



Touch the facts

# InTouch

  
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# PHYSIO FIRST VALUES OF MEMBERSHIP

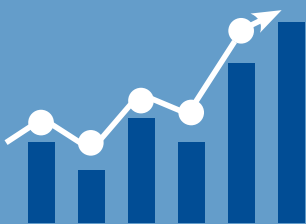
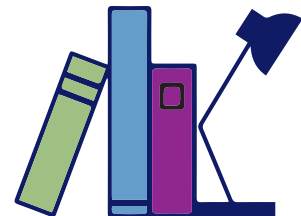


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# Editorial



Welcome to the autumn edition of *In Touch*.

I always like to look outside of our profession for inspiration, and I want to share with you an anecdote about my friend Kurt.

Kurt is a true gent and the owner of a running trainers and apparel shop in Hove. He is very knowledgeable about running trainers and what suits the individual, basically an expert in his field. He does not do the hard sell but he has a photographic memory and an eye for detail that is second to none. He has been offering this high-end, highly valued service to his customers for the past two decades, which means his business has managed to ride every storm, demonstrating that the public will always seek out quality. His personal and business attributes certainly resonate with me and I am sure that is how many of you feel about your practices.

As we move from a pre-Covid world to a post-Covid one, I feel there are two things that are certain; firstly our lives have undoubtedly been changed by this event and secondly, regardless of the era, a quality product and service will always be something the public seeks out.

Our lead article, kindly written for us by Kent Fyrth, opens what I believe is a fascinating edition that dives head-first into continued understanding of professional issues and the application of our professional skills. The power of touch and correct movement analysis discussed in this edition has been illuminated from various angles, and I hope this will stimulate some lively discussions among our readers.

One example that is ripe for discussion is web-based consultations. Today, more than ever, there is a need, when hands-on therapies are not available, for us to be able to correctly "select and cue movements" that are bespoke for our individual patients in order to get a satisfactory clinical outcome. This highlights the fact that, as coal-face physios, we need to be able to correctly draw from our multitude of skills.

So, I return to my friend Kurt and leave you with this thought; how nice would it be to have a network of Kurts to work with? A network of Quality Assured Practitioners, who share the same vision of quality, a network of like-minded business owners who together are stronger and more able to weather any storm they may face? Maybe, just maybe, this will be our future...

Thank you to all of the authors in this edition for supplying such a range of apt and relevant articles for our time, and I hope you enjoy reading them.

Until next time,

**TOBIAS BREMER** | EDITOR

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# The clinical application of touch: decision making from an 'emotion-informed' perspective

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The application of touch in physiotherapy may have therapeutic benefit through several possible mechanisms, but may not always be appropriate. This article will provide a brief introduction to how the presenting emotional state of the patient can influence our decision making with regard to if, when and how touch may be applied within the clinical context, with examples based on real cases.

## LEARNING OUTCOMES TO SUPPORT PHYSIO FIRST QAP

- 1 Understand how the limbic system and emotional factors may influence the biological, psychological and behavioural aspects of patient presentation
- 2 Understand how an “emotion-informed” approach influences the decision-making process regarding the role, appropriateness and application of touch in the clinical setting.

## Introduction

The word “touch” could generate a lengthy discussion in itself. Our language is rich with references which indicate its significance beyond the physical dimension of applying a hand to receive or transmit information. We describe ourselves as “being touched” when we are emotionally influenced by someone or something. To “stay in touch” is to extend an invitation to remain connected, and “losing your touch” carries fearful implications of diminished relevance or skill. Touch is clearly deeply integrated into our experience of social belonging and communication.

Patients usually have an expectation that physiotherapy will involve some

form of physical contact, and it is often a core component of many physiotherapists’ treatment approach. The efficacy of manual therapy has been widely debated recently, but the therapeutic benefits of touch may come from factors other than the application of a specific technique and, as such, may be difficult to capture within the constraints of a randomised controlled trial. In some cases, owing to non-structural factors, a physical treatment approach may not be the most appropriate intervention. In others, direct physical contact should initially be avoided. The understanding, perception and management of emotions of both the therapist and the patient are key factors in our clinical judgement in respect to the use of touch. Rather than debating hands-on or hands-off, an informed consideration of this dimension reveals a more nuanced discussion regarding the application of our hands to the patient.

## Emotions

The mind and body form a “psycho-biological whole” (Keele *et al* 1983). Our physiological status is monitored by the brain and associated with an emotion. If the physiology changes, so will the emotion. Conversely, if our emotional state (affect) changes, even if artificially induced, there is a corresponding change

in our physiology (Wiswede *et al* 2009; Payne *et al* 2015). The biopsychosocial perspective (Engel 1977) is now well established in our professional approach, but although emotions are deeply entwined by the “bio” and “psycho” components, and it could be argued by the “social” component, they are relatively underexplored as a specific consideration in assessment and treatment.

The limbic system is the primary area of the brain concerned with emotional expression and behaviour, and functions as part of our survival mechanism in conjunction with the autonomic nervous system. It allows us to react immediately to a stimulus, before conscious awareness subsequently determines whether modification of our response is necessary (Levine & Kline 2007). This is the classic “is that long black object in the grass a snake or is it a stick?” scenario.

The broad spectrum of proprioceptive and interoceptive information arising continuously from the body is integrated through circuits that feed through the limbic system (van der Kolk 2014). The brain constructs predictions in advance of our actions, pulling from past events to create a context for the interoceptive sensations, and informing the emotion experienced (Seth 2013; Barrett 2017).





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influencing multiple aspects of our physiology and presentation (van der Kolk 2014; Payne *et al* 2015).

## Recognising emotional indicators

It is important to identify a patient's presenting emotional state and to monitor changes during the treatment session as this will influence subsequent clinical choices. There are some general observational features that can alert the experienced clinician to the effects of emotional or autonomic dysregulation. These are readily recognisable and when seen through this lens they can make a valuable contribution to the assessment.

Our emotional response in the present, therefore, may be unconsciously generated by our past experiences, beliefs, and what the situation means to us (Jepma *et al* 2018). For some clients, this response may be triggered by a sensory stimulus such as touch.

## Response to threat

The Polyvagal Theory (Porges 2011) proposes that our reaction to threat or any stressful event is communicated through one of three systems, the most familiar of which is the adrenergic sympathetic nervous system, that enacts the fight or flight responses. However, to diffuse less immediate physical threat we have another proactive alternative,


which is our social engagement system, mediated via the ventral branch of the parasympathetic vagus nerve (cranial X), and through which we attempt to negotiate with, or seek support from, others. In the event that these two options fail, the situation can become overwhelming and our response may then be mediated by the dorsal branch of the vagus nerve, leading to freeze, dissociation and potential collapse, such as fainting.

Healthy autonomic regulation allows us to move between systems and return to a relatively relaxed state after activating our survival strategies. However, under certain stressful situations, one system can become a persistent state,

The subjective assessment may reveal a direct history of trauma, but even "routine" procedures, such as elective surgery or dental work can be traumatic incidents, particularly in children (Levine 1997). Where an individual has issues with sleep, their digestive and immune systems, or memory and fatigue, persistent sympathetic activation and failure to access the parasympathetic regulatory state may be indicated. Many patients will have current and / or previously stressful life histories, often presenting with a combination of symptoms that seem unrelated, and have an absence of identifiable pathology.



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Responses from the patient to questioning during examination may be highly animated and overly detailed, or avoidant and dismissive. Patients with an activated social engagement system, for example, can often be very conversational but divergent and unfocused in their answers, and will tend to use more varied vocal intonation and vivid facial expression as they relate their story. In a more sympathetic state, they may carry a high level of tone or tension in their body and appear more vigilant. This may present as intensity or restlessness, or may shift into being more confrontational and even aggressive if they feel insecure in the situation. Other indicators include an elevated 

respiratory rate, dilated pupils, and perspiration. Hypersensitivity to sensory stimuli may cause these individuals to remark upon smells, lighting or noises in their environment. When in the state of parasympathetic (dorsal vagal) collapse, signs may include a flexed, defensive posture, low physical tonus and poor communication, avoiding eye contact, appearing passive, or “shutting down” and not being present.

Autonomic dysregulation can also affect the patient’s ability to understand and learn. A highly active limbic system can be inhibitory to the prefrontal cortex,

which is necessary for a wide range of executive functions (Siddiqui *et al* 2008; van der Kolk 2014). Access to declarative memory and use of language can be impaired, making it difficult for the patient to provide a clear history or offer constructive feedback (Barrett 2011; Fisher 2017). They may then appear distractible, avoidant or “difficult” on questioning. When caught in autonomic dysregulation it may be difficult for the patient to process simple information or make decisions, to reason logically or grasp meaning easily (van der Kolk 2014). They may demonstrate poor focus and struggle to interpret or follow

instructions. These patients can seem incapable of making small adaptations to their lifestyle and adhering to treatment guidance, often appearing to ignore advice and quickly forgetting their rehabilitation programme.

## When touch is not the answer

The background information that you gather through your observations and impressions is an important resource that can help you to make choices regarding touch, understand how to adapt your approach responsively, and understand a patient’s reactions from a different perspective.

### CASE STUDY:

A husband and wife presented with minor whiplash-associated symptoms following a rear end collision. Both were similar in presentation, having discomfort around the cervical region with some loss of cervical movement. Manual therapy restored their mobility and reduced their muscular spasm and discomfort within the session. On follow-up, the husband had improved but the wife had returned to pre-treatment status.

Her second treatment was similar to the first, and again, she obtained some benefit in the session. Despite good adherence to her home programme, however, she once again reverted to her pre-treatment state. At this point, other avenues of enquiry needed to be explored.

More detailed questioning identified that her symptoms were worse when travelling in the car. When asked to imagine being in a car, there was a visible bracing of her neck accompanied by a return of her discomfort. This suggested that rather than the physical tissues of the neck being the issue, it was likely that the mechanism behind her continuing symptoms involved the limbic system. She was associating being in the car with threat and the possibility of injury, and her body was responding to this situation by bracing to protect itself from potential harm.

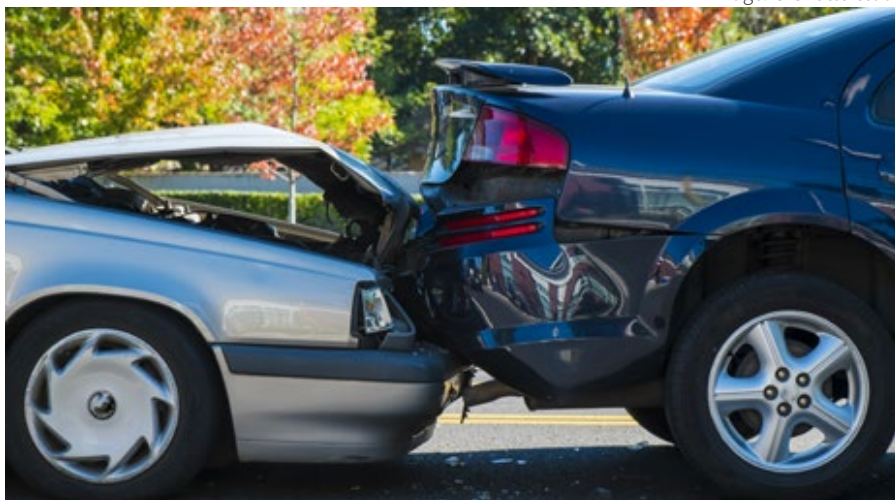
This type of reaction may occur for two possible reasons: the “suit of armour strategy” (Elphinston 2019) can be a physical protection response to this sense of threat, or alternatively, the sensation of muscular tension can dampen the intensity of the emotions themselves (Reich 1979; van der Kolk 2014). The experience of the accident had registered in this patient’s nervous system as emotional trauma and was ongoing, whereas for her husband, once tissue healing had occurred, the event was over.

Manual treatment was not helpful for this patient and her poor response to it indicated a need for more targeted investigation. This led to a recognition and understanding by both the patient and the practitioner of the trigger for her symptoms. With this information, the treatment was changed to strategies for

self-regulation and a manageable plan of graded exposure to driving. It should be noted that, although not necessary for this patient, referral to an appropriate mental health professional may be the most appropriate course of action in similar cases where such measures have been ineffective.

**Key learning point:** in this situation, two people were in the same accident, sustaining similar injuries, yet their response and treatment requirements were entirely different. For one, the experience of manual therapy was supportive for recovery, but for the other the issue was not “in the tissues”. An awareness of the emotional system provided additional insight for understanding this patient’s poor response to treatment and indicated a different clinical direction.

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## Touch for support and awareness

In some cases, we may decide to use touch for reasons other than the application of a specific technique. For example, touch is the most natural way for us to calm distress and is of vital importance for attachment, growth and development in babies (Fisher 2017; Crucianelli *et al* 2019; Narvaez *et al* 2019; Simpson *et al* 2019). For the physiotherapist, it can be a way to enhance our therapeutic alliance, influence behaviour and compliance (Gallace & Spence 2010), potentially modify sensitisation states (Casals-Gutiérrez & Abbey 2020) and enhance the patient's capacity for pain management (Kerr *et al* 2019).

Sometimes a patient needs to learn how to feel their body before they can understand the sensations arising from their own movement. In clients with trauma, post-traumatic stress disorder (PTSD), anxiety, depression and other health problems, the parts of the brain which process sensation may not

function normally (Bluhm *et al* 2009; Avery *et al* 2014; Payne *et al* 2015; Paulus *et al* 2018). Although the information is available, they cannot accurately interpret the signals (Krautwurst *et al* 2014) and can lose their sense of body ownership and agency (Rabellino *et al* 2018). These brain areas are also hijacked in chronic pain states and, over time, begin to degrade (Doidge 2011). Changing the sensory experience associated with a movement lights up the nervous system and helps to facilitate change (Elphinston 2019). Even self-touch can encourage a sense of safe body ownership (Hara *et al* 2015), helping the patient to reconnect to their body, understand where they are in space and establish a new sensory relationship that is not based on pain.

Putting a hand on a patient does not constitute meaningful touch. Clarity of intention for the tactile inputs is necessary for positive and effective communication. As physiotherapists, our own emotional state should be well regulated to avoid inadvertent emotional transference to the

patient, and congruent with our facial expressions to prevent misinterpretation (Hertenstein *et al* 2006; Gallace & Spence 2010; Ravaja *et al* 2017; Kirsch *et al* 2018). Numerous touch factors such as contact surface area, pressure, depth and grading, speed and rhythm can all be adjusted to clearly communicate our intention, and can be instantly modified according to the responses of the patient.

