

## Why Exercise is the Best Defense Against the Aging Process

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By Joan Pagano, author and fitness specialist

I call the decade of the 20's "***The Body Prime***" when all physiological systems are peaking. We can exert ourselves in a daily high-intensity workout or sport, feel great and have a trim body to show for it!



The decade of the 30's is when we need to "***Keep our Edge!***" It's when a very subtle decline begins to occur throughout the body, causing a decrease in bone mass/strength, muscle mass/strength and resting metabolic rate. Usually these changes don't fully manifest until later, but they are occurring with each year of aging and can be offset with appropriate exercise.

The 40's serve as a "***Wake up Call!***" for many women who notice real changes in their bodies, hormonal changes for one, but also creeping weight gain, loss of flexibility and changes in posture.

The 50's are "***Years of Change***" as more pronounced hormonal changes occur. Due to the loss of the protective effect of estrogen, women become more exposed to the risk of chronic diseases, like osteoporosis and heart disease. As estrogen declines, the male hormone testosterone becomes more prominent, causing fat to migrate to the gut. Yet another risk factor for heart disease, this "toxic fat" settles in the belly and may stubbornly resist efforts to reduce.

Once we've reached our 60's we must "***Stay Strong!***" as the age-related loss of muscle mass and strength can cause a generalized slow-down. The real issue here is how exercise can help maintain a young functional age and manage chronic diseases. This is a crucial stage of our well-

being. We begin to see the repercussions of ignoring exercise or not taking care of ourselves such as osteoporosis, loss of strength, joint pain, and flabbiness.

At every stage of the life span, a well-rounded fitness program can improve our quality of life. We're never too old to start exercising, and the earlier we start, the longer we benefit. There are three "pillars" of exercise:

- **cardiovascular/ aerobic exercise** such as running, brisk walking, dancing and swimming can improve body composition and abdominal fat distribution. Weight loss from exercise is primarily fat loss. Cardio exercise reduces fat stores from the whole body and develops leaner, toned muscles instead. Research shows that exercise reduces the size of fat cells in the belly more effectively than dieting alone.
- **strength/resistance training** can help improve strength, stability, body composition and bone density. Different types of resistance include using body weight, as in a push up or squat, and using external resistance such as free weights, machines and stretch bands or tubing. As we build muscle mass, we create a "power hungry" body, revving up the metabolism to burn more calories even while at rest.



- **stretching and joint mobility** help to maintain flexibility, relieve muscle tension and improve posture. Stretching prevents us from getting stiff, which is something we associate with old age, as it affects how we look, feel and move. There are many ways to increase flexibility, including holding targeted stretch positions to lengthen the muscles and following dedicated programs of Yoga or Pilates.

# Cardio/Aerobic Exercise

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**A**re you dedicated to your cardio routine....and not seeing results? Stuck in a metabolic rut or on a weight plateau? At any level of fitness, your body will eventually adapt to a consistent level of exercise and stop improving because it doesn't have to.



Ramp up your program by varying the length, intensity and frequency of what you're doing. No matter what your starting level, you can improve your results - lose weight, grow stronger, build heart health - by creating a mix of workouts.

The U.S. Surgeon General's 30-minute recommendation of moderate cardiovascular activity most days of the week is the minimum to reduce an inactive person's risk of heart disease, diabetes and other serious conditions. If you are just beginning to get with the program, this is a good way to

build a base.

To see improvement, vary your routine by creating a cycle of 3 workouts of different length and intensity. Do each of the workouts twice a week using any cardio activity. Be sure to include at least 5 minutes easy pace for both the warm up and cool-down. Use the "talk test" to gauge the intensity. During the warm-up and cool-down, you should be able to converse comfortably.

- **High Gear:** 30 minutes total, sustaining the fastest pace you can for 20 minutes during which conversation requires quite a bit of effort. Starting off too fast may leave you breathless, so find a pace that you can maintain.
- **Intervals:** 45 minutes total, alternating between high intensity and recovery periods. Allow 10 minutes for the warm up and 5 for the cool-down. For thirty minutes, do 5 intervals of 2 minutes each at high intensity (conversation requires a lot of

effort) alternating with 4 minutes of recovery (converse with little effort).

