

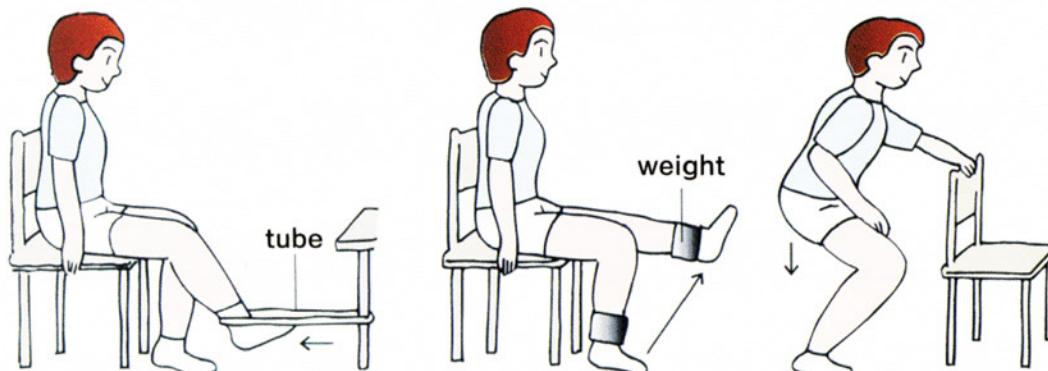
Anytime / Anywhere / Anyone Enjoyable Exercises

1. The objective is to increase the amount of steps usually taken in one day from 1000-2000 to 10000.

More effective walking means taking bigger and quicker steps



2. Try using your muscles by exercising 2 times-a-week with leg weights and a rubber band



I . Good Exercises for Health and Fitness

1. Why Aerobic Exercise is Best for Improved Health and Fitness ?

Aerobic exercise should be done at an enjoyable pace (aerobics with smile), for longer periods, enabling you to burn off fat. Exercising at an enjoyable pace, where you are able to breathe comfortably, enables sufficient oxygen to be transmitted to muscles, and burns off and transforms glycogen and fat into energy.

2. Types of Aerobic Exercise

Aerobic exercise comprise of activities such as walking or walking at a brisk pace, jogging, cycling, and swimming.

3. What is the Best Level of Aerobic Exercise?

The best, safest and most effective aerobic level is done at an enjoyable pace where you are able to talk comfortably while you are exercising. To check if your heart rate falls in the enjoyable pace category while exercising, refer to the chart below. If your heart rate falls in the appropriate age/heart rate (taken for one minute) range, you are exercising at an enjoyable pace.

Enjoyable pace:

$$\text{Heart rate while exercising} = \text{heart rate immediately after exercising} \times 4 + 10$$

Enjoyable Pace: Age / Heart Rate Calculation Chart

Age	Heart Rate Immediately After Exercise (Taken for 15 Seconds)	Heart Rate While Exercising (Taken for one Minute)
21 – 28	29	128 – 124
29 – 36	28	124 – 120
37 – 44	27	120 – 116
45 – 52	26	116 – 112
53 – 60	25	112 – 108
61 – 68	24	108 – 104
69 – 76	23	104 – 100
77 – 84	22	100 – 96
85 – 92	21	96 – 92

4. How Long? How Often?

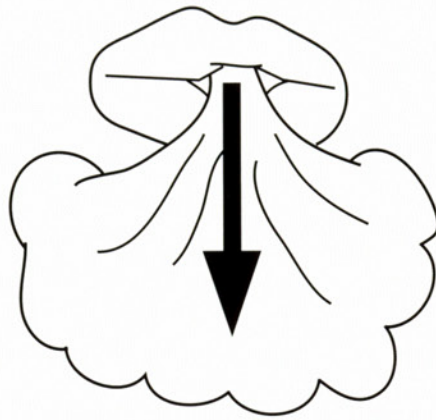
- 1) Your workout should be sustained for at least 10 minutes of continuous exercise, and can be done at various times throughout the day; for a total of 60 minutes, every day. You should aim to burn 200-250kcal (kilocalories) a day.
- 2) Middle-aged individuals should aim to walk on average over 10,000 paces a day, two days a week for 30 minutes or more. It is necessary to walk 6000-8000 steps (100-150 kcal) at least a day.
- 3) Elderly individuals should, in addition to incorporating 20 minutes of exercise through doing their daily routines, aim to do strength-training exercises using weights or rubber tubes, two times a week.

II. Enjoyable Exercises

- 1) As this is an exercise program which middle-aged and elderly individuals can easily do in the home, it can be used as a way of reducing soreness in the body and as a means of building up endurance and strength.
- 2) The exercises are three times more vigorous (3.0-3.5 Mets) than when you are comfortably seated; the same level as walking, and have been adapted to suit the needs of elderly and or individuals who are not used to exercising.
- 3) There are a total of 40 exercises: 18 seated; seven standing and 15 floor exercises. Doing five to six repetitions of each exercise takes approximately 30 minutes; 13 minutes seated, five minutes standing and 13 minutes of floor exercises. You can expect to burn a total of 100 kcal calories through doing these exercises.
- 4) There are breathing techniques to use during the warm-up and cool down phase. You should move through each exercise slowly, and breathing correctly. Generally the correct technique is to breathe out when you perform the first movement. In addition, there are exercises you can do using light weights.
- 5) You will need a stick or a cane, and an iron dumbbell or a PET bottle (filled with sand or water) for some of the exercises.

