



EDITORIAL

Biochemistry and bodywork

A number of papers in this issue of JBMT exemplify the need for practitioners and therapists involved in physical/manual medicine to have an awareness of their work on the biochemistry of the body, and of the link between biochemistry and structural and functional factors associated with pain and inflammation.

Judith DeLany's review of the influence of the hormone leptin, on health, demonstrates how lifestyle choices can dynamically modify systemic hormonal, inflammatory and metabolic processes. These lifestyle choices may be as simple as *when* we eat, as much as *what* we eat, alongside less obvious factors such as how much sleep and exercise we get. The evidence is that such choices directly influence leptin production by white adipose tissue, and this appears to make the difference between good health and conditions involving obesity, pain, and frank diseases such as diabetes and Syndrome X. The ability to accurately and appropriately advise on these issues, or to personally apply, them, based on the guidelines emerging from the research that DeLany has diligently reviewed and summarised, is therefore not peripheral to the work of those treating musculoskeletal pain and dysfunction—but is central to it.

Central to another aspect of the leptin issue is waist circumference, and William Elliott has, in his paper in this issue of JBMT, produced clear guidelines for accurately measuring this circumference, which evidence suggests is "the best simple anthropometric measure of total body fat, the best simple indicator of intra-abdominal fat mass, superior to the standard measurement of overweight and obesity, the body mass index (BMI)."

John McPartland has produced a summary of research regarding the endocannabinoid (eCB) system. This offers an extraordinary insight into the way our bodies have evolved in the presence of eCB receptors that—similar to the well-known endorphin system—respond to endogenously produced, pain-relieving, mood-enhancing, substances. These receptors are located profusely in the nervous system (CB₁) and the immune system (CB₂), and in the paper in this issue of JBMT, McPartland reviews the evidence for influence within fascia-related structures.

Not surprisingly, the effects of endogenously produced eCB (e.g., modulation of myofascial pain and inflammation) can be imitated by chemicals from the cannabis plant, which helps to explain the illegal usage of these substances by people with conditions such as fibromyalgia and multiple sclerosis.

From the perspective of those working in manual medicine, an astonishing fact emerges, that eCB production is significantly increased ('upregulated') by methods such as massage, myofascial release, muscle energy and similar forms of treatment, as well as by exercise and various lifestyle modifications (as well as by certain pharmaceutical approaches).

For some readers, some of the biochemistry in the articles by DeLany and McPartland might appear intimidating. Nevertheless, there is much information to be gained by working through such apparent obstacles, as there can be few issues more pertinent to people in pain, than an understanding of the evidence that has been synthesised into these very important papers. The potential for dissemination to a wider audience depends on individual therapists and practitioners grasping the opportunity of acquiring the knowledge and passing it on to those who most need it.

For example, it is well established that compliance with home exercise suggestions, depends to a large extent on the individual understanding the reasons for performing particular tasks. If it can be explained that simple stretching and exercise can stimulate mood-enhancing, pain-relieving, endogenous eCB production, and that exercise can also help to regulate the leptin response, reducing inflammation and obesity tendencies (as examples), compliance might be more forthcoming?

Explaining the biochemical reasons for the euphoric state, that frequently follows bodywork, might produce a lengthening queue for appointments!

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