

## What Can I Do Starting Now?

**Read labels and look for “real” food as the first ingredient.** Try to keep added sugar out of the top 5 ingredients (it has many names).

**Track what you eat.** This is a trait of those who lose weight and keep it off. Go for color and variety with food.

**Move/Stand more.** How many steps do you get in a day? Wear a pedometer or other tracker to find out.

**Eat breakfast!** Doing so helps reduce craving and overeating throughout the day. Increase protein—aim for 20-30 grams of protein at each meal.

**Eat smaller meals more frequently.** This produces a steady stream of glucose to maintain optimal energy and prevent blood sugar peaks and valleys, which slow metabolism.

**Start a strength-training program.** Growing muscle is where it’s at!

**Become a morning person.** People who exercise in the morning are generally more successful in sustaining the habit.

## A Diet for Better Energy

By Diana Rodriguez



*Complex carbs are key for sustained energy throughout the day, while too many sugary snacks can lead to energy crashes. Find out which foods you need for round-the-clock energy.*

Juggling the responsibilities of work, life, and family can cause too little sleep, too much stress, and too little time.

Yet even when you're at your busiest, you should never cut corners when it comes to maintaining a healthy diet. Your body needs food to function at its best and to fight the daily stress and fatigue of life.

### **Energy and Diet: How the Body Turns Food Into Fuel**

Our energy comes from the foods we eat and the liquids we drink. The three main nutrients used for energy are carbohydrates, protein, and fats, with carbohydrates being the most important source. Your body can also use protein and fats for energy when carbs have been depleted. When you eat, your body breaks down nutrients into smaller components and absorbs them to use as fuel. This process is known as metabolism.

Carbohydrates come in two types, simple and complex, and both are converted to sugar (glucose). "The body breaks the sugar down in the blood and the blood cells use the glucose to provide energy," says Melissa Rifkin, RD, a registered dietitian at the Montefiore Medical Center in the Bronx, N.Y.

### **Energy and Diet: Best Foods for Sustained Energy**

Complex carbohydrates such as high-fiber cereals, whole-grain breads and pastas, dried beans, and starchy vegetables are the best type of foods for prolonged energy because they are digested at a slow, consistent rate. "Complex carbohydrates contain fiber, which takes a longer time to digest in the body as it is absorbed slowly," says Rifkin. Complex carbs also stabilize your body's sugar level, which in turn causes the pancreas to produce less insulin. This gives you a feeling of satiety and you are less hungry."

Also important in a healthy, energy-producing diet is protein (preferably chicken, turkey, pork tenderloin, and fish), legumes (lentils and beans), and a moderate amount of healthy monounsaturated and polyunsaturated fats (avocados, seeds, nuts, and certain oils).

“Adequate fluids are also essential for sustaining energy,” says Suzanne Lugerner, RN, director of clinical nutrition at the Washington Hospital Center in Washington, D.C. “Water is necessary for digestion, absorption, and the transport of nutrients for energy. Dehydration can cause a lack of energy. The average person needs to drink six to eight 8-ounce glasses of water each day.”

### **Energy and Diet: Foods to Avoid**

Simple carbohydrates, on the other hand, should be limited. Ranging from candy and cookies to sugary beverages and juices, simple carbs are broken down and absorbed quickly by the body. They provide an initial burst of energy for 30 to 60 minutes, but are digested so quickly they can result in a slump afterward.

You should also avoid alcohol and caffeine. Alcohol is a depressant and can reduce your energy levels, while caffeine usually provides an initial two-hour energy burst, followed by a crash.

### **Energy and Diet: Scheduling Meals for Sustained Energy**

“I always recommend three meals and three snacks a day and to never go over three to four hours without eating something,” says Tara Harwood, RD, a registered dietitian at the Cleveland Clinic in Ohio. “If you become too hungry, this can cause you to overeat.”

Also, try to include something from each food group at every meal, remembering that foods high in fiber, protein, and fat take a longer time to digest.

Even if life is hectic, it’s important to make wise food choices that provide energy throughout the day. Your body will thank you.

# Sweet Stuff –from NIH “News in Health” Newsletter (October 2014)

## *How Sugars and Sweeteners Affect Your Health*



Most of us love sweet foods and drinks. But after that short burst of sweetness, you may worry about how sweets affect your waistline and your overall health. Is sugar really bad for us? How about artificial or low-calorie sweeteners? What have scientists learned about the sweet things that most of us eat and drink every day?

Our bodies need one type of sugar, called glucose, to survive. “Glucose is the number one food for the brain, and it’s an extremely important source of fuel throughout the body,” says Dr. Kristina Rother, an NIH pediatrician and expert on sweeteners. But there’s no need to add glucose to your diet, because your body can make the glucose it needs by breaking down food molecules like carbohydrates, proteins, and fats.

