DIFFERENT TYPES OF STRENGTH TRAINING
(http://www.strength-training-woman.com/different-types-of-strength-training.html)

1. Periodized Strength Training
2. Basic Strength Training
3. Supersetting
4. 1RM
5. Superslow Strength Training
6. Strength Training Pyramid
7. Functional Strength Training With Kettlebells
8. Interval Strength Training Routines
9. Low Impact Strength Training
10. Online Strength Training
11. Tube Strength Training
12. Marines Strength Training
13. Creative Strength Training
14. Strength Training for Combat Athletes
15. Sandbag Strength Training
16. Well Rounded Strength Training Routines
Resistance exercise doesn't mean resistance to exercise! Instead, it's a type of exercise that has gained popularity over the last decade or so as researchers discover the many benefits it has to offer. It's so mainstream at this point that the American College of Sports Medicine, the governing body for exercise in the United States, has included it in its recommendations for all Americans since 1998. In this article, all that you need to know about resistance exercise will be presented: what it is, how it works, how to prevent injury, some of the most popular resistance exercises, and a general resistance-exercise plan.

WHAT IS RESISTANCE TRAINING?

Resistance training is any exercise that causes the muscles to contract against an external resistance with the expectation of increases in strength, tone, mass, and/or endurance. The external resistance can be dumbbells, rubber exercise tubing, your own body weight, bricks, bottles of water, or any other object that causes the muscles to contract.

There are several styles of resistance exercise. There is (1) Olympic lifting (where athletes lift the weight overhead like you see in the Olympics), (2) power lifting (a competition where athletes perform the squat, dead lift, and bench press), and (3) weight lifting (a sport where athletes lift heavy weights—typically fewer than six reps). When you lift weights at the gym to get stronger or bigger or more toned, you are performing resistance exercise. Occasionally you will hear the term "strength training" associated with lifting weights. Technically, it's incorrect to refer to resistance exercise as strength training. Instead, strength training would more accurately be described as resistance exercise that builds strength. In this article, the term resistance exercise will refer to the general type of weight lifting that you do in the gym to get bigger, stronger, more toned, or to increase your muscular endurance.

HOW DOES RESISTANCE EXERCISE WORK?

Resistance training works by causing microscopic damage or tears to the muscle cells, which in turn are quickly repaired by the body to help the muscles regenerate and grow stronger. The breakdown of the muscle fibre is called "catabolism," and the repair and re-growth of the muscle tissue is called "anabolism." You're probably familiar with the term anabolic when used with steroids. Anabolic means to grow, and that's exactly what happens after you break down the muscle fibres with resistance exercise. In fact, many biological processes of growth in the body require some breakdown, or catabolism, prior to re-growth. For instance, bones must be broken down first before calcium and other growth factors repair the bone and make it stronger. With muscles, testosterone, insulin-like growth factor, growth hormone, protein, and other nutrients rush to the muscle after a resistance-exercise session to help repair the muscles to make them stronger. Importantly, your muscles heal and grow when you aren't working out, and so that's why it's necessary to leave time between workouts for recovery.

WHY RESISTANCE TRAINING?

The benefits of resistance exercise are well documented, and ongoing research continues to prove that it's an important activity for Americans to be engaged in. Long ago in hunter-gatherer societies, humans' muscles got a workout by building shelter, hunting, farming, and all the other manual chores necessary to live. Today, however, we have engineered inactivity into our lives with labour-saving devices to the extent that our muscles rarely need to be pushed very hard. We don't rake leaves or cut grass or shovel snow by hand; we don't climb stairs or even walk in airports (people movers do it for us!); we don't wash our clothes or our dishes or even push a vacuum by hand (Have you seen the robotic vacuum Roomba?), and we spend more and more time in front of our computers and televisions than we do outdoors raking leaves, playing touch football, baseball, soccer, hiking, or participating in any other recreational activities. Research shows that physical inactivity is the second leading preventable cause of death in the United States, and it's literally killing us.

WHY DO RESISTANCE EXERCISE?

