Why everybody should strength train

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There is no other form of exercise that can give you as many physical, mental, and overall health benefits as strength training. I would choose strength training over any other form of exercise - including for the majority of cases of unhealthy or injured clients, for the following reasons;

1. To assist in promoting a healthy hormonal balance within our bodies.

2. To prevent disease, particularly diabetes.

3. To decrease blood pressure and improve heart function.

4. To reduce fat.

5. To enhance the nervous system.

6. To improve efficiency within the body by creating structural balance.

7. To avoid osteopenia/osteoporosis and bone fractures.

8. To reverse sarcopenia.

To assist in promoting a healthy hormonal balance within our bodies:

Strength training plays a role in behaviours of key hormones in our bodies that if manipulated correctly will improve our energy production, reduce our fat storage, and increase our lean tissue and reduce disease.

Cortisol has a negative effect on our bodies when sustained at high levels for too long. It is the stress hormone that is elevated when you are under both physical and psychological stress. Research shows cortisol is chronically higher in endurance athletes. In addition, cortisol is generally elevated more following endurance training than strength training. This has to do partially with the fact that while strength training does elevate cortisol, it also elevates anabolic hormones such as growth hormone and testosterone that counter the negative effects of cortisol. If growth hormone and testosterone are not elevated, cortisol overwhelms tissue, having a catabolic effect that leads to gradual muscle loss and fat gain. By doing aerobic training without the correct strength training, you will lower your metabolic rate, lose muscle, and gain fat. Worse than this, sustained high cortisol levels will gradually destroy your body and health. It will cause chronic inflammation within the body, slow down healing and normal cell regeneration, impair the endocrine systems ability to make other vital hormones, impair digestion, metabolism and mental function and weaken your immune system.

Growth hormone, which is elevated with strength training, is a powerful fat burning hormone that helps restore tissue and build muscle. Furthermore, it enhances immune function and delays the ageing process.

Testosterone, more present in men, is another hormone that has a significant role in muscle building and fat burning. Like growth hormone, testosterone production declines with age. Whereas aerobic exercise will significantly decrease testosterone production, strength training will elevate testosterone levels.

Furthermore, medical studies have shown that any time you perform forceful muscle contractions, a hormone called adiponectin is released, and then your body produces a substance called PGC1 that enhances muscle and metabolic functions, thereby burning fat. Strength training is most effective for increasing adiponectin and PGC1 within the body as it requires forceful muscle contractions.

In addition, strength training enhances the body's sensitivity to insulin, making it a successful treatment to diabetes.

To prevent disease, particularly diabetes

The excessive production of a hormone called insulin within our bodies is fast becoming the medical problem of our age. Insulin, is the hormone that is responsible in transporting blood sugar or glucose to our cells. Due to our poor food choices and lack of correctly structured exercise, we are becoming less insulin sensitive, meaning that we are not able to respond to insulin. This results in the right cells within our body not being able to uptake glucose and this is either stored in the fat cells or remains in our bloodstream. Yes, what we ingest is key, however, strength training also has a dramatic effect on blood sugar function and insulin health.

A targeted strength training prescription will leave your muscle glycogen storage depleted and in need of replenishing. The replenished glycogen will be up taken from glucose that is in the bloodstream, in turn reducing possible glucose storage within fat cells and elevated levels of glucose within the blood. Moreover, targeted strength training will increase lean tissue/muscle mass. When you increase muscle mass, glycogen storage increases and as a result there is an increased demand for glucose to be pulled out of the blood and into the muscle glycogen stores. This contributes to diabetes prevention.

To decrease blood pressure and improve heart function

Strength training dramatically improves heart function. It has repeatedly been shown to reduce blood pressure. Strength training also enhances arterial function and decreases inflammation. The combined effect of lower blood pressure, less inflammation, and better blood flow will reduce cardiovascular disease risk significantly.

To reduce fat

Strength training increases your metabolic rate far more and for much longer than aerobic exercise does, which means you will continue to burn more calories after your workout as opposed to just during. Furthermore, stronger muscles burn more fat, period.