Some sugars are found naturally in foods, such as fruits, vegetables, and milk. “These are healthful additions to your diet,” says Dr. Andrew Bremer, a pediatrician and NIH expert on sweeteners. “When you eat an orange, for instance, you’re getting a lot of nutrients and dietary fiber along with the natural sugars.”

Although sugar itself isn’t bad, says Rother, “sugar has a bad reputation that’s mostly deserved because we consume too much of it. It’s now in just about every food we eat.”

Experts agree that Americans eat and drink way too much sugar, and it’s contributing to the obesity epidemic. Much of the sugar we eat isn’t found naturally in food but is added during processing or preparation.

About 15% of the calories in the American adult diet come from added sugars. That’s about 22 teaspoons of added sugar a day. Sugars are usually added to make foods and drinks taste better. But such foods can be high in calories and offer none of the healthful benefits of fruits and other naturally sweet foods.

Sugar-sweetened beverages like soda, energy drinks, and sports drinks are the leading source of added sugars in the American diet. Juices naturally contain a lot of sugar. But sometimes, even more is added to make them taste sweeter.

“Juices offer some vitamins and other nutrients, but I think those benefits are greatly offset by the harmful effects of too much sugar,” says Bremer.

Over time, excess sweeteners can take a toll on your health. “Several studies have found a direct link between excess sugar consumption and obesity and cardiovascular problems worldwide,” Bremer says.

Because of these harmful effects, many health organizations recommend that Americans cut back on added sugars. But added sugars can be hard to identify. On a list of ingredients, they may be listed as sucrose (table sugar), corn sweetener, high-fructose corn syrup, fruit-juice concentrates, nectars, raw sugar, malt syrup, maple syrup, fructose sweeteners, liquid fructose, honey, molasses, anhydrous dextrose, or other words ending in “-ose,” the chemical suffix for sugars. If any of these words are among the first few ingredients on a food label, the food is likely high in sugar. The total amount of sugar in a food is listed under “Total Carbohydrate” on the Nutrition Facts label.

Many people try cutting back on calories by switching from sugar-sweetened to diet foods and drinks that contain low- or no-calorie sweeteners. These artificial sweeteners—also known as sugar substitutes—are many times sweeter than table sugar, so smaller amounts are needed to create the same level of sweetness. People have debated the safety of artificial sweeteners for decades. To date, researchers have found no clear evidence that any artificial sweeteners approved for use in the U.S. cause cancer or other serious health problems in humans.

But can they help with weight loss? Scientific evidence is mixed. Some studies suggest that diet drinks can help you drop pounds in the short term, but weight tends to creep back up over time. Rother and other NIH-funded researchers are now working to better understand the complex effects that artificial sweeteners can have on the human body.

Studies of rodents and small numbers of people suggest that artificial sweeteners can affect the healthful gut microbes that help us digest food. This in turn can alter the body's ability to use glucose, which might then lead to weight gain. But until larger studies are done in people, the long-term impact of these sweeteners on gut microbes and weight remains uncertain.

“There's much controversy about the health effects of artificial sweeteners and the differences between sugars and sweeteners,” says Dr. Ivan de Araujo of Yale University. “Some animal studies indicate that sweeteners can produce physiological effects. But depending on what kind of measurement is taken, including in humans, the outcomes may be conflicting.”

De Araujo and others have been studying the effects that sugars and low-calorie sweeteners might have on the brain. His animal studies found that sugar and sweeteners tap differently into the brain's reward circuitry, with sugars having a more powerful and pleasurable effect.

“The part of the brain that mediates the ‘I can't stop’ kinds of behaviors seems to be especially sensitive to sugars and largely insensitive to artificial sweeteners,” de Araujo says. “Our long-term goal is really to understand if sugars or caloric sweeteners drive persistent intake of food. If exposed to too much sugar, does the brain eventually change in ways that lead to excess consumption? That's what we'd like to know.”

Some research suggests that the intensely sweet taste of artificial, low-calorie sweeteners can lead to a “sweet tooth,” or a preference for sweet things. This in turn might lead to overeating. But more studies are needed to confirm the relative effects of caloric vs. non-caloric sweeteners.

“In the long run, if you want to lose weight, you need to establish a healthy lifestyle that contains unprocessed foods, moderate calories, and more exercise,” Rother says.

When kids grow up eating a lot of sweet foods, they tend to develop a preference for sweets. But if you give them a variety of healthy foods like fruits and vegetables early in life, they'll develop a liking for them too.