- It builds muscle strength and tone. Humans lose 5 pounds of muscle every decade after age 30.
- The number of muscle fibres declines with age. From age 30 to age 70 we can lose more than 25% of the type 2 muscle fibres in our bodies (type 2 fibres are our strength fibres). Resistance exercise can slow down or even reverse the aging process by building muscle mass and strength.
- It's been shown to build bone. Osteoporosis, a condition of accelerated bone mineral loss which leads to fractures, can be a crippling disease, particularly in women (although men get it, too), and research on resistance exercise suggests that it can build bone even in the elderly.
- There is some evidence that resistance exercise helps lower moderately high blood pressure.
- More strength can lead to fewer falls in the elderly.
• Resistance exercise can raise metabolic rate, an important factor in maintaining body weight.

It's never too late to start. In one study of elderly men and women (mean age 87) who lifted weights three times per week for 10 weeks, strength increased a whopping 113%! The improvement in strength enabled the elderly participants to also walk faster (12% faster than before the study), climb 28% more stairs, and it even caused the muscles in their thighs to increase by more than 2.5%.

**HOW MUCH RESISTANCE EXERCISE SHOULD I DO?**

The American College of Sports Medicine recommends that resistance training should be progressive in nature (for example, follow the principle of progressive overload—see below for an explanation), individualized, and provide a stimulus to all the major muscle groups (chest, back, shoulders, arms, abdominals, and legs). They recommend that beginners do one set of eight to 10 exercises for the major muscle groups, eight to 12 repetitions (reps) to fatigue, two to three days per week (multiple-set regimens may provide greater benefits if time allows). For older and more frail people (approximately 50-60 years of age and above), they suggest that 10-15 repetitions may be more appropriate.

**WHAT IS THE PRINCIPLE OF PROGRESSIVE OVERLOAD?**

Milo of Croton, the ancient Greek athlete, strong man, and wrestler, may be credited as the first athlete to use the principle of progressive overload. Legend has it that Milo trained for the Olympics by carrying a newborn calf on his back every day for years prior to the Olympic start date, and by the time the Olympics arrived, the calf had grown to a full-size cow, and Milo was still carrying it on his back! In essence, Milo adapted to the growing weight of the animal by growing stronger himself. That's a progressive overload. To follow this model for developing strength and tone, you lift weights that are heavy enough to create muscular fatigue at the 10th to 12th repetition and then when that gets easy, you increase the weight and lift that new weight until you can do it again for 10-12 reps. You can increase the weight every time you get to 10 or 12 reps. Typically every time you add new weight, you lift fewer reps because it's heavier, but then as your muscles grow stronger, you perform more reps. The principle of progressive overload is universally accepted as the model that creates the greatest gains in strength.

**SHOULD I LIFT WITH FREE WEIGHTS OR MACHINES?**

The simple answer is both, if you have access. Bodybuilders use both, and obviously it works for them. Here's a review to help you understand the advantages and disadvantages of each; plus, I've included information about alternatives to free weights and machines (your own body weight).

**FREE WEIGHTS (DUMBBELLS AND BARBELLS)**

**Advantages:**

• You can do a variety of exercises for all the muscle groups.
• They allow for self-selected movement based on your anatomy (unlike machines which confine the movement). For example, if your shoulder joint is limited in range of movement, you can accommodate naturally to the limitation with a dumbbell.
• Free weights help build coordination because it takes skill to move and control the dumbbells. For example, if you're doing dumbbell presses, you must control the motion so that the dumbbells move straight up and not outward. If you're doing a squat, you must be able to steady yourself so that you don't fall.
• You may recruit more muscles than just the group you're focused on. Getting back to dumbbell presses, you not only use the pectorals, anterior deltoid (front of the shoulder) and triceps, but you may need other shoulder and back muscles to coordinate and hold your body steady during the exercises. Likewise, if you're doing standing front raises, you will naturally recruit muscles in your abdomen and back to steady your body.