The common misconception that aerobic exercise is the solution to obesity is far from the truth. This notion dismisses the overwhelming benefit of building muscle and the added energy requirement of more muscle. It has been estimated that for every kilo of muscle that you gain your basal metabolism will rise by 100kcal a day. This means that if you gain 5 kilos of muscle you will consume an extra 500kcal a day doing nothing. Usually when you put on that much muscle mass you lose that much fat as well. So, your overall metabolism increases dramatically when you do strength training.

To enhance the nervous system

Strength training trains the central nervous system so that you react faster to situations. For example, avoiding a fall by swiftly placing your foot correctly and applying greater ground force or even avoiding a car accident by reacting faster to a certain situation. Building your neuro-muscular strength will result in your body working more efficiently. The effect of a strong neuromuscular system is a primary predictor of longevity and well-being. Additionally, studies demonstrate how strength training upregulates genetic pathways that prevent ageing, rebuild damaged tissue, burn energy and use oxygen. The effect is better brain function and coordination of movement for both young and old.

To improve efficiency within the body by creating structural balance

In short, this means to achieve the proportionate ratios of strength between the different movement patterns of the body. The closer an athlete or client is to achieving these ratios, the less energy leakage within their movement, thus more efficiency within their body, resulting to more force production, better movement and maximising potential with a far lower chance of sustaining an injury. A disproportionate ratio of strength between different movement patterns, will certainly reduce and eventually stop any progress. The body detects the lack of structural balance and in turn neurally inhibits strength gains to protect itself from injury.

A common disproportionate ratio is pushing strength compared to the strength of the shoulders' external rotators. If the external rotators (rotator cuffs- infraspinatus and teres minor-), which are stabilisers of the shoulders, are weak in comparison to the shoulders' prime movers, which are the muscles that are utilised to overhead press, overhead press strength will cease to increase and may even start to decrease. Once the external rotators of the shoulders are sufficiently strengthened, overhead press strength should start to rise again.

So, we strength train to create structural balance within the body in order to become more efficient within our movement and to maximise potential. When structural balance is poor, progression ceases and wear and tear occurs, mostly amongst the joints, which in turn results in injuries which can vary from a slipped disk, to shoulder impingement, to chronic back and knee pain.

To avoid osteopenia/osteoporosis and bone fractures

Losing bone density is a normal part of the ageing process, but some people lose bone density much faster than normal. Strength training is by far the best form of exercise to build bone density. Research shows that individuals who strength train as part of their workouts have much stronger bones as they age in comparison to individuals who do aerobic exercise or no exercise at all, and as a result have a far lower chance of fractures.

Research within the field goes further, and says that in order to gain or maintain bone density, depending on one's age, you must regularly lift weights at an intensity not lower than 75-80% of your 1 repetition maximum. This translates to a weight that you can lift typically between 10-12 times and no more. Any more repetitions and the weight is too light to incur a benefit to bone density. For optimal gains strength training should include maximal loads, this means lifting weight that you can lift for a maximum of one to two times per set.

To reverse sarcopenia

From our mid-twenties onwards, we lose around 10% of lean tissue every decade of our life. Sarcopenia, the decline of lean tissue, is a debilitating natural occurrence of human nature, which at best leads to a slow decline in physical activity and well-being, and at worst can result in immobility. Sarcopenia can be reversed with correctly structured strength training at all ages, producing quite astonishing outcomes.

Epilogue

There you have a quick overview of why it is important that everybody strength trains and how the benefits of a correctly structured strength regime can elicit multiple health gains.

I hope this short article eradicates the common notion that any kind of exercise is good for us, as this is far from true. Exercise can actually be extremely taxing on the body and can cause excessive wear and tear on joint structures, elevate hormones that can cause havoc to your health and reduce the body's ability to make other vital hormones. Furthermore, the wrong kind of exercise can also play a role in lowering your metabolic rate, reducing muscle and gaining fat, chronic inflammation, impaired digestion and mental function and weakening your immune system.

For this reason, we must be smart when training. We need to choose the correct kind of exercise which we can reap the most reward from with the least possible negative effect. Where the health gains far out-weigh any losses.

In future articles I will discuss the importance of correctly structuring strength training for each individual in order to elicit the desired results. I will also go on to discuss how to structure your strength training.

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