



# STRENGTH TRAINING FOR WOMEN



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# INTRO

Strength training has surged in popularity over recent years as coaches and scientists have discovered the powerful effects of muscle and strength on female health, longevity, and physical appearance.

The majority of women are aware of this. However, due to unfounded misconceptions, lack of education in the medical field, as well as commercial interests in the fitness industry, many have not yet taken up an effective strength training program.

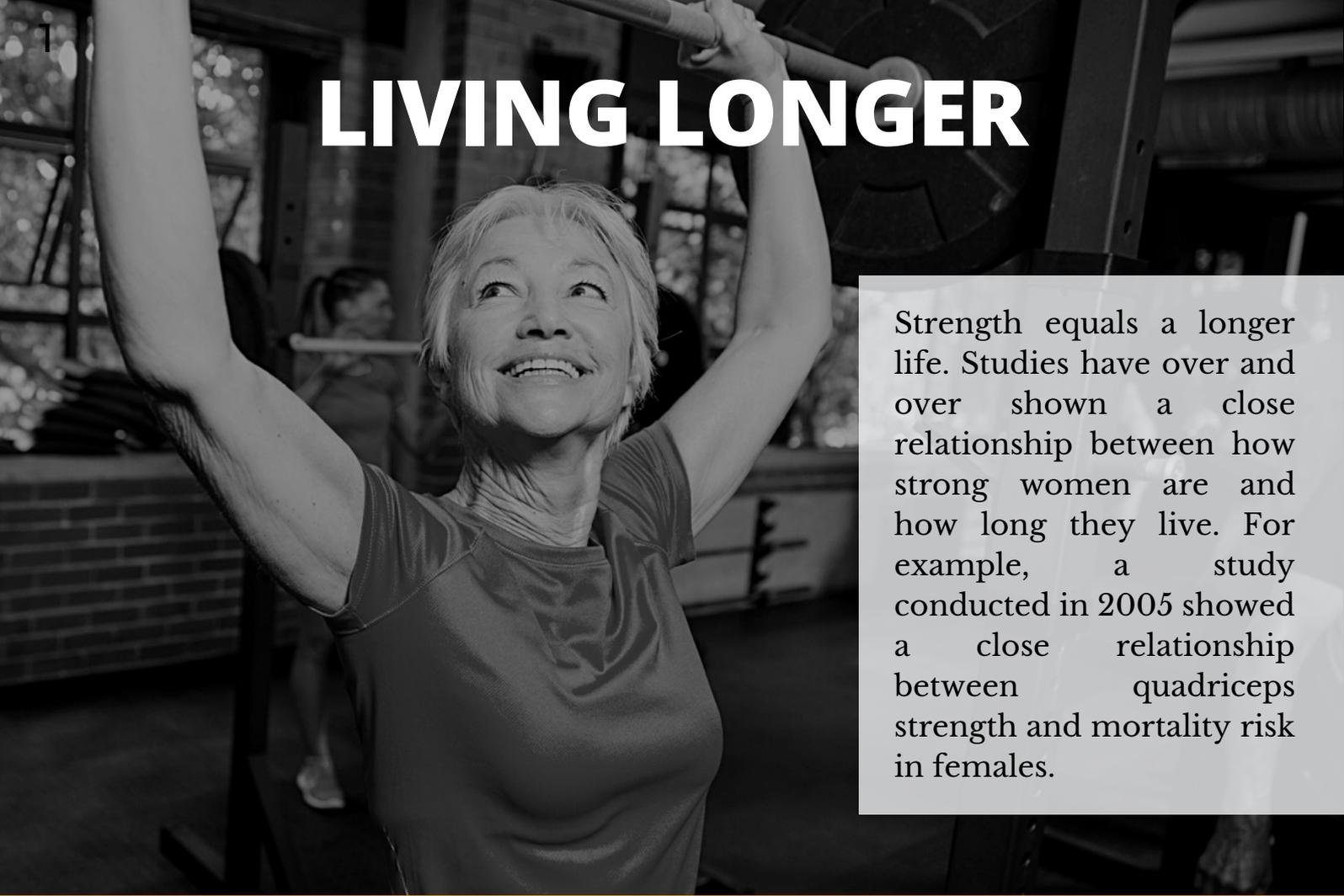
***Far better than drugs, supplements, plastic surgery, running, or any other form of physical activity, strength training has the capacity to slow down the aging process, keep women feel energized, and potentially add another decade to their life.***

