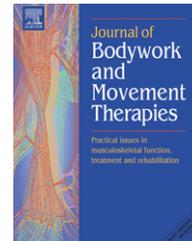




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## EDITORIAL

# Interaction of disciplines

A recent press report (Hurley, 2012) described a novel project started by two Oxford University PhD candidates, Daniel Perez and Mehmet Fidanboyu. Their firm, [Marblar.com](http://Marblar.com), aims to find ways of matching new research studies with those who see opportunities to develop innovative applications of the research findings. They note that “currently 95–99% of patents filed by universities never leave the cabinet they were filed in.....a stunning waste of resources and people’s hard work, leaving so much potential unfulfilled”.

The ways in which these entrepreneurs plan to change this is of interest, and seems to have potential, but what really struck me was their statement that: “The best innovation happens at the interaction of disciplines – when the engineer looks at what the biologist is doing”.

These thoughts mirror precisely what the first three Fascia Research Congresses (Boston, 2007; Amsterdam, 2009; Vancouver, 2012) have been working to achieve. By exposing two groups of people, each with a dedication to the subject – working from quite different perspectives: the pure science investigators, and those who work clinically with fascia-related dysfunction.

These congresses have involved stimulating and productive interactions between scientists – many of whom had no idea whatever of what manual therapy entails, and clinicians, many (most?) of whom, with little awareness of the results of meticulous fascia-related research papers, that are published by the hundred annually – many of which have direct clinical relevance.

For those who missed these landmark events, the various proceedings and DVDs from the congresses are available from: <http://www.fasciacongress.org/dvd-book-purchase.htm>.

With the next congress planned for 2015 – the newly formed Fascia Research Society (FRS) offers an ongoing forum for continuing discussion, debate, collaboration and further evolution of the ideal of allowing individuals from a wide range of different disciplines to interact and inform each other – with unpredictable, but possibly useful outcomes.

For information regarding the FRS go to: <http://fasciaresearchsociety.org/>.

The Journal of Bodywork & Movement Therapies (JBMT), has been a publishing sponsor of all three fascia research

conferences, and is made available (electronic version) as a benefit to all members of the FRS. JBMT now includes a dedicated *Fascia Science and Clinical Application* section, in each issue. In this issue (16(4), October 2012), that section contains two articles that epitomise the translational nature of current fascia research, as well as a selection of abstracts from the Third Fascia Congress (Vancouver, March 2012), as well as an important paper on fascial nomenclature by Schleip et al. (2012).

The first of the fascia research papers: *Selected fascial aspects of osteopathic practice*, by Italian osteopath Paolo Tozzi, investigates manual approaches that take fully into account research studies into the structure and physiology of fascia. In the abstract of that paper, Tozzi (2012) notes: “Studies suggest that fascia reorganises itself along the lines of tension imposed or expressed in the body, and in ways that may cause repercussions [involving] fascial restrictions, that are body-wide. This may potentially create stress on any structures enveloped by fascia itself, with consequent mechanical and physiological effects. From an osteopathic perspective, fascial techniques aim to release such tensions, decrease pain and restore function. The proposed mechanism for [osteopathic] fascial techniques is based on various studies that have looked at the plastic, viscoelastic and piezoelectric properties of connective tissue”. In other words, translating research into practical applications that inform and support traditional osteopathic methods of treatment.

Coincidentally, this issue’s *Fascia Science and Clinical Applications* section, includes another Italian sourced article, by Turrina et al. (in press): *The muscular force transmission system: Role of the intramuscular connective tissue*. In this the authors note that it is evident that the muscular connective tissue, and the fascia, determines the structural and functional characteristics of muscle, as they explore the functional significance of the relationships between the activity of muscles and the movement of the intra- and extra-muscular connective tissues. “The force expressed by a single muscle depends on its anatomical structure, on the angle at which its fibres are attached to the epimysium and to the tendon’s components, and on the

*pressure generated during the muscle recruitment in respect of the internal pressure of the internal structure of the muscle (muscular tissue and blood). Above all, it depends on the balance of the tension expressed by the basal tone of the muscle that counteracts the tension of the epimysium itself and the surrounding tissues through the epimysium/deep fascia.”*

With muscular force now seen to be transmitted in multiple directions, rather than in a linear, end-to-end, manner, understanding the specifics of ‘*the angles at which muscle fibres attach*’ to other structures becomes clinically relevant. The practical implications of fascial-strain transmission, via the different angles of fascial attachment, has been demonstrated in a study involving insertion of strain-gauges into fresh cadavers, by Franklyn-Miller et al. (2009). This study showed that during straight-leg raising, the force applied to the hamstrings was amplified by 240% into the iliotibial band, and 150% into the ipsilateral lumbar fascia. Reversing that information flow suggests that changes (restrictions, adhesions, fibrosis etc) in the fascial attachments between – for example – the hamstrings and the ITB, could be an etiological factor in apparent hamstring shortness – directing treatment to tissues other than the hamstrings themselves – demonstrating how research can inform clinical practice in a practical manner.

Research information emerging from conferences, forum discussions, and peer-reviewed articles can be seen to be

bi-directional, hopefully involving an *interaction of disciplines*, so that scientists can be informed by what is done clinically, and what knowledge is needed to explain what happens clinically - while clinicians can be informed by studies, whether involving pure science analysis of tissue behaviour, or anatomical dissection.

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