- Long, slow distance: Sixty minutes total. Use a steady moderate pace for the entire time, able to converse with some effort. If you can't do it all at once, break it up into ten or fifteen minute segments throughout the day – you'll still get the same benefits.

Always remember to check with your doctor before becoming much more physically active.

## Strength Training

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**C**ardio exercise has been the focus of fitness programs for many years, and now strength training has emerged as an equally important component of a well rounded exercise regime. Study after study reveals its beneficial effect on weight control, energy level, bone density, posture, balance and the ability to resist diseases like osteoporosis, hypertension and diabetes.

Strength training is the technique of applying resistance to the muscles and bones to stimulate growth. It is also called resistance training or weight lifting. There are many different types of resistance, all of which are effective, including using;



- Your own body weight
- free weights or dumbbells
- machines
- stretch bands and tubes
- weighted balls and bars

Strength training keeps you lean by building muscle. As early as age twenty-five, you may begin to lose muscle mass and strength without being aware of it. Even if you maintain your weight perfectly, your lean body mass begins to decline and your body fat increases. Strength training defends against this process by maintaining lean body mass and boosting your metabolism to burn more calories even at rest.

As muscles respond to resistance they become more defined or sculpted. Core training, for example, strengthens the muscles of the trunk to firm your torso, flatten your belly and trim your waistline. For best results, perform a variety of exercises that target your core from all angles. And, of course, do regular cardio exercise to reduce any overlying fat.

Without strength training, your body ages faster than necessary. Aging causes a decrease in fast twitch muscle fibers, causing you to slow down. Strength training restores these fibers, reviving your energy levels. Strong people are more active and stable, less likely to suffer a fall. As muscles develop, they provide more support for the skeleton, improving posture.



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Strength training delivers a bonus for the bones! As a muscle contracts against resistance, it pulls on the bone, causing bone deposition at the site of stress. Because it is site-specific, it is important to do strength training exercises for all major muscle groups to maintain bone density throughout the skeleton.

A full-body strength training program should include:

- 8-10 separate exercises that work the major muscle groups – hips and thighs, back, chest, shoulders, arms and abdominals

- 8-12 repetitions (the number of times you lift and lower the weight) of each exercise in good form (the last few should be somewhat difficult)
- 1-3 sets of each exercise (one set is enough to see improvement in strength)
- A minimum of two full-body weight-training sessions per week on non-consecutive days.

## Stretching

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**E**ven though stretching is the third pillar of a well-rounded exercise program (along with cardio and strength training), it is often the one we skip....until we become aware that we're feeling a bit stiffer in the mornings, less agile as we go about our day, and not quite as straight in our posture as we thought we were.



A buoyant, youthful demeanor depends on our ability to stretch out the muscles and maintain range of motion in the joints. Stretching can counteract the stressors of daily life, reduce pain and discharge tension from the muscles. By correcting the tendency of certain muscles to shorten and tighten, it can improve posture.

Good posture is a state of muscular and skeletal balance where the segments of the body are stacked over the feet: knees, hips, ribs, shoulders, head. The natural curves of the spine counteract the constant force of gravity and produce an efficient balance of the body over its base of support. These curves in the neck, mid-back and lower back region form an S-shape and act as shock absorbers; when they are out of alignment they can lead to joint pain and discomfort.

There is a natural tendency to muscular imbalance caused by ingrained habits. For example, the muscles in front of the chest tend to tighten and pull the shoulders forward since we perform many of our daily activities to the front: sitting at a desk or in a car, working at a computer, bending over a stroller or crib, doing housework. Over time these muscles

shorten and the opposing muscles of the neck and upper back weaken and lengthen. A combination of stretching the tight muscles and strengthening the weak ones re-establishes proper alignment.

