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Strength and Conditioning

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Exercise and Obesity

Obesity is generally defined as the condition of weighing 20% or more over your ideal weight. You can find the ideal weight for your height and sex from a weight chart. In the United States, about one of every five men and one of every three women are obese.

The goal of treatment for obesity is weight loss. Exercise is an essential part of any weight-loss program and should become a permanent part of your lifestyle. The benefits of exercise can include:

- ▶ burning off calories and losing weight
- ▶ maintaining muscle tone
- ▶ increasing your metabolic rate (the amount of calories your body burns 24 hours a day)
- ▶ improving circulation
- ▶ improving heart and lung function
- ▶ increasing your sense of self-control
- ▶ reducing your level of stress
- ▶ increasing your ability to concentrate
- ▶ improving your appearance
- ▶ reducing depression
- ▶ suppressing your appetite
- ▶ helping you sleep better
- ▶ preventing diabetes, high blood pressure, and high cholesterol.

Some people can lose weight by themselves, but most should seek help from a health care provider. Your provider will check your pulse, blood pressure, and heart; ask about your medical history; and order lab tests if necessary.

Your health care provider may refer you to a dietitian to plan your diet. A dietitian can prepare a healthy diet that will help you lose 1 to 2 pounds a week.

Your health care provider will recommend the right kinds of exercise for you. Your health care provider may suggest that you:

- ▶ Walk every day.
- ▶ Take the stairs instead of the elevator.

- ▶ Do errands on foot, if possible. If you need to drive to run errands, park farther away and walk to your destination.
- ▶ Find a physical activity that is convenient and affordable for you and fits your lifestyle.
- ▶ Go to a spa, gym, or exercise class.
- ▶ Find a friend, coworker, or family member to exercise with.
- ▶ Exercise at the same time every day.

As you begin to exercise more, keep the following guidelines in mind:

- ▶ Your goal is to begin a routine of physical activity that can become an enjoyable part of your life.
- ▶ Choose activities you enjoy, can afford, and can fit into your schedule.
- ▶ Use a chart that shows how many calories are burned in different physical activities to get ideas for types of exercise.
- ▶ Consider bicycling, walking briskly, or exercising at home with videotapes if you don't like sports or gyms. (Many team sports—for example, bowling—do not provide the level of physical activity needed for the best results.)
- ▶ Build up slowly to a level of activity that makes you breathe more heavily, increases your heart rate, and makes you sweat. Do not do so much that you strain your muscles or feel dizzy or nauseated.
- ▶ Build up to exercising for 30 minutes a day, most days of the week. Thirty-minute workouts are good for cardiovascular health. Longer, more frequent workouts, such as brisk walking, are better for weight loss. You will benefit even if the 30 minutes of activity are done in three 10-minute periods a day. As you increase your total amount of physical activity, you increase your benefit.
- ▶ Do warm-up exercises or gentle stretches before exercising. Do cool-down exercises afterward.
- ▶ Wear proper shoes and loose-fitting clothing.
- ▶ Drink extra water or sports drinks such as Gatorade when you exercise strenuously or in hot weather.

To maintain your exercise program, follow these guidelines:

- ▶ Choose a form of exercise you enjoy.
- ▶ Avoid setting your expectations too high.
- ▶ Start out slowly and build your stamina gradually.
- ▶ Find a friend to exercise with.
- ▶ Make friends in your exercise class. Talk to the class instructor and ask for supervision if you need it.
- ▶ Avoid being competitive. Try to improve on your last effort instead of comparing yourself with someone else.
- ▶ Combine exercise with social activities, such as by joining a group.
- ▶ Avoid burnout and injury by taking 1 to 2 days off from workouts every week.
- ▶ Recover completely from illness before resuming exercise. Then start with less exercise and increase the amount you do gradually to avoid injury.
- ▶ Join in sports activities that benefit community or charity organizations.
- ▶ Remember that exercise needs to be continued throughout your life. Don't try to be too intense. Enjoy getting healthy.
- ▶ Have fun.

Exercise During Pregnancy

In this discussion of exercise during pregnancy you will learn which muscle groups you should concentrate on when you exercise. Tips for exercising during pregnancy are also offered. You will find out what kind of exercises you are allowed to do and when you should stop exercising. You should not exercise to lose weight while you are pregnant.

When should I start exercising?