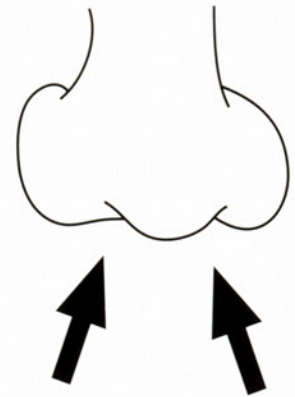
1. Seated Exercises (suitable for those who find it difficult walking)

1) Abdominal breathing with pursed lips method



Exhale

(Breathing with pursed lips)



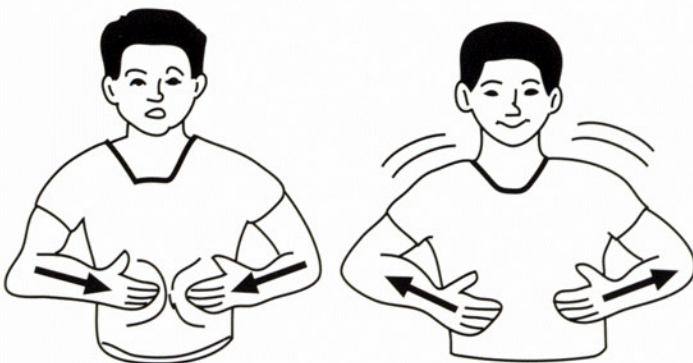
Inhale

Purse your lips and exhale (1-2-3-4) /
Breathe in through your nose (1-2)

When breathing out through your pursed lips, count (1-2-3-4) as you exhale in short bursts and whistle each time. When breathing in through, your nose expand your abdominal and count (1-2) as you breathe in.

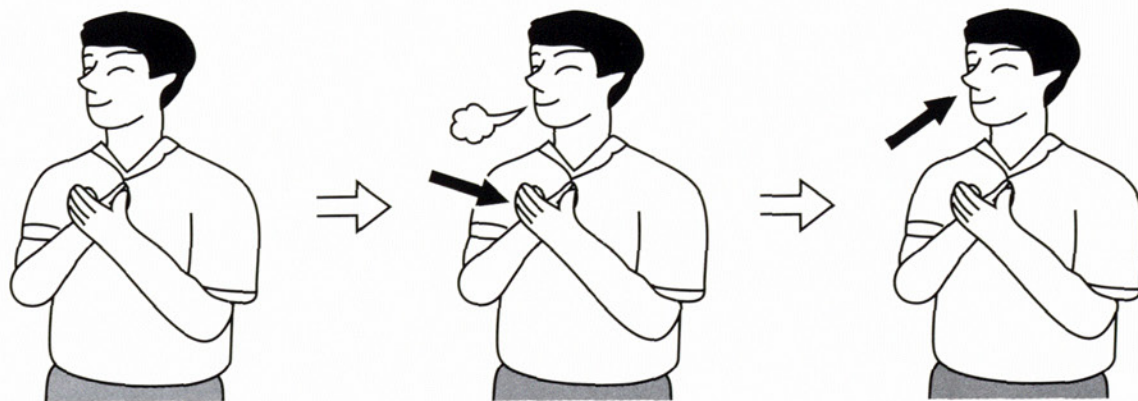
When breathing in through your nose, expand your abdomen, and when breathing in suck your abdomen in.

2) Lower-chest breathing exercise



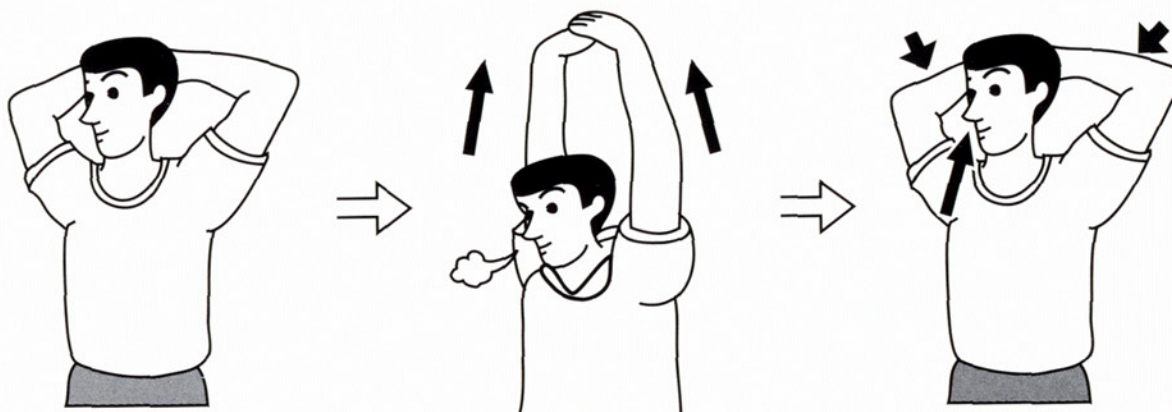
Place both hands on the left and right side of the lower part of your chest, and breathe out and in. As you breathe out, using both hands, press in the areas on each side just under the ribcage, and raise up your ribcage area as you breathe out.