**Disadvantages:**

• There is a risk of injury from dropped bars or dumbbells. A bench press with a bar can cause serious injury or even death. For this reason, always use a spotter when lifting free weights.
• If you are strong and require lots of weight, then you're going to need space to store all the dumbbells. You can get away with plates that load on bars to minimize the number of dumbbells that you need, but it's inconvenient and not much fun to continuously change weight plates while you're working out.
• It can get costly, with dumbbells costing 50 cents to more than $1 per pound.
• Free weights do require skill and knowledge, so it's a good idea to have a fitness trainer help you get started if you're a beginner.

**MACHINES**

**Advantages**

• They are simple to use. Just stick the pin in the weight stack and you're ready to go. If you need more weight, you just take the pin out and put it in the next weight.
• They are relatively safe (as long as you don't pick a weight that's too heavy and strain yourself). Even if you drop one, it won't land on you.
• They don't require lots of coordination. Simply push or pull on the bar or handles, and you're lifting weights.

**Disadvantages**

• They require lots of space.
• They are expensive.
• Each machine is typically limited to working just one muscle group, so you need lots of machines to cover all the muscle groups. The exception is the cable
pulley machines. They are extremely versatile (you can do lots of exercises with them), and they are safe.

- If your body doesn't anatomically match the movement of the machine, you might injure a joint with repetitive use over time. For example, the biceps and triceps machines are limited in their range and can cause problems for the shoulder and elbow joints.

I suggest working through the gym and finding the machines and free weights that work best for you. For example, you might prefer cable rows with the machine to bent-over rows with dumbbells. Here's a list of some of the other exercises you can do with:

Machines or free weights (listed as machine/free weight).
- pull-downs/two-arm bent-over rows
- cable upright rows/free weight upright rows
- seated chest press/dumbbell or bar press
- cable crossovers/flyes
- triceps press-downs/kickbacks
- leg press/squat

Body Weight

Push-ups, sit-ups, chin-ups, squat thrusts, lunges, and step-ups are just some of the exercises that you can do to strengthen your body. The advantage of these exercises is that you can do most of them anywhere, and even though you can't change your body weight to increase or decrease the resistance, there are some things you can do to increase the resistance. Here are some suggestions.

- Pull-ups (to strengthen arms, back, and shoulders). Some people can't do even a single pull-up. What you can do to help is stand on a chair under a pull-up bar to lighten the load as you pull up (the chair supports some of your body weight). Outdoors on a tree limb you can ask a friend to support some of your weight by holding your feet!
- Push-ups (to strengthen arms, chest, and shoulders). Don't worry if you can't do a traditional push-up. Here's a sequence that will get you there: wall push-up. Just like it sounds, lean against a wall about 2 feet from the wall with your back straight and push back and forth.
- When wall pushes are easy, lean against a counter top.
- When leaning against the counter gets easy, get on the floor on your knees and push against the edge of a sofa or your bed.
- When the sofa gets easy, do a knee push-up on the floor. Like it sounds, you are on your knees with back straight and you lower yourself to the floor and then back up again. Most people, once they can do 20-25 knee push-ups on the floor, they can do one regular push-up (with knees off the floor).

Give the push-up progression a try!

No one method of resistance exercise is superior to the other. As long as your muscles are contracting against external resistance—whether it's dumbbells, machines, your own body weight, bottles of water, cinder blocks, (or even your 2-year-old)—the exercises will work to build your strength and tone.

**HOW DO I DESIGN A TRAINING PLAN?**

Here are the steps to designing your personal resistance exercise training plan.

1. Decide where you will lift.

**Working out at home.**

If you decide to work out at home, then consider the exercise tubing as an inexpensive but effective way to get started. If you want to use free weights then you will need the following:

- Dumbbells. I prefer solid dumbbells since the plate-loading type can be tedious to change repeatedly. Dumbbells cost anywhere from 50 cents to $1 per pound. Solid hex dumbbells are what I recommend because they are inexpensive, and they don't roll around like round dumbbells. You might also decide to purchase a bench. Look for an adjustable bench that is well constructed. It should not rock and should feel solid when you lie down on it. If you decide to purchase a bar for the bench press, then you will need uprights on your bench. I don't recommend this for beginners due to safety issues (unless you have a spotter); you can always do dumbbell presses to get you started. If you decide to go with a bar and plates, then look for a 35- to 45-pound bar with collars to lock the plates in place, and then you need to buy plates to load the bar. Figure to shoot for a bench press of up to 100 pounds, so you will need to purchase plates for at least that amount. You can start with two 25-pound plates, four 10-pound plates, and four 5-pound plates. That will get most beginners started.