## When touch provokes the emotions

Emotional coupling can occur not just to an external object or situation, but internally to a body region or specific part that has been injured. Emotions may be connected to the area through visual observation of it, kinaesthetic feedback (movement or task specific) or sensory perception, such as touch. These inherent emotions can lie dormant for a long time (Heller & LaPierre 2012; van der Kolk 2014) and they can resurface when the patient is reconnected to the area through well-meaning therapeutic touch. The results can range from minor ➤

### CASE STUDY:

A former rugby player had been injured out of the sport many years previously with an ACL rupture. He had completed his rehab and was regularly lifting large weights in the gym, but it was noticeable that there was still some avoidance of his injured leg. He needed to improve his weight acceptance on this side and re-establish a better movement pattern.

A seated lateral lunge on an exercise ball was chosen as a starting point, as the reduced load and limited range of motion constituted minimal structural threat and should have been sufficiently easy for him to perform successfully. However, as he moved forward over the foot, his body tipped back away from the knee and he started to sweat. Fear appeared on his face, his communication shut down and he changed emotionally from relaxed to angry. Touch can let people know where they are in space and that they are safe (van der Kolk 2014). This patient

was informed that the rate, range and rhythm of the movement would be carefully controlled by the therapist's hand. Through this he could be encouraged forward onto the leg while receiving clear, unambiguous feedback. The hand was there to offer a brake if necessary, and define the end point of the movement.

To convey security for this purpose, the contact needed to be consistent in pressure to communicate that the movement boundary was well defined, and applied over a broad surface area, in this case, with a widespread hand. This calmed the patient as he was not solely responsible for the outcome of the movement, he had more sensory awareness, and the range of motion was clear and controlled. Applying supportive touch to this patient's knee enhanced his sensory awareness, helping his brain to more easily process where his leg was and the parameters of its motion.

The exercise progressively improved in a relaxed, emotional state over a number of repetitions which allowed a new motor pattern to emerge that he could take away and repeat on his own with confidence. Although this patient was physically capable of performing this simple task, touch was applied in this case to address the underlying emotional element which had unexpectedly appeared.

**Key learning point:** this patient was unaware of the emotional association he had maintained from the past with regard to his injured leg, but his response shed light on why his rehabilitation had been less effective than expected. This avoidant strategy can be associated with sensory dissociation, which can inhibit proprioceptive feedback, create insecurity around new movement experiences and prevent motor learning. Appropriate touch was the first step in addressing these issues.

emotional upset to full emotional crisis and trauma recall, where the patient's brain may take them back to the past event and relive it in the present.

If, for example, the patient believes they were responsible for an accident, or survived an event when others didn't, their recall of the event may be coupled with guilt and possibly shame. For assault victims, the coupled emotions may include fear, panic, anger or rage. Feelings of helplessness and vulnerability may also become coupled to the anatomy. This is common around the pelvic area for patients with a history of abuse and rape, or even following childbirth and "routine" surgical procedures. Consequentially, the injured area can be psychologically disconnected and removed from the patient's sensory awareness (dissociated) as an emotional protective strategy (Howell 2005; Seligman & Kirmayer 2008). Dissociation is particularly common in children, often being their only strategy as they are usually unable to fight or flee (Levine & Kline 2007; Heller & LaPierre 2012). It is exceptionally important to be mindful of how we interact with such patients when a trauma history is confirmed or could be suspected. Touch may unintentionally create a connection to an area which is loaded with emotional content.

This does not mean that we cannot work with patients with a trauma history or an emotionally labile presentation. It is possible to successfully treat the physical effects of past trauma without having to expose the trauma memory. Our role is to treat the physical symptoms not the trauma, and practising in an "emotionally informed" manner can help to navigate these situations.

Approaches to treatment in such cases should include:

- consideration of potential trauma indicators in the patient's history, and observation of their responses to questioning
- checking that the patient really understands and accepts the proposed treatment plan when obtaining informed consent

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- consideration of technique or position choices and whether they can be adapted for a less potentially provocative position, e.g. for the hip patient who is displaying signs of emotional dysregulation, choose a less vulnerable and exposed position than a Thomas test, or to mobilise the soft tissues under the scapula, select side lying with the arm in neutral rather than prone with the hand behind the back. In the case of a child, lying in supine or prone can represent a position of vulnerability, so alternative treatment positions are advisable.

When viewed from an emotion-informed perspective, it can be surprising to realise that some routine techniques and positions may constitute a challenging experience for the patient.

Pay close attention to any emotional signs, for example a change in the patient's breathing pattern or expressions of discomfort, particularly if they do not correlate with the type of touch being applied. Therapists should be especially vigilant to the patient suddenly appearing to withdraw or shut down, should note any change in body tension or facial expression, and be prepared to pause treatment, question and check-in with the patient and, if necessary, change the plan for the session.

In the event that the patient's emotions start to take hold, there are some simple measures that can be implemented to manage the immediate situation:



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- Invite the patient sit up or stand and gently move if they need to.
- Orientate the patient to their present time and environment, for example by asking them to identify features in the room, feel the texture of their clothing, or how the floor feels under their feet.
- Talk the patient through some gentle breathing control exercises, particularly extending the exhalation, to help settle the emotions.

These techniques restore a sense of the present for the patient and reassures them that they are in a safe environment.

The likelihood of an adverse emotional reaction is extremely low and greatly reduced with careful attention to the patient's emotions from the outset. However, if touch has triggered a reaction, adjustments to your treatment approach can accommodate this. If the emotional component of the patient's presentation is deemed significant and might be obstructive to the physiotherapy treatment being delivered, they may need additional help from a suitably qualified professional to supplement the treatment plan. In such cases it is particularly important to reassure the patient that they are not being abandoned, but rather the aim is to ensure a comprehensive treatment approach.

## Summary

Touch is more than just physical: it gives us an emotional interface with the patient and can help us to address a patient's emotional state, associations and response to the treatment process.

In some cases, touch may not be appropriate at that moment, or is not the best technique to manage an emotionally driven problem. When it is used, the physiotherapist has a responsibility to be self-aware about how they are using touch; their purpose and motivations, how they apply it, the quality of delivery, and to monitor how it is being received by the patient.

If we are to offer a truly holistic service to our patients, their emotional state and our own must be acknowledged and



weighed in any clinically reasoned treatment approach. An understanding of emotional involvement and presentation, together with the application of “emotion-informed” touch can enhance our patient experience and our potential for therapeutic effectiveness.

## About the author

Kent Fyrth is a private practitioner and lecturer based in Cardiff, specialising in trauma and its somatic presentations. He is a physiotherapist, JEMS® tutor and was the first UK-based physiotherapist to qualify as a Somatic Experiencing® Practitioner. In addition to the JEMS® movement approach, his background has encompassed a variety of manual therapies, chronic pain management and trauma techniques, and he lectures on the recognition and practical management of emotional factors in musculoskeletal presentations.

For further information, please see [www.jemsmovement.com](http://www.jemsmovement.com).

## References

- Avery JA, Drevets WC, Moseman S, Bodurka J, Barcalow J, Simmons WK. Major depressive disorder is associated with abnormal interoceptive activity and functional connectivity in the insula. *Biological Psychiatry* 2014;76:258-266
- Barrett LF. The theory of constructed emotion: an active inference account of interoception and categorization. *Social Cognitive and Affective Neuroscience* 2017;12:1-23
- Barrett MJ. Addressing PTSD: How to Treat the Patient without Further Trauma. 2011 National Institute for the Clinical Application of Behavioural Medicine/teleseminar
- Bluhm RL, Williamson PC, Osuch EA, Frewen PA, Stevens TK, Boksman K, Neufeld RWJ, Théberge J, Lanius RA. Alterations in default network connectivity in posttraumatic stress disorder related to early-life trauma. *Journal of Psychiatry & Neuroscience* 2009;34:187-194
- Casals-Gutiérrez S, Abbey H. Interoception, mindfulness and touch: A meta-review of functional MRI studies. *International Journal of Osteopathic Medicine* 2020;35:22-33
- Crucianelli L, Wheatley L, Filippetti ML, Jenkinson PM, Kirk E, Fotopoulou A. The mindedness of maternal touch: an investigation of maternal mind-mindedness and mother-infant touch interactions. *Developmental Cognitive Neuroscience* 2019;35:47-56
- Doidge N. The Neuroplasticity Revolution and its Implications for Health Practitioners. 2011 National Institute for the Clinical Application of Behavioural Medicine/teleseminar
- Elphinston J. *The Power and the Grace*. Handspring Publishing Ltd, Edinburgh 2019
- Engel GL. The need for a new Medical Model: A challenge for Biomedicine. *Science* 1977;196:129-136
- Fisher J. *Healing the Fragmented Selves of Trauma Survivors*. Routledge, New York 2017
- Gallace A, Spence C. The science of interpersonal touch: an overview. *Neuroscience & Biobehavioural Reviews* 2010;34:246-259
- Hara M, Pozeg P, Rognini G, Higuchi T, Fukuhara K, Yamamoto A, Higuchi T, Blanke O, Salomon R. Voluntary self-touch increases body ownership. *Frontiers in Psychology* 2015;6:1509
- Heller L, LaPierre A. *Healing Developmental Trauma*. North Atlantic Books, Berkeley 2012
- Hertenstein MJ, Keltner D, App B, Bulleit BA, Jaskolka AR. Touch communicates distinct emotions. *Emotion* 2006;6:528-533
- Howell EF. *The Dissociative Mind*. Routledge, New York 2005
- Jepma M, Koban L, van Doorn J, Jones M, Wager TD. Behavioural and neural evidence for self-reinforcing expectancy effects on pain. *Nature Human Behaviour* 2018;2:838-855
- Keele CA, Neil E, Joels N. *Samson Wright's Applied Physiology*. Oxford University Press 1983
- Kerr F, Wiechula R, Feo R, Schultz T, Kitson A. Neurophysiology of human touch and eye gaze in therapeutic relationships and healing: a scoping review. *JBI Database of Systematic Reviews and Implementation Reports* 2019;17:209-247
- Kirsch LP, Krahé C, Blom N, Crucianelli L, Moro V, Jenkinson PM, Fotopoulou A. Reading the mind in touch: Neurophysiological specificity in the communication of emotions by touch. *Neuropsychologia* 2018;116:136-149
- Krautwurst S, Gerlach AL, Gomille L, Hiller W, Witthöft M. Health anxiety – an indicator of higher interoceptive sensitivity? *Journal of Behaviour Therapy and Experimental Psychiatry* 2014;45:303-309
- Levine PA. *Waking the Tiger: Healing Trauma*. North Atlantic Books, Berkeley 1997
- Levine PA, Kline M. *Trauma Through a Child's Eyes: Awakening the Ordinary Miracle of Healing*. North Atlantic Books, Berkeley 2007
- Narvaez D, Wang L, Cheng A, Gleason TR, Woodbury R, Kurth A, Burke Lefever J. The importance of early life touch for psychosocial and moral development. *Psicologia: Reflexão e Crítica* 2019;32:16
- Paulus DJ, Gallagher MW, Bartlett BA, Tran J, Vujanovic AA. The unique and interactive effects of anxiety sensitivity and emotion dysregulation in relation to posttraumatic stress, depressive and anxiety symptoms among trauma-exposed firefighters. *Comprehensive Psychiatry* 2018;84:54-61
- Payne P, Levine PA, Crane-Godreau MA. Somatic experiencing: using interoception and proprioception as core elements of trauma therapy. *Frontiers in Psychology* 2015;6:93
- Porges S. The Polyvagal Theory: *Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation*. WW Norton & Company, New York 2011
- Rabellino D, Burin D, Harricharan S, Lloyd C, Frewen PA, McKinnon MC, Lanius RA. Altered sense of body ownership and agency in Posttraumatic Stress Disorder and its dissociative subtype: A rubber hand illusion study. *Frontiers in Human Neuroscience* 2018;12:163
- Ravaja N, Harjunen V, Ahmed I, Jacucci G, Spapé MM. Feeling touched: emotional modulation of somatosensory potentials to interpersonal touch. *Scientific Reports* 2017;7:40504
- Reich W. *The Function of the Organism*. Farrar, Straus and Giroux, New York 1979
- Seligman R, Kirmayer LJ. Dissociative experience and cultural neuroscience: narrative, metaphor and mechanism. *Culture, Medicine and Psychiatry* 2008;32:31-64
- Seth AK. Interoceptive inference, emotion, and the embodied self. *Trends in Cognitive Sciences* 2013;17:565-573
- Siddiqui S, Chatterjee U, Kumar D, Siddiqui A, Goyal N. Neuropsychology of prefrontal cortex. *Indian Journal of Psychiatry* 2008;50:202-208
- Simpson EA, Sclafani V, Paukner A, Kaburu SSK, Suomi SJ, Ferrari PF. Handling newborn monkeys alters later exploratory, cognitive, and social behaviours. *Developmental Cognitive Neuroscience* 2019;35:12-19
- van der Kolk B. *The Body Keeps the Score*. Allen Lane, London 2014
- Wiswede D, Münte TF, Krämer UM, Rüsseler J. Embodied emotion modulates neural signature of performance monitoring. *PLOS ONE* 2009;4:e5754 ❌

# Connective tissue and fascia: a research update on tissue stiffness in relation to the connective tissue system

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Physiotherapist



The term “stiffness” is highly complex and involves many aspects. Establishing the primary cause(s) of stiffness can be a Herculean task, especially when the scope of the physiotherapist can be limited to investigating mainly anatomical, neurophysiological and mechanical triggers. The aim of this article is to introduce additional hypotheses for why patients may experience increased stiffness, whether caused by neurological injury or due to local tissue pathology.

## LEARNING OUTCOMES TO SUPPORT PHYSIO FIRST QAP

- 1 To introduce growing evidence of how local tissue factors and the peripheral nervous system may influence stiffness and the healing response.
- 2 To integrate knowledge of the wide variety of receptors embedded within our soft tissues and their neural pathways into our analyses, as regards visceral, somatosensory, psychological and mechanical symptoms.
- 3 To consider alternative hypotheses for the occurrence of stiffness when inflammation is unlikely to be an ongoing trigger.

## Introduction

Many patients report feelings of stiffness. This could be due to injury, an ongoing pathology such as stroke or auto-immune condition, part of the aging process, or due to endocrine or nutritional factors. Other aspects of stiffness can include mechanical, neurophysiological, anatomical, biochemical, psychosocial and genetic.

