

## **Preparing to Exercise**

No matter at what age you begin to exercise, or how long you may have been inactive, proper exercise will always improve your physical condition. Programs to improve flexibility, strength, and endurance are arranged in three levels of difficulty. It is important to begin any exercise program slowly and build up gradually. Remember, it may take several months to attain the minimal levels of physical fitness identified in Level I activities. Some people will take less time, others more.

Before beginning an exercise program, have a physical examination and discuss the program with your doctor. In addition, if your mobility is limited as a result of a chronic or disabling condition, be sure to review these exercises with your doctor. Keep in mind your level of ability and endurance so that you don't risk discomfort or injury. If you experience pain while exercising, stop that particular movement and ask your doctor about it on your next visit.

Stick with it, and you will see results!

## **Warming Up**

Preparing the body for exercise is important for people at any age and all fitness levels. A warm-up period should begin with slow, rhythmic activities such as walking or jogging in place.

Gradually increase the intensity until your pulse rate, respiration rate and body temperature are elevated, which is usually about the time that you break a light sweat. It also is advisable to do some easy stretching exercises (such as the ones on page 6) before moving on to the strength and endurance activities.

## **Effective Exercising**

Once you begin your daily exercise routine, keep these points in mind to get the best results:

- Always drink water before, during and after your exercise session.
- Make exercising a part of your daily routine. You may want to set a regular time to exercise each day and invite a friend to join you.
- Start gradually, about 5 to 10 minutes at first.
- Increase the amount of exercise each day, up to about 30 to 60 minutes.
- Breathe deeply and evenly during and between exercises. Don't hold your breath.
- Rest whenever it is necessary.
- Keep a daily written record of your progress.
- Exercise to lively music, TV, or with friends for added enjoyment.
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## Cool Down

If you have been participating in vigorous physical activity, it is extremely important not to stop suddenly. Abrupt stopping interferes with the return of the blood to the heart and may result in dizziness or fainting. Simply reduce the intensity of the exercise gradually and end with a few slow stretches from the section on stretching.

## Exercising from a Wheelchair

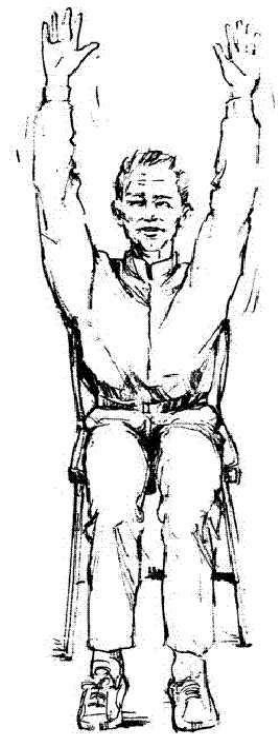
A number of the exercises in this booklet can be performed from a chair or a wheelchair. They are identified with the symbol: (o)

## Flexibility

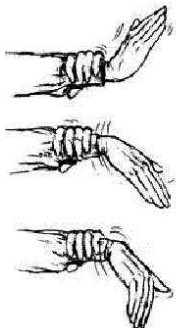
Exercises in this category will help you maintain your range of motion. Through the normal aging process, muscles tend to lose elasticity and tissues around the joints thicken. Exercise can delay this process by stretching muscles to prevent them from becoming short and tight. It also helps slow down the development of arthritis, one of the most common and painful diseases associated with advancing age.

In addition to performing flexibility exercises, you should try to bend, move, and stretch every day to keep joints flexible and muscles elastic. Avoid reliance on push buttons and conveniences that take away the need for personal motion. And, compliment this program with such recreational activities as dancing, yoga, swimming golfing, gardening, and housework.

Be sure to begin each workout with deep breathing and continue deep breathing at intervals throughout the session. You should work up to a total of 50 deep breaths per workout.