“It's important for parents to expose children to a variety of tastes early on, but realize that it often takes several attempts to get a child to eat such foods,” says Bremer. “Don't give up too soon.”

The key to good health is eating a well-balanced diet with a variety of foods and getting plenty of physical activity. Focus on nutrition-rich whole foods without added sugars. Get tips on healthy eating and weight control at <http://win.niddk.nih.gov>.

## *Cholesterol, Fats, and Salt—Oh My! What’s What and What Matters*



*In case you missed my [blog](#) on the topic, here’s my opinion piece on the conflicting advice we get on nutrition—in this case I’ve singled out cholesterol, fats, and salt since they are frequently linked to disease risk.*

Posted on [May 8, 2015](#) by [jenkatt](#) (image credit: 123rf.com)



If you don’t like a particular nutrition research finding—say, one that demonizes a certain food you love—then wait 5 minutes. A new finding might modify, limit, or completely reverse it.

Witness the latest trifecta of nutrition controversies: one involving cholesterol in food (no longer a health concern?), a second on saturated fats (are they really that bad for you after all?), and the third on salt (have the guidelines been overly stringent?).

I’ve been thinking a lot about these three in particular since they’ve been associated with increased disease risk. Or so we thought. (By the way, curious about recent competing claims and controversies over [canola oil](#), [probiotics](#), [gluten](#), intermittent or “[mini](#)” [fasting](#), etc.? Write me and ask about them.)

So, what *really* matters with cholesterol, fats, and salt? I think it’s what has generally mattered all along, the larger truths that 1) stand the test of time and 2) do not leap to all-or-nothing claims about one nutrient group or another. To find and hold the sensible “middle ground”—and avoid the shifting terrain at the controversial edges of nutrition science—requires a holistic view centered on balanced eating.

### **Let’s take cholesterol.**

**The buzz:** Eating foods high in cholesterol (e.g., eggs, shrimp, lobster) does not significantly affect blood-level cholesterol or increase heart disease risk.

**The bigger truth:** Cholesterol molecules don’t dissolve in blood, so they have to be transported as part of a “lipoprotein complex.” While the cholesterol you eat does have its own lipoprotein pathway for getting into your blood, what really matters is the *balance* in your blood between low-density lipoprotein (LDL) and high-density lipoprotein (HDL). LDL, or what we think of as “bad” cholesterol, is only bad when there’s too much of it since the excess tends to get deposited in blood vessel walls. And yet if there’s enough HDL (or “good” cholesterol) around, it can scavenge up even this deposited cholesterol for healthy re-use. So while eating a moderate amount of cholesterol in food will not destabilize your blood cholesterol balance, the bigger (and better) truth—though it’s not news—is that you can actually [increase HDL](#) through diet and exercise and thereby *improve* your blood cholesterol balance.

### **Now look at saturated fats.**

**The buzz:** In April 2014, a mega-review of multiple clinical trials and medical studies (i.e., a meta-analysis) appeared in the prestigious medical journal *Annals of Internal Medicine*. The authors concluded that this huge body of evidence “does not clearly support” guidelines that encourage a low consumption of total saturated fats. This got headlined in the peoples’ press as “[No link found between saturated fat and heart disease](#).” A firestorm of [protest](#), pointing to errors of fact, methodology, and interpretation, erupted from the nutrition science establishment, including a call for the entire review to be retracted.

**The bigger truth:** Sorting out the claims and counterclaims on this one would take a book. But I can distill for you some recurring themes that appear in the “protest” link above and make up bigger truth in this case. Once again it doesn’t work to look at just one nutrient group of interest apart from *what else is changing in the nutrition balance*. For example, studies that decreased saturated fat intake by increasing carbs (a “no-fat” diet) found no change in the HDL-to-LDL balance; similarly, replacing saturated fats with sugar and refined carbohydrates did not reduce risk of heart disease. But here is the main refrain from commenters (and I agree): **eating foods that contain healthy levels of unsaturated fats like those associated with a Mediterranean diet (e.g., nuts, extra virgin olive oil, seeds, avocado) is healthier than eating the same level of fat in saturated fats.** Additionally, a large [review in 2013](#) found that Mediterranean-style eating reduced heart attacks and strokes, compared with eating less fat but more starches. (See another recent study [here](#) in active, young adults). Finally, there’s no controversy at all about the link between heart disease and the transfats and partially hydrogenated oils added to processed foods.

**And then there’s salt.**

**The buzz:** Lowering salt intake to levels recommended by the Federal Government (not more than 1,500 mg a day) may in fact increase the chance of cardiovascular disease.

