostéopathie</a></li> </ul>
<b>Non-peer-reviewed osteopathic journals</b>	<ul style="list-style-type: none"> <li>• <a href="#">DO - Deutsche Zeitschrift für Osteopathie</a></li> <li>• <a href="#">Ostéomag.fr</a></li> <li>• <a href="#">Osteopathy Today</a></li> <li>• <a href="#">Osteopathische Medizin</a></li> </ul>
<b>Newsletters with new osteopathic research</b>	<ul style="list-style-type: none"> <li>• <a href="#">OsteoBlast</a>: a publication of the American Academy of Osteopathy</li> <li>• <a href="#">OsteoPulse</a>: a publication of the Centre for Osteopathic Medicine Collaboration</li> </ul>
<b>Research centres and networks</b>	<ul style="list-style-type: none"> <li>• <a href="#">A.T. Still Research Institute (ATSR)</a></li> <li>• <a href="#">Centre for Osteopathic Medicine Collaboration (COME)</a></li> <li>• <a href="#">Foundation for Osteopathic Research and Continuous Education (FORCE)</a></li> <li>• <a href="#">National Council for Osteopathic Research (NCOR)</a></li> <li>• <a href="#">Osteopathic Research Center (ORC)</a></li> </ul>

**Table 1** : List of specific databases, peer- and non-peer-reviewed osteopathic journals, and osteopathic research centres and networks.

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