Every woman should finish reading this magazine knowing that strength training is an incredibly powerful tool to give them far more in return than the effort required to protect their health and boost their longevity.

Because stronger is better.

Always.

# LIVING LONGER



Strength equals a longer life. Studies have over and over shown a close relationship between how strong women are and how long they live. For example, a study conducted in 2005 showed a close relationship between quadriceps strength and mortality risk in females.

*In particular, women with the strongest legs had the lowest mortality risk over a period of six years. In contrast, the weaker the subjects were, the higher their risk of mortality was.*

Strength training evidently reduces the risk of hip fractures from severe falls. A downward health spiral in the elderly is observable in the case of such

events: severe physical impairment, reduced strength, lower overall activity levels, as well as physical dependence on others - all leading to an increased risk of dying early.

By following the correct training routine, women can increase their strength throughout their entire life. Even if they adopt a training program later in their years, they can still make significant progress on their lifts and reap the protective rewards this kind of activity has on their health.

# BUILDING MUSCLE

A biological trait of females is that they have lower levels of muscle mass to begin with compared to men. This makes it more challenging for them to increase what is one of the most vital organs in the human body. While body fat reduction remains at the forefront of popularity among females, hardly anyone seems to ask the question how women can increase their muscle mass and thus promote greater health and longevity.

*Muscle mass has repeatedly been shown to predict longevity as well as quality of life in women across multiple studies.*

Muscle is the #1 consumer of blood sugar. Greater muscle mass leads to better insulin tolerance and thus a more favourable body composition.

Muscle is the major storage site of amino acids. The larger a woman's amino acid pool, the more resilient her body in case of injury or illness.

Muscle creates movement. More muscle means higher force production and maintaining women's ability to move around as they age.

More muscle means better ability to survive cancer and other diseases as the body has greater strength to call upon when the going gets tough.



# BALANCING HORMONES

With the onset of menopause, significant hormonal changes start happening in the female body: A drop in estrogen leads to a gradual decrease in bone mineral density, whereas an increase in cortisol leads to several aging mechanisms - including the loss of muscle mass. Moreover, women produce four times less testosterone at the onset of menopause compared to pre-menopause.

*Testosterone is a powerful anti-aging hormone promoting strength, muscle, bone mineral density, cardiovascular health, better energy levels, as well as better cognitive performance in women.*

A further important factor to consider for women is their testosterone-to-cortisol ratio. Cortisol has tissue-degrading as well as aging effects - including the reduction of muscle mass, increased inflammation, mood swings, as well as impaired sleep.

As testosterone naturally drops during menopause - and thus its ratio to cortisol - lifting weights on a regular basis is crucial for women who are interested in buffering the aging effects of cortisol on their brain and body.

Squats, deadlifts, presses, and pulls involve the highest amount of muscle mass in any given lift and thus present a highly potent stimulus for testosterone production. Combined with a gradual increase in weight on the bar, this creates a favourable hormonal milieu in females for better long-term health.

# SLOWING DOWN AGING

Telomeres are tiny pieces of DNA located at the end of chromosomes and have been shown to be indicative of youthfulness and longevity. They are like caps on shoelaces that protect them from unravelling. As women age, their telomeres begin to unravel, and as a result they fuse with other chromosomes - leading to cellular mutations and aging.