**The bigger truth:** No one is saying that salt intake doesn’t matter at any level. The issue is whether the recommended daily max should be around 1,500 mg of sodium or perhaps double that, around 3,000 to maybe 4,000 mg of sodium at most. Remember, just one teaspoon of ordinary table salt is 2,300 mg of sodium. But that raises a key point: the primary source of salt intake for Americans is not the salt shaker, it’s the salt in processed foods, including nearly all of our fast-food restaurant favorites. And what are those sources of “hidden salt” also likely to contain? That’s right: added sugars and (for fried fast foods) trans fats. So avoid the salt and sodium in packaged, canned, and other convenience foods, and beat the bloat while you’re at it.

**How to transcend the trendy?** Don’t swing with the latest headline. Instead, eat REAL food as part of a balanced and colorful diet, and always aim for the purest (most natural) form of that food, thereby avoiding over-processed, deep fried, pulverized, prepackaged, over-sugared, and over-dressed options. And as always...

...keep movin’ – Jen Katt

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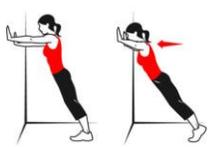
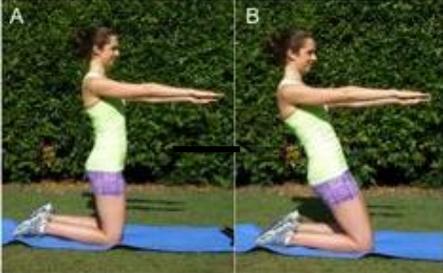
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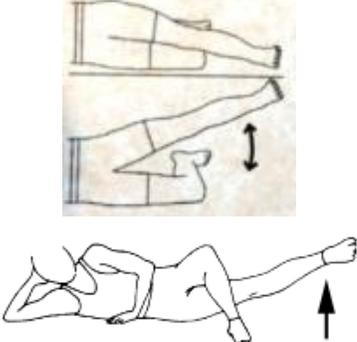
Resistance Training—Pick 2-3 for each body part, and perform 2-3 times a week

| What it works                   | Exercise picture   | How to do it  |
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| <p><b>Balance</b></p>           | <p style="text-align: center;"><b>Same arm, same leg</b></p>  <p style="text-align: center;">OR</p>                                 | <ol style="list-style-type: none"> <li>1. Grip dumbbell, letting it pull your arm straight down.</li> <li>2. Move SAME leg back, touching toe to floor, and tighten all core muscles.</li> <li>3. Hinge forward &amp; lower Kb to floor, raising same leg behind you, back straight.</li> <li>4. Repeat with other leg.</li> </ol> <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> <li>5. Stand on one leg with or without kettle bell.</li> </ol> <p><b>Try 10 reps</b></p> |
| <p><b>Arms-<br/>biceps</b></p>  |  <p style="text-align: center;"><b>Bicep curl</b></p>  | <ol style="list-style-type: none"> <li>1. Stand straight, knees slightly bent. Keep chest up and shoulders down.</li> <li>2. Hold dumbbells with the backs of your hands against your thighs.</li> <li>3. Tighten core muscles and keep elbows against sides to stabilize.</li> <li>4. Exhale and bring the weights up.</li> <li>5. Inhale and return weights in a slow, controlled manner.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>  |
| <p><b>Arms-<br/>triceps</b></p> |  <p style="text-align: center;"><b>Triceps extension</b></p>  | <ol style="list-style-type: none"> <li>1. With knees slightly bent, grasp the end of one dumbbell and raise overhead, arms straight up.</li> <li>2. Slowly lower it behind your head, keeping your shoulders fixed.</li> <li>3. Don't lock elbows.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>   |
| <p><b>Arms-<br/>triceps</b></p> |  <p style="text-align: center;"><b>Pretend she's using a step/stair!</b></p> <p style="text-align: center;"><b>Tricep dip</b></p> | <ol style="list-style-type: none"> <li>1. Face away from step, keeping your back close to it.</li> <li>2. Your hands are pointing towards your back, shoulder-width apart.</li> <li>3. Bend your elbows to lower your body slightly and then push back up again.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>   |