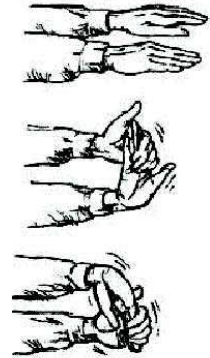


### Flexibility Level I



**1) Finger Stretching:** *to maintain finger dexterity.* With the palm of the right hand facing down, gently force fingers back toward forearm, using left hand for leverage; then place left hand on top and push fingers down. Suggested repetitions: 5 each hand.

**2) Hand Rotation:** *to maintain wrist flexibility and range of motion.* Grasp right wrist with left hand. Keep right palm facing down. Slowly rotate hand 5 times each clockwise and counter-clockwise. Suggested repetitions: 5 each hand.



**3) Ankle and Foot Circling:** *to improve flexibility and range of motion of ankles.* Cross right leg over opposite knee, rotate foot slowly, making large complete circles. 10 rotations to the right, 10 to the left, each leg.

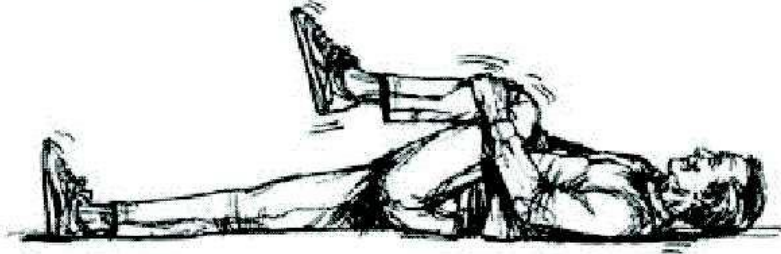
**4) Neck Extension:** *to improve flexibility and range motion of neck.* Sit up comfortably. Bend head forward until chin touches chest. You may want to stretch forward by simply jutting your chin out. Return to starting position and slowly rotate head to left. Return to starting position and slowly rotate head to right. Return to starting position. Suggested repetitions: 5.

#### Flexibility Level I

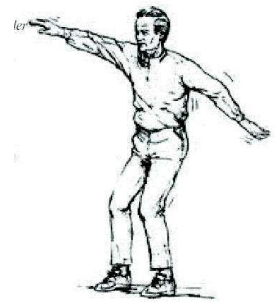


**5) Single Knee Pull:** *to stretch lower back and back of leg.* Lie on back, hands at sides. Pull one leg to chest, grasp with both arms and hold for five counts. Repeat with opposite leg. Suggested repetitions: 3 – 5.

*in opposite leg. Suggested repetitions: 3 – 5.*



**6) Simulated Crawl Stroke/Back Stroke/Sreast Stroke:** *to stretch shoulder girdle.* Stand with feet shoulder- width apart, arms at sides, relaxed Bend knees and alternately swing right and left arms backwards...upward...and foward as if swimming. Suggested repetitions: 6 – 8 movements on each stroke.



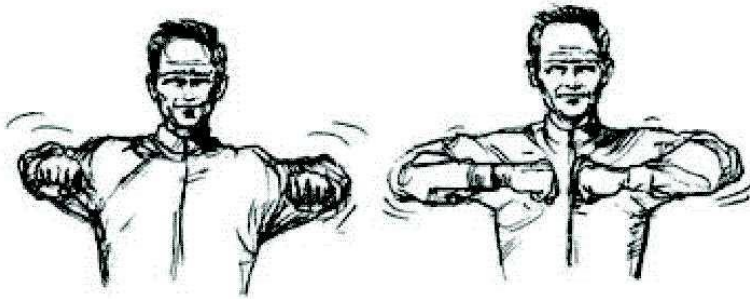
**7) Reach:** *to stretch shoulder girdle and rib cage.* Take deep breath, extend arms overhead. If standing, rise on toes while reaching. Exhale slowly, lowering arms, Can be done in a seated position. Suggested repetitions: 6 – 8.

#### Flexibility Level I

**8) Backstretch:** *to improve the flexibility of the lower back.* Sit up straight, Bend far forward and straighten up. Repeat, clasp hands on left knee. Repeat clasp hands on right knee. Exhale while bending forward. Suggested repetitions: 4 – 6 over each knee.