Recent research into the connective tissue system has begun to offer explanations for some of these factors and may help to connect the dots between the different specialist areas. It is hoped that the findings presented may be relevant to many patients with a range of pathologies, injuries or health conditions. However, owing to the immensity of this topic, the aim of this article is merely to introduce and briefly discuss some of the emerging thoughts from the ongoing research, where further reading is encouraged.

## What is tissue stiffness?

Stiffness is a term used in many contexts, and, with regard to the human body, it can be prone to subjectivity. The Oxford Dictionary of English defines it as: *“the inability to move easily and without pain”*. Baumgart (2000) described it as: *“the extent to which an object resists deformation in response to an applied force.”*

From a clinical viewpoint stiffness is rarely an isolated symptom and may be associated with a range of presentations including, among others:

- pain
- loss of range of motion

- reduced tissue mobility (Menon *et al* 2020; Langevin & Huijing 2009)
- increased tension
- neural compression
- vascular compression
- increase in tone
- tissue thickening and increased viscosity (Stecco *et al* 2014)
- increased effort to move
- reduction in function.

Following injury and during the acute phase of healing, stiffness is likely to be experienced as a by-product of the inflammatory process, which is natural and to be expected. Acute inflammation as a cause of stiffness will therefore not be considered here. Similarly, it is assumed that genetic and functional differences between each person may also account for varying levels of tissue mobility and stiffness, so these will not be included in this discussion.

## The ideal body

To function effectively and efficiently, our bodies require an appropriate balance of tissue types. To succeed in a task we need the ability to assess, update and modify movement throughout, while managing the balance between mobility and stability. Mechanical forces generated

## "THE RESEARCH INTO CONNECTIVE TISSUES MAY HELP FILL GAPS IN OUR UNDERSTANDING OF STIFFNESS RELATED TO THE CONNECTIVE TISSUE SYSTEM"

and applied to the body during all functions should dissipate, causing minimal torque, sheer and friction, while keeping movement co-ordinated against gravity, and using the least amount of effort. To this end, the nervous system is required to report, interpret and respond appropriately, remaining fully aware and in control of each and every system.

Each of these systems has the potential for dysfunction. It is therefore important to have knowledge of the parts, connections and requirements for every function to ensure our clinical reasoning and treatment plans are appropriate and justified. This is where the research into connective tissues may help to fill some of the gaps in our understanding of stiffness in relation to the connective tissue system.

### ANATOMICAL AND ARCHITECTURAL BASIS

Since the early part of the millennium, the connective tissue system has received an immense amount of new interest and investigation with five international, peer-reviewed, multi-disciplinary congresses completed to date (<https://fasciacongress.org>).

Types of connective tissue include:

- ligaments
- tendons
- joint capsules
- membranes
- meninges
- myofascial expansions
- retinacula
- aponeuroses
- periosteum
- vessel sheaths and linings
- visceral fasciae
- inter- and intra-muscular connections including endo / peri / epimysium (Adstrum *et al* 2017)
- adipose tissue
- neurovascular sheaths (Adstrum *et al* 2017)
- epineurium

- superficial and deep layers of fasciae (Chaitow 2018).

During the 1st Research Congress in Boston (2007), fascia was discussed at length in its role as a member of the connective tissue family, having originally been discovered in 1899 by Dr AT Still, an American physician and founder of osteopathic medicine. Prior to 2007, fascia was thought to be a passive, inert wrapping, lining or packing material, and as such was often removed during surgical procedures (Chaitow 2014).

### DEFINITIONS

Fascia is relevant to the discussions on tissue stiffness because it exists as a whole-body, three-dimensional continuum of soft tissue. It surrounds, penetrates, connects and assists in the functioning of every bone, organ, muscle, vessel, nerve and the other connective tissues (Abu-Hijleh *et al* 2006; Findley & Shalwala 2013; Chaitow 2018). Fascia is classified into superficial or deep layers, varying in density depending on its function and labelled according to location.


Also described as "fibrous, collagenous tissues that are part of a body-wide tensional force transmission system" (Schleip *et al* 2012), fascia is highly

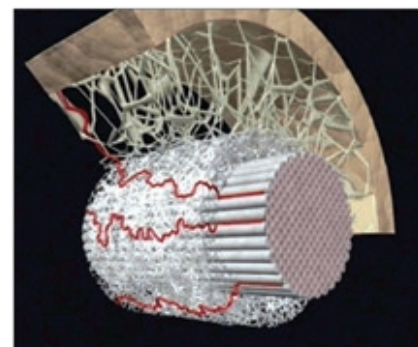
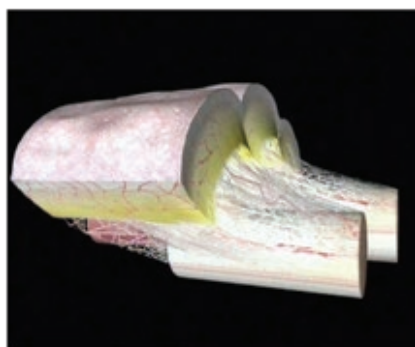
innervated, proprioceptive and interoceptive and has been "shown to be an important element in our posture and movement organization" (Schleip 2003a).

All connective tissues, including fascia are made up of fibroblasts, chondroblasts, osteoblasts and extracellular matrix that consists of water, ground substance and fibres; collagen and elastin. A tendon or ligament, for example, is primarily made up of 97% collagen, 2% elastic fibres and 1% ground substance and is a bundle of fibres twisted around each other "geared up to cope with mechanical stress" (Chaitow 2018). Ground substance is needed for hydration and to produce lubrication to enable sliding between tissue layers, thereby minimising friction and stiffness between the collagen fibres and other layers (Van den Berg 2012).

Fascia has a similar constitution, but its collagen fibres exist in a spiral, triple helix shape with ability to form "cross-links and biochemical bridges" (Chaitow 2018). The absence of straight lines creates multi-directional layers that allow movement to occur in any direction.

*"Fascia is also capable of transmitting electrical signals throughout the body. One of the main components of fascia is collagen. Collagen has been shown to have semi-conductive, piezoelectric and photoconductive properties in vitro"* (Findley & Shalwala 2013).

More recently, fascia has been discovered to be a colloid substance as the collagen 



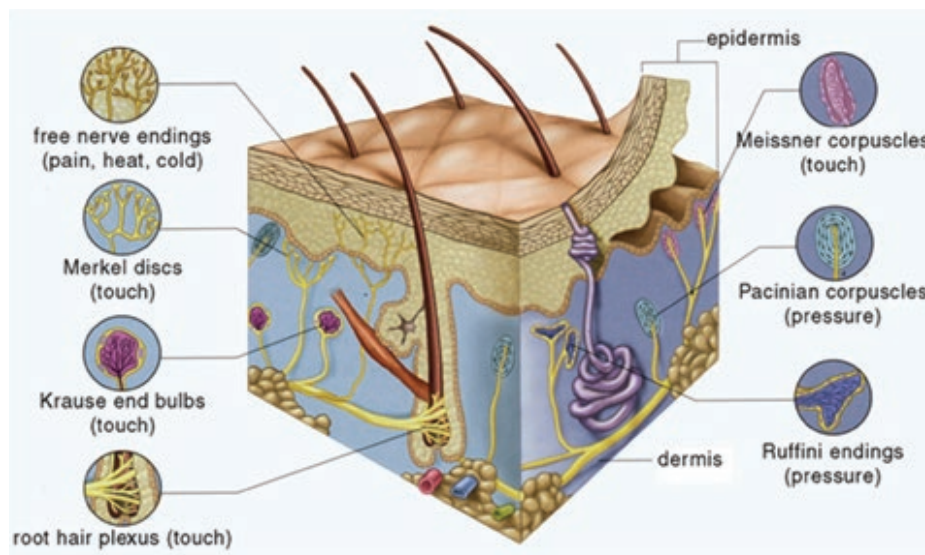
**FIGURE 1:** Images produced as a result of in vivo, intra-tissular endoscopy showing the fascial connections between the skin and the tendon. Blood vessels and nerves can be seen to pass through the fascia and are able to move and glide within their own interface. From Guimberteau "Strolling under the skin" (2005), and reproduced from DVD images with permission



fibres are actually suspended in fluid (Chaitow 2018). This has introduced the idea of thixotropy and fluid mechanics as a contributor to the view that stiffness may be affected by pressure exerted by fluids (Menon *et al* 2020). The space between the collagen fibres of the epimysial fasciae is reported to be occupied by hyaluronan which is a lubricant, otherwise known as hyaluronic acid (Wilke *et al* 2018). This allows the collagen fibres to slide (figures 1a & 1b) with less friction during movement (McCombe *et al* 2001).

## INNERVATION

Many publications have revealed that fascia and the other connective tissues are densely innervated with both myelinated and unmyelinated receptors giving fascia afferent and efferent capabilities and enabling it to have intimate connections with both the central and peripheral nervous systems (Schleip 2003b; Langevin 2006; Schleip *et al* 2012). A variety of mechanoreceptors, sensitive to speed, pressure and depth, exist throughout the superficial and deep layers, from skin down to bone as well as in sensory receptors such as pain (nociception) and temperature (Stecco *et al* 2015).



**FIGURE 3:** Skin, superficial fascia and the receptors within. Reproduced with permission from fig 12.27, McGraw-Hill Ryerson (Colbourne *et al* 2007)

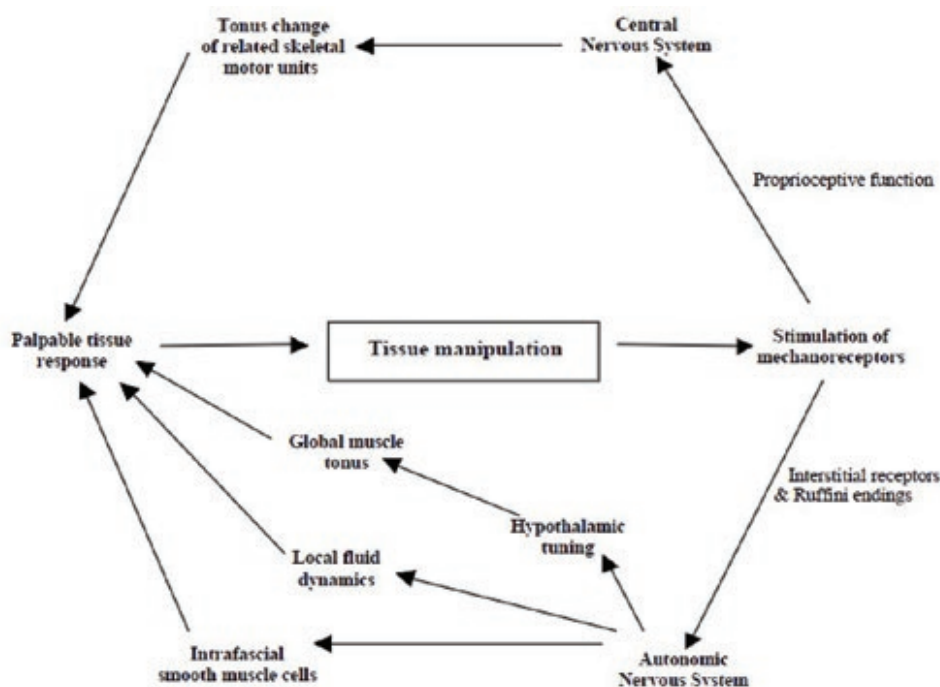
## Neurally driven changes in stiffness

Schleip's two-part articles (2003a, 2003b) include accounts of the stimulation of the unmyelinated receptors within the fascia in the form of interstitial receptors, or free nerve endings, which project into the autonomic nervous system. These interstitial receptors are densely populated in the fascia, accounting for up to 80% of receptors, and are sensitive to molecules that indicate cell damage is occurring. They are also sensitive to pain and temperature changes. Our

reactions to pain are very individual but may result in a withdrawal reflex or as a protective mechanism, as seen by a change in sympathetic tone, or as an increase in vessel "stiffness" through vasoconstriction (Schleip 2003a).

Anatomical investigations have traced the pathway of interstitial nerves into the sympathetic origins of the sympathetic nervous system at the thoracolumbar level of the spinal cord (laminar 1). This pathway then continues into the lateral spinothalamic tract of the spinal cord, the brainstem, the amygdala and hypothalamus, and terminates in the insular cortex of the limbic system. The involvement of these nerves in fascia may help to explain changes in the autonomic nervous system (ANS) and possible psychological, somatic and visceral symptoms. This ability has been termed interoception (Schleip & Jager 2012; Ghaziri *et al* 2017).

In contrast, the pathway of the myelinated receptors through the central nervous system (CNS) is thought to mainly pass into the motor cortex resulting in changes to skeletal muscle tone. Schleip (2003b) has also hypothesised that where a reduction in tension or stiffness is subjectively felt, or observed due to tissue manipulation (such as due to manual therapies or acupuncture), there are simultaneous



**FIGURE 2:** Image of flow chart depicting the processes involved in the neural dynamics of immediate tissue plasticity following tissue manipulation. Reproduced with permission from Schleip 2003b (fig.6)

“HOW WE DIFFERENTIATE BETWEEN THE EFFECTS OF MUSCLE AND FASCIA, AND WHICH MEASUREMENT TOOLS TO USE, IS CERTAINLY A TOPIC FOR FURTHER DISCUSSION”

changes in both the autonomic nervous system and the central nervous system (figure 2).

Langevin (2006) also describes the functions of the connective tissue system as a “body-wide mechanosensitive signalling network” (figure 3), but how does this relate to stiffness?

### Smooth muscle contraction as a contributor to tissue stiffness or contracture

One of the main revelations of the 2007 International Fascia Research Congress was that fascia reacts to stimuli from these receptors through electrochemical signals. Fascia can then contract, in the same way as a wound can contract, but in the absence of a wound. As a result of input from the receptors, smooth muscle cells located in the fibroblasts receive a signal to change into myofibroblasts and these can contract and bind to other myofibroblasts, widening the area of potential

contraction and applying mechanical tension to its attachments (Tomasek *et al* 2002). This gives fascia the potential to transmit force to other areas, in series, in parallel and across different compartments. This contractile effect may serve to strengthen or stabilise a specific location, but may also have the potential to lock an area down and inhibit sensorimotor control (figure 4). Fascial contraction mechanisms differ to those of skeletal muscle contractions as the fascial contraction processes are subconsciously controlled through the autonomic nervous system.