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| <p><b>Arms-biceps</b><br/>Works entire biceps group</p>              |                                        | <ol style="list-style-type: none"> <li>1. Grasp the two ends of the resistance band, palms out.</li> <li>2. Step on the band with both feet, spread about shoulder-distance.</li> <li>3. Straighten arms (first pic).</li> <li>4. Keep back straight and slowly raise hands toward shoulders.</li> <li>5. <b>Slowly</b> lower arms, so up and down have same 1-2 count.</li> </ol> <p><b>Start with 10 reps</b></p>   |
| <p><b>Arms-triceps</b><br/>Works triceps</p>                         | <p>Elbow up first!</p>                | <ol style="list-style-type: none"> <li>1. Assume start position by placing tube under right foot and resting your right hand on your right thigh.</li> <li>2. Hold tube in your left hand, knuckles out, and bend elbow, bringing arm up so it's nearly parallel to floor.</li> <li>3. Keep elbow stabilized as you kick your left hand back behind you.</li> <li>4. Contract your triceps as you straighten your arm out.</li> </ol> <p><b>Slow and controlled motion....</b><br/><b>Start with 10 reps</b></p>            |
| <p><b>Back-shoulders</b><br/>Works traps, deltoids, biceps</p>       |  <p><b>Upright row</b></p>           | <ol style="list-style-type: none"> <li>1. Stand with feet hip distance apart.</li> <li>2. Grip dumbbell with knuckles facing out, palms facing body.</li> <li>3. Keep dumbbells close to body and raise bending elbows out to the sides.</li> <li>4. Slowly lower to starting position.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>  |
| <p><b>Back-shoulders</b><br/>Works whole lats, upper back, traps</p> |  <p><b>One-arm dumbbell row</b></p> | <ol style="list-style-type: none"> <li>1. Begin in split stance, left leg forward, right leg back, dumbbell in right hand.</li> <li>2. Bend left knee and hinge forward at hips about 45°. Lean left arm, folded in an L, onto left leg for support.</li> <li>3. Reach right arm towards floor and do a row—bend right elbow &amp; pull weight up alongside body, elbow way back (like starting a lawn mower slowly).</li> <li>4. Extend arm back to start.</li> </ol> <p><b>Do 8-12 reps each arm, rest and repeat</b></p> |

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| <p><b>Core</b><br/>Works<br/>abs and<br/>back<br/>mainly;<br/>also<br/>shoulder,<br/>pecs,<br/>glutes<br/>arms,<br/>legs...</p> |  <p><b>Engage core! START LYING DOWN!</b></p>  <p><b>Plank</b></p> | <ol style="list-style-type: none"> <li>1. Lie face-down, make loose fists directly beneath chin, elbows by sides directly under shoulders.</li> <li>2. Curl toes and raise length of torso to a horizontal position as if being pulled up by cord mid-torso.</li> </ol> <p><b>Can also do knee version.</b></p> <p><b>Hold for 10 secs and repeat.</b></p>   |
| <p><b>Core</b><br/>Works<br/>chest,<br/>arms,<br/>shoulder,<br/>abs,<br/>every-<br/>thing...</p>                                |   <p><b>Pushup</b></p>  | <p><b>On Wall:</b></p> <ol style="list-style-type: none"> <li>1. Place hands on wall, with hands &amp; feet shoulder- width apart.</li> <li>2. Lean your whole body forward (bring hips along, not just your shoulders), then push yourself back, keeping elbows flexed.</li> </ol> <p><b>On Knees:</b></p> <ol style="list-style-type: none"> <li>1. Place hands beside or directly below shoulders.</li> <li>2. Cross ankles (or not) and lift feet as pictured. Keep your body aligned from head to knees, abs tight.</li> <li>3. Lower your upper torso toward the floor.</li> </ol> <p><b>8-12 reps, 2 sets</b></p> |
| <p><b>Core</b><br/>Works<br/>lower<br/>back,<br/>abs,<br/>glutes</p>  |  <p><b>Arm is at ear level—hold for 4 secs at top<br/>Bird Dog<br/>Plank</b></p>   | <ol style="list-style-type: none"> <li>1. Get on hands and knees, palms shoulder-width apart.</li> <li>2. Brace your abs &amp; raise right arm and left leg in line with body.</li> <li>3. Hold for 4 seconds. Return to start.</li> <li>4. Repeat with left arm and right leg.</li> </ol> <p><b>8 reps</b></p>  |
| <p><b>Core</b><br/>Works<br/>abs,<br/>lower<br/>back,<br/>abs,<br/>glutes,<br/>and<br/>quads</p>                                |  <p><b>Kneeling lean-back</b></p>  | <ol style="list-style-type: none"> <li>1. Kneel with knees under hips, toes pointing down.</li> <li>2. Lift arms, engage core and slowly lean back, then return by squeezing glutes.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>  |