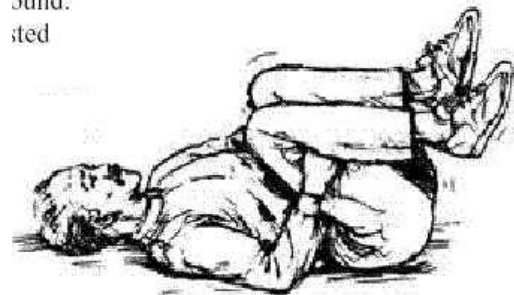


**9) Chain Breaker:** *to stretch chest muscles.* Stand erect, feet about six inches apart. Tighten leg muscles, tighten stomach by drawing it in, with hips forward, extend chest, bring arms up with clenched fists chest high, take deep breath, let it out slowly. Slowly pull arms back as far as possible keeping elbows chest high. Suggested repetitions: 8 – 10.



**Flexibility: Level II**

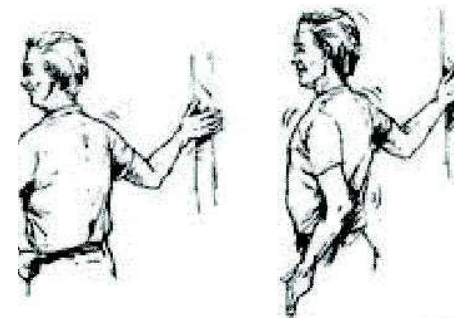
**1) Double Knee Pull:** *to stretch lower back and buttocks.* Lie on back, hands at sides. Pull legs to chest, lock arms around legs, pull buttocks slightly off ground. Hold for 10 to 15 counts. Suggested repetitions: 3 – 5.

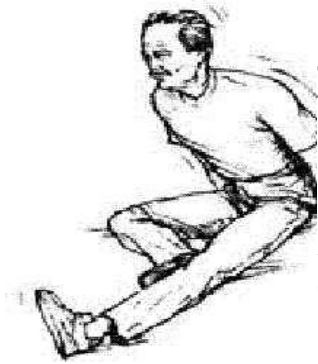


Return to start  
Suggested repetitions: 3-4

**2) Seated Pike Stretch:** *to stretch lower back and hamstrings.* Sit on floor, with legs forward, knees together. Exhale and stretch forward, slowly sliding hands down to ankles. Stretch only as far as is comfortable and use your hands for support. Hold for 5 to 8 counts. Don't bounce, position inhaling deeply. repetitions: 3-4.

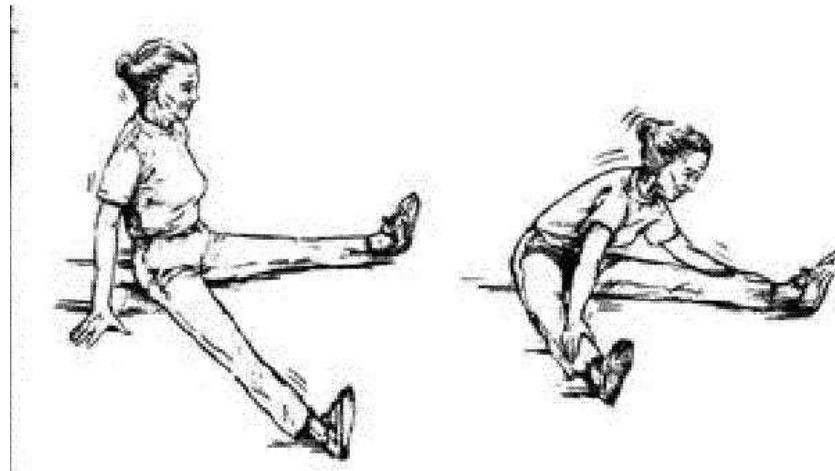
**3) Chest Stretch:** *to stretch muscles in chest and shoulders.* Stand arm-length distant from a doorway opening. Raise one arm shoulder height with slight bend in elbow. Place hand against door jamb and turn upper body away so that the muscles in chest and shoulders are stretched. Suggested repetitions: 3 – 4 each arm.