Childbirth is among the most physically stressful challenges a woman ever faces. Regular exercise during pregnancy:

- ▶ strengthens muscles needed for labor and delivery
- ▶ helps reduce backaches, constipation, bloating, and swelling
- ▶ improves posture
- ▶ gives you energy and improves your mood
- ▶ lessens some of the discomforts of pregnancy
- ▶ helps you feel less tired and sleep better.

Exercise in preparation for pregnancy and childbirth should begin when you are planning to get pregnant. The sooner you begin exercising, the better you will feel.

A big mistake many women make is not starting an exercise program until the last 3 months of pregnancy, when they start childbirth classes. Some exercise can be more difficult during the last 3 months because your enlarged uterus and breasts cause a shift of the physical center of gravity, affecting your balance. Also, due to hormonal changes, your joints become looser, which makes it easier to develop spasms and injure yourself. Also, if you have not been exercising regularly until this point in pregnancy, even moderate exercise may decrease the oxygen supply to your baby. Simple walking may be the best exercise at this time of pregnancy.

Before you begin an exercise program, discuss it with your health care provider. Make sure you follow his or her advice on an exercise program that is appropriate for you. If you are experiencing problems with your pregnancy, you should not exercise. Exercise can affect the amount of oxygen available to your baby. A

baby that already has problems with getting enough oxygen may not tolerate even light exercise.

Which muscle groups are most important to exercise?

In addition to your heart, the three muscle groups you should concentrate on during pregnancy are the muscles of your back, pelvis, and abdomen.

Strengthening your abdominal muscles will make it easier to support the increasing weight of your baby. You will also be able to push with more strength and more effectively during the last phase of delivering your baby.

Strengthening pelvic muscles will permit your vagina to widen more easily during childbirth. This will help prevent urinary problems (leaking urine when you cough or sneeze) after delivery.

Strengthening back muscles and doing exercises to improve your posture will minimize the strain of pregnancy on your lower back. It will help prevent discomfort caused by poor posture.

What kinds of exercise can I do?

Many old ideas about strenuous exercise during pregnancy have been disproved in recent years. The type and intensity of sports and exercise you participate in during pregnancy depend on your health and on how active you were before you became pregnant. This is probably not a good time to take up a new strenuous sport. If you were active before you became pregnant, however, there is no reason you cannot continue, within reason.

Walking. If you did not do any exercise before becoming pregnant, walking is a good way to begin an exercise program.

Tennis. If you are an active tennis player, you can probably continue to play unless you have special problems or feel unusually tired. Just be aware of your change in balance and how it affects rapid movement.

Jogging. If you jog, you probably can continue as long as you feel comfortable doing it. Avoid becoming overheated and stop if you feel uncomfortable or

unusually tired. Remember to drink plenty of water.
Swimming. If you are a swimmer, you can continue to swim. Swimming is an excellent form of exercise. The water supports your weight while you tone and strengthen many different muscles. Scuba diving is not advised.

Golf and bowling. Both of these sports are good forms of recreation. You will just have to adjust to your enlarged abdomen. Be careful not to lose your balance.

Snow skiing, water skiing, and surfing. These sports can be dangerous because you can hit the ground or water with great force. Falling while traveling at such fast speeds could harm your baby. Talk to your health care provider before participating in these activities.

Climbing, hiking, and skiing above 10,000 feet. Elevations above 10,000 feet can deprive you and your baby of oxygen. This can cause premature labor. Avoid strenuous exercise at this altitude, especially if you normally live close to sea level.

What are the guidelines for exercising during pregnancy?

Warming up and cooling down are very important. Start slowly and build up to more demanding exercises. Toward the end of an exercise session, gradually slow down your activity. Try working back through the exercises in reverse order.

Regular exercise (at least three times a week) is better for you than spurts of exercise followed by long periods of no activity.

Check your pulse during peak activity. Slow down your activity if your heart starts beating faster than the target range recommended by your health care provider. Don't exceed a heart rate of 140 beats per minute. Exercise that is too strenuous may speed up the baby's heartbeat to a dangerous level. In general, if you are able to carry on a conversation comfortably while exercising, your heart rate is probably within the recommended limits. Check to make sure.

Don't try to do too much. Remember that the extra weight you are carrying will make you work harder as you exercise. Stop immediately if you feel tired, short of breath, or dizzy.

Drink water often before, during, and after exercise to prevent dehydration. Take a break in your workout to drink more water if needed.