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| <p><b>Core</b><br/>Works<br/>stabi-<br/>lizing<br/>core<br/>muscles</p>                              |  <p><b>Stability ball sit/balance</b></p>  | <ol style="list-style-type: none"> <li>1. Sit on the ball and slowly roll backwards so that your feet are off the ground.</li> <li>2. Hold your arms out to the sides.</li> </ol> <p><b>See how long you can hold this position</b></p>   |
| <p><b>Core</b><br/>Works<br/>abs</p>   |  <p><b>Crunches on stability ball</b></p> | <ol style="list-style-type: none"> <li>1. Begin sitting on the ball and walk your feet out until your rib cage is on the ball.</li> <li>2. Place intertwined fingers behind head for support.</li> <li>3. Exhale, pulling your abs to spine and pressing rib cage into the ball, lifting head.</li> <li>4. Don't "crank" neck with arms.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>   |
| <p><b>Lower body</b><br/>Works<br/>thighs &amp;<br/>buttocks</p>                                     |  <p><b>Plié</b></p>                      | <ol style="list-style-type: none"> <li>1. Stand up straight with feet wider than hips.</li> <li>2. Turn toes slightly outward (rotating from hips) and rest hands on your thighs.</li> <li>3. Keep back straight as you SLOWLY bend knees &amp; lower buttocks to floor.</li> <li>4. Stop before you reach knee level.</li> <li>5. Keep knees aligned over ankles and tighten abs throughout.</li> <li>6. Slowly return to start.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>                  |
| <p><b>Lower body</b><br/>Works<br/>glutes,<br/>core,<br/>thighs</p>                                  |  <p><b>Bridge</b></p>                   | <ol style="list-style-type: none"> <li>1. Lie on back, knees bent, hands by sides.</li> <li>2. Feet are flat on the floor and under your knees.</li> <li>3. Tighten your abdominal and butt muscles.</li> <li>4. Raise your hips up to create a straight line from your knees to shoulders.</li> <li>5. Hold 2 secs and slowly lower.</li> </ol> <p><b>Do 10 reps, rest and repeat</b></p>  |
| <p><b>Lower body</b><br/>Works<br/>glutes,<br/>core,<br/>thighs,<br/>ham-<br/>strings,<br/>quads</p> |  <p><b>Bridge w leg lift</b></p>        | <ol style="list-style-type: none"> <li>1. Lie face up on floor, arms by sides, legs bent, feet flat on floor.</li> <li>2. Lift hips and spine off floor to create one long line from knees to shoulders (see top pic).</li> <li>3. Keep hips and torso stable (<b>don't raise hips so high that weight shifts to neck</b>) and bring left knee toward chest, then slowly lower back to floor, keeping pelvis level.</li> <li>4. Repeat with same knee 10 times.</li> </ol> <p><b>Do each knee 10x</b></p> |

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| <p><b>Lower body</b><br/>Works inner and outer thighs and glutes</p> |  <p><b>Butterfly Bridge</b></p>                | <ol style="list-style-type: none"> <li>1. Lie on back, knees bent.</li> <li>2. Raise pelvis by squeezing glutes</li> <li>3. Bring your feet inward and upward to press the soles of your feet together.</li> <li>4. In this position, press your hips upward into a bridge.</li> <li>5. Hold for slow 2-count, then relax.</li> </ol> <p><b>Do 10 reps, rest and repeat</b></p>  |
| <p><b>Lower body</b><br/>Works inner and outer thighs</p>            |  <p><b>Side-lying leg raises-2 types</b></p>   | <ol style="list-style-type: none"> <li>1. Lie on left side, with left knee bent for stability.</li> <li>2. Keep right leg straight and lift it upward.</li> <li>3. Hold for 4 secs. and return slowly to start.</li> <li>4. Repeat on opposite side.</li> <li>5. THEN, still on side, bend top leg over lower thigh (see pic).</li> <li>6. Raise lower leg as high as comfortable, hold briefly then lower.</li> </ol> <p><b>Do each leg 10x</b></p> |
| <p><b>Lower body</b><br/>Works hamstrings and glutes</p>             |  <p><b>Hamstring curl</b></p>                 | <ol style="list-style-type: none"> <li>1. Lie on your back, with stability ball under heels.</li> <li>2. Lift hips up and keep them up as you slowly bend your knees, rolling the ball toward you and bringing the soles of your feet onto the top of the ball.</li> <li>3. Slowly return legs to straightened position.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>  |
| <p><b>Lower body</b><br/>Works inner and outer thighs and hips</p>   |  <p><b>Side-lying leg lift with ball</b></p> | <ol style="list-style-type: none"> <li>1. Lie on your side and place the stability ball between your feet.</li> <li>2. Slowly lift the ball toward the ceiling, working your inner thighs and hips.</li> </ol> <p><b>Do 8-12 reps, rest and repeat</b></p>   |



ACSM Information On...

