

<http://torreschiropractic.com/wholebodyvibration.aspx>

CHRISTINA TORRES DC, PC

CHIROPRACTIC PHYSICIAN

Because WBV triggers millions of involuntary muscle contractions throughout the body every second, a 10-minute training session causes a chain reaction that results in numerous health benefits.

Whole Body Vibration has been shown to:

- strengthen fast-twitch and slow-twitch muscles with near-total muscle recruitment
- build bone mass and make bones more fracture-resistant
- strengthen connective tissue, tendons, ligaments and joints
- provide the equivalent of traditional aerobic exercise in a fraction of the time
- improve blood circulation without raising blood pressure or heart rate
- promote lymph drainage and combats water retention
- improve organ functions and waste processing
- trigger production of hGH, serotonin, collagen, epinephrine and endorphins while reducing production of stress hormone cortisol
- improve function of connective tissue, which combats arthritis and builds flexibility and balance
- aid surgical recovery and rehabilitation by maintaining muscle strength and improving lymph and circulation

Agility and Strength

- Whole Body Vibration causes gentle, rapid muscle contractions at rates up to 30 times per second, compared with only a few contractions per second in traditional exercise.
- Because the muscle contractions are involuntary, nearly 100% of the muscle fibers are recruited in WBV training – including those at the joints – compared to 40% on average in conventional training. This greatly increases agility, flexibility and balance.
- WBV stimulates both fast-twitch and slow-twitch muscle fibers. Fast-twitch muscle fiber produces strong bursts of power that boost agility, speed, jump height, throwing power and so forth. Slow-twitch muscle fiber is responsible for endurance.
- Because WBV's gentle contractions build muscle mass passively, WBV doesn't generate lactic acid responsible for the "ripped" feeling associated with weightlifting and other strenuous exercise. When used to complement other athletic training, WBV actually aids removal of lactic acid by improving circulation and stimulating drainage and detoxification.
- As muscle mass increases, the body's metabolism naturally expends more energy, fostering passive weight loss. Increased muscle mass helps build bone mass, even in post-menopausal women at risk for osteoporosis.
- WBV boosts production of collagen, which is the primary component of tendons, ligaments,

and other connective tissue, thereby aiding flexibility and balance. Collagen also gives bones the elastic quality that improves fracture resistance.

WBV boosts secretion of human growth hormone (hGH), which increases calcium retention, and strengthens and increases the mineralization of bone. hGH also increases muscle mass through the creation of new muscle cells, and it promotes lipolysis, which breaks down fat cells.

Hormones & Detoxification

When the body is stressed - not enough exercise or sleep, unhealthy diet, too many toxins, depression, anxiety - the body triggers production of serum cortisol, a stress hormone that gets the body to protect itself by storing energy as body fat. WBV stimulates muscle-building contractions in muscle fibers throughout the body, causing all the body's organs to contract and relax repeatedly, which stimulates proper organ functioning.

The organs' proper functioning takes the body out of stress mode, which reduces production of cortisol and stimulates the endocrine system to secrete beneficial hormones like:

- Serotonin - provides a sense of happiness and helps combat seasonal affective disorder (SAD),
 - HGH - human growth hormone (see below)
 - endorphins - generate an overall sense of well-being
 - epinephrine - helps the brain regulate blood pressure, cardiovascular function, lipolysis (fat breakdown), and other autonomic activities
 - neurotrophins - stimulates neuron functioning in the central nervous system, improving brain function
 - testosterone - stimulates female sex drive
- Human Growth Hormone (hGH) stimulates cell growth and reproduction throughout the body. hGH is secreted at its highest levels during puberty, and secretion decreases with many factors associated with aging, lack of exercise, and over-consumption of dietary carbohydrates. WBV's stimulation of hGH production combats the aging process by:

- increasing calcium retention and the mineralization of bone
- increasing muscle mass through the creation of new muscle cells
- promoting lipolysis, which breaks down fat cells,
- increasing protein synthesis and stimulating the growth of all internal organs excluding the brain, and stimulating the immune system, among other benefits.
- In addition, WBV stimulates the lymphatic system to remove excess fluids from body tissues, absorb fatty acids, transport fat to the circulatory system, and produce immune cells such as lymphocytes, monocytes, and antibody-producing plasma cells. Meanwhile, WBV prompts intestinal movement that speeds digestion and loosens waste material for release, and its impact on the circulatory system helps mobilize and flush toxins from the entire body.

Cardio Benefits

- By maximizing muscle fiber recruitment throughout the body, WBV delivers all the cardio benefits of conventional exercise - but without raising blood pressure or heart rate. Because WBV recruits nearly 100% of muscle fiber, including those at the joints and ligaments, WBV helps move blood through even the smallest blood vessels (microcirculation). This promotes tissue oxygenation, cell hydration, and the distribution of nutrients - such as endorphins, serotonin, epinephrine, hGH, and other beneficial hormones and proteins that WBV boosts.
- WBV's improved microcirculation removes toxins from cells throughout the body, which

allows them to be filtered and flushed out of the body.

Microcirculation also loosens stubborn fat cells and areas of cellulite, which hGH and epinephrine break down. Epinephrine also helps the brain regulate blood pressure and cardiovascular function.

WBV stimulates the production of collagen, which strengthens blood vessels, and WBV improves venous return, both of which help prevent varicose veins. Cellulite & Skin

- By stimulating near-total muscle recruitment throughout the body, WBV pushes blood through even the smallest capillaries. The improved circulation helps hydrate and nourish skin cells and hair follicles, and it reduces congestion in fat and cellulite, making fat cells accessible for breakdown.
- WBV increases human growth hormone (hGH) secretion, which plays a pivotal role in lipolysis, or the breakdown of fat cells, thereby aiding the breakdown of cellulite. hGH also stimulates cell growth and reproduction in almost every organ, including skin. Its anti-aging qualities slow the appearance of wrinkles and cell deterioration.
- WBV stimulates production of collagen, which, along with keratin, is responsible for skin strength and elasticity. Collagen also strengthens blood vessels. Combined with WBV's improvements to venous return, the strengthened vessels help prevent spider veins and varicose veins.

WBV stimulates drainage in the lymphatic system, as well as the removal of excess water (edema). This combats the water retention, heavy legs, or bloated sensation many women experience as part of PMS.