3) Upper chest breathing exercise



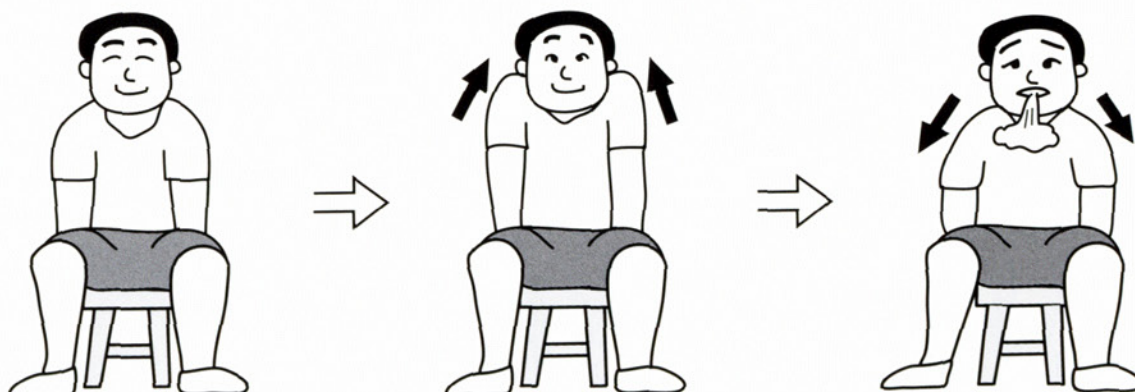
Put your hands together on top of your chest / While breathing out, push down on your chest / While breathing in relax

4) Arm and shoulder exercise



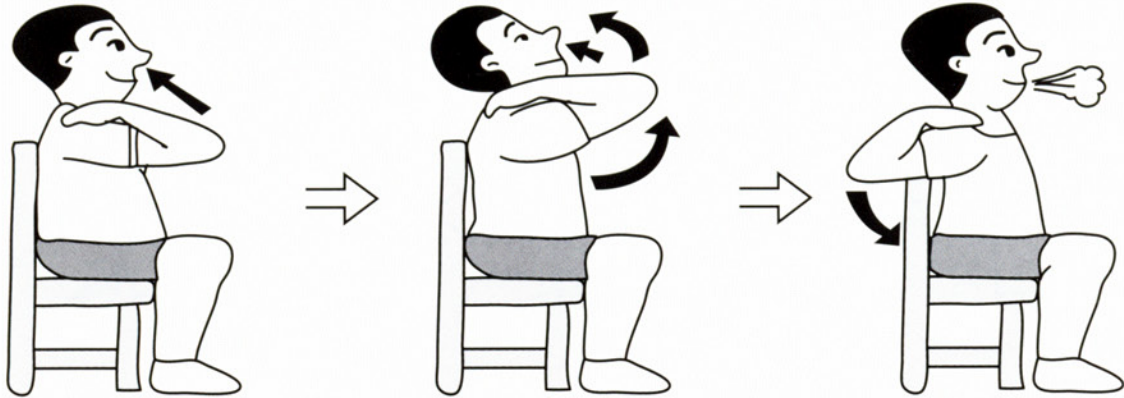
Clasp both hands behind your head / While breathing in raise your clasped hands above your head / While breathing out lower your hands back to the starting position

5) Shoulder raising and lowering exercise



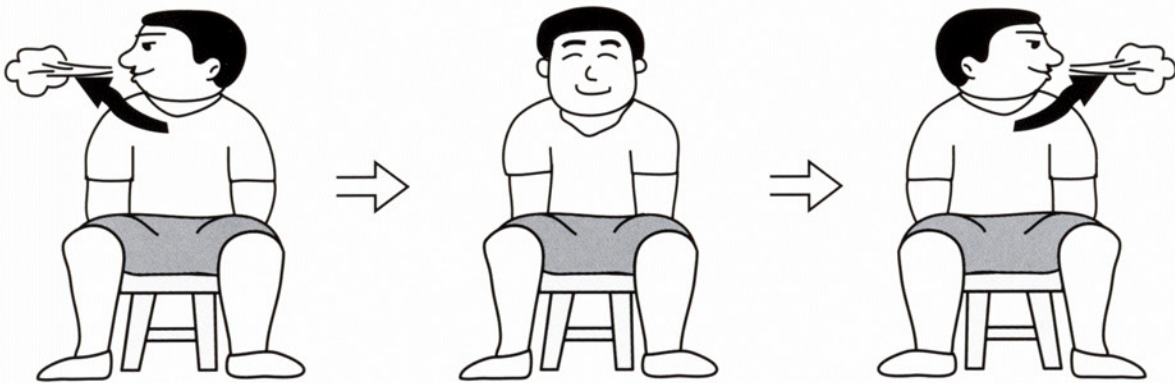
While breathing in raise both shoulders / While breathing out lower both shoulders