# Resistance Training for Health and Fitness

Resistance training is a form of physical activity that is designed to improve muscular fitness by exercising a muscle or a muscle group against external resistance. There are many positive health outcomes of resistance training.

## A COMPLETE PHYSICAL ACTIVITY PROGRAM

A well-rounded physical activity program includes aerobic exercise and strength training exercise, but not necessarily in the same session. This blend helps maintain or improve cardiorespiratory and muscular fitness and overall health and function. Regular physical activity will provide more health benefits than sporadic, high intensity workouts, so choose exercises you are likely to enjoy and that you can incorporate into your schedule.

ACSM's physical activity recommendations for healthy adults, updated in 2011, recommend at least 30 minutes of moderate-intensity physical activity (working hard enough to break a sweat, but still able to carry on a conversation) five days per week, or 20 minutes of more vigorous activity three days per week. Combinations of moderate- and vigorous-intensity activity can be performed to meet this recommendation.

Examples of typical aerobic exercises are:

- Walking
- Running
- Stair climbing
- Cycling
- Rowing
- Cross-country skiing
- Swimming.

In addition, strength training should be performed a minimum of two days each week, with 8-12 repetitions of 8-10 different exercises that target all major muscle groups. This type of training can be accomplished using body weight, resistance bands, free weights, medicine balls or weight machines.

## RESISTANCE TRAINING BENEFITS EVERYONE!

As we age we tend to lose lean muscle mass, which is a condition known as sarcopenia. Resistance training helps maintain and combat the loss of muscle mass by increasing muscular fitness. This form of training can also prevent osteoporosis by augmenting bone mineral density. What's more? Regular resistance training can decrease the risk of heart disease by lowering body fat, decreasing blood pressure, improving cholesterol, and lowering the stress placed on the heart while lifting a particular load. Improving muscular fitness is very important for enhancing quality of life.

## VARIOUS TYPES OF RESISTANCES

Resistance training can be accomplished with traditional free weights and dumbbells, weight machines, body weight, elastic tubing, medicine balls, or even common household products like milk jugs filled with sand or soup cans. The choice to incorporate a certain type of resistance depends on level of physical fitness, how familiar a person is with specific exercise movements, and individual goals. For example, low fit individuals can focus primarily on machine-based exercises as they have been regarded as safer to use compared to more complex free weight

exercises. The incorporation of free weight movements can be performed as a person increases his or her muscular fitness. For example, advanced individuals can perform multiple sets and heavier resistances using multiple-joint exercises, such as squats and deadlifts. Whichever form of resistance is chosen, multiple-joint, large muscle group exercises should be performed before single-joint, smaller group exercises.

## RESISTANCE TRAINING GUIDELINES AND EXERCISES

The American College of Sports Medicine (ACSM) recommends that a strength training program should be performed a minimum of two non-consecutive days each week, with one set of 8 to 12 repetitions for healthy adults or 10 to 15 repetitions for older and frail individuals. Eight to 10 exercises should be performed that target the major muscle groups.

Examples of typical resistance exercises that can be performed using free-weights, machines, or body weight for the major muscle groups are:

|            | Free-Weight            | Machine-Based        | Body Weight            |
|------------|------------------------|----------------------|------------------------|
| Chest      | Supine Bench Press     | Seated Chest Press   | Push-ups               |
| Back       | Bent-over Barbell Rows | Lat Pulldown         | Pull-ups               |
| Shoulders  | Dumbbell Lateral Raise | Shoulder Press       | Arm Circles            |
| Biceps     | Barbell/Dumbbell Curls | Cable Curls          | Reverse Grip Pull-ups  |
| Triceps    | Dumbbell Kickbacks     | Pressdowns           | Dips                   |
| Abdomen    | Weighted Crunches      | Seated "Abs" Machine | Crunches, Prone Planks |
| Quadriceps | Back Squats            | Leg Extension        | Body Weight Lunges     |
| Hamstrings | Stiff-leg Deadlifts    | Leg Curls            | Hip-ups                |

ACSM stresses the importance of progressing resistance training programs to meet specific resistance training goals. Progression in resistance training is defined as “the act of moving forward or advancing toward a specific goal over time until the target goal has been achieved.” This can occur with specific trainable characteristics of muscular fitness, such as strength, power, hypertrophy, and local muscular endurance. These four factors will improve with almost any properly designed resistance training program, but will be fully enhanced by properly modifying the load, volume, rest period between sets, and the frequency of each workout. The load is the amount of weight lifted in a given set, which is based on a percentage of the 1-repetition maximum (1RM). The volume is the total number of exercises, repetitions, and sets that are performed in a given exercise session. Rest period is the time period between each set and exercise. Frequency refers to the number of exercise sessions per week. How to manipulate each of these for the optimal enhancement of strength, power, hypertrophy, or muscular endurance is described below.

