

Information

How acupuncture works for acute and chronic pain, from a Western understanding.

This information mostly comes from the research of Dr. Ma's Book Acupuncture and Biomedical Pain. I have extracted some of the key points from his book and add a little of my understanding to simplify it.

Acupuncture

is a unique therapy because it uses fine needles to create minute traumas or lesions into the tissues, which stimulates the survival mechanisms of the body.

Clinical evidence shows that these mechanisms bring about restoring homeostasis, facilitating repair mechanism such as anti-inflammatory reactions, tissue regeneration, pain modulation, stimulation in the increase and the activity of immune cells.

Acupuncture also stimulates neurobiological chemical such as endorphins which relax the smooth muscle, cardiac muscles and skeletal muscles.

The Understanding of Acute and Chronic Pain (Energy Crisis)

With

acute and chronic pain there is some form of muscle contraction. Muscle contraction itself is energy-demanding process; the sustained contraction creates an environment of low energy and low oxygen (hypoxia) as a result of reduced blood circulation. When muscle contraction is sustained over long periods there is an increase in the demand for energy and leading to "energy crises." Persistent contraction increases metabolism and demands more energy. Sustained muscle contraction shuts the capillary network that supplies the region with nutrition and oxygen and therefore generates a low-oxygen environment (hypoxia). Thus the vicious cycle is built and perpetuated.

In

acute or chronic pain the muscle is painful, spasmodic, tight, swollen, inflamed, fatigued, and starved for energy; it requires more nutrition and an improved oxygen supply to recover. It also requires an increase in blood circulation to remove metabolic toxins, but the tightness of the muscle reduces or blocks the normal blood circulation.

When

a muscle gets sick, it becomes tight and will resist any further stretching to protect itself from further damage. The mechanical needling of sensory nerve endings stimulates the corresponding motor neurons to send signals to relax the tight muscles.

Healing Process

Acupuncture

needling triggers the local and systemic immune and anti-inflammatory reaction that controls the inflammation in the area of needle-induced lesions. Acupuncture needling is able to relax the muscle, which breaks the vicious cycle of energy crisis and restores normal blood circulation.

Needling

reduces bodily stress by stimulating the secretion of endorphins, relaxing the cardiovascular and muscular system, and restoring the physiologic and autonomic balance (homeostasis), which includes normalizing organ functions that are impaired during stressful assault via neuron-hormonal pathways.

Endorphins

work on other body systems, relaxing the cardiovascular system, improving the activity of the immune system, and modifying the endocrine system. All these effects make the patient feel relaxed and speed up the self-healing process.

Needling

promotes and accelerates soft tissue healing. Soft tissue includes nerves, muscles, connective tissue (tendons, ligaments, joint capsules, fascial coating of muscles), and some functional structures like blood and lymphatic vessels.

As

a result, the mechanical and physiologic effect of needling, including the lesion it produces, relaxes the tight muscle and dissolves the contracture. The needle-induced lesion continues the relaxing function for at least 2 days after the treatment, until the lesion is healed.

Once

the muscle is relaxed, the blood vessels restore the normal circulation that supplies nutrition and oxygen and removes the metabolic toxins. The restored energy supply resolves the energy crisis and desensitizes the irritated nerve ending. This is how needling and its lesion activate the healing process of damaged muscles.