*Studies have shown that hormones play a crucial role in telomerase regulation. One study in the journal 'Hormones' demonstrated that when the stress hormone cortisol was high and testosterone was low, telomeres began to rapidly shorten.*

As strength training improves hormonal balance by increasing testosterone and buffering cortisol, it likely has a protective effect on telomeres in women too.

Strength training reduces oxidative stress and inflammation in the body, which likely preserves telomere length and thus long-term health.

**This shows that there is much more to strength training for females than merely enhancing their physical appearance.**

Getting stronger means powerfully impacting their wellbeing and longevity for years to come.



# STRENGTHENING BONES

Osteoporosis is a skeletal disorder characterized by decreases in bone mineral density (BMD) with a resulting increase in bone fragility and susceptibility to fracture. From the age of 40, BMD declines progressively by

0.5% annually, with women being particularly affected. Estimations show that over 200 million people worldwide suffer from osteoporosis, with costs in the UK being estimated at over £2 billion per year.

An emerging body of literature has shown that resistance training alone or basic activities such as walking fail to stimulate significant increases in bone mineral density compared to strength training - challenging the conventional belief that "easy" is better. In comparison, high forces produced by strength training are transferred to the bones which have to adapt by getting denser and thicker.

The loading of the musculoskeletal system with heavy weights is crucial as it stimulates osteoblast activity for better bone remodeling and increased bone mineral density in women.

Strength training done with light to moderate weights and high repetitions has not demonstrated any benefits for increasing bone mineral density - putting into question the usefulness of the rather popular "light weight" approach.

***Full-body barbell lifts such as squats, deadlifts, presses and rows are best for strengthening bone tissue in women as they place the highest load on their body and thus produce a highly potent stimulus for bone remodeling.***

# IMPROVING AESTHETICS

A common misconception is that women ought to do large amounts of 'cardio' to lose weight. This approach leads to a loss of muscle mass and thus a radical drop in daily calories burned. This is a major reason why women struggle to lose weight and keep it off.

*Strength training done with barbells is provenly the most efficient way for females to improve their physique.*

In fact: the only way to change the contours of your muscles is through increasing the load on your lifts over time - something which is exclusive to barbell training. Through heavy lifting, the

female body creates an anabolic response which leads to dramatic changes in their physique. Compound lifts involve the most muscle mass and thus provide the best stimulus for long-term changes in their aesthetics.

There is still the notion that exercises performed with machines or dumbbells are best for "isolating" and therefore "toning" certain muscles - when in fact the opposite is true:

**Squats, deadlifts, presses, and pulls allow for maximum activation of muscle fibers and develop superior strength gains - hence why stronger women always look better!**



# BOOSTING CONFIDENCE

Women are bearing the weight of the world on their shoulders: raising their children, looking after their loved ones, the pressure of having to fulfill gender norms - all while pursuing a full-time job and having their hands full with other responsibilities.

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*Many still believe that women should not lift anything heavier than a chihuahua - when one of the best ways to boost their confidence is to bump up the numbers on their barbell lifts.*

Getting stronger as a woman means being more confident in her abilities while developing a more positive self-image. Women feel empowered by seeing their strength go up, and they often outlift their male counterparts – defying the presumption of being the physically "weaker" gender.



Strength training elevates dopamine – a key brain chemical that is imperative to women staying upbeat and motivated to get things accomplished in life and feeling good about themselves.

# EASING PAIN

A strength training program that promotes muscular balance is a woman's best choice to develop pain-free joints. Whether chronic overuse or a lack of physical activity are the cause, the common denominator is the same: muscular weakness and degenerative connective tissue leading to impaired movement patterns and eventually pain.

**Research has shown that strength training is the most effective form of exercise to alleviate and prevent joint pain.**

For example, a Danish study showed that female office workers who had frequent upper body pain experienced a significant reduction in pain after completing a strength training program over 16 weeks. Moreover, those women

who trained more regularly decreased their pain ratings by over 30% more than those subjects who trained less frequently. This shows the importance of consistency in one's training program to reap its full benefits.