An ultrasound study by Langevin & Huijing (2009) investigating chronic low back pain (cLBP) revealed an altered connective tissue structure and a thickened deposition in the cLBP patient group compared with the control group. Fascia in the cLBP group was found to be 25% thicker, with an average loss of 52% of motion between the tissue layers. The alteration in the

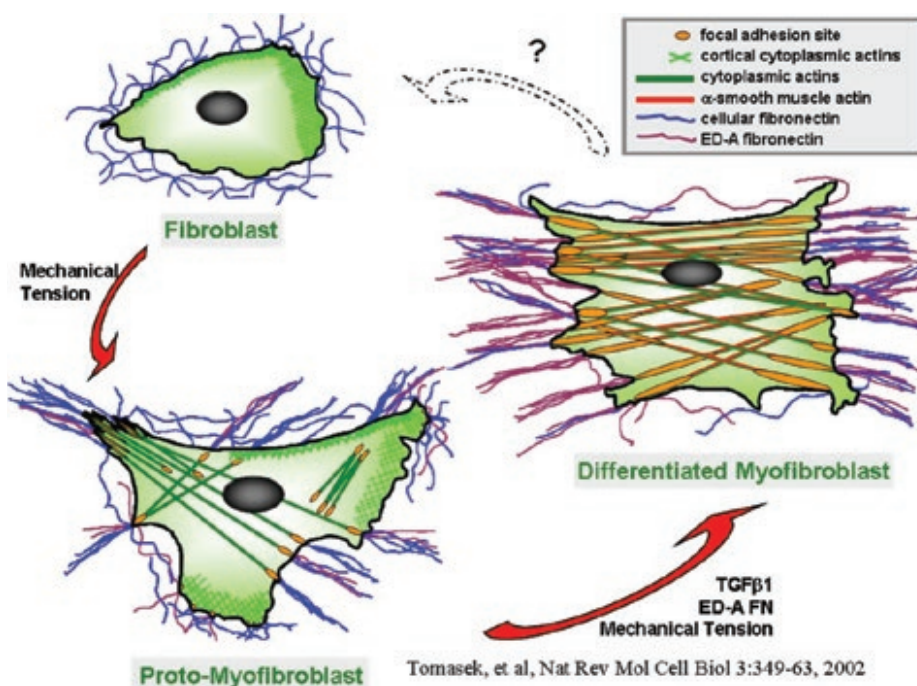
ligamentous and fascial arrangements of those with cLBP is proposed to affect the stability mechanisms, which may cause dysfunctional timing signals to muscles leading to stiffness, instability, weakness and inappropriate response to loads (Schleip *et al* 2007).

Muscle and its fascia are a continuous unit and cannot exist or function without the other (Chaitow 2018). It is plausible that both smooth and skeletal muscle contractions may affect motor control by inhibiting some of the surrounding skeletal muscle activity, yet using different mechanisms. How we differentiate between them and which measurement tools should be used to gain further information is certainly a complicated topic and is possibly one for discussion with colleagues. Further studies are also needed to examine the speed at which fascial contraction can bind and constrict a tissue.

### MUSCLE STIFFNESS AND SPASTICITY

The effects on patients with neurological impairments have also been documented by several authors (Thibaut *et al* 2013; Booth *et al* 2001; Stecco *et al* 2014). They observe that, following injury or impairment to the central nervous system, for example following a stroke or spinal injury, where there is chronic immobilisation and disuse, the following has been observed to occur: muscle atrophy, reduced ability to weight-bear, reduced skeletal muscle mass and bone density, with accumulation of connective tissue and fat.

Research by de Bruin *et al* (2014) compared the histology and mechanical properties of muscles with (n=29) and without spasticity (n=10). There were no changes in the control versus spastic tissue sample except for a three-fold thickening of the tertiary perimysium, i.e. the point where the neurovascular connective tissues penetrate the muscle. It should be noted that the thickening in the tertiary perimysium was shown in the majority of patients with chronic pain; however, a small number of patients (n = 4 out of 23) did not have this feature. ➡



**FIGURE 4:** Myofibroblasts generating force and altering tissue tension. From Tomasek *et al* (2002), reproduced with permission

Wood *et al* (2005) described the complex interactions between muscle cells, their fascia and the extracellular matrix as being able to affect the contractile properties of skeletal muscle fibres and relevant to changes that occur with spasticity.

With regard to neurological patients and the management of spasticity, one of the treatment approaches that may be offered is botulinum toxin intramuscular injection. In many cases improvements can be seen in reducing the tone in the muscle. In cases where botulinum injection has little effect, could it be hypothesised that stiffness in the tissues may also be due to simultaneous smooth muscle contraction, rather than solely due to skeletal muscle spasticity? The biochemical mechanisms of contraction are different between the two muscle types with regard to the gated calcium channels, the receptors and hormone interactions. It might be explained, therefore, that botulinum toxin is less ineffective when a patient is also presenting with fascial contraction, and that the stiffness and tone in the tissues may be due to the “local bindings” from the peripheral nervous system, inhibiting motor activity, rather than due to the upper motor neurone lesion alone.

In 2014, Stecco *et al* conducted a review that examined histopathological evidence to suggest that: “*with neurological impairments the primary injury to the central nervous system that leads to muscle paresis also triggers changes in the viscosity of the extracellular matrix due to abnormal turnover of hyaluronic acid. Hyaluronic acid is a complex molecule that leads to altered connective tissue viscosity, which begins a vicious circle that exacerbates spasticity through reduced tissue compliance and fibrosis, and contributes to abnormal limb posturing, pain symptoms, and decreases in activities of daily living*” (p.121).

These new results, although limited by small sample sizes, have been discovered using a new magnetic resonance technique called T1ρ MRI mapping (pronounced T1<sub>rho</sub>), which is

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able to measure the water content in soft tissues, is sensitive to low-frequency interactions between extracellular water (unbound water) and macromolecules (bound water), and has been used to quantify proteoglycan content in cartilage, muscle and intervertebral discs (Menon *et al* 2020).

These findings add to the section on fluid mechanics and may be helpful in highlighting other reasons for tissue thickenings and densifications that show up on current MR imaging (T1 or T2), or on ultrasound scans, as an alternative explanation to chronic inflammation or fibrosis.

## Summary

The highly innervated and three-dimensional presence of fascia as part of the connective tissue system may help to explain why, due to a variety of mechanisms, patients exhibit symptoms of stiffness.

The types of receptors embedded within the fascia can potentially help us better understand a wide range of symptoms in addition to stiffness, including autonomic; visceral, somatic and psychological.

Trying to align our clinical reasoning in relation to tissue stiffness, or abnormal tone, is highly complex. It is hoped that some of the research presented in this article may help to deepen our understanding of the many causes of such dysfunction and help give some clues to as to why some patients make rapid and unexpected improvements within the same session.

The findings from the new MRI technology that measures water content in tissues is exciting, despite the small sample sizes. This observation of unexpected water, bound as a gel between layers of tissues, leading to stiffness and lack of glide between layers, is a plausible alternative explanation for

chronic inflammation or fibrosis and may help explain situations where cortisone and analgesic injections are ineffective.

## About the author

Michelle is a fully qualified practitioner in Myofascial Release therapy and is a trained Bobath therapist. She qualified as a physiotherapist in 1995 and her specialist field is adult neurological rehabilitation. She gained experience in many areas of clinical practice while working in the National Health Service and in the UK private sector, as well as during two years of voluntary paediatric physiotherapy in Zambia, Africa.

In 2005, Michelle completed a Masters' degree in the field of manual musculoskeletal physiotherapy at Coventry University, after which she worked as a Senior Lecturer on Coventry University's BSc and MSc Physiotherapy courses. Michelle has presented her clinical research internationally and continues to run training courses in the UK. In 2007, she became a director of Therapy Fusion Ltd, a multi-disciplinary company that offers a variety of services within healthcare and rehabilitation.

Michelle completed a chapter in a book for Leon Chaitow ND DO, entitled: “Fascial Dysfunction – Manual Therapy Approaches” (2014). She has also been a keynote speaker for the British Fascial Symposia, and was on their 2014 organising committee.

## References

- Abu-Hijleh MF, Roshier AL, Al-Shboul Q, Dharap AS, Harris PF. The membranous layer of superficial fascia: evidence for its widespread distribution in the body. *Surgical and Radiologic Anatomy* 2006;28(6):606-619
- Adstrum S, Hedley G, Schleip R, Stecco C, *et al*. Defining the fascial system. *Bodywork & Movement Therapies* 2017;21(1):173-177
- Baumgart F. Stiffness – an unknown world of mechanical science? *Injury* 2000;31:14-84 doi:10.1016/S0020-1383(00)80040-6
- Booth CM, Cortina-Borja MJ, Theologis TN. Collagen accumulation in muscles of children with cerebral palsy and correlation with severity of spasticity. *Dev Med Child Neurol*. 2001;43(5):314-20



Chaitow L. *Fascial Dysfunction: Manual Therapy Approaches*. Handspring Publishing, Edinburgh 2014

Chaitow L. *Fascial Dysfunction: Manual Therapy Approaches (2nd Edn)*. Handspring Publishing, Edinburgh 2018

Colbourne H, Constantine B, Dobell D, Fehres C, et al. *Inquiry in Biology*. McGraw-Hill Ryerson, Whitby ON 2007:49

de Bruin M, Smeulders, Michiel Kreulen, Peter A. Huijting, Jaspers RT. Intramuscular connective tissue differences in spastic and control muscle: a mechanical and histological study. *Plos One* 2014; <https://doi.org/10.1371/journal.pone.0101038>

Findley TW, Shalwala M. Fascia Research Congress evidence from the 100-year perspective of Andrew Taylor Still. *Journal of Bodywork and Movement Therapies* 2013;17(3):356-364

Ghaziri J, Tucholka A, Girard G, Houde JC, et al. The corticocortical structural connectivity of the human insula. *Cerebral Cortex* 2017;27(2):1216-1228

Guimberteau JC. *Strolling Under the Skin* 2005; DVD <https://www.youtube.com/watch?v=eW0lvOVKDxE>

Langevin HM. Connective tissue: a body-wide signalling network? *Medical Hypotheses* 2006;66(6):1074-1077 doi: 10.1016/j.mehy.2005.12.032

Langevin HM, Huijting PA. Communicating about fascia: history, pitfalls, and recommendations. *International Journal of Therapeutic Massage & Bodywork* 2009;2:3-8

McCombe D, Brown T, Slavin J, Morrison WA. The histochemical structure of the deep fascia and its structural response to surgery. *Hand Surgery* 2001;26:89-97

Menon RG, Oswald SF, Raghavan P, Regatte RR, Stecco A. Densification: T1p-mapping for musculoskeletal pain diagnosis: case series of variation of water bound glycosaminoglycans quantification before and after fascial manipulation® in subjects with elbow pain. *International Journal of Environmental Research & Public Health* 2020;17(3):708-718

Schleip R. Fascial plasticity (Part 1) – a new neurobiological explanation. *Bodywork & Movement Therapies* 2003a;7(1):11-19

Schleip R. Fascial plasticity (Part 2) – a new neurobiological explanation. *Bodywork & Movement Therapies* 2003b;7(2): 104-116

Schleip R, Vleeming A, Lehmann-Horn F, Klingler W. Letter to the Editor concerning “a hypothesis of chronic back pain: ligament subfailure injuries lead to muscle control dysfunction” (M. Panjabi). *European Spine Journal* 2007;16(10):1733–1735

Schleip R, Jager H. Interoception. A new correlate for intricate connections between fascial receptors, emotion and self recognition. In Schleip et al (eds) *Fascia; The Tensional Network of the Human Body*. Churchill Livingstone 2012:93

Schleip R, Jager H, Klingler W (2012) What is ‘fascia’? A review of different nomenclatures. *Bodywork & Movement Therapies* 2012a;16(4):496-502

Stecco A, Stecco C, Raghavan P. Peripheral mechanisms contributing to spasticity and implications for treatment. *Current Physical & Medical Rehabilitation Reports* 2014;2:121-127 doi:10.1007/s40141-014-0052-3

Stecco A, Stern R, Fantoni I, De Caro R, Stecco C. Fascial disorders: implications for treatment. *American Academy of Physical Medicine and Rehabilitation* 2015; <http://dx.doi.org/10.1016/j.pmrj.2015.06.006>

Still AT. *Philosophy of Osteopathy*. Kirksville MO 1989

Thibaut A, Chatelle C, Ziegler E, Bruno M-A, Laureys S, Gosseries O. Spasticity after stroke: physiology, assessment and treatment. *Brain Injury* 2013;27(10):1093-1105 doi: 10.3109/02699052.2013.804202

Tomasek JJ, Gabbiani G, Hinz B, Chaponnier C, Brown RA. Myofibroblasts and mechano-regulation of connective tissue remodelling. *Nature Reviews Molecular Cell Biology* 2002;3:349-363

Van den Berg F. The Physiology of Fascia. In Schleip et al (eds.) *Fascia: The Tensional Network of the Human Body*. Churchill Livingstone 2012;4(1):149

Wilke J, Macchi V, De Caro R, Stecco C. Fascia thickness, aging and flexibility: is there an association? *Anatomy* 2018; doi: 10.1111/joa.12902

Wood DE, Burridge JH, van Wijck FM, McFadden C et al. Biomechanical approaches applied to the lower and upper limb for the measurement of spasticity: a systematic review of the literature. *Disability & Rehabilitation* 2005;27(1-2):19-32 ❌



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# The meaning of manual therapy in the practice of musculoskeletal physiotherapists: a thematic analysis

**SEAN CASE** MSc BSc MMAPCP MSCP

Advanced Physiotherapy Practitioner, Sussex MSK Partnership



This article examines the biomedical and socio-cultural perspective on manual therapy within the physiotherapy profession. An important aspect of qualitative research is to provide perspectives, promote a questioning response in the reader and to encourage further inquiry on the topic. As part of my MSc study into this area, I undertook the qualitative research process to obtain, record, interpret and present the data and, in developing my research question, I wondered if the topic of manual therapy could be investigated differently, and I attempt to explore that possibility in this presentation of my research results, and conclusions drawn.

## LEARNING OUTCOMES

### TO SUPPORT PHYSIO FIRST QAP

- 1 Recognise the ambiguity of the term 'manual therapy', and its lack of agreed definition.
- 2 Appreciate how manual therapy may be considered an interaction as much as an intervention.
- 3 Consider how the use of manual therapy is described in this study and the possibilities that 'therapeutic touch' offer.
- 3 Recognise the benefits of qualitative research in providing new perspectives and insights into clinical practice.