6) Shoulder rotation exercise



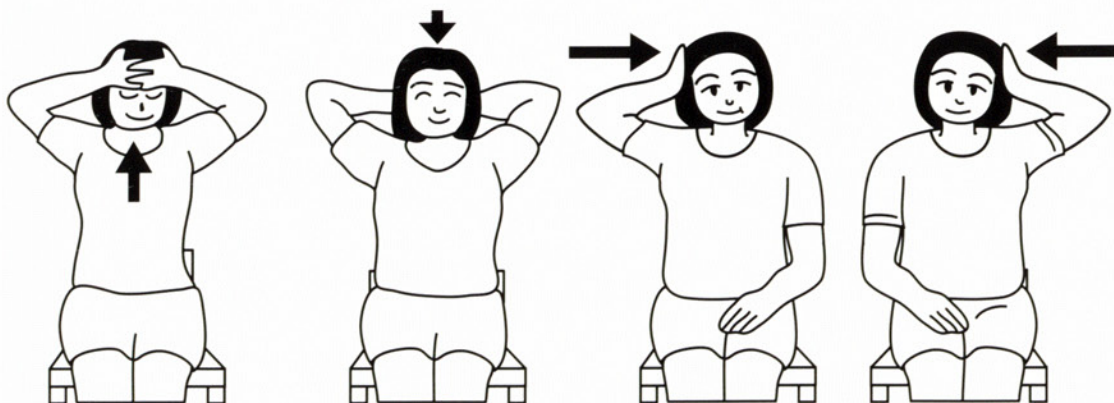
Put both hands on your shoulders / Rotate your arms upwards from the back / Rotate your arms downwards from behind to the front

7) Left and right neck rotation exercise



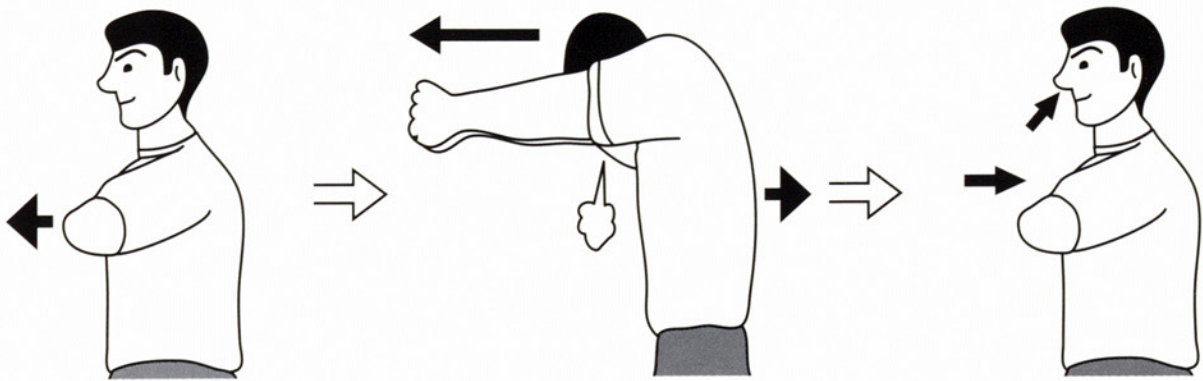
While breathing out turn your head to the right / While breathing in turn your head back to the front / While breathing out turn your head to the left

8) Both hands pushing on the front, back and sides of the head exercise



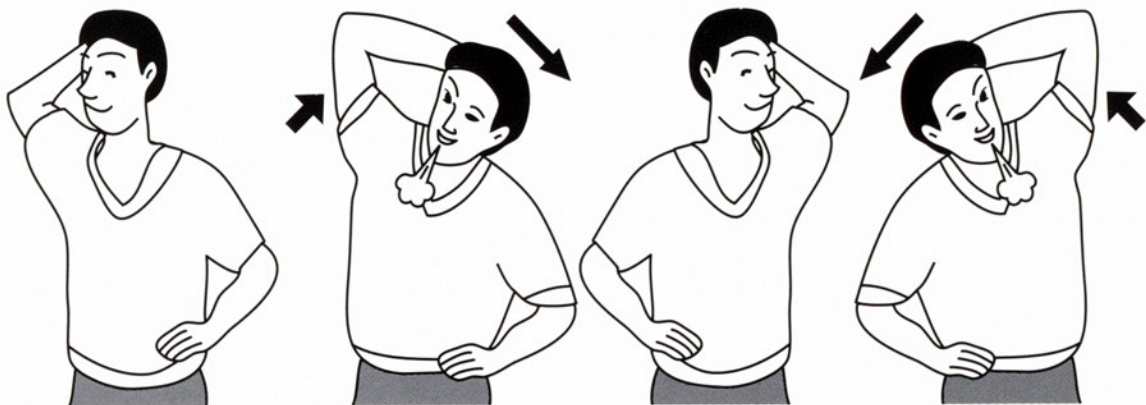
While breathing out push on the front, back, left side and right side of your head for about 5 seconds at a time, without moving your head.