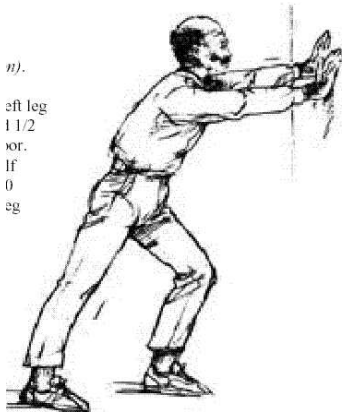
**4) Seated Stretch:** *to stretch lower back and hamstrings.* Sit on floor one leg extended to your side and one leg bent comfortably in front of your body. Supporting your body weight with your hands and keeping your back straight, lean forward until you feel a comfortable leg and hamstring. Hold the stretch for a few seconds, exhaling. Switch sides. Suggested repetitions: 3 – 5 each side.

### Flexibility Level III



**1) Sitting Stretch:** *to increase flexibility of lower back and hamstrings.* Sit on floor with legs extended as far apart as is comfortable. Exhale and stretch forward slowly, sliding your hands down your legs. Reach as far as is comfortable and hold for 5 – 8 counts. Suggested repetitions: 3-4.

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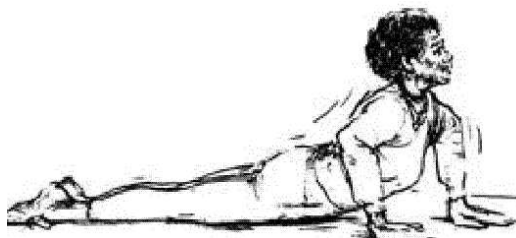


**2) Achilles Stretch:** *to stretch calf muscles on back leg (Achilles tendon).* Stand facing wall 2 to 3 feet away. Extend arms, lean into wall. Move left leg forward 1/2 step, right leg backward 1/2 step or more. Lower right heel to floor. Lean hips forward, stretching the calf muscles in the right leg. Hold 5 to 10 counts. Breathe normally. Reverse leg position and repeat. Suggested repetitions: 3-6 each leg.

**3) Modified Seal:** *to stretch abdominal wall, chest, and front of neck.* Lie on the floor with arms extended, stomach down, feet extended, with toes pointed. While exhaling, slowly lift head and push



up until arms are bent at right angles, with back arching gently. Keep hips on the floor. Keeping arms bent, hold for 5-10 counts, Return to starting position, inhaling deeply. Suggested repetitions: 4-6.



**4) Half Bow:** *to stretch the top of the thigh and groin area.* Lie on left side. Hold ankle of right foot with right hand just above toes. Slightly arch back. Hold 5 to 10 counts. Suggested repetitions: 3 – 5.

## Strength

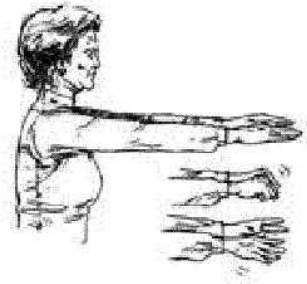
Exercises designed to build strength can help prevent premature loss of muscle tissue and can improve muscle strength, size, and endurance at any age. The benefits of strength exercises also include improving reaction time, reducing the rate of muscle atrophy, increasing work capacity, and helping prevent back problems and injury.