## Introduction

Manual therapy is a phrase that has many connotations and interpretations within the physiotherapy profession and, as such, lacks an agreed definition (Sran 2004). It has been summarised as 'any technique administered manually for therapeutic purposes' (Carnes *et al* 2010). These techniques may also be used for specific examination and diagnostic processes, and for the manual treatment and rehabilitation of pain

and dysfunction of the musculoskeletal system (Rabey *et al* 2017).

The practice of manual therapy within physiotherapy has developed throughout the history of the profession, and it is still considered a key component in the definition of physiotherapy practice where hands-on skills are recognised as a core competency that sets physiotherapy apart from other allied health professions (Nicholls & Holmes 2012). There are, however, parts of the physiotherapy profession that suggest manual therapy techniques should no longer be taught, that they should be dropped from the modality repertoire and that, as a profession, we should concentrate on interventions thought to be more effective (Rabey *et al* 2017). This has resulted in a hands-on / hands-off debate where some consider that the use of hands-on treatment is almost "sinful" (Jull & Moore 2012).

It has been suggested that by adopting the approach of seeing the body-as-a-machine, and the historical establishment of credibility as a profession through practices of objectivity, theory and logic have placed the act of manual therapy within a

framework of a narrow set of biological principles (Nicholls & Holmes 2012). This biological theoretical construct has then been investigated through a positivistic research paradigm that has estranged the person as a patient (Nicholls *et al* 2016). Subsequently, this form of dispassionate and depersonalised construct means that manual therapy continues to be considered as treatment at a biological level without consideration of its societal, cultural, existential and philosophical possibilities (Silvernail 2012; Milanese 2011). This construct also fails to acknowledge that manual therapy is embedded in a "process" of care rather than being a "product" of care (Jacobs & Silvernail 2011).

More recently, manual therapy has begun to be recognised as part of a therapeutic process between the therapist and patient where context, expectation and beliefs co-exist and influence each other (Gay & Bishop 2014). Studies on the interactional aspects of physical contact in physiotherapy highlight a variety of therapeutic processes and subsequent meanings for both clinician and patient. It has been identified that both the clinician and the patient

## "PARTS OF THE PHYSIOTHERAPY PROFESSION SUGGEST THAT MANUAL THERAPY SHOULD BE DROPPED FROM THE MODALITY REPERTOIRE"

ascribe importance to the physical part of the interaction for diagnostic purposes, and that both parties gain from this physical encounter (Thornquist 2006). These findings were mirrored in a study investigating the role of palpation in assessing shoulder pain presentations (Eriksson *et al* 2012) where the authors conclude that the act of palpation constitutes of an interactive learning situation where both patient and physiotherapist develop mutual knowledge of the body. From my own clinical experience, I am aware that the hands-on assessment process often provides a moment for the patient when the “penny drops” and they gain a new understanding of their problem, and a new awareness of their physical self. One of the joys of qualitative research is in identifying something in clinical practice that is so “everyday” and common that it can slip by unremarked and yet when recognised by a researcher or participant it suddenly becomes remarkably obvious.

These concepts have been taken further in a phenomenological study of observed physiotherapy sessions (Bjorbaekmo & Mengshoel 2016). From this the authors redefine the act of assessment in physiotherapy to the conception of “an invitation to participate in the process of creating and performing therapy” and that the dialogue through touch and movement is a vital component. Furthermore, it opens the way for a trustful, respectful co-existence between therapist and patient (Bjorbaekmo & Mengshoel 2016). The findings of these studies suggest a collaborative learning between patient and therapist through the act of manual therapy. This collaborative learning constitutes a sharing of power and responsibility, whereby the knowledge gained of the bodily experience by the patient leads to increased empowerment

(Eriksson *et al* 2012; Kidd *et al* 2011; Thornquist 2006). A concept and label of “therapeutic touch” has been suggested for any therapeutic “physical contact” occurring in a therapy setting between patient and therapist (Roger *et al* 2002). It seems reasonable to conclude that manual therapy would fall within this umbrella definition. These are new perspectives on manual therapy which has previously been viewed and researched within a quantitative paradigm and often considered as an isolated component of the physiotherapy encounter. The research findings around therapeutic touch suggest a complexity of possible meanings, interpretations and possibilities. As the specific concept of manual therapy in a UK setting has not yet been explored, the research study described in this article was undertaken as an initial investigation into how clinicians conceptualise manual therapy.

### Studying experiences and beliefs in manual therapy

This was a qualitative study using interviews to gain the experiences and beliefs on the topic of manual therapy. Qualitative research covers a range of investigative approaches that are linked to differing beliefs about what there is to know about the world, and how to find out more about it.

### DESIGN

This study aimed to provide a perspective on manual therapy by investigating the experience and beliefs of others as described in interviews to provide a perspective on manual therapy. This perspective may be influenced by the researchers’ lens, i.e. their own experiences, biases and perspectives. Through the research process the co-constructed nature of qualitative data is recognised and identified, and this adds to the trustworthiness and quality of the results.

### METHOD

Single semi-structured, in-depth interviews of between 45 and 75 minutes were undertaken. A schedule was used for the interview to ensure that it had a basis of similar questions for each participant. The interviews took place during a four month period in 2016. They were audio recorded and field notes were made immediately. A reflexive journal was kept throughout the data collection and analysis phase to record a self-critical account of the research process, and the associated internal and external dialogue (Finlay 2006; Saldaña 2016). The interviews were transcribed to produce a textual record that could be used for coding purposes.

### PARTICIPANTS

The seven participants were all known to the researcher prior to data collection and were aware that this research was being carried out as fulfilment of a MSc study. The cohort of four men and three women were all undertaking, or had completed, MSc level post-graduate study based in the UK, with between six to 30 years of clinical experience within the speciality of MSK physiotherapy.

All gave written consent following verbal and written information about the study and there were no withdrawals.

### DATA ANALYSIS

Thematic analysis was used to generate themes to represent the data set. This is an inductive approach for identifying, analysing and reporting patterns within the data as well as acknowledging its subjectivity and subsequent co-construction between researcher and participant (Braun & Clarke 2006). Coding and writing up via a cyclical process of revisiting the transcripts, codes and themes was undertaken throughout. This encompasses an interpretative and iterative journey of coding, categorisation, generation of themes and a final conceptualisation response to the research question incorporating all the data (Saldaña 2016).

Coding enables each researcher to bring their own pre-understanding to ➤



the analysis (Saldaña 2016). Through their own interpretation the researcher becomes an active ingredient in the data analysis process (Stenner *et al* 2016). As responder validation was not part of the study design, no further contact was made with the participants following completion of interviews.

## RESULTS

Figure 1 illustrates the three main themes that were generated, and the sub-themes within each that highlight more specific topics identified in the data.

The following looks into each theme in more detail, and includes a selection of quotes from participants as further illustration. All names used are pseudonyms.

### Manual therapy as individualised care

This reflects the participant's use of manual therapy. The contextual meaning suggests a therapeutic process that is individualised and sensitive to the needs of the patient as part of a collaborative multi-dimensional care approach.

#### Manual therapy as hands on

**interaction:** the phrase “manual therapy” was considered by the participants to mean any “hands-on” activity used to assess and treat patients.

*‘... in its broadest sense, it [manual therapy] is any form of human touch between a therapist and a patient.’ (Eddie)*

Some participants were specific about the techniques they consider to be manual therapy, whereas others gave broader, less defined and more encompassing descriptions.

*‘If you’re doing shoulder rehab and placing your hands on the scapula to facilitate scapula movement... or you know, squats... you’re assisting them with direction of knee control...’ (Belinda)*

*‘Helping somebody to change themselves, but by using a way of interacting with their bodies in a way that you can’t do just by talking to them.’ (Frank)*

Most of the participants considered manual therapy as any form of hands-on purposeful contact with a patient that fosters the therapeutic relationship.

*‘... it has come to mean more of a sort of therapeutic touch and... as a therapeutic tool, rather than a process of pushing on the painful bit.’ (Frank)*

*‘...you’re using touch or tactile stimulation to an area which is meaningful to the patient.’ (Andy)*

### Meeting patient expectations of individualised care:

all the participants suggested that patients have expectations of hands-on as part of physiotherapy treatment and that augmenting this expectation is part of the therapeutic activity of physiotherapy.

*‘...“they never put their hands on me”. You know I think there’s that sort of expectation.’ (Gillian)*

One participant felt quite different with regard to hands-on treatment; he felt that as a profession we were setting up expectations for hands-on.

*‘I think there needs to be a massive shift in public perceptions of what physiotherapy is actually about because if they’re coming with an expectation and we’re not providing that, then that’s going to cause massive problems.’ (Eddie)*

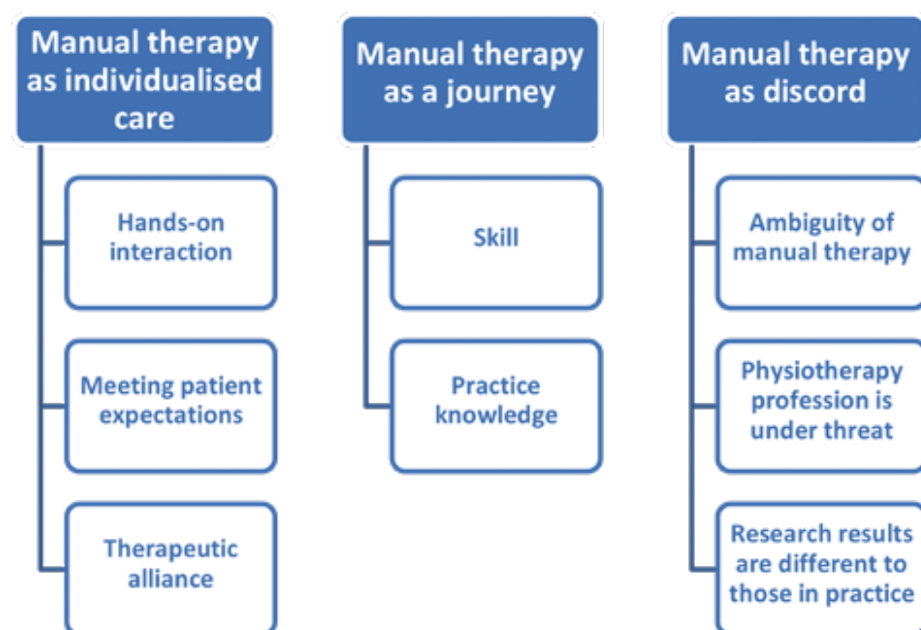
### Manual therapy as therapeutic alliance:

for many of the participants the physical act of manual therapy had meaningful implications for the therapeutic process.

*‘You’ve asked them “can I put my hands on?” and they say “yes” and they feel like you’re actually taking the time, I think it really does help the whole process of treating that patient and their beliefs... and confidence in the therapist as well... having that sort of connection with the patient and the therapist can be very positive.’ (Gillian)*

*‘I think using our hands is a form of communication... non-verbal communication with our hands is just as important as our verbal communication... it’s saying “I’m here to help you” and “I can help you and I can show you how I can help you” which is very powerful.’ (Charlie)*

All of the participants who used manual therapy in their regular practice clearly described it as part of package of treatment within a multi-dimensional care approach.



**FIGURE 1:** Themes and supporting sub-themes from the results of the study

*'I never use it [manual therapy] in isolation, it's always used in conjunction with something because in isolation I don't think it means a lot... its always in line with what the patient wants to achieve... so it always comes with a caveat, you know, how manual therapy can do as X as long as we do Y.'* (Charlie)

*'For me the strongest effect of manual therapy is the psychological and the social component because it's about patient rapport and trust and expectations for me. It's not really about "can I crack your joints or make your joints move an extra 10 degrees."'* (Belinda)

### Manual therapy as a journey

In this theme the meaning of manual therapy as part of becoming and being a MSK physiotherapist is represented.

**Manual therapy is a skill:** many of the participants talked about the specifics of hands-on modality and the need to be skillful in this area.

*'It has to be approached in the right way... you have to respect the patient severity and irritability. If you don't you won't get the patient's trust and you won't get the same effect from manual therapy.'* (Belinda)

Most participants described a development from traditional manual therapy technique approaches that focused on a perceived biomechanical structural problem, to their current use of manual therapy within a bio-psychosocial framework, where context and meaning provides the effects of manual therapy.

*'... which is why manual therapy has changed quite a lot from a pokey, pokey, pokey aggressive kind of Grade III+++ mobilisation, to using my hands as a way of facilitating change.'* (Frank)

*'You do this thing on them... and suddenly they can move their arm freely and it's the learning effect, the education to the patient to say "look this is normal movement, you can*

*achieve it."* For me the biggest effect of manual therapy is educating the patient about normal movement.' (Belinda)

### Manual therapy as practice knowledge:

most participants identified manual therapy as an essential part of their role and they described a difficult learning path with its use. This encompassed their experiences, beliefs, environment, postgraduate learning, influence of colleagues, and the reaction of their patients. These factors can promote or demote its use in practice.

*'I think for me manual therapy does define me as a physiotherapist.'* (Belinda)

*'As I've moved on as a physiotherapist I've had some ups and downs with manual therapy. Sometimes I think it's the best thing. Sometimes I think it hasn't got too much use or is useless.'* (Charlie)

### Manual therapy as discord

This theme reflects the participants' description of the current challenge to manual therapy, which is causing divisions within the profession due to the nature of the dichotomous hands-on / hands-off debate.

**Ambiguity of manual therapy:** all of the participants reflected on the history of manual therapy and how the terminology and the meaning is constantly evolving.

*'It has grown to encompass so much more than it meant previously ... the meaning has shifted with how we use it as well.'* (Frank)

### The physiotherapy profession is

**under threat:** all of the participants were concerned about the impact that the hands-on / hands-off debate is having on the profession. They all felt the debate was superficial and not representative of the complexity of the situation.

*'It's become a big problem – arguing the hands-on / hands-off debate – it's*

*missing the broader aspects of what we're talking about manual therapy as being. It's one of those black and white arguments that doesn't really help the profession at all.'* (Eddie)

And many were concerned with what it might mean if physiotherapy didn't offer manual therapy and articulated possible consequences.