Don't participate in sports and exercise in which you might fall or be bumped.

Be very careful with your back. Avoid positions and exercises that increase the bend in your back.

They put extra stress on the stretched abdominal muscles and compress your spinal joints. Deep knee bends, full sit-ups, double leg raises, and straight-leg toe touches also may injure the tissues that connect your back joints and legs.

Do not get overheated. Avoid outdoor exercise in hot, humid weather. Also avoid hot tubs, whirlpools, or saunas. Becoming overheated during pregnancy increases the baby's temperature. If the baby's temperature increases too much, it can affect the cells developing in the baby's nervous system and brain.

Do not exercise if you have an illness with a temperature of 100 degrees F (37.8 degrees C) or higher.

Avoid jerky, bouncy, or high-impact motions that require jarring or rapid changes in direction. Examples of such movements are those that can occur with contact sports, jump-roping, and trampoline jumping. These motions may cause back, abdominal, pelvic, and leg pain. They could also cause you to lose your balance.

Wear a good-fitting support bra to protect your enlarged breasts.

Make exercise a part of your daily life. Daily tasks can double as exercise sessions if you do the following:

- ▶ Tighten your abdominal muscles when you are standing or sitting.
- ▶ Squat when you lift anything, whether it is light or heavy.
- ▶ Rotate your feet and ankles anytime your feet are elevated.
- ▶ Check your posture each time you pass a mirror.

When should I stop exercising?

You should stop exercising and call your health care provider if you have any unusual symptoms, such as:

- ▶ pain, including pelvic pain, uterine contractions, or chest pain
- ▶ trouble walking
- ▶ bleeding or fluid leaking from the vagina
- ▶ faintness or dizziness
- ▶ an increase in shortness of breath
- ▶ irregular heartbeat (skipped beats or very rapid beats).

Remember that it is very important to discuss your plans for exercise with your health care provider. If you are experiencing problems with your pregnancy, exercise is not advised. Talk to your health care provider if you have any questions.

Exercise Prescription

Starting an Exercise Program

Exercise is very important for good health. Your health care provider may tell you that you need to get more exercise. To do this, you will need to get into the habit of exercising so that it becomes part of your normal weekly routine. The best exercise for you is one that you enjoy and that you will do on a regular basis. If you start a jogging program, but hate to jog, you are not likely to keep it up. Find an activity you enjoy, such as basketball, soccer, dance, or hiking. Try to involve family members or friends. Join a team or an exercise class and make it fun.

Exercise can come during all times in the day. For example, take the stairs instead of an elevator, park far away in a parking lot and walk briskly to your destination, or walk during your lunch break. The benefits are lifelong - so have fun and stick to it!

What is aerobic exercise?

An aerobic exercise is any activity that makes your muscles use oxygen. When you are doing an aerobic exercise, your heart has to work harder to get more oxygen to your muscles. This makes your heart stronger. Any activity that lasts longer than 3 minutes is considered aerobic (such as biking, jogging, walking, swimming, or basketball). Aerobic exercise should be the main focus of your exercise program.

Aerobic exercise:

- ▶ Decreases your blood pressure, which reduces your risk for having a stroke
- ▶ Decreases your resting heart rate, which puts less stress on your heart
- ▶ Increases the levels of HDL (the good cholesterol in your blood)
- ▶ Increases your cardiac output, which means your heart pumps more blood throughout your body with each heart beat.
- ▶ Decreases your resting respiratory rate, which means your lungs don't work as hard when you are at rest

- ▶ Increases blood flow to your lungs, which allows you to get more oxygen into your bloodstream with every breath
- ▶ Burns calories, which will help you lose weight.

What is anaerobic exercise?

Anaerobic exercise is a good complement to your aerobic exercise program. Exercise activities that take less than 3 minutes are considered anaerobic activities. Although anaerobic activities do not help strengthen your heart, they do help strengthen your muscles.

You have the opportunity to do anaerobic exercise often during the day. Walking up a flight of stairs, carrying groceries, or sprinting to catch a bus, are all considered anaerobic exercise.

Interval training is a great anaerobic exercise. An interval can be done with many types of exercise (for example, running, biking, swimming, or weight lifting). An interval is done by increasing your pace for a short period of time (for example, between 10 to 60 seconds) then having a slow recovery period that is at least 3 times as long as the interval. To interval train, you simply repeat these bursts of exercise during the course of your workout. For example, you jog for 30 seconds, then walk for 2 minutes, jog for 30 seconds, walk for 2 minutes and so on. One benefit from anaerobic exercise is that it raises your metabolic rate for nearly 18 hours after the activity is finished. This means you burn calories at an accelerated rate well after the exercise is completed, which can help you lose weight. In contrast, aerobic exercise only raises your metabolic rate for 2 hours.