Lifting weights applies a heavy enough load to the muscles which respond by adapting to higher levels. Protein synthesis is accelerated, and over time this helps to restructure and rebuild painful muscle tissue. This results in better movement coordination which is protective of further pain and joint dysfunction.

A well-designed strength training program with an emphasis on lifting heavier weights over time is a woman's insurance policy for developing bullet-proof joints and muscles that fend off the nature of wear and tear.

# MANAGING STRESS



Stress-related health issues have been estimated to cost the NHS over £11 billion per year. Over 68 million GP visits and 3 million emergency department visits are caused by illnesses related to stress annually, a 2019 report has found.

*Studies have repeatedly shown that strength training boosts the female nervous system and can reset their hypothalamic-pituitary-adrenal axis (HPA) which is responsible for hormonal balancing during times of stress.*

This results in better cognitive function, higher energy levels, an improved ability to build muscle, as well as a much more profound ability to handle challenging events in daily life.



One of the costs women have to bear as a result of chronic stress is systemic inflammation. When the body is inflamed through long-term cortisol exposure, cell metabolism is impaired – leading to poor sleep, lower productivity at work, fluctuations in mood, impaired lifting performance, as well as low drive to accomplish daily tasks.

Numerous studies have demonstrated a positive effect of strength training on lowering inflammation in women – suggesting that this kind of activity is a powerful way to handle stress more effectively and protect their health.

# SURVIVING CANCER



Strength training is a highly powerful tool for females undergoing cancer treatment as it preserves muscle mass when their body is in a catabolic (i.e. tissue-degrading) state.

***Female breast cancer survivors who underwent a progressive strength training program reported significant improvements in muscular strength, fatigue reduction, pain management, as well as daily quality of life.***

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Among 158 recruited participants, female cancer survivors showed improved emotional and social functioning after several months of strength training in their first year post-surgery.

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A systematic review assessing around 200 females showed that cancer survivors who had undergone a strength training regime for several months showed better quality of life scores than the non-active group.

As cancer and its treatments come with a high energy bill, strength training can have tremendous benefits for developing resilience, physical strength, as well as improving life quality in female cancer survivors.

# 5 REASONS

## WOMEN SHOULD CHOOSE BARBELLS

1

Strength is the ability to produce force against an external object. Barbells allow for infinite progress to be made as the weight can be increased for a very long time - unlike with dumbbells or machines.

2

Barbell lifts allow women to use heavy weights, target multiple muscles, and follow the natural movements patterns of their bodies in order to develop muscular symmetry.

3

The barbell squat provides a mental challenge to women like no other exercise. Getting out of a deep squat position with a heavy load on their back teaches grit, courage, as well as superhuman mental strength.

4

As the load is evenly spread across multiple body parts during the lifts, no single joint is excessively loaded. This prevents chronic overuse.

5

Total-body barbell lifts create the highest perturbations to a woman's body and therefore give maximum return within minimum time.



# FAQ'S

## ***Are there any requirements for women to start barbell training?***

There are no requirements for women to start barbell training apart from your willingness to get stronger by training 2-3 times per week on a regular basis.

## ***Do I need to be a certain age to start?***

Whether you're 12 years young or in your 80's, anyone at any age can greatly benefit from strength training. No matter if you're an athlete, aspiring lifter, busy mom, or a retiree wanting to enjoy a better life quality - barbells are your best friend.

## ***Is it safe?***

Barbell training is extremely safe as movements are performed in a controlled way. Under our guidance you are learning proficient technique so you get the most out of each lift.

## ***Will I get big?***

As a female you have around 28 times less testosterone than men do. You find it naturally very hard to get big. Don't worry about your muscles blowing up like a balloon. It won't happen. Hit the barbell, hit it heavy, and see how your physique changes. For some reason, heavy weights are still associated with big muscles in a lot of females. Nothing could be further from the truth.



FOR MORE INFORMATION, PLEASE VISIT

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WE LOOK FORWARD TO HEARING FROM YOU.