*'I think if we stop doing manual therapy the push will come from patients who say they don't want physio under the NHS, they want a chiropractor or osteopathy because that is more effective.'* (Belinda)

### The results in research are different


**to those in practice:** all participants questioned the applicability of the results of research involving manual therapy in clinical practice.

*'We are very reductionist as a profession to say what is it that we do, we're searching for numbers that just aren't there. This is as much art as science for me. It's about the patient in front of you and not a number from a randomised controlled trial.'* (Charlie)

Participants also reflected the tension that exists in their practice. This included their beliefs about the efficacy of manual therapy treatment effects and the formal evaluation of clinical outcomes in the literature.

*'I don't think there's anything at all that we can ever base manual therapy on other than some intuition that this person seems like this is needed, and I have these tools.'* (Frank)

One participant had moved away from using manual therapy as they felt that there are unquestioned beliefs and assumptions associated with it.

*'I think manual therapy is often put on a pedestal for saying "it has brought about a change in this individual", whereas it could just be the natural course for the condition... regression to the mean.'* (Eddie) 

## DISCUSSION

The findings suggest that, for most of these participants, manual therapy represents a complex phenomenon that is interwoven through their therapeutic practice and manifests itself as an interaction as well as an intervention. This conceptualisation of manual therapy as both interaction and intervention reflects clinical “multiplicity” where clinical practice is never a straightforward application of evidence or linear logic (Edwards *et al* 2004), and, accordingly, the participants’ described use of manual therapy appears to follow an idiographic or individualised approach rather than nomothetic or “standardised” application (Mead & Bower 2000).

All of the participants felt that physical contact is often an expectation of care by patients and there is evidence to support this (Rhodes *et al* 1999; Parsons *et al* 2007). That patients see being touched as of special importance has also been clearly articulated by Bjorbaekmo & Mengshoel (2016) with the response “the physiotherapist touched me, my body... believed me... took me seriously”. The participants of this study understood manual therapy as a construct of patient centred care; locating the patient in the centre of the professional therapeutic process and recognising the patient as a person, treating them as an individual, sharing power and responsibility, and identifying their hopes and expectations (Wijma *et al* 2017). Acknowledgement and engagement with these behaviours and actions are identified as promoting the therapeutic relationship (Peiris *et al* 2012).

Previous research has demonstrated that patient expectations are closely correlated with benefit of treatment in physiotherapy and that this expectation has been shown to be a more important predictor than duration, type and form of

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treatment (Metcalf & Moffett 2002). Satisfaction has been correlated with expectations (Hills & Kitchen 2007) and those expectations need to be acknowledged and engaged with by both parties (Kidd *et al* 2011). The use of palpation seems to confirm the “patient as a person” and is associated with symptom reproduction that makes the “patient’s knowledge visible”. Perhaps this is manual therapy as a haptic; a way of collaboratively connecting in the physiotherapy context that acknowledges both the patient’s expectations and need for physical affirmation.

The sub-themes of this current study would suggest a humanistic view of manual therapy that attempts to understand how people experience health and illness in a more intuitive way (Nicholls *et al* 2016). This may suggest a reconsideration of the biomechanical view of manual therapy and a re-affirmation of its place within the concept of therapeutic touch, that has been defined as “the range of physiotherapy practices incorporating touch” to differentiate it from the ubiquitous everyday physical touch (Moffatt & Kerry 2018). Touch is an integral and necessary part of the physiotherapy profession (Roger *et al* 2002), yet it is conspicuously absent from physiotherapy related research (Bjorbaekmo & Mengshoel 2016). This may be a result of the medicalisation, objectification and licensing of its use that is part of the history of the physiotherapy profession (Nicholls *et al* 2016) which, from inception, has strived to elevate itself from “low-tech” hands-on practices associated with

low-status manual work (Moffatt & Kerry 2018). This justification has evolved through a scientific rationale with the development of the clinical reasoning process (Farrell & Jensen 1992), and more recently through biomechanical and neurophysiological research and theorising (Bishop *et al* 2015). Along the way a craftwork approach to manual therapy has been established (Moffatt & Kerry 2018) that may be considered out of step with current evidence-based practice, and the greater focus on the biopsychosocial context (Nijs *et al* 2013).

A greater understanding and acknowledgement of the socio-cultural aspects of therapeutic touch in society, as well as recognition of our depersonalised and medicalised professional perspective, may help promote a reframing of the role of therapeutic touch in clinical practice (Moffatt & Kerry 2018) that, in turn, may promote a middle ground in the physiotherapy hands-on / hands-off debate to enable exploration and further understanding of the possible multiple forms and meanings of manual therapy in patient care.

## Strengths and limitations

Within this study the sampling strategy sought participants who had extensive experience in musculoskeletal physiotherapy and hands-on clinical practice. This experience adds credibility to their accounts as well as providing “thick description” (Finlay 2006). The sole researcher’s acknowledged bias as a practising MSK physiotherapist who uses manual therapy can be considered an asset to the study. Insider knowledge, reflexivity and familiarity with the topic enables a greater understanding of the everyday world of the participants of the study (Stenner *et al* 2016).

Data collection was ceased when it was felt that there was sufficient depth, volume and diversity within the data corpus (Brinkmann & Kvale 2015), although a claim of data saturation is not made. Responder validation was not undertaken so participant perspectives on the interview transcriptions and subsequent interpretations are not known.

“PHYSICAL CONTACT IS OFTEN AN EXPECTATION OF CARE BY PATIENTS”



## Conclusion

The results of this study indicate that there are other ways of thinking about manual therapy and its role in the therapeutic setting. Understanding how it is used in practice by clinicians, exploring what it means to patients and integrating that with the evidence base may help for a reconceptualisation and a deeper appreciation of this core element of physiotherapy. The findings of this study suggest that, for most of these participants, manual therapy is an interaction as much as an intervention and that it is used therapeutically and collaboratively within a construct of individualised care. The ambiguity of the phrase “manual therapy” is also highlighted as its description and use in research does not appear to correlate with the clinical understanding and use of the term by the participants in this study. There are no previous published papers on this topic and the findings of this study therefore provide an initial insight into how musculoskeletal physiotherapists conceptualise manual therapy, and what it means to them in their clinical practice. For most of the participants in this study, manual therapy is so much more than just hands-on, it is a way of understanding, communicating and helping their patients.

## About the author

Sean qualified as a physiotherapist at Southampton University in 2001 and completed his MSc in Neuromusculoskeletal Physiotherapy at University of Brighton in 2017. He currently works in the NHS as an Advanced Practitioner in the Sussex MSK Partnership. Sean also mentors postgraduate MACP students, trainee MSK clinical specialists, and advanced practitioners. As well as mentorship, Sean has a keen interest in patient centred care and clinical professional development. He is a co-owner of Storrington Physiotherapy Clinic, located in West Sussex.

## References

Bishop MD, Torres-Cueco R, Gay C, Luch-Girbes E, Beneciuk J, Bialosky J. What effect can manual therapy have on a patient's pain experience. *Pain Management* 2015;5(6):455-464

Bjorbaekmo WS, Mengshoel AM. “A touch of physiotherapy” the significance and meaning of touch in the practice of physiotherapy. *Physiotherapy Theory & Practice* 2016;32(1):10-19

Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006;3(2):77-101

Brinkmann S, Kvale S. *Interviews: learning the craft of qualitative research interviewing* (3rd edn). London, SAGE 2015

Carnes D, Mars TS, Mullinger B, Froud R, Underwood M. Adverse events and manual therapy: a systematic review. *Manual Therapy* 2010;15(4):355-363

Edwards I, Jones M, Carr J, Braunack-Mayer A, Gail J. Clinical reasoning strategies in physical therapy. *Physical Therapy* 2004;84:312-330

Eriksson L, Ekenberg L, Melander-Wiman A. The concept of palpation of the shoulder - a basic element of physiotherapy practice: A focus group study with physiotherapists. *Advances in Physiotherapy* 2012;14(4):183-193

Farrell JP, Jensen GM. Manual therapy: a critical assessment of role in the profession of physical therapy. *Physical Therapy* 1992;72(12):843

Finlay L. ‘Rigour’, ‘Ethical Integrity’ or ‘Artistry’? Reflexively reviewing criteria for evaluating qualitative research. *British Journal of Occupational Therapy* 2006;69(7):319-326

Gay CW, Bishop MD. Research on placebo analgesia is relevant to clinical practice. *Chiropractic & Manual Therapies* 2014;22(1):6

Hills R, Kitchen S. Toward a theory of patient satisfaction with physiotherapy: exploring the concept of satisfaction. *Physiotherapy Theory & Practice* 2007;23(5):243-254

Jacobs DF, Silvernail JL. Therapist as operator or interactor? Moving beyond the technique. *Manual & Manipulative Therapy* 2011;19(2):120-121

Jull G, Moore A. Hands on, hands off? The swings in musculoskeletal physiotherapy practice. *Manual Therapy* 2012;17(3):199-200

Kidd MO, Bond CH, Bell ML. Patients’ perspectives of patient-centredness as important in musculoskeletal physiotherapy interactions: a qualitative study. *Physiotherapy* 2011;97(2):154-162

Mead N, Bower P. Patient-centredness: a conceptual framework and review of the empirical literature. *Social Science & Medicine* 2000;51(7):1087-1110

Metcalf C, Moffett JK. Do patients’ expectations of benefit affect the outcome of physiotherapy for peripheral musculoskeletal conditions? *Physiotherapy* 2002;88(12):765

Milanese S. The use of RCT’s in manual therapy - are we trying to fit a round peg into a square hole? *Manual Therapy* 2011;16(4):403

Moffatt F, Kerry R. The desire for “hands-on” therapy : a critical analysis of the phenomenon of touch. *Manipulating Practices* 2018;7:174-193 <https://press.nordicopenaccess.no/index.php/noasp/catalog/book/29>

Nicholls DA, Atkinson K, Bjorbaekmo WS, Gibson BE, Latchem J, Olesen J, Setchell J. Connectivity: an emerging concept for physiotherapy practice. *Physiotherapy Theory & Practice* 2016;32(3):159-170

Nicholls DA, Holmes D. (2012). Discipline, desire, and transgression in physiotherapy practice. *Physiotherapy Theory & Practice* 2012;28(6):454-465

Nijs J, Roussel N, Paul van Wilgen C, Koke A, Smeets R. Thinking beyond muscles and joints: therapists’ and patients’ attitudes and beliefs regarding chronic musculoskeletal pain are key to applying effective treatment. *Manual Therapy* 2013;18(2):96-102

Parsons S, Harding G, Breen A, Foster N, Pincus T, Vogel S, Underwood M. The influence of patients’ and primary care practitioners’ beliefs and expectations about chronic musculoskeletal pain on the process of care: a systematic review of qualitative studies. *Clinical Journal of Pain* 2007;23(1):91

Peiris CL, Taylor NF, Shields N. Patients value patient-therapist interactions more than the amount or content of therapy during inpatient rehabilitation: a qualitative study. *Physiotherapy* 2012;58(8):261-268

Rabey M, Hall T, Hebron C, Palsson TS, Christensen SW, Moloney N. Reconceptualising manual therapy skills in contemporary practice. *Musculoskeletal Science & Practice* 2017;29:28-32

Rhodes LA, McPhillips-Tangum CA, Markham C, Klenk R. The power of the visible: the meaning of diagnostic tests in chronic back pain. *Social Science & Medicine* 1999;48(9):1189-1203

Roger J, Darfour D, Dham A, Hickman O, Shaubach L, Shepard K. Physiotherapists’ use of touch in inpatient settings. *Physiotherapy Research International* 2002;7(3):170-186

Saldaña J. *The coding manual for qualitative researchers* (3rd edn). London, SAGE 2016

Silvernail J. Manual therapy: process or product? *Manual & Manipulative Therapy* 2012;20(2):109-110

Sran MM. To treat or not to treat: new evidence for the effectiveness of manual therapy. *British Journal of Sports Medicine* 2004;38(5):521-525

Stenner R, Mitchell T, Palmer S. The role of philosophical hermeneutics in contributing to an understanding of physiotherapy practice: a reflexive illustration. *Physiotherapy* 2016;103(3):330-334

Thornquist E. Face to face and hands-on: assumptions and assessments in the physiotherapy clinic. *Medical Anthropology* 2006;25:65-97

Wijma A, Bletterman A, Iark J, Vervoort S, Beetsma A, Keizer D, Nijs J, van Wilgen P. Patient-centredness: what does it entail? A systematic review of qualitative studies. *Physiotherapy Theory & Practice* 2017;18:1-16 ❌

# The case for hands-on soft tissue treatment

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In 1985, I began my career as a pioneer of a “new thing” called sports massage. Training in those days was extremely basic, but thanks to some natural hands-on ability, a lot of self-learning and an active involvement in sport, I have built a long and successful career. This article is based on my 35 years’ experience as a hands-on soft tissue therapist, rather than on academic study and research.

## EDITOR’S COMMENT

I am very honoured to bring you this masterclass article by an author and teacher highly respected in the area of soft tissue therapy and sports massage.

As someone looking at our physiotherapy profession for the past 35 years from the “outside”, Mel has a unique insight into how what we do has changed, and this is reflected in how his own practice and the type of clients he sees has evolved in that time.

While Mel rightly highlights his view on how hands-on therapy in physiotherapy has declined over the years, due in part to an overzealous interpretation of what it

means to work with an evidence-based approach, as Physio First members our own clinical reasoning should explore all options in our treatment toolbox that obtain the best outcomes for our individual patients. For a deeper insight into this, I invite you to read Sackett’s (1997) article on evidence-based medicine that explores the fluidity of clinical experience as well as drawing on available evidence to best serve the individual patient.

It can be argued that the interpretation and implementation of evidence-based practice has resulted in the loss of professional skills in some areas of physiotherapy, and we know this is

an ongoing debate within the private physiotherapy sector. However, our own Physio First data collection tool and Quality Assured schemes invite us to inform and build our own evidence of our patient outcomes based on what we do, rather than rigidly following the results of what others say works.

The professional considerations this article raises are multifaceted and affect the individual practitioner as well as our profession as a whole. Hopefully, this article will give you food for thought and a renewed enthusiasm to understand the efficacy of your own treatment methods based on your outcomes.

## LEARNING OUTCOMES

TO SUPPORT PHYSIO FIRST QAP

- 1 Understand the historic changes of hands-on treatment in physiotherapy.
- 2 Consider the role of hands-on as a treatment modality.
- 3 Be aware of the requirements of individual patient types when considering treatment options for best outcomes.