9) Upper body forward movement exercise



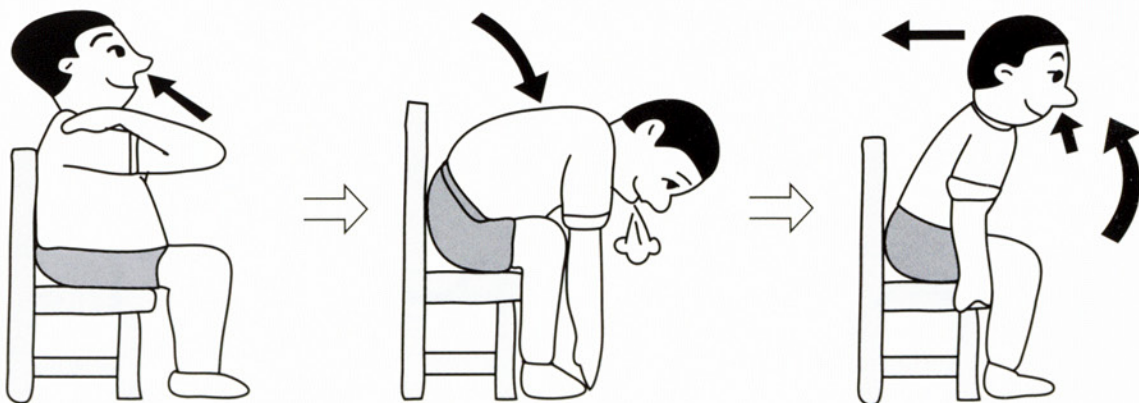
Clasp your hands in front of you / While breathing out stretch both hands out in front of you / While breathing in return your hands to the starting position

10) Upper-body left and right side bending exercise



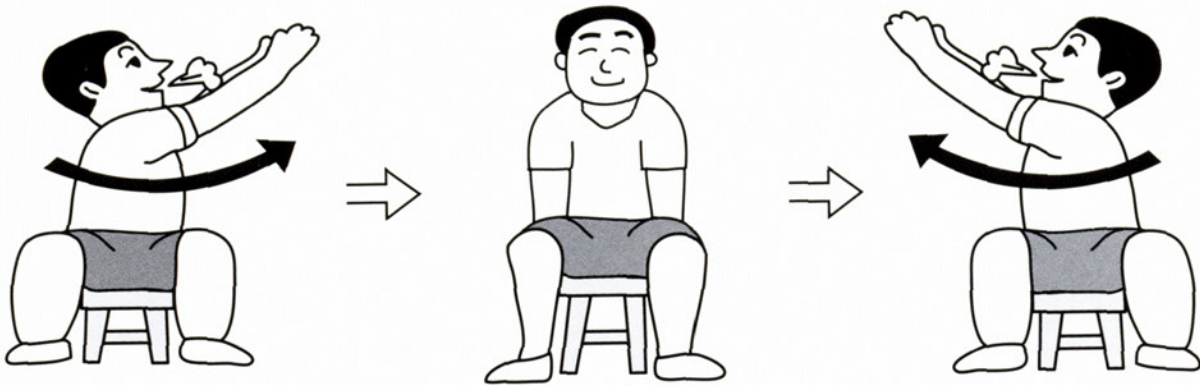
While breathing out bend your upper body left and right and breath in when returning to the central position

11) Upper body bending forward exercise



While breathing out bend forward / While breathing in return to the upright position

12) Upper-body left and right twisting exercise



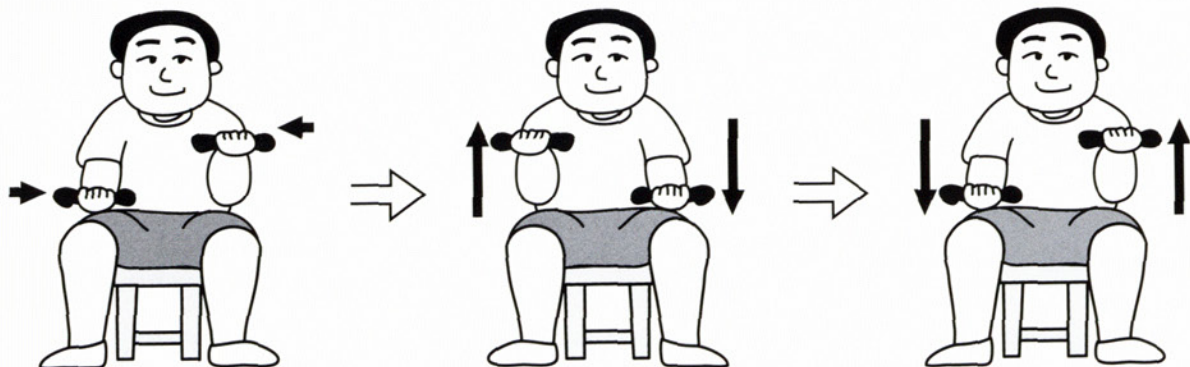
While breathing out twist the upper-body to the left / While breathing in return to the central position / While breathing out twist to the right