### MUSCULAR STRENGTH

Muscular strength is the ability of a muscle or muscle group to exert a maximal external force.

- Load: 60-70% 1RM for novice to intermediate; 80-100% for advanced
- Volume: 1-3 sets of 8-12 repetitions for novice to intermediate; 2-6 sets of 1-8 repetitions for advanced
- Rest period: 2-3 min for higher intense exercises that use heavier loads; 1-2 minutes between the lower intense exercises with light loads

### MUSCULAR POWER

Power is defined as the optimal amount of work performed in a given time period. Muscular power is the highest power output attainable during a particular movement, and is required in activities of daily living, sport, and work. For optimal improvements in muscular power, a light load of 0 to 60% of 1RM should be used for 3-6 repetitions over one to three sets per exercise.

- Load: 30-60% 1RM for upper body exercises; 0-60% 1RM for lower body exercises
- Volume: 1-3 sets of 3-6 repetitions per exercise
- Rest period: 2-3 min for higher intense exercises that use heavier loads; 1-2 minutes between the lower intense exercises with light loads

### MUSCULAR HYPERTROPHY

Muscular hypertrophy is the enhancement of muscle size.

- Load: 70-85% 1RM for novice to intermediate; 70-100% for advanced
- Volume: 1-3 sets of 8-12 repetitions for novice to intermediate; 3-6 sets of 1-12 repetitions for advanced
- Rest period: 2-3 min for higher intense exercises that use heavier loads; 1-2 minutes between the lower intense exercises with light loads

### MUSCULAR ENDURANCE

Local muscular endurance is the ability of a muscle or a muscle group to repeatedly exert a submaximal resistance.

- Load: lower than 70% of 1RM
- Volume: 2-4 sets of 10-25 repetitions
- Rest period: 30 seconds to 1-minute between each set

### FREQUENCY

For all the above, it is recommended that novice individuals train the entire body 2-3 days per week. Intermediate individuals should train 3 days if using a total-body workouts or 4 days if using an upper/lower body split routine, training each major muscle group twice per week. Advanced lifters can train 4-6 days per week, training each major muscle group once to twice per week. At this level, muscle group split routines of one to three muscle groups trained per workout are common since this would allow a higher volume per muscle group. Elite weightlifters and body-builders may benefit from using very high frequencies such as, two workouts per day for 4-5 days per week.

### OVERTRAINING

To reduce the risk of overtraining, a dramatic increase in volume should be avoided. It is recommended that a 2-10% increase in the load be applied when the individual can comfortably perform the current workload for one to two repetitions over the desired number on two consecutive training sessions.

### STAYING ACTIVE PAYS OFF!

Those who are physically active tend to live longer, healthier lives. Research shows that moderate physical activity – such as 30 minutes a day of brisk walking – significantly contributes to longevity. Even a person with risk factors like high blood pressure, diabetes or even a smoking habit can gain real benefits from incorporating regular physical activity into their daily life.

As many dieters have found, exercise can help you stay on a diet and lose weight. What's more – regular exercise can help lower blood pressure, control blood sugar, improve cholesterol levels and build stronger, denser bones.

### THE FIRST STEP

Before you begin an exercise program, take a fitness test, or substantially increase your level of activity, make sure to answer the following questions. This physical activity readiness questionnaire (PAR-Q) will help determine if you're ready to begin an exercise routine or program.

- Has your doctor ever said that you have a heart condition or that you should participate in physical activity only as recommended by a doctor?
- Do you feel pain in your chest during physical activity?
- In the past month, have you had chest pain when you were not doing physical activity?
- Do you lose your balance from dizziness? Do you ever lose consciousness?
- Do you have a bone or joint problem that could be made worse by a change in your physical activity?
- Is your doctor currently prescribing drugs for your blood pressure or a heart condition?
- Do you know of any reason you should not participate in physical activity?

If you answered yes to one or more questions, if you are over 40 years of age and have recently been inactive, or if you are concerned about your health, consult a physician before taking a fitness test or substantially increasing your physical activity. If you answered no to each question, then it's likely that you can safely begin exercising.

### PRIOR TO EXERCISE

Prior to beginning any exercise program, including the activities depicted in this brochure, individuals should seek medical evaluation and clearance to engage in activity. Not all exercise programs are suitable for everyone, and some programs may result in injury. Activities should be carried out at a pace that is comfortable for the user. Users should discontinue participation in any exercise activity that causes pain or discomfort. In such event, medical consultation should be immediately obtained.



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