How often and how long should I exercise?

There are three ways to measure your exercise: frequency, duration, and intensity.

- ▶ **Frequency:** This is how often you exercise. Try to get aerobic exercise at least 3 times a week, although 5 to 6 times a week is even better. Do anaerobic exercise 2 or 3 times a week.
- ▶ **Duration:** This is how long you exercise. Each exercise workout should last 30 to 60 minutes.

- ▶ **Intensity:** This is how hard you are working when you exercise. While you are doing aerobic exercise, you should keep your heart rate up. To make sure you are benefiting from your exercise, you need to check your heart rate (pulse) during your workout. You need to set a target heart rate for yourself so that you can make sure you are exercising hard enough to help your heart, yet easy enough so you can complete the exercise safely. The key is to maintain your target heart rate during your exercise for at least 30 minutes. You can also use your target heart rate to evaluate your progress over time.
- ▶ After a few weeks of training, you can start to improve your level of fitness by increasing the frequency, duration, or intensity of your exercise.

How do I calculate my target heart rate?

To figure out your target heart rate, you first need to figure out your maximum heart rate (MHR). Your maximum heart rate is calculated by subtracting your age from 220.

- ▶ $220 - \text{Age} = \text{MHR}$

For example, if you are 40 years old, your MHR would be 180 beats per minute.

- ▶ $220 - 40 (\text{years old}) = 180 \text{ beats per minute}$

Next you need to figure out your target heart rate (THR). Your THR is based on a percentage of your MHR. For aerobic activity, you need to try to keep your heart rate between 60% and 85% of your MHR. For example, if you are 40 years old your target heart rate range should be 106 to 153 beats per minute.

- ▶ $180 (\text{MHR}) \times 0.6 (60\%) = 106 \text{ beats per minute}$
- ▶ $180 (\text{MHR}) \times .85 (85\%) = 153 \text{ beats per minute}$

During your exercise, you should check your pulse from time to time to see if you are hitting your target heart rate. You do this by finding your pulse on the thumb side of your wrist (the radial pulse) or in your neck to the side of your Adam's apple (the carotid pulse). Using a clock or watch with a secondhand, count the number of heartbeats in 10 seconds, then multiply that number by 6 to get the number of heartbeats per minute.

If your heart rate is too fast (over your 85% mark) then slow down. If your heart rate is below your 60% mark then you need to pick up your pace.

What about warming up and cooling down?

You should include warm-up and cool-down exercises before and after exercise. Muscles that have not been used are cool. Stretching or walking slowly for 5 to 10 minutes before beginning your workout warms your muscles, making them more flexible and less prone to injury.

Right after exercise, allow your heart rate to return slowly to normal. Walking slowly, for example, will let you cool down and allow your heart and breathing to return to normal levels. You should also stretch the muscles you used during your exercise. After stretching, your muscles will be more flexible and less stiff. Devote a total of 5 to 10 minutes to cooling down.

Strength Training Basics

What is strength training?

Strength training, or weight training, means doing exercises that build muscle strength. To build muscle you can lift free weights, use weight machines, or do exercises that use your own body resistance (such as push-ups, pull-ups or sit-ups). Proper strength training makes muscles stronger by asking them to do more than usual. The body responds to this challenge by becoming stronger. Strength training must be done gradually and carefully, but can be done at any age.

What are the benefits of strength training?

Strength training helps you keep and can even increase the range of movement in your joints. It strengthens bones, muscles, tendons, ligaments, and improves your fitness and health. It can also help prevent injuries and speed up your recovery when injuries do occur. It also improves your ability to do everyday chores and activities.

Strength training has many more benefits including:

- ▶ **Burn more calories:** Your base metabolic rate can stay elevated 18 to 24 hours after a strength workout (even higher and longer than an aerobic workout). This means that your body burns calories at a faster rate long after you are done lifting weights.
- ▶ **Weight loss:** You lose unhealthy body fat while sparing good lean muscle mass.
- ▶ **Strong bones:** Weight bearing exercise increases bone density. This decreases your risk of having osteoporosis.
- ▶ **Better insulin sensitivity:** Your body is able to control your blood sugar levels with less insulin and puts less stress on your pancreas. This is particularly beneficial for people with diabetes.
- ▶ **Lower cholesterol:** Training helps lower LDL (bad cholesterol) levels and triglyceride levels and raise HDL (good cholesterol) levels.
- ▶ **Lower blood pressure:** Strength training lowers your blood pressure and help your heart work better.