The following program of muscle conditioning exercises for the whole body has been designed specifically for older adults. Calisthenics work muscles against resistance, enabling them to grow and maintain muscle tone. In addition to the strength exercises suggested in the next section, other physical activities that are essentially recreational can provide benefits to help maintain muscle integrity. Such activities include: bicycling, swimming,

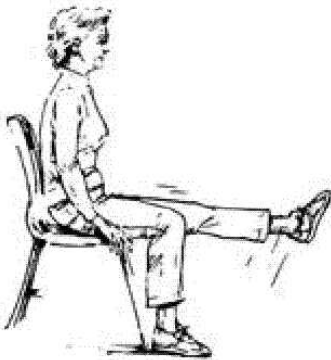
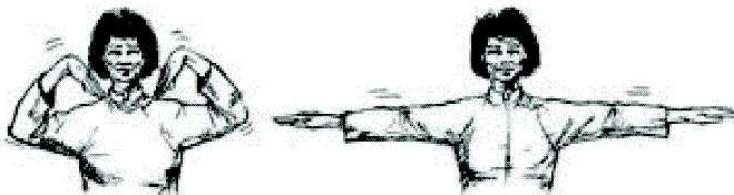


## Strength: Level I

**1) Finger Squeeze:** *to strengthen the hands.* Extend arms in front at shoulder height, palms down. Squeeze fingers slowly, then release. Suggested repetitions: 5. Turn palms up, squeeze fingers, release. Suggested repetitions: 5. Extend arms in front, shake fingers. Suggested repetitions: 5.



**2) Touch Shoulders:** *to increase flexibility of the shoulders and elbows and tone the upper arm; can be done in a seated position.* Touch shoulders with hands, extend arms out straight. Bring arms back to starting position. Suggested repetitions: 10 – 15.



**3) Leg Extensions:** *to tone the upper leg muscles.* Sit upright. Lift 1 left leg off the floor and extend it fully. Lower it very slowly. Suggested repetitions: 10-15 each leg. (o)



**4) Back Leg Swing:** *to firm the buttocks and strengthen the lower back.* Stand up, holding on to the back of a chair. Keep your back and hips in line with the chair as you do the exercise. Extend one leg back, foot pointed towards the

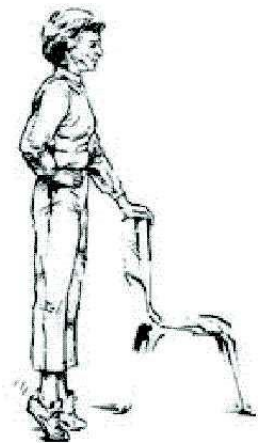


floor. Keeping the knee straight, lift the leg backwards approximately four inches and concentrate on squeezing the muscles in the buttocks with each lift. Make sure you keep your back straight as you raise your legs. Return to starting position. Suggested repetitions 10 each leg.



**5) Quarter Squat:** *to tone and strengthen lower leg muscles.* Stand erect behind a chair, hands on chair back for balance. Bend knees, then rise to an upright position. Be careful not to let knees go beyond your toes. Suggested repetitions: 8-12.

**6) Heel Raises:** *to strengthen the calf muscles and ankles.* Stand erect, holding a chair for balance if needed, hands on hips, feet together. Raise body on toes. Return to starting position. Suggested repetitions: 10.



Strength: Level I



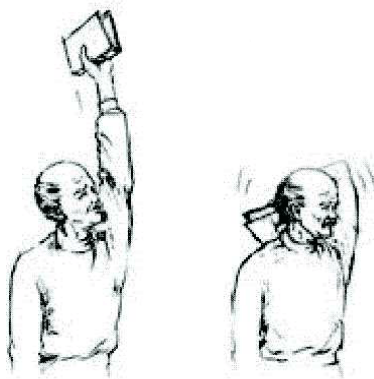
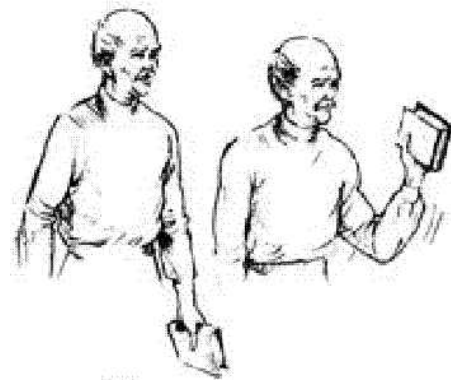
**7) Knee Lift:** *to strengthen hip flexors and lower abdomen.* Stand erect. Raise left knee to chest or as far upward as possible while back remains straight. Return to starting position. Repeat with right leg. Suggested repetitions: 5 each leg.