13) Knee extension / flexing exercise



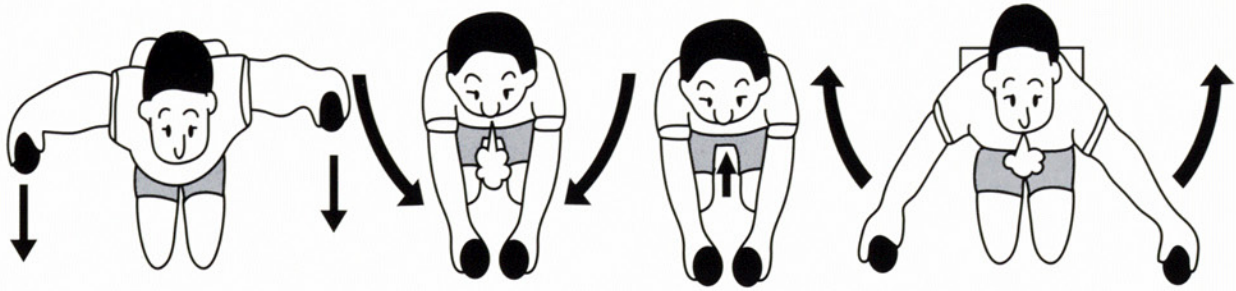
- a) While breathing out raise your leg and extend it / While breathing in lower your leg / (It is also beneficial to strap a 500g - 1kg weight to your ankle for this exercise).
- b) While breathing out drag your leg back against the resistance of the rubber tube and flex your ankle.

14) Arm curl exercises with weights



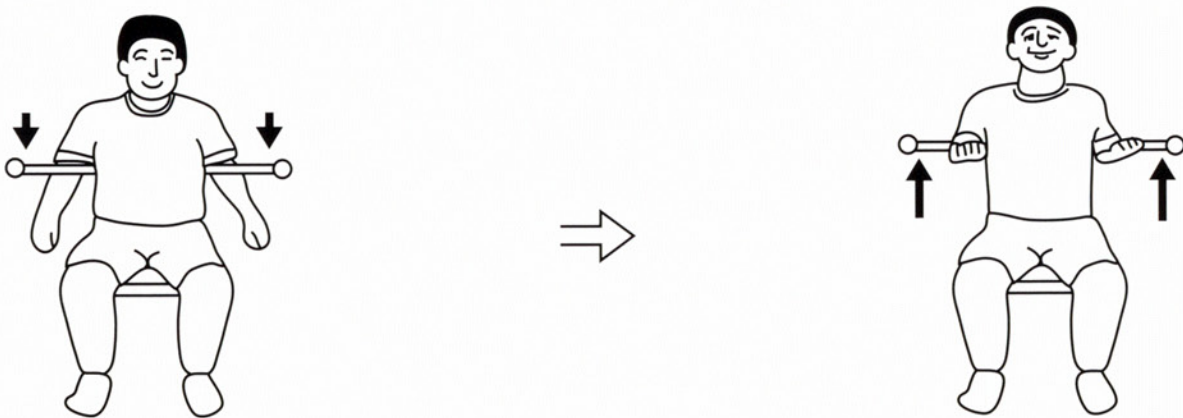
Use 500g - 1kg weights and do the arm curls in rhythm with your breathing / Breathe out as you exert yourself.

15) Chest expansion exercise with weights



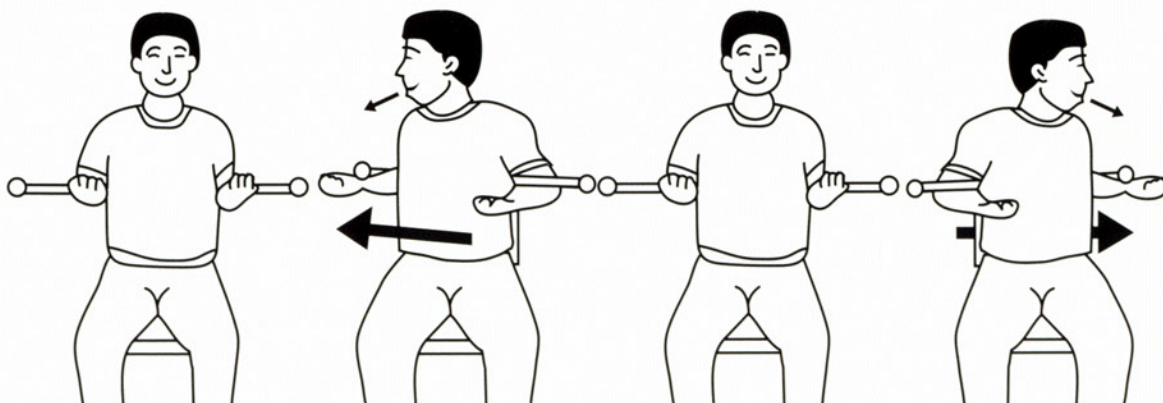
While breathing out bring your extended arms horizontally in front of you / While breathing in open your extended arms parallel to your sides / Use 500g - 1kg weights and do the chest expansions in time with your breathing.