- ▶ **Mood:** Your alertness, energy, overall attitude, and sex drive is likely to improve.

How many days a week should I train?

How often you should train depends on your overall health and is different from person to person. Most people can make excellent progress lifting 2 to 4 days per week for only 20 to 40 minutes per workout.

What exercises should I do?

There are many exercises to choose from. Try to select a good balance of exercises so that you are doing exercises for your upper body, lower body, and abdominal muscles.

- ▶ Good basic upper body exercises include: bench press, lat pull-downs, pull-ups, triceps extensions, dips, and curls. (See Upper Body Exercises)
- ▶ Good basic lower body exercises include: squats, lunges, calf raises, leg curls, leg extensions. You can strengthen your abdomen by doing crunches (sit-ups). (See Lower Body Exercises)

You can use either free weights or weight machines. One is not better than the other. Each has its own benefits and drawbacks.

- ▶ **Free weights:** Free weights use dumbbells, barbells, or your body weight for resistance (such as push-ups). Dumbbells are the weights that you hold in each hand. Barbells are the longer bars that can be used for exercises such as squats or bench press.
- ▶ **Weight machines:** There are many different types of machine exercises. The machine balances the weight load for you, which makes the exercise easier because you don't have to worry as much about balancing the weight.

What do rep and set mean?

- ▶ **Rep:** Rep is short for a repetition. A rep means that you have completed the range of motion once for an exercise. For example, doing 1 pull-up would be 1 rep.

- ▶ **Set:** A set is the number of reps of a particular exercise that you should do before resting or moving to another exercise. For example, if a workout calls for 3 sets of 10 reps of bench press with 3 minutes of rest in between sets, you would bench press the bar 10 times, then rest for 3 minutes before doing another set of 10.
- ▶ **One rep max (1RM):** 1RM is the maximum amount of weight you can lift for a given exercise for only one rep.

How much weight should I lift and how many reps should I do?

How you design your training program depends on your goal. If you want to become lean and lose body fat, you train differently than if you want to build your muscle size.

To become lean and lose body fat:

- ▶ Strength training can really help you lose weight because after a strength training workout your body burns calories at a faster rate for up to 24 hours. So, you are still helping your body lose weight hours after your workout. To lose weight you need to burn more calories than you eat. However, one of the biggest mistakes people make is not eating enough protein. You need to eat fewer calories that come from sugar or carbohydrates, but make sure that you continue to eat enough of protein. Protein helps you build lean muscle.
- ▶ One good way to weight train for fat loss is to do circuit training. In circuit training, you move quickly from one exercise to the next with little or no rest between sets. Because you are not taking a rest between sets, do not try to lift a lot of weight during each set (use a weight that is 40% to 60% of your 1RM for each exercise). So, for example, if your 1RM for leg curls is 100 pounds, then you should use 40 to 60 pounds for each set. Do 2 to 4 sets of 8 to 12 reps for each exercise. Rest no more than 90 seconds between sets.
- ▶ Women do not need to worry that lifting weights will make them gain weight and get bulky. Since muscle takes up much less space than fat does, women who weight lift will start to notice their clothes fit more loosely. Also women are less likely to gain muscle size compared to men who lift weights because women have much lower (nearly 20 times) testosterone levels than men. Testosterone helps muscle growth.

To gain muscle size:

- ▶ If your goal is to gain muscle size, then nutrition is very important. To build bigger muscles you need to eat more calories than you burn. You want to make sure you gain quality weight (lean body muscle) by eating enough quality protein (such as lean red meat, chicken, fish, eggs and nuts) and doing a proper training program, otherwise you will just gain fat.
- ▶ To gain muscle size, you need to increase the amount of weight you lift from one workout to the next. Try to train in the 4 to 8 rep range per set using a weight that is between 60% to 80% of your 1RM for a given exercise. So if your 1RM for bench press is 200 pounds, you should lift between 120 and 160 pounds for each set. Do 3 to 5 sets and rest about 1 to 3 minutes between sets.

