Massage Benefits Immune Function

A recent study called, "A Preliminary Study of the Effects of a Single Session of Swedish Massage on Hypothalamic Pituitary–Adrenal and Immune Function in Normal Individual," investigated the response of various biomarkers to a single dose Swedish massage therapy session versus a light touch control group. What the authors found is that a single session of Swedish massage therapy had measurable effects on both the immune system and hypothalamic–pituitary–adrenal (HPA) connection.

Eventually, these may have implications for care of patients with inflammatory and autoimmune conditions. An understanding of the biological effects that massage therapy has on the body can help us, as massage therapists, make the best treatment choices for our clients who experience inflammation or live with autoimmune disorders. Despite it being popular with Americans, little is known about the effect of massage therapy on human physiology. Of the work that has been done, recent reviews have shown there to be challenges with some of the methodology. There is some lack of confidence in the validity of many of the past claims about the effect of massage therapy on stress response and immune function, along with an inability to generalize results of those studies.

The authors set out to tackle this gap. Based on what they had found leading up to the project, they theorized that Swedish massage therapy would increase oxytocin levels, mediating a decrease in activity of various hormones involved with the HPA connection and improve immune function.

Licensed massage therapists performed both the massage and the control light touch interventions on 53 healthy men and women. The subjects were randomized into one of the two groups and neither the participants nor the therapists were aware of the hypothesis that was being explored in the study. Efforts were made to maintain consistency wherever possible in delivering the 45-minute sessions, with a standardized protocol outlined for both groups. The massage consisted of effleurage, petrissage, kneading, tapotement and friction applied with the thumb. Light touch was performed with the back of the hand only.

Blood and saliva samples were collected before and at varying times after the treatments. Plasma and salivary cortisol levels were analyzed, as were plasma adrenal corticotropin hormone (ACTH), oxytocin, vasopressin, lymphocyte markers and cytokine levels. (The free full text article contains full detail of the
process of collection and analysis of the biological samples.) The participants also completed three psychological self-report statements before and following the intervention in effort to exclude shift in emotional state as a contributing factor to the results.

So, what did the researchers discover? When compared to light touch, Swedish massage therapy caused a decrease in vasopressin and a lesser decrease in cortisol levels. Contrary to their hypothesis however, these findings were not mediated by changes in oxytocin levels. The massage group also showed improvement in the biomarkers for immune function.

Interestingly, none of the results varied by age, gender or self-reported race for the two study groups. Another remarkable point is the unique, repeated assessment of neuroendocrine hormones that was utilized in the study. Samples were taken 1, 5, 10, 15, 30 and 60 minutes after the end of the intervention session. This information may be helpful in design of other studies when determining optimum times to draw samples.

New evidence has begun to show that massage therapy has positive effects on management of stress hormones and immune function. This is occurring despite the need for more exploration of the potential mechanisms involved. Even if someone has only one massage treatment, science seems to be backing up what many therapists likely already know – that massage therapy can have a profound effect on people.