16) Behind the back pole lifting exercise (a pipe or stick may also be used)



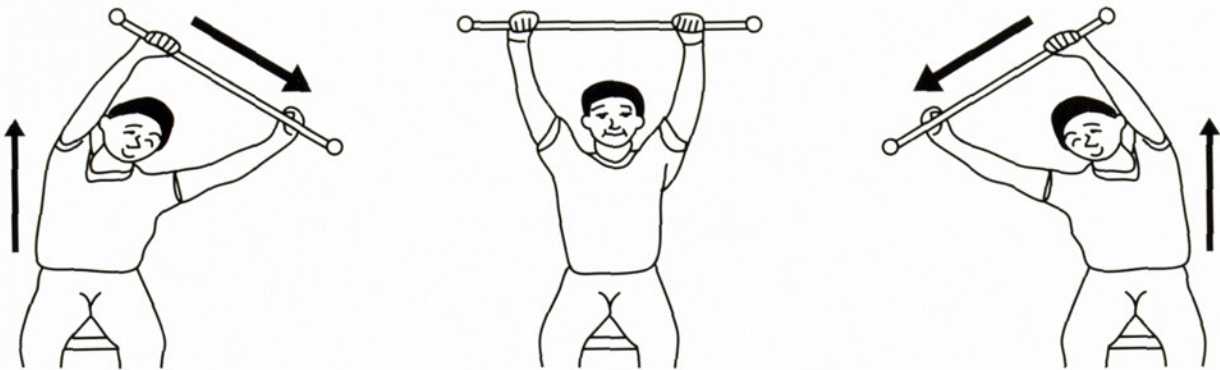
Place the pole behind your back and under your arms / While breathing in lift the pole behind your back and at the same time bend your upper-body backwards

17) Upper-body twisting exercise with a pole behind the back



As you breathe out twist your upper-body to the right and breathe in as you return to the central position / Repeat this procedure to the left

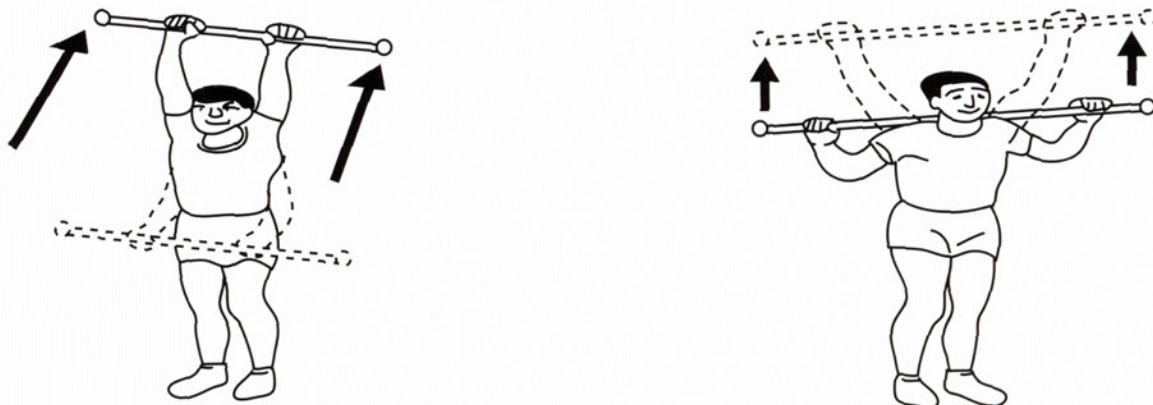
18) Upper-body left and right bending exercise with a pole above the head



While breathing out bend your upper-body to the left / While breathing out return to the central position / While breathing out bend your upper-body to the right

2. Standing Exercises

1) Frontal pole lifting exercise 2) Rear pole lifting exercise from the shoulders



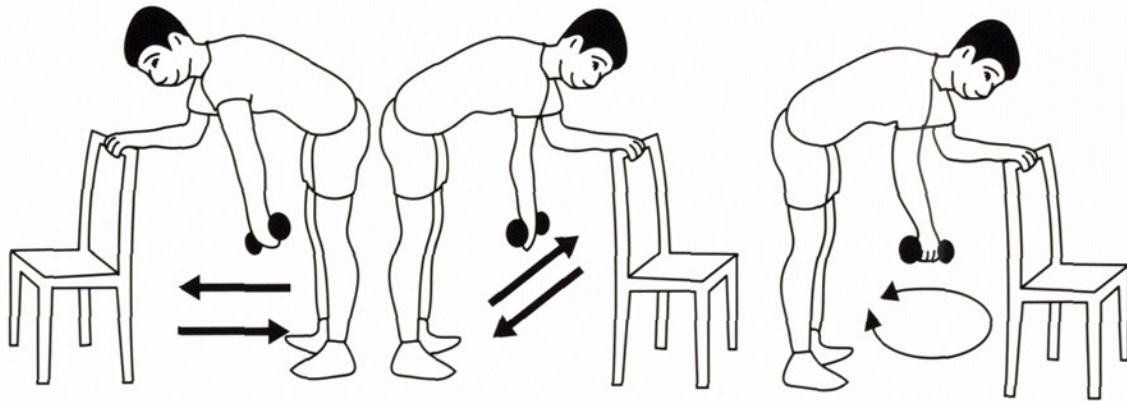
While breathing in lift the pole above your head / While breathing out lower the pole

3) Upper-body left and right rotation exercise using a pole 4) Rear pole lifting exercise



While breathing out twist the body from left to right / While breathing out lift the pole behind your back with your palms facing upwards