## Introduction

When I first started my career in sports massage I was mainly helping athletes and dancers to improve their recovery from training and competition through soft tissue techniques and, in so doing,

I was helping to keep them injury free with enhanced performances. In those days, apart from minor muscular overuse problems, I didn’t encounter any real injuries because that was something physiotherapists did so well. The situation has changed over the years however, and now most clients I see have injuries and have often already undergone some form of physiotherapy treatment which hadn’t worked for them.

## So, what has changed?

As soft tissue therapists, my colleagues and I have massively improved our clinical skills over the past decades and this has partly been in response to changes in how physiotherapy is now taught. When I started, physiotherapy

was still a very hands-on profession, taught through practical training in a hospital environment. Then, in 1992, it became a degree subject taught by universities and this led to profound changes to the profession that I do not believe were envisaged at the time. The university environment is far more suited to academic learning than it is to developing practical hands-on skills and this inevitably began to influence the curriculum. It also encouraged a more “evidence-based” approach to physiotherapy which excluded the traditional hands-on techniques that were the very foundation of physiotherapy because there was no supporting evidence, resulting in them disappearing completely from the modern physiotherapy education curriculum.

**" IT IS IMPOSSIBLE TO ESTABLISH THE EVIDENCE FOR HANDS-ON THERAPY FROM THE RANDOMISED TRIAL OR SYSTEMATIC REVIEW "**

### **The lack of evidence for hands-on treatment**

In modern medicine, the most valued evidence comes from the randomised blind trial and systematic review, something that is impossible to undertake with a hands-on therapy for a number of reasons. First, test groups will undoubtedly physically feel that the treatment they are receiving is real. There really is no placebo option for hands-on therapy, so any placebo effect could not be eliminated.

Secondly, not only will no two therapists have the same hands-on technique, an individual therapist will not deliver hands-on treatment in exactly the same way each time either. All therapists have their own strengths and weaknesses and they develop their own unique methods of application that suits them best, so the techniques themselves cannot be standardised or even calibrated for testing purposes.

Another reason is that it would be wrong to judge the effectiveness of hands-on therapy by just looking at the techniques themselves. The personal sensations of touch and feel are an integral part of the treatment process both for the therapist and the patient, and so human interaction is a significant factor influencing the effectiveness of the hands-on technique. Indeed, the lower ranked research designs are considered by some to be optimal for studying complex, holistic or wellness orientated aspects of massage (Finch 2007). This is why soft tissue therapy can have a significant role in modern musculoskeletal healthcare, given its effective approach within the biopsychosocial framework. This may hopefully also be reflected in new research trends in physiotherapy (Kerry 2017)

The lack of supporting evidence for hands-on treatment techniques

may explain why it disappeared from physiotherapy training. An organisation such as the NHS requires standardisation, backed by evidence-based research, and so hands-on techniques, which involve a high level of individual skill, do not comfortably fit with its operational model.

### **Does hands-on treatment need evidence?**

Obviously, hands-on treatment should not be dismissed just because supporting evidence cannot be found in the normal way. We must instead look at the anecdotal evidence, but that can be quantified through patient outcomes for each individual therapist.

It should be considered that every person who has ever lived will know that hands-on soft tissue techniques work, because we have been using them since the beginning of human existence. If you have an ache or pain the instinct is to rub, or self-massage the area. If you feel a tight muscle you automatically stretch it. It is impossible for us not to act on these instincts. Therapists say that the human body is a self-repairing organism and I believe this is not just biochemical it is also biomechanical, as evidenced by the hands-on techniques we instinctively use on our own soft tissue injuries. Even today's more advanced neuromuscular techniques have their origins in the methods used by our ancestors going back centuries. We may now study these techniques in a more modern academic way so we can better develop their scope and effectiveness but, in essence, we have not invented anything new and

they have stood the test of time because we know they work.

Here, I reverse the question and ask what if they don't work? If, for instance, a massage stroke did not stimulate the micro-circulation, then this would put the basic laws of physics and fluid dynamics into doubt, and if stimulating the circulation in this way did not improve recovery it would cast doubt on a large part of modern medicine. Equally, if neuromuscular techniques did not work, then we would have to re-think our understanding of the nervous system, and the research that has been carried out on muscle fascia that explains why myofascial techniques can achieve the results that they do. Therefore, despite there being no formal evidence, scientific research has indirectly provided the proof that hands-on techniques work.

### **The value of evidence-based treatment**

A lot of impressive research has been undertaken to find the best way to treat particular injuries and conditions, but there is a danger that this injury targeted research encourages the therapist to focus on treating the injury, rather than treat the whole person who has the injury, an approach that is much more likely to miss important secondary musculoskeletal (MSK) issues which are likely to occur as the cause and / or consequence of the injury. Every patient is different, they have their own unique set of strengths and weaknesses that have evolved during their lifetime so no two injuries can ever be truly the same. Their injury should be seen as part of the whole body if a treatment is to achieve a proper remedy and a long-term solution for reducing the risk of re-injury. Following the same treatment protocol for every patient who appears to have the same injury might be evidence-based, but may not be best for the individual patient. ➡

**" WHEN WE EXPERIENCE PAIN OR INJURY OUR INSTINCT IS TO RUB OR SELF-MASSAGE THE AFFECTED AREA "**



## How effective is exercise-based treatment?

Even though the exercise programmes may have been developed through robust research, the evidence can often ignore the human factor; namely, “compliance”. A young athlete may respond very well to a rehabilitation programme made up of formal exercises, but this approach is unlikely to be suitable for a 65-year-old woman who has just had a knee replacement and who may have a fit active lifestyle, but has not done any formal exercise since she left school. In this case, a few simple functional movements such as lunges and knee bends that she can do while running a bath, boiling a kettle or making a phone call could work a lot better for her.

It can be all too easy to blame the patient for not doing their exercises, but the compliance factors should first be considered. Rehabilitation programmes need to be uniquely created to best suit the injured patient rather than a set exercise programme that only suits the injury.

It can also sometimes be too difficult for the patient to actually carry out the exercises well enough for them to be effective, perhaps due to local scar tissue and adhesion caused by the injury itself that restricts function and causes pain. The patient may also have poor function in other parts of the muscular system needed to perform the exercises, i.e. owing to altered biomechanics from abnormal movement strategies that the patient has developed to cope with their injury. This can be further complicated by other underlying MSK issues acquired over the patient's lifetime. All of which might result in them following an exercise programme with a dysfunctional set of muscles which is unlikely to achieve a good result for their injury rehabilitation.

For clients who struggle and fail with an exercise programme, just one or two hands-on treatments to improve the physical condition of their soft tissues can enable the exercises to immediately become easier to achieve, and with far better effect.

**“WE MUST FIRST CONSIDER THE COMPLIANCE FACTORS FOR A PATIENT BEFORE BLAMING THEM FOR NOT DOING THE EXERCISES WE GIVE THEM”**

## The case for hands-on techniques

As documented in my own publications, my experience is that massage is the foundation of both soft tissue therapy and physiotherapy. It includes a wide range of hands-on techniques that have been shown to significantly improve soft tissue recovery in general, as well as help in the repair of specific areas of damaged tissue. This alone can effectively resolve many minor and chronic injuries, as well as work in a supporting role alongside other treatments to speed the recovery of more serious injuries, particularly in the case of post-surgical situations where treating surgical scar and local tissues quickly and thoroughly enables the patient to start on their rehabilitation exercises sooner and achieve them better.

Massage is also a superb assessment tool. For example, a simple test can identify a short / tight muscle, but a skilled therapist can feel exactly where within the muscle the problem is located and apply remedial techniques specifically to the area to treat the centre of the problem.

While massage can attend to physical damage and the general condition of the tissues, soft tissue therapists also use a highly developed range of neuromuscular techniques to work with dysfunction on this more significant level. A range of muscle energy techniques involving post-isometric relaxation and reciprocal inhibition will help to restore good muscle length and tone in a variety of different conditions. Myofascial techniques are also used and these work specifically on the connective tissues, which are almost always involved in an injury as part of the cause or the consequence.

A soft tissue therapist will not spend more than perhaps five minutes at a time using deep hands-on techniques around a local area of injury; any longer than that could aggravate the tissues and cause inflammation. Instead, the approach is “little-and-often”, where the problem area is returned to several times during a session between applying general massage techniques to other associated areas of the body. This enables assessment of the condition of the tissues in these other areas and often gives the therapist a better understanding of the causes and consequences of the injury. Treating areas which may not directly appear to be part of the injury can resolve some of its underlying causes and can make it easier for the patient to carry out their rehabilitation exercise programme.

There is also a very important human side to hands-on techniques that should not be ignored; sensory perception. The patient can feel the injury inside their own body and when the therapist presses into the area, they make the same sensory connection which can have a very powerful effect. These techniques, when performed well, feel good for the patient, they physically enjoy receiving the treatment, and when they work well with injuries, as they nearly always do, the patient feels an immediate positive result which enhances the healing process. The feedback from my own clients over the decades has confirmed that hands-on techniques are absolutely what they want.

## Hands-on therapy as preventative treatment

When I started my career in sports massage my main achievement was in helping my clients to prevent injury, so this has always been an important

consideration in the development of soft tissue therapy techniques. Apart from traumatic accidents, all other injuries are in some way caused by the way the person has used, misused or abused their body. Even apparent sports injuries often have more to do with underlying factors such as poor posture, biomechanics or the incomplete recovery from previous injuries. These underlying issues can build up gradually over a long period of time and go unnoticed until reaching a critical point when there is a sudden onset of pain in a specific area. On other occasions, the individual may notice painful symptoms that increase over time until they reach a level where the person seeks treatment. Whatever the case, hands-on treatment can identify and attempt to treat those underlying issues early on, before they develop into a bigger injury.

In reality, many of those underlying problems may be caused by lifestyle factors such as occupation or posture which cannot easily be changed so, even when treatment seems effective, the injury often returns or becomes a chronic condition because the causes are still there. Regular maintenance treatments can keep the underlying conditions under control in order to prevent re-occurrence of the injury or to ensure that it does not adversely affect the patient's lifestyle.

Hands-on treatment can also help alleviate the secondary symptoms of conditions where surgery may eventually be the only remedy, such as meniscus tears, by taking away a lot of the pain and discomfort, which can enable better function and, in turn, may help prevent further deterioration.

There is no doubt that the whole of society could benefit from preventative treatment but this is not something the NHS could possibly afford. However, individuals are increasingly willing to self-pay for treatment if it keeps them injury free and takes away the minor aches and pains that spoil their quality of life, but this only works if the therapist truly does a good job and gets tangible results.

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### Hands-on treatment and physiotherapy

It is regrettable that the constraints on the NHS mean hands-on soft tissue treatment is not prioritised in public sector healthcare. We know, however, that hands-on techniques offer huge clinical benefits and the private sector has the resources to offer hands-on techniques, as well as preventative treatments that not only make sense for the better care of their patients, but also because it also makes good business sense, as people really like and want hands-on treatment techniques. In larger physiotherapy clinic settings, preventative or maintenance treatments might be assigned to a good soft tissue therapist working independently but under the direction of the practice principal.

I believe that hands-on soft tissue techniques are essential for physiotherapists to succeed in the private sector. This requires good quality soft tissue courses for continuous professional development (CPD), but training in this subject remains unregulated and, unfortunately, there are some poor quality, short, intensive courses that appear to cover all the same techniques but do so in too little time and without any follow up consolidation of skills. Such training cannot possibly give the level of proficiency needed for physiotherapists to be able to use soft tissue techniques effectively in private clinic.

Soft tissue techniques require a very high level of tactile and sensory skill that can be applied in an infinite number

of ways to meet a wide range of soft tissue conditions. It takes a considerable amount of time and a lot of practice to achieve this level of proficiency and there are no quick easy ways to get there. In my experience of running courses, specifically for physiotherapists, while it doesn't take many days of face-to-face classes to cover the techniques, by spreading the CPD out over a few months participants are able to practice specific soft tissue techniques in a way that includes a timescale for further consolidation and development of these skills, that further deepens their knowledge.

### About the author

Mel Cash has been a pioneer of sports massage and soft tissue therapy in the UK since the mid 1980s and established the first qualifications and training centres for this. He wrote the first book on sports massage in 1988 which has been followed by three more books developing this theme into soft tissue therapy. He is a passionate and entertaining teacher and presenter with decades of experience in the UK and internationally.

### References

- Finch P. The changing motivation of massage therapy students. *Education for Health* 2007;20(1):26
- Kerry R. Expanding our perspectives on research in musculoskeletal science and practice. *Musculoskeletal Science & Practice* 2017;32:114-119
- Sackett DL. Evidence based medicine. *Seminars in Perinatology* 1997;21(1):3-5

**"HANDS-ON TREATMENT TECHNIQUES OFFER HUGE CLINICAL BENEFITS FOR REHABILITATION AND PREVENTION"**

# Telehealth: how to make your consultations more professional

## MARK OPAR

TeleHab Product Manager, VALD Health

Earlier this year, clinicians were forced to pivot to telehealth consultations when quarantine and movement restrictions came into play. Across the globe, everyone is facing unprecedented circumstances and many are open to new ways to continue healthcare, work and play.



## EDITOR'S COMMENT

I must start by extending my warmest gratitude to Elise Hanslip and Mark Opar from VALD Health for agreeing to, and providing, such a comprehensive guide to telehealth at short notice. Their article very much mirrors our own Physio First e-booklet *How to connect with your patients* that was produced to help our members navigate the world of remote treatment methods in the first few weeks of the Covid-19 lockdown.

The decision to ask them for an article was born out of my own recent attendance at the VALD Health webinars, in an attempt to understand what was rapidly becoming a new way of working for so many of us. I was so impressed with the information and how they delivered it that I invited them to write for *In Touch* as I felt it was worthwhile to share the knowledge I had gained from them.

Many private physiotherapy practices have had to change their business models drastically in the last few months. Initially, this was an attempt by practitioners to “stay afloat” and carry on treating their

patients, but now many of us view it as an opportunity to offer this remote service as part of the long-term future of our clinics.

Telehealth has been seen by some practitioners as a daunting prospect, and they have found it difficult to understand how their usual high-quality, face-to-face service can be replicated online.

However, many aspects we employ to create a positive patient experience in face-to-face practice can be extrapolated to this “new situation”.

For example, providing a warm, inviting environment with a professional atmosphere can be achieved online. Our skills in clear and empathetic communication are essential in this method of working. Quality practitioners do this daily, so there is no reason why a positive patient experience and a good clinical outcome should not be provided, even online.

