

## **Impact of Osteopathic Manipulative Treatment on Secretory Immunoglobulin A Levels in a Stressed Population**

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### FROM ABSTRACT:

**Context:** High levels of human secretory immunoglobulin A (sIgA) have been shown to decrease the incidence of acquiring upper respiratory tract infections.

Osteopathic manipulative treatment (OMT) has been shown to improve cardiac indices, increase lymph flow rates through the thoracic duct, and decrease sympathetic tone in postoperative patients and those in intensive care. Therefore, we hypothesized that OMT may also increase sIgA levels in people under high levels of emotional and psychological stress, thereby enhancing immunity and potentially preventing subsequent infections.

**Objective:** To determine if OMT increases sIgA levels in highly stressed individuals.

**Methods:** Twenty-five second-year osteopathic medical students were randomly assigned to an experimental group (n=12) or a control group (n=13). All participants were scheduled to take their national board examination within 2 to 3 weeks after the experiment. After each participant submitted a saliva sample for a baseline sIgA level assessment, the experimental group received 20 minutes of OMT while the control group sat quietly and relaxed in a separate area for 20 minutes. Participants in both groups rested quietly for 1 hour after the 20-minute session and then submitted a second saliva sample.

**Results:** A 2 X 2 repeated measures analysis of variance revealed that the experimental group displayed a statistically significant greater increase in post-intervention sIgA levels than the control group [by 139% increase].

**Conclusion:** This study demonstrates the positive effect of OMT on sIgA levels in persons experiencing high stress.

Results suggest that OMT may then have therapeutic preventive and protective effects on both healthy and hospitalized patients, especially those experiencing high levels of emotional or physiological stress and those at higher risk of acquiring upper respiratory tract infections.

### KEY POINTS FROM THIS STUDY:

- 1) Secretory immunoglobulin A (sIgA) is also referred to as salivary IgA.

- 2) "Secretory IgA provides protection from pathogenic organisms by preventing attachment, replication, and colonization of such organisms."
- 3) Stress (perceived or physical) can cause a decrease in mucosal sIgA levels.
- 4) Levels of sIgA in humans indicate immune system potency.
- 5) High levels of sIgA decrease the incidence of upper respiratory tract infections. Low levels of sIgA are associated with increased incidence of infections.
- 6) Studies have reported a statistically significant enhanced immunologic response in subjects who received osteopathic manipulative therapy as compared to a control group.
- 7) An increase in sIgA among patients receiving osteopathic manipulation suggests that manipulation "could be used to increase immunity in vulnerable populations."
- 8) Both controls and patients submitted a baseline saliva sample and their sIgA were measured. The controls were reassessed 1 hour after sitting quietly. The patients were reassessed 1 hour after osteopathic manipulation.
- 9) The sIgA level in the manipulation group increased by an average 139%, more than 100% greater than the control group.
- 10) "Decreases in sIgA levels have shown to have deleterious effects on the immune system, which leads to an increased risk of infection. Such findings demonstrate the importance of discovering osteopathic clinical practices that increase the level of patients' sIgA."
- 11) Osteopathic manipulation increases lymphatic flow, increases peripheral circulation, improves cardiac indices, and decreases sympathetic tone.
- 12) This study demonstrates that osteopathic manipulative therapy "significantly increases the sIgA level." "Participants who received osteopathic manipulative therapy experienced an average increase of 139% in their level of sIgA post intervention."
- 13) High levels of human sIgA "have been shown to benefit the immune system by decreasing the risk of acquiring upper respiratory tract infections."
- 14) Simple osteopathic manipulative techniques may increase immunity and lower the incidence of infections.
- 15) "Our findings demonstrate OMTs ability to increase sIgA and to potentially improve immune system function."