There are many types of training programs. Ask a certified strength and conditioning coach or personal trainer to design a program that will work for you.

What else do I need to know before starting a strength training program?

Before starting any strength training program, talk to your health care provider. You should also make sure to:

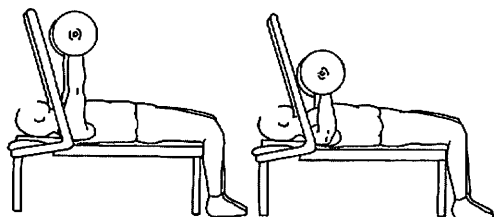
- ▶ **Eat right:** The time your body is getting stronger is actually in between workouts, during the recovery period. If you train hard, but eat poorly, your body won't respond to the workouts as well.
- ▶ **Change the workout:** Every so often change the exercises in the workout, the rep ranges, the rest times, the exercise order, or the number of sets. If you do the same workout week after week without altering some of the variables, your progress will stall.
- ▶ **Use good form:** Do not sacrifice proper posture and form for the sake of lifting more weight. If necessary, use less weight and do the exercise correctly. Be careful toward the end of a set or workout when it is harder to have good posture and form. Exhale when you are lifting a weight, inhale when you are lowering a weight. Don't hold your breath.
- ▶ **Exercise your entire body:** Most people undertrain their legs and overtrain their upper body. Be balanced in your training approach. Try to train opposing muscle equally (for example, train both biceps and triceps, quads and hamstrings, back and chest).

- ▶ **Be realistic:** Make sure you are realistic about your exercise program. It is better to design a program where you lift 2 days a week and always do your workouts than to plan to lift 4 days a week and have trouble finding time to complete your workout plan.
- ▶ **Don't overtrain:** Overtraining is when your body is not able to recuperate between workouts. You may

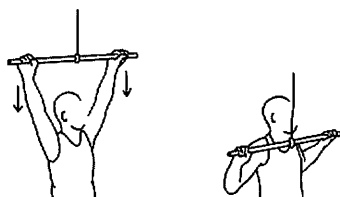
be overtraining if you are getting headaches or nausea or have a fast heart rate when you wake up. If you find yourself dreading going to the gym, feeling run down, or lacking a good night's sleep - take a day or two off before training again.

Strength Training: Upper Body Exercises

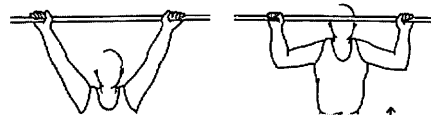
1. BENCH PRESS: Lay down on a flat bench with your head under the bar. Grab the bar with your palms facing away from you. Your hands should be placed about 3 inches wider than your shoulder width on each side. Place your feet firmly on the ground. Push your buttocks and back flat into the bench. Lower the barbell down to your chest. Push the barbell up, away from your chest and slightly towards your head. Note: This can also be done holding dumbbells.



2. LAT PULL-DOWNS: Grab the lat bar with your hands placed 2 to 3 inches wider than shoulder width. Sit on the seat and face the machine. Look straight ahead and slightly upwards. Pull the lat bar down. Pull it in front of your face until it touches the top of your chest. Pause for one second. Slowly let the lat bar rise up until your arms are straight.



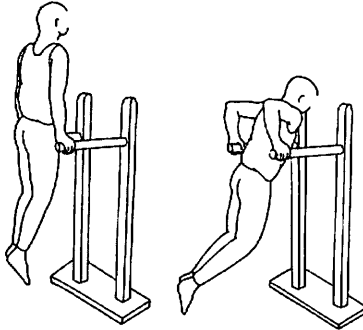
3. PULL-UPS: Grab the bar using a grip 2 to 3 inches wider than your shoulder width. Start with your arms straight. Pull your body up until your chin is over the bar. Pause for one second. Slowly lower your body back until your arms are straight.



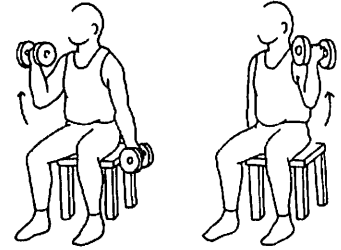
4. TRICEP EXTENSIONS: Grab a dumbbell in each hand. Lay down on a flat bench. Push the dumbbells up so that your arms are straight. Slowly bend your elbows and lower the dumbbells toward your head until they are next to your ears and your elbows are fully bent. Now fully straighten your elbows so your arms are back in their starting position.