**8) Head and Shoulder Curl:** to firm stomach muscles. Lie on the floor, knees bent, arms at sides, head bent slightly forward. Reach forward with arms extended, until finger tips touch your knees, Hold for 5 counts. Return to starting position. Suggested repetitions: 10.



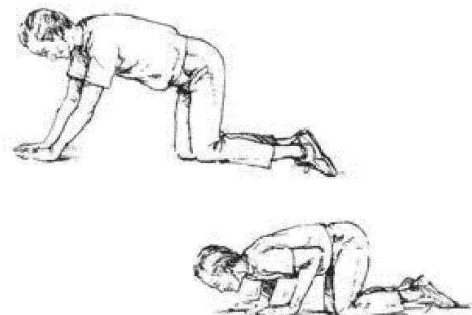
## Strength: Level II

**1) Arm Curl:** to strengthen arm muscles. Use a weighted object such as a book or a can of vegetables or small dumbbell. Stand or sit erect with arms at side, holding weighted object. Bend your arm, raising the weight. Lower it. Can be done seated. Suggested repetitions: 10-15 each arm.



**2) Arm Extension:** to tone muscles in the back of the arm. Sit or stand erect with arms at sides. Holding a weighted object of less than 5 pounds, overhead. Slowly bend arm until head. Slowly extend arm to The arm curl and arm extension separately or together, alternating seated. Suggested repetitions:

**3) Modified Knee Push-up:** to strengthen upper back, chest, and back of arms. Start on bent knees, hands on floor and slightly forward of shoulders. Lower body until chin touches floor. Return to start. Suggested repetitions: 5-10.





**4) Calf Raise:** *to strengthen lower leg and ankle.* Stand erect, hands on hip or on back of chair for balance. Spread feet 6" to 12". Slowly raise body up to toes, lifting heels. Return to starting position. Breathe normally. Suggested repetitions: 10-15

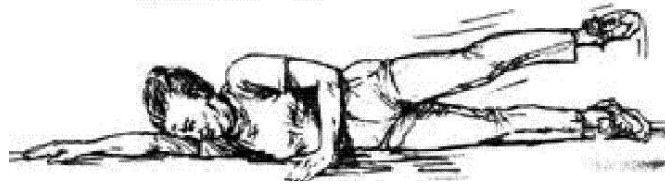
**5) Alternate Leg Lunges:** *to strengthen upper thighs and inside legs. Also stretches back of leg.* Take a comfortable stance with hands on hips. Step forward 18 to 24 inches with right leg. Keep left heel on floor. Shove off right leg and resume standing position. Suggested repetitions: 5-10 each leg.



**6) Modified Sit-up:** *to improve abdominal strength.* Lie on back, feet on the floor with finger tips behind your ears. Look straight up at the ceiling and lift head and shoulders off floor. Suggested repetitions: 10.

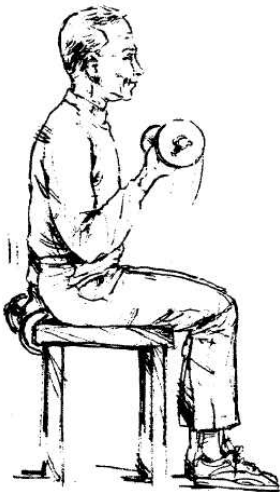


**7) Side Lying Leg Lift:** *to strengthen and tone outside of thigh and hip muscles.* Lie on right side, legs extended. Raise leg four to five inches. Lower to starting position. Suggested repetitions: 10 on each side.