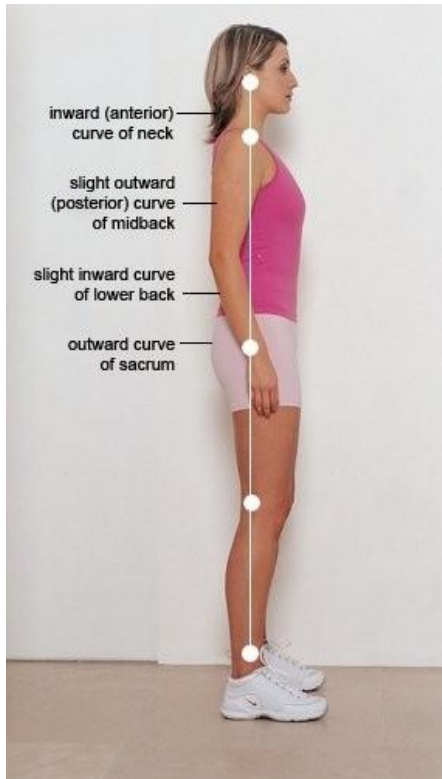


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Follow these simple steps to improve your posture when standing or sitting

- Draw your belly button in and up
- Lengthen through the spine, lifting the top of your head to the ceiling
- Lift the rib cage
- Activate the muscles between your shoulder blades, pulling them down and together.
- Keep your chin parallel to the floor, ears aligned over shoulders

# Shake It Up

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Not only is it fun to find innovative ways to shake up your normal routine, but all the body's systems need to be surprised with diverse patterns of stress in order to continue to improve. When I'm out for a run, I automatically look for inclines to run up, stairs to hop down and places to throw in 20 jumping jacks. One man out for his morning walk said to me in passing recently, "You look like a kid with nothing better to do." Little did he suspect I was working on building bone, tuning up my cardiovascular system and burning off extra calories.

Be creative about fitting exercise into your day-to-day. If life intervenes and you can't do your normal weight training session, at least do some exercises using your body weight, like push ups, squats, crunches and planks. I make it a habit to do two sets of push ups after my run, as well as a full-body stretch. I do extra leg stretches at night while I'm brushing my teeth for two minutes. At my desk, I sit on a stability ball to improve my posture and get a little core training as the muscles of the trunk work to keep me upright.

If your program is stale and needs rejuvenating, try something new. Intervals of high intensity work can be adapted to resistance training as well as to cardio activity. Try interspersing one minute of heart-pumping cardio into your strength training exercises. You can use exercises like jumping rope, step-ups or running in place to keep your heart rate elevated.

The routines in my book *15-Minute Total Body Workout* follow a format of a 3-minute warm up, 10 minutes of standing, weight bearing work combining cardio and weights, and a 2 minute cool-down using full-body stretches similar to Yoga. By using compound movements, combining upper and lower body, the exercises target 8-10 muscle groups for efficient toning and calorie expenditure. I've been doing them myself,

and last night when my husband gave me a hug, he said, “You’re redistributing” – music to any woman’s ears!

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## About Joan Pagano

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Joan Pagano is certified in health and fitness instruction by the American College of Sports Medicine and has worked as a personal fitness trainer in Manhattan for the past two decades. For many years, she served as Director of the Personal Trainer Certification Program at Marymount Manhattan College and is a nationally recognized provider of continuing education courses for fitness trainers.

As fitness consultant to SHARE, the breast cancer support group, she has worked with breast cancer survivors since 1992. Their concerns about menopause prompted Joan to study how exercise could help manage the side effects of this stage in life and in particular, how exercise could help fight osteoporosis. Now Joan is recognized by the industry as a leading authority on exercise program design strategies for osteoporosis.

She is the author of, *Strength Training for Women, 8 Weeks to a Younger Body, 15-minute Total Body Workout, and soon to be released, 15-Minute Abs*, all published by DK Publishing ([www.dk.com](http://www.dk.com)).

Visit Joan’s website at [www.joanpaganofitness.com](http://www.joanpaganofitness.com).

## About Menopause -the Blog

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This article originally appeared as a series of blog posts on Menopause the Blog ([www.menopausetheblog.com](http://www.menopausetheblog.com)) in October 2008. MTB was launched in September 2007 by Wendy Lawson to share her personal experiences and research about menopause and the related health issues that women in mid-life typically have. The blog features interviews with medical experts on a wide range of topics including hormone therapy, nutrition and exercise to help with menopausal weight gain; natural supplements; integrative and complementary medicine; news and research updates, reading recommendations and links to other, helpful online resources. You’ll find it at **[www.menopausetheblog.com](http://www.menopausetheblog.com)**