Of course, we cannot provide hands-on treatment online, but that is only one aspect of our tool box and the online

service needs to be viewed with this caveat in mind. However, in the long term a mix of hands-on treatments and remote check-ins could be an option for enhancing the services in our clinics, and I will certainly employ this for those of my patients who travel a lot and find in-clinic appointments difficult to arrange.

Sudden changes such as the pandemic brought to the healthcare market are stressful, but with a bit of guidance, and by embracing technology, we can get through them and often emerge with more robust businesses.

In the meantime, Physio First, with the support of the University of Brighton team, has adapted our Data for Impact tool to record which of our patients have been treated face-to-face or remotely. In time, we will be able to examine the longer term implications for any differences in our patient outcomes during this period. This evidence will help Physio First to share with members what the cogent business case may be for working in this different way in future.

## LEARNING OUTCOMES

### TO SUPPORT PHYSIO FIRST QAP

- 1 Understand the issues with regard to offering effective telehealth consultation.
- 2 Understand how to support patients to their best outcomes with telehealth services.
- 3 Understand how telehealth services might enhance clinical services.

## Introduction

At the time of writing, the UK is embarking on phase two of Covid-19 pandemic management, and all healthcare practices are beginning to re-open with the relevant safety and government guidance being implemented.

However, many clinicians, with varying degrees of enthusiasm, are now seeing telehealth as another treatment option;

an opportunity to reach a geographical area previously under-served or to offer specialised skills to people outside of the radius of their clinic.

Whether a telehealth beginner, or looking to build on new skills as a long-term, sustainable solution, there are some key areas to consider:

- the suitability of this model of care for your patients
- how health and exercise professionals



## "GET CREATIVE AND SEE WHAT WORKS FOR YOU AND YOUR PATIENTS"

- can assess clients online
- the equipment needed to run a professional consultation
- how to structure the session to ensure the patient feels safe and welcome
- privacy and confidentiality
- how to turn telehealth into a sustainable and ongoing treatment option.

### Is your patient suitable for telehealth?

Both clinical and practical factors will determine whether or not telehealth is suitable for your patient.

Clinical factors will include whether it is the best model of care for the individual, and if it is appropriate to achieve the desired outcomes. The presence of clinical red flags, the involvement of other practitioners in the individual's care and whether they are happy to be involved in online consultations, if required, will also be factors in the suitability of this treatment approach.

Practically, the patient needs to be able and willing to participate in the telehealth consultation. For example, a video consultation may be inappropriate for individuals with vision or hearing impairments. Lack of appropriate technology and internet availability can also impair suitability for telehealth.

### Assessing the patient without touch

This is a very common reservation for physical based therapists when it comes to telehealth. There are some tests that cannot be performed online. However, in many cases it is a combination of subjective and objective tests that help us to come to a working diagnosis.

Taking time to instruct the client in how to carry out tests on themselves may

require some additional communication tools, and careful consideration with regard to the terminology chosen, and this takes practice. Get creative and see what works for you and your patients. It can also help to gather subjective information before the consultation through pre-screening questions.

### Equipment for more professional telehealth sessions

There is no need to spend a lot of money to make sessions look more professional, but there are a few things to keep in mind when offering telehealth options.

#### INTERNET CONNECTION

It is essential to have a reliable internet connection. Having the option to use wifi tethered to a mobile phone as backup is good, and ensure that the patient's phone number is on hand in anticipation of a lost connection.

#### DESKTOP COMPUTER, LAPTOP OR TABLET

Where possible use a screen bigger than a mobile phone. While you may look small on your screen, a patient viewing the session on a larger screen will have a much bigger image of you.

#### FUNCTIONALITY AND SECURITY

Generic programmes include Skype, Zoom and FaceTime. However, several practice management systems and exercise prescription platforms have in-built, secure teleconferencing features

that enable screen-sharing the patient's exercise programme and notes can be added to their profile during the session.

#### LOCATION AND ATTIRE

Undertake sessions in a private, well-lit area. Somewhere that is not open to interruption during the treatment session is essential. Minimise distractions for the patient by having a professional background with few personal items visible. Wearing clothes that you would normally wear in your clinic will ensure an environment that is seen as safe and welcoming as it would be when attending your clinic.

To enhance the quality of video and audio functions, it is worth investing in a webcam and microphone.

#### CLIENT TECHNOLOGY

Prior to the online consultation, make sure to communicate with the patient how the session will run. Suggest they use a laptop or a phone with a stand as they may need to perform exercises as part of the assessment. Having a structure for the session, and gathering as much information beforehand, is ideal to avoid time leakage.

By offering the patient a short, free-of-charge introduction call before the initial assessment session, time can be saved in ensuring that their equipment is of appropriate quality to facilitate good communication between all participants and accurate transfer of clinical information.

### Structuring the consultation

Before the initial appointment, the patient can be sent some general information on a telehealth session, such as how long it might take, and advice on wearing contrasting clothing 📍

"ARRANGING FOR THE PATIENT TO COMPLETE A DETAILED SCREENING QUESTIONNAIRE PRIOR TO THE TELEHEALTH SESSION WILL HELP WITH OBTAINING THE DATA NORMALLY TAKEN AT AN IN-PERSON VISIT"

for performing exercises. A detailed screening questionnaire will ensure that all the data is captured that would normally be at an in-person visit, as well as any additional subjective data which will help to plan the consultation.

At the start of the session, a recap of the information provided by the patient will allow them to provide any additional details, and the time length of the appointment can be clarified.

Go through the tests required to gather additional information and make your assessment. Focus on clear, concise instructions with language the patient will understand. Be prepared to demonstrate movements and exercises. Reinforce key learning points and next steps. Be clear about functional measures to determine improvement and let the patient know that they will receive a report to summarise the session, recap any exercise programme and confirm details of any follow-up actions.

Ask for feedback at the end of the session. For example, was the patient able to hear / see you throughout the consultation? Were they satisfied with the care they received?

Overall, the focus should be on your communication, listening and patience. There will be instances where instructions need to be altered, more details added or suggestions for how the patient needs to position their device so that their movements can be clearly seen.

## Privacy and confidentiality

Just like in-person appointments, telehealth consultations should be private and confidential. Additional considerations for telehealth include choosing tools or software which are secure and encrypted. If there is a clinical reason for recording the consultation, ensure the patient is informed, and their consent is documented. All client notes must be stored securely in compliance with GDPR.

**"ADDING TELEHEALTH TO YOUR SERVICES MAY ATTRACT INDIVIDUALS WHO PREFER THIS FORM OF CONSULTATION"**

### CONTACT DETAILS

m.opar@Vald.com  
www.valdhealth.com

## A sustainable option for the future

For those practitioners who decide that telehealth works for their clinics and their patients, consideration should be given to streamlining and automating workflows as much as possible to make it time-efficient. If it is to become part of the standard offering of your clinic, it is essential to get everyone involved on board with this way of working to ensure there is a coherent message on the service you are providing.

Marketing this addition to your patient services is an important part of attracting new clients. Update your website to optimise attracting people who prefer, and would therefore search for, clinics that offer telehealth consultations. Include any unique specialty that you are making available to people in areas lacking in physical clinics that provide the same offering. Find your niche and telehealth could become an excellent option for capitalising on the things you

have learned about telehealth over the past few months, and making that work as an additional revenue stream for your clinic now and into the future.

## About the author

Mark Opar is TeleHab Product Manager at VALD Health. TeleHab is a remote exercise prescription platform with integrated teleconferencing. Mark has worked in private practice for 11 years, using different technology solutions to improve patient engagement and adherence and is on a mission to remove technical barriers around exercise prescription and improve client compliance.

## FURTHER RESOURCES

Physio First has been fortunate during this time to forge links with a number of companies who have offered our members a range of options for remote working. These include:

VALD Health [www.valdhealth.com/telehab](http://www.valdhealth.com/telehab)

TrackActive [www.trackactive.co](http://www.trackactive.co)

Rehabguru [www.rehabguru.com](http://www.rehabguru.com)

Physiotec <https://physiotec.ca/uk/en>

Physiotools [www.physiotools.com](http://www.physiotools.com)

Rehab My Patient

[www.rehabmypatient.com](http://www.rehabmypatient.com) 

## VALD HEALTH

Register for VALD Health's free live webinars, including interviews with industry experts on the topics of telehealth, marketing, technology, equipment, and more.

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# Conference update



**Everyone in our Physio First community acknowledges just how much we all value our annual conference which, for so many years, has been our organisation's flagship event. Sadly, this year we had to cancel our conference as it, like so many of this year's events and activities, became a casualty of the pandemic.**

By August, we should have been making firm plans with international speakers, the venue, the hotel, etc. but as there are still too many uncertainties regarding the ongoing effects of the pandemic, we have had to think long and hard about the feasibility of holding our conference in 2021. We have considered every eventuality and possible scenario, and finally come to the conclusion

that we could not go ahead with next year's conference with confidence. We are sorry to have to make this decision, but we are sure that our members will all understand. If you kindly opted to transfer your 2020 booking to 2021, our Physio First team should, by now, have been in contact to arrange a full refund.

We are currently using what we have learned during Covid-19 to formulate a new and exciting Physio First project. This has involved investigating how we can provide webinars for our members, hopefully in the first instance from the speakers we had lined up for our 2021 conference. So look out for details in our bulletins, on our website and on our member-only LinkedIn forum. We are confident, given the way our

members have embraced new ways of working and accessing online support, that this initiative to offer a digital learning experience will be well received and seen as a way in which Physio First continues in our commitment to deliver ongoing high quality education.

We will, of course, also continue to consider what format our annual conference may take in the years to come, when the future is more certain and we have had opportunity to obtain and review feedback from you, our members.

We are confident that you will understand our reasoning for this decision, and we hope you will support our Physio First volunteer and office team as we offer what we are sure will be new and exciting ventures aimed at promoting Physio First education into our "new normal".

**Byron Clithero,  
Education Officer**

**"WE ARE CONFIDENT MEMBERS WILL UNDERSTAND OUR REASONING AND SUPPORT PHYSIO FIRST IN THESE NEW WAYS OF DELIVERING QUALITY EDUCATION"**

## Online support |

# Meeting our Physio First community

As Physio First volunteers, our Regional Officers, now known as Community Representatives, have always worked to support our members on a personal level. Our role is to answer queries and, where we can, to arrange locally based educational and business events for our Physio First communities. Over the past year, with our Physio First exec, we have been trying to work out how we can meet with more of our members and build our Physio First community so that we can all better support each other.

The arrival of Covid-19, and its implications for our lives as private physiotherapists, meant that our community needed support and reassurance more than ever. A thin silver lining behind the black cloud of this pandemic is the way in which digital meetings have suddenly become the norm, and how so many of us have learned to master

the technology. This has given our Community Representatives the opportunity to step up and facilitate our members getting together in the digital space.

Over the past two months, our Community Representatives have organised more than 30 video conference meetings, which have been attended by around 15% of our members. In this time of social distancing, it has been brilliant to see familiar and new faces, to hear our members' ideas, and be able to share our own thoughts. We seem to have achieved, since March, what we have been trying to establish over the past year; a way to communicate and engage our members so that we can learn

from and support one another as a Physio First community. The feedback from our meetings has been fantastic, from people who just appreciate that they aren't alone in some of the issues they are facing at this time, to those who have come forward with ways in which we can improve our services and progress our businesses.

We aim to continue our video conference community meetings through September, October and hopefully beyond. Look out for invitations to future meetings in our e-alerts, and we look forward to seeing you at one soon.

**Lucinda Brock,**  
RO Representative

"IT HAS BEEN BRILLIANT TO SEE FAMILIAR AND NEW FACES, AND TO HEAR AND SHARE IDEAS"







**Work towards our January 2021 Data for Impact download and start the new year as a Physio First Quality Assured Practitioner or Clinic**



We know what a particularly difficult time all practitioners have had during the last six months or so, but as we move towards autumn and a new start, this is the time to turn our attention to collecting Data for Impact. There has never been a better or a more crucial time for us to demonstrate our quality.

So many of us have had to find ways to bring ourselves and our businesses through the minefield of Covid-19 regulations and guidance, through the use of remote consultations and digital triage, and for some of us the way we deliver our physiotherapy treatments and advice may have changed forever. The one thing that remains certain is our need to be competitive in our marketplace, and to do that it is down to us to demonstrate our quality in however we deliver our physiotherapy services. By submitting your outcome data to the University of Brighton and being brave enough to be measured against a baseline created by the outcomes already provided by many other Physio First members, you can show both your existing and potential patients that your outcomes meet the standard to achieve our Physio First Quality kite-mark.



For those of our members who haven't yet started to collect data, the first step is to contact the University of Brighton team on 01273 641802. They will get you started with our easy to use, validated data collection tool which, once you become familiar with it, will be a natural part of your daily interaction with your patients, whether you are seeing them face to face or in a remote consultation.

The identity of members participating in data collection is unknown to Physio First and patient details are completely anonymised, so you can be confident that there is no breach of privacy. For anyone concerned, we can also assure you that the data collected and owned by our Physio First community of members is never shared with any other party in the healthcare marketplace.

"THERE HAS NEVER BEEN A MORE CRUCIAL TIME FOR US TO DEMONSTRATE THE QUALITY OF PHYSIOTHERAPY OUTCOMES IN WHATEVER WAY TREATMENT IS DELIVERED"

There is **so** much more to find out about, so don't hesitate to get started today. Click on the link to Data for Impact Reports in the Benefits section of our Physio First website, [www.physiofirst.org.uk/benefits/data-for-impact-reports](http://www.physiofirst.org.uk/benefits/data-for-impact-reports) for more information and guides about how to get started and make the most of your data, and you could be displaying our Physio First Quality Assured kite-mark by early 2021.

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# Applications for funds in 2020 suspended

As the PPEF awards are made from income received from the funds from invested capital, the Covid-19 situation has had the effect of severely depleting the PPEF investment income and they have had to make the decision to not accept any further applications during 2020.

The PPEF aim to review the situation at the end of the year and hope to be able to resume accepting applications for awards during 2021.

**Please keep an eye on the PPEF website for future updates.**

 [ppef.org.uk](http://ppef.org.uk)



## Tips from our team

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- Trusted partnerships sourced to help.

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If you have any questions about your membership options, please contact our office on 01604 684960 or email us at [minerva@physiofirst.org.uk](mailto:minerva@physiofirst.org.uk)

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