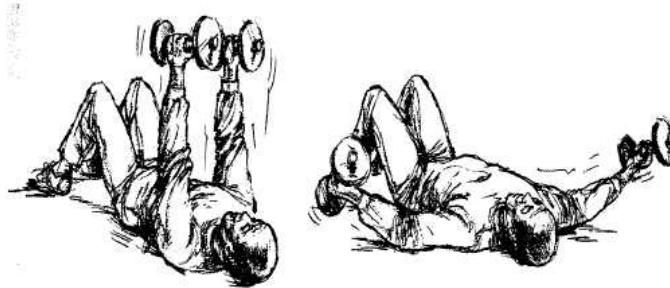
### **Strength: Level III**

**Note:** In Level III strength exercise, lightweight resistance equipment, such as the dumbbell, is introduced to overload the muscles. While equipment of this kind is low in cost and desirable, a number of substitutes can be used. These include a bucket of soil, a heavy household item such as an iron, a can of food, a stone, or a brick.



**1) Seated Alternate Dumbbell Curls:** *to strengthen biceps of upper arms.* Sit comfortably on a flat bench with arms at side. Hold a pair of dumbbells with an underhand grip, so that palms face up. Bending left elbow, raise dumbbell until left arm is fully flexed. Lower left dumbbell while raising right dumbbell from the elbow until right arm is fully flexed. Breathe normally. Suggested repetitions: 2 sets of 8 – 10 each arm.

**2) Dumbbell Fly:** *to strengthen chest muscles and improve lateral range of motion in shoulder girdle.* Lie on your back on a Flat bench or floor if bench is not available. Grasp dumbbells in each hand over chest. Inhale and lower dumbbell to side with elbow slightly bent. Raise dumbbell in an arc to the starting position, exhaling in the process. Suggested repetitions: 8 – 12.



**Shrug:** *to strengthen muscles in shoulders,* Stand comfortably with dumbbells in each as high as possible, rolling them first to the starting position. Exhale as you lower Suggested repetitions: 10 forward, 5

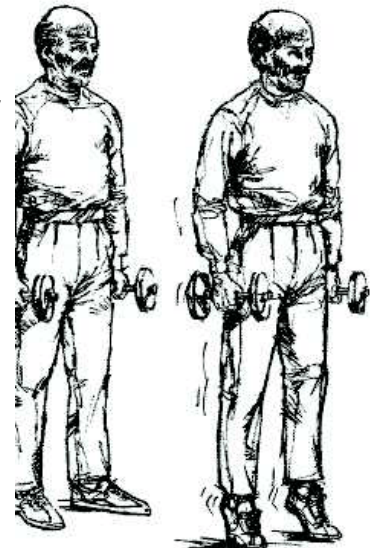


**3) Alternate Dumbbell** *upper back and neck.* hand. Elevate shoulders backward and then down the shoulders. backward.

**4) One Arm Dumbbell Extension:** *to strengthen triceps (back of arm) and improve range of motion.*



Bring weight up to shoulder and lift overhead. Slowly lower it behind the back as far as is comfortable. Extend arm to original position. Inhale on the way down, exhale on the way up. Suggested repetitions: 8 – 12 on each arm.

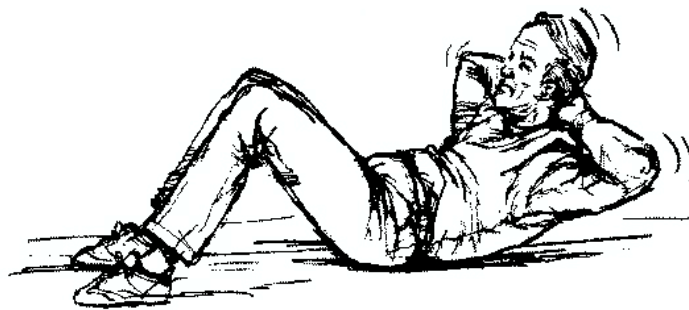


**5) Dumbbell Calf Raise:** to strengthen calf muscle and improve range of motion of ankle joint. Stand with feet shoulder-width apart, weights in each hand, toes on a 2" x 4" block (preferred but not necessary). Raise up on toes lifting heels as high as possible. Slowly lower heels to starting position. Breathe normally. Suggested repetitions: 5 with heels straight back, 5 with heels turned out, 5 with heels turned in.