**Working out at a gym.**

This is good option for beginners and experienced lifters. The gym has a wide variety of machines and dumbbells, so you get to see and try out all the different options. Plus, gyms have trainers, and if you're a beginner, it can be very helpful to have a trainer plan a program for you and take you through it to teach you how to lift. Most gyms have introductory sessions, and these are a good idea if you're new to lifting. Once you get the hang of it, you can explore it on your own with confidence.

2. Assess your skills. Consider hiring a fitness trainer to work with you at a gym or at your home if you're a beginner. It's difficult to learn on your own how to lift weights from a book or even a video. You can do it, but the hands-on approach with a trainer is superior. You don't need to use the trainer forever, either. You can start by having the trainer design a plan for you and show you how to do it, and then depending on your skill, you might only need a couple of sessions and then a periodic follow-up with the trainer, say, once every one to two months.
Learning how to lift weights properly will give you the confidence you need to lift on your own and get stronger and stronger.

3. Define your goals. For most beginners, the goals are typically to tone up and get stronger. The good news is that any lifting will give you both, and you can expect strength gains in just a few weeks. Tone comes later, and how much muscle you see depends on how much excess body fat you have. For instance, if you have lots of excess fat on the back of your arms, then you won't see the triceps muscles right away; likewise, if you have excess fat on your belly, then you won't see six-pack abs until you reduce or eliminate the fat.

4. Designing your plan.
   Weight: Beginners should start with weights that can be lifted 10-12 reps to fatigue with good form. Fatigue means that you cannot lift the weight one more time with good form. If you have to lean back or throw the weight up, then it's too heavy. Lifting 10-12 reps to fatigue will maximize your strength gains and minimize the risk of overtraining or injury.

   Sets: Beginners can start with one set per exercise. You can do more if you have time, but research shows that one set for beginners is enough to yield significant gains in strength.

   Time between sets: Rest less than one minute between sets if you want to develop endurance and tone. Rest up to three minutes if you want to focus more on strength; the extra recovery time allows the muscles to work harder and lift more on the next set.

   Order of exercises: Design your plan so that large muscle groups are worked before smaller groups. The theory is that if you fatigue a smaller muscle group first, then the larger group won't work as hard as it can. For example, do bent-over-rows before biceps curls. Biceps work in both exercises, but since the larger and stronger back muscles are used in the rows, they wouldn't get a maximal workout if the biceps are fatigued. Another way to say it is that the biceps become the weakest link in the chain if you work them first.

   Exercises: Select one to two exercises per muscle group. Here's a list of at least two exercises for each group using dumbbells and machines in an order of larger to smaller groups. All of these exercises and the order of exercises are suitable for beginners.

   2. Shoulders: side lateral raise, front raise, upright row
   3. Back: bent-over-row, cable row, pull-down
   4. Arms: biceps curls, triceps kickbacks, triceps press-downs on pull-down machine
   5. Abs: crunches, knee-drop crunches for the oblique muscles on the side of the abdomen (drop the knees to one side and crunch up)

**REST AND RECOVERY**

Remember that muscles grow during downtime, not when you train, so allow a day or two between workouts when you first get started so that the muscles can recover and grow. You should show up at your workouts refreshed and at least as strong as the previous workout (there will be days when you aren't stronger, and you should expect them so don't get discouraged when it happens).

**Splits:** A term used to describe how you organize your workout. For instance, you might decide to work only your chest on day one and your back on day two. This is the type of lifting you do once you get stronger and more experienced. This is not necessary or recommended for beginners because it's too intense. It's not only unnecessary but it could lead to injury or overtraining (burnout).
RESPONSE

After reading the article reflect on the author’s purpose, target audience and informative points as you compose a 3-sentence response to this article. Lastly, formulate your own position statement in response to reading this article.

RESPONSE AREA


POSITION STATEMENT

