



SHORT REVIEW

Pitfalls and challenges involved in the process of perception and interpretation of palpatory findings



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Abstract Palpation is the cornerstone of osteopathic diagnosis and treatment and the major building block of clinical decision making within osteopathy. It depends not only on the interpretation of palpatory sensations, but the perception process itself can be affected by many factors that mostly act on the subconscious of the palpating individual. Palpation is a complex process and influenced by previous experiences, the type of information to collect as well as the context in which it takes place. Hence, the various influences that shape the perception and interpretation of palpatory findings may create challenges when treating a patient.

Amongst other factors, such as the previously described multisensory integration of both vision and haptic information, diagnostic palpation can be experienced and interpreted based on additional influences, such as habitual and context-related influences, as well as cultural and social imprinting. This article reviews and explores these factors as potential pitfalls with regards to the osteopathic palpatory approach and in light of the available osteopathic research evidence. Other literature from the field of neuroscience and psychology, where relevant, has also been explored. Awareness of these challenges and pitfalls may result in more adequate palpation procedures and enhance competence in palpation practice.

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Introduction

Diagnostic palpation skills are the major building blocks of osteopathic practice and clinical decision making, being essential to evaluate somatic

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dysfunctions, hence setting the groundwork for the treatment of the patient.^{1–3} Therefore, diagnostic palpation is considered an important part of an osteopath's clinical competence profile but is also seen as one of the hardest clinical skills to develop, teach, and assess.³ However, palpation as a process is complex and involves many types of knowledge, motor skills, perceptual skills, and a therapeutic attitude.¹ Palpation generally depends on an individual person's perception and is influenced by previous experiences and prior knowledge as well as the type of information to collect, and the context in which it takes place.^{1,4} Only the context of the whole body structure gives meaning to local palpatory findings, because not only the interpretation of such findings, but palpatory perception itself is context-dependent.

The two components of palpation have previously been described as comprising of a motor component, in which the practitioner acts on the patient's tissue as well as the perceptual component, with which the practitioner assesses and feels the state of the patient's tissues.¹ The perceptual component is of subjective nature and characterised as a multidimensional experience, varying according to factors like visualisation process, emotional state, cognitive factors, and perceptual mechanisms and their dimensions.^{1,5} However, objectively presenting tissue facts and their subjective interpretation are inseparably, but not inextricably linked. The reality of tissue and patient are always seen through the eyes of the perceiving osteopath. Thus, in the author's opinion, all perception is interpretation, although not open to arbitrary interpretation.

Osteopathic palpation is a complex process which, from the author's point of view, requires confidence in one's own abilities, but most often can be flawed by an arbitrary subjective approach, referring to inner perceptions, thoughts, sensations and associations an osteopathic practitioner may have during palpation, which generally is seen as a process of evaluating something external.

Vision and haptics (tactile and proprioceptive information) have been shown to play a synergistic role in perceptual judgements requiring the use of palpation, as previous research in the field of cognitive neuroscience suggests.⁴ Therefore, considering this reliance on palpation, osteopaths most likely use information conveyed by their senses to inform their diagnosis.³ Diagnostic palpation has been suggested to involve the multisensory integration of both vision and haptic information, but in close relation to the assessment of the patients presenting symptoms and their medical history.³

An important framework for understanding the analytical and non-analytical processes likely to be associated with diagnostic palpation is the evidence from the dual process theories, which propose that decision making is underpinned by two distinct systems of judgement.^{6,7} System one is described as an automatic, and intuitive mode of processing, hence performed rapidly, which shares commonalities with perception. Judgements in the context of clinical practice are typically made by pattern recognition.^{6,8,9} In contrast, system two is an analytical, largely conscious and slow mode of processing which is used by practitioners, for example, when signs and symptoms are not easily recognised.^{8,10}

The author of this review article proposes that palpatory perception and its interpretation may be subject to additional multiple conditioned experiences and influences, such as habitual and context-related influences, as well as cultural and social imprinting. The aim of this article is to review and discuss these additional influencing factors in light of available osteopathic and neuroscientific evidence, as well as identifying potential pitfalls that may be encountered while practising and interpreting palpation. Due to a lack of evidence on the topic within the osteopathic research literature, the author also has incorporated literature from the field of neuroscience and psychology where relevant, in order to familiarise the reader with the context and background of the described phenomena.

Habitual influences

Pareidolia

Humans have the natural tendency to attach meaning to accidental scenarios, i.e. perceiving familiar structures even where they are not existent. This is known as pareidolia, a type of perception in which a vague or obscure stimulus — i.e. subtle textures under the skin — is perceived as if it was actually clear and distinct, indicating the human ability to make meaning out of the random. Pareidolia is a subconscious illusion involving a vague and random stimulus being perceived as significant.¹¹ Osteopaths — e.g. while interpreting palpatory findings — may also be prone to it. They most likely will develop a preference for expected patterns and tend to reject those that contradict their assumptions. Palpating practitioners often think they may be feeling things under their hands that may not actually be there. This is because the human mind tends to see what it expects or wants to see.

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