**6) Dumbbell Half Squats:** to strengthen thigh muscles in front. Stand with feet shoulder-width apart and heels on a 2" x 4" block (not necessary, but preferred). Holding weights in each hand, slowly descend to a comfortable position where the tops of the thighs are about at a 45 degree angle to the floor. There is no benefit to a deeper squat. Inhale on the way down. Stand up slowly, keeping knees slightly bent. Exhale on the way up. Suggested repetitions: 10 -12.

**7) Modified Sit-up:** to improve abdominal strength. Lie on back, feet on the floor, with finger tips behind your ears. Look straight up at ceiling and lift head and shoulders off floor. Suggested repetitions: 12-15.



## Endurance

Endurance-building or aerobic exercises improve the functions of the heart, lungs, and blood vessels. Vital to fitness are a strong heart to pump blood to nourish billions of body cells, healthy lungs where the gases of cell metabolism are exchanged for oxygen and elastic blood vessels free of obstructions. Without a healthy level of endurance, you

may feel tired, lack zest. You may also experience shortness of breath, rapid heartbeat or even nausea.

Activities to improve endurance include brisk walking, cycling, swimming, dancing and jogging. Walking is actually one of the best all-round exercises. The massaging action the leg muscles exert on the veins as you walk improves the flow of blood back to the heart and also strengthens the leg muscles.

## **Walking for Fitness**

The following walking program has been designed to help mid-life and older persons build and maintain cardiovascular endurance. Walking offers several advantages over other forms of exercise; it requires no previous instructions, it can be done almost anywhere, it can be done almost anytime, it costs nothing, and it has the lowest rate of injury of any form of exercise.

It takes a little longer to achieve conditioning results through walking than through more strenuous activities, but not much. One study showed, for example, that jogging a mile in

8 1/2 minutes burns only 26 more calories than walking a mile in 12 minutes.

Conditioning benefits from walking improve dramatically if you increase the pace to faster than 3 miles per hour (20-minute mile). In another study, participants burned an average of 66 calories per mile walking 3 miles per hour, but 124 calories per mile when they increased the pace to 5 miles per hour.

Choose a comfortable time of day to exercise, not too soon after eating and when the air temperature is not too high. Many people find it more enjoyable to exercise with others. Follow the program at the recommended rate but be careful not to overexert. Stop if you find yourself panting or feeling nauseous, if your breathing does not return to normal within ten minutes after exercising or if your sleeping is affected. If you feel uncomfortable progressing at the recommended rate, spend additional weeks at each level of exercise. For example, if you reach a comfortable limit in the fifth week of the program at 3 one-mile walks on alternate days, continue one-mile walks but increase the frequency to 5,6,7 or more walks weekly until you can move on to activity recommended for the sixth week.

## **How to Walk**

A good walking workout is a matter of stepping up your pace, increasing your distance and walking more often. Here are some tips to help you get the most out of walking:

- Move at a steady clip, brisk enough to make your heart beat faster and cause you to breathe more deeply.
- Hold your head erect, back straight and abdomen flat. Toes should point straight ahead and arms swing at your sides.
- Land on your heel and roll forward to drive off the ball of your foot. Walking only

- on the ball of the foot or walking flat-footed may cause soreness.
- Take long, easy strides, but don't strain. When walking up hills rapidly, lean forward slightly.
  - Breathe deeply, with your mouth open if that's more comfortable.

### **What to Wear**

Shoes that are comfortable, provide good support and don't cause blisters or calluses are the only special equipment necessary. They should have arch supports and should elevate the heel one-half to three-quarters of an inch above the sole. They should also have uppers made of materials that "breathe" such as leather or nylon mesh. Some examples are: training models of running shoes with thick soles, light trail or hiking boots or casual shoes with thick rubber or crepe rubber soles.

Wear lighter clothing than the temperature would ordinarily dictate because brisk walking generates a lot of body heat. In cold weather, wear several layers of light clothing. They trap body heat and are easy to shed if you get too warm. A woolen cap and mittens are important in very cold temperatures.

**SOURCE :** The President's Council on Physical Fitness and Sports