

**Lymph, Immunity and Stress!**

We already know that stress causes tension to muscles, giving us those all-important regular clients and the immune system is particularly sensitive to stress because conditions can develop that are stress related. But we are not sure how or why this happens. We feel tension in muscles with aches and pains, but we do not have x-ray vision to really see what is happening inside our bodies until it is too late and we receive a diagnosis or suffer symptoms.

Although acute stress generally has positive effects, chronic stress typically provokes immunosuppression and these days we seem to be unable to avoid chronic stress - it surrounds us, and is all consuming, particularly for our clients. Immune system disorders cause abnormally low activity or over activity of the immune system. In cases of over activity, the body attacks and damages its own tissues (autoimmune diseases). Immune deficiency diseases decrease the body's ability to fight invaders, causing vulnerability to infections. So why is this happening? Why is there such an increase of illnesses specifically related to the lymphatic system and immune-deficient diseases from psoriasis to rheumatoid arthritis and everything in between?

Through studies the medical profession knows that the more stressed you are the more the body shuts down the lymphatic system's ability to function normally, leaving us wide open to infection. This primarily involves three essential components of the lymphatic system - the thymus gland, the spleen and lymph nodes. Not only are these crucial for everyday health but also for long-term prevention from illness and disease.

The effects of chronic stress can be so devastating that it can weaken your immune system by up to fifty percent. YES! fifty percent! Stress, it seems, is even more of a slow stealth assassin of our health than we ever realized. If chronic stress shuts us down by fifty percent, then based on `average stress` we are only functioning with one quarter to half of our immunity. Mix additional infection or extra trauma with the normal everyday excess metabolic waste, toxins and fat from food, you can see why we can develop an immune-suppressed condition.

**We are malfunctioning!** Is this why we are all getting sicker instead of healthier because we are all too stressed? Therefore, you must ask yourself and your clients, a long time before an immune deficient diagnosis, could it have been prevented with "When was the last time you felt really relaxed?"

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On-going studies related to stress and the immune system continue. Today however we know the fundamental facts and more significantly those components of the lymphatic system which are directly affected by stress. Briefly looking at these and their function explains, if they are never working at full capacity, why we are all very vulnerable and some more than others?

**Thymus, Spleen and Bone Marrow, Lymph Nodes**

The thymus is a large lobed structure which lays behind the upper part of the sternum. The thymus serves a vital role in the development of T-lymphocytes or T cells, an extremely important type of white blood cell. Secreting a hormone called thymosin causes pre-T-cells to mature in the thymus into T-cells to defend the body from potentially deadly pathogens such as bacteria, viruses, and fungi. In adults, it is a source of fresh lymphocytes for immunologic imprinting.

The spleen is the largest of the lymphatic organs, usually the size of a clenched fist. It is largely a mass of lymphoid tissue. Dark purple in colour, it lies under the lower ribs on the left side of the upper abdomen. It contains many lymph nodes that produce phagocytic lymphocytes and macrophages. In old age, the spleen naturally atrophies. Scattered in the splenic pulp are lymph nodes, each containing an arteriole network. Lymphocytes released from the lymph nodules pass directly back into the blood stream.

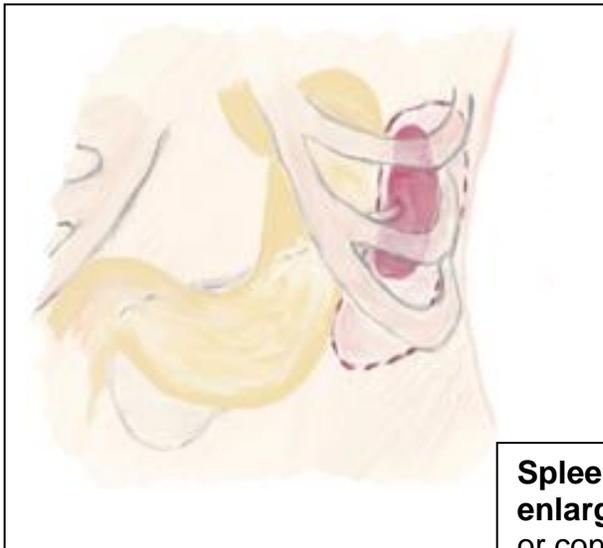
Bone marrow, also known as myeloid tissue is also a key component of the lymphatic system, producing the lymphocytes that support the body's immune system.

Between 700 and 1,000 lymph nodes are around the body with 300 to 500 in the abdomen. Each one filters and cleans waste fluid from the body with the help of macrophages and T lymphocytes. They also produce new lymphocytes helping to fight infection, often preventing infection from passing into the blood.

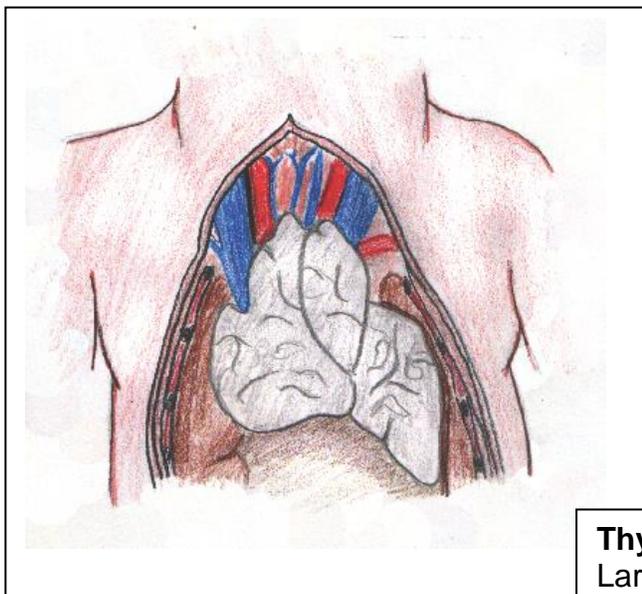
**Summary**

With this understanding, never has it been a more important time to promote a lymphatic or tranquil massage to over worked, tense clients. Inform them about the devastating effect stress has on their immune system and why a relaxation inducing massage is more than ever the key to preventing illness and becoming healthier than they ever realized.

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**Spleen shown normal and enlarged.** Clients with extra or continued sensitivity in this area should seek medical attention as a precaution.



**Thymus gland in a child.** Largest in early life, it shrinks in adulthood to a mere remnant.