5. DIPS: Use a set of parallel bars at a dip station. Place one hand on each bar with your palms facing the floor. Start with your elbows locked and your arms straight. Look straight ahead. Slowly lower your body down. Stop when your elbows are at or a little past 90 degrees. Pause for one second. Push your body up, until your arms are straight once again.

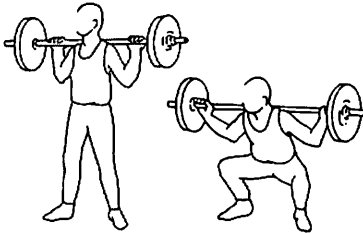


6. CURLS: Sit on a bench with a dumbbell in each hand. Grip the dumbbell so that your palms face up. Keep your back straight and look forward. Bend your right elbow to raise the dumbbell. Raise the dumbbell until your right elbow is fully bent. Slowly lower the dumbbell back down until your right arm is straight. Now do this same motion for your left arm.

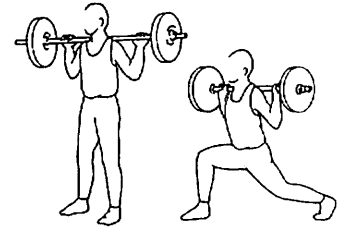


Strength Training: Lower Body Exercises

1. SQUATS: Place the barbell on your upper back. Grab the barbell with a wider than shoulder width grip. Stand with your feet wider than shoulder width. Keep your head up and your back straight. Now bend your knees and squat down until your thighs are parallel to the floor. Do not bend your upper back or lean forward. Once your thighs are parallel, push upwards into the standing position. This exercise can also be done holding dumbbells at your sides.

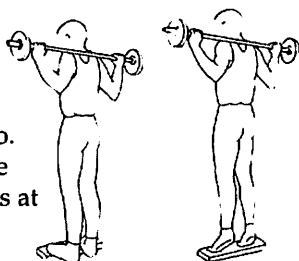


2. LUNGES: Place the barbell on your upper back. Stand tall and look straight ahead. With your right foot, step straight ahead a little more than a normal stride. Bend your left knee until it almost touches the ground. Your right knee should also be bending and pointing straight ahead. Keep your trunk, head, and shoulders upright and pointed straight ahead. Push off with your right foot, return it next to your left foot, and return to the standing position with both feet next to each other. Now step forward with your left foot, and repeat the lunge with your left leg. This exercise can also be done holding dumbbells at your sides.

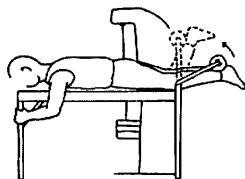


3. CALF RAISE: Place a 2 x 4 piece of wood on the floor (you could also use one of the large round pound weight plates). Place the barbell on your upper back. Stand on top of the board with the heel half of your foot hanging off the back. Now raise up on the balls of your toes. Pause at the top for a count of two.

Lower your feet back down. Let your heels go below parallel and pause for a count of two. This exercise can also be done holding dumbbells at your sides.

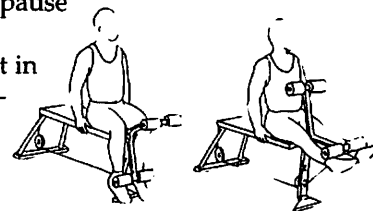


4. LEG CURLS: Adjust the leg pads to rest above your ankles but below your calves. Select the appropriate weight in the weight stack. Lay down on your stomach. Curl your legs up towards your buttocks. Pause at the top for a count of one. In a controlled manner lower the weight back until your leg is straight.



5. LEG EXTENSIONS: Sit down on the machine. Adjust the leg pads so that it is placed at mid shin level. This should be above the ankles, but below the knees. Select the appropriate weight in the weight stack. Straighten out your knees, pushing out and away the leg pads. Once your legs are straight, pause for one second.

Lower the weight in a controlled manner by bending your knees back to the starting position.



6. CRUNCHES: Lay flat on the floor or a mat. Cross your arms across your chest. Place your right hand on your left shoulder. Place your left hand on your right shoulder. Bend your knees and put your feet firmly on the ground. Slowly lift your head, neck, and shoulders off the ground several inches towards your knees. Pause at the top for one second. Lower your head, neck, and shoulders back to the ground.