5) Rotating pendulum shoulder exercise with a weight

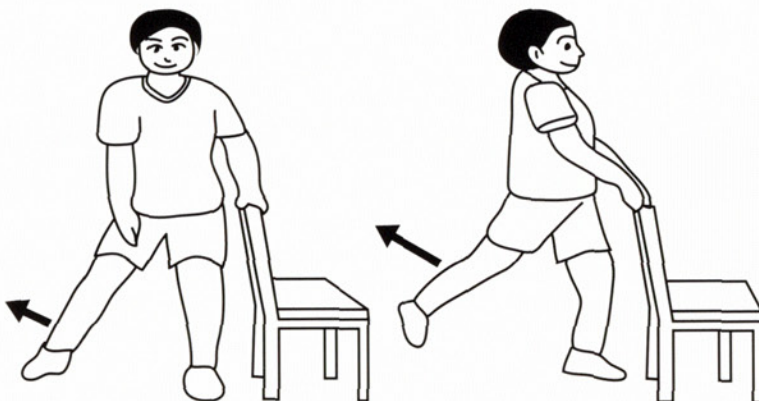


Using a 500g - 1kg weight swing your arm left and right, forwards, backwards and sideways in a pendulous motion, and then in a circular motion.

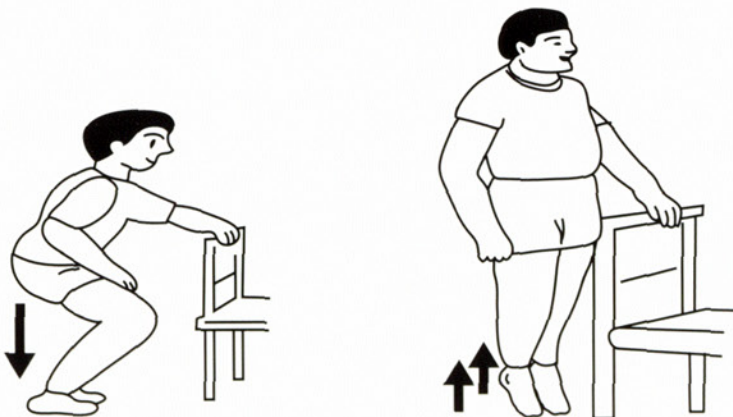
Change hands with the weight and repeat the procedure

6) Side and rear leg raising exercise supported by a chair

While breathing out lift your leg to the side / While breathing out lift your leg to the rear



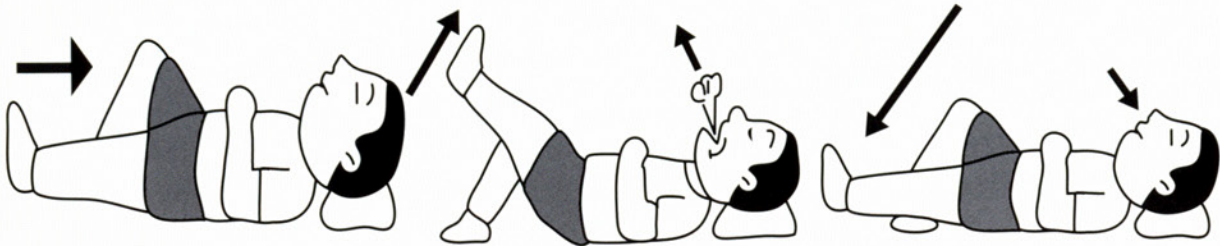
7) Squat exercise supported by a chair



While breathing out squat down / While breathing return to the standing position, then and stand on tiptoe.

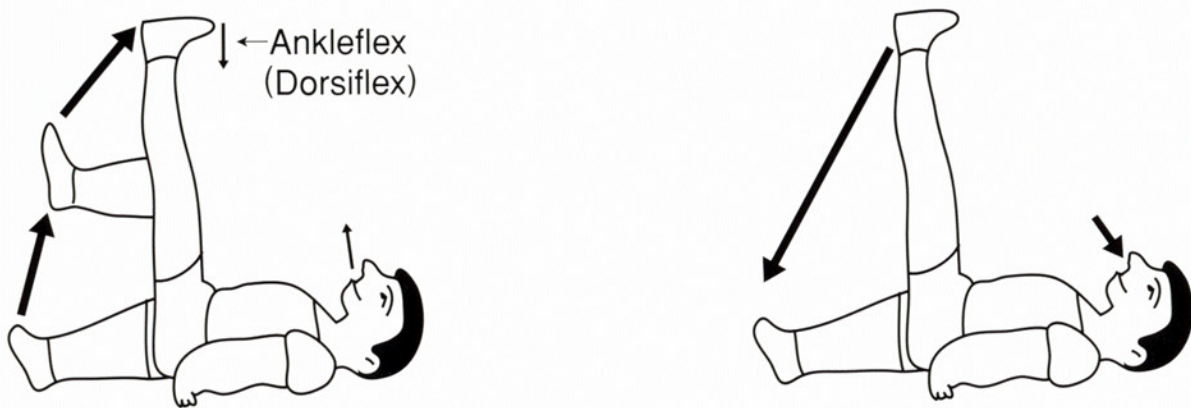
3. Floor Exercises

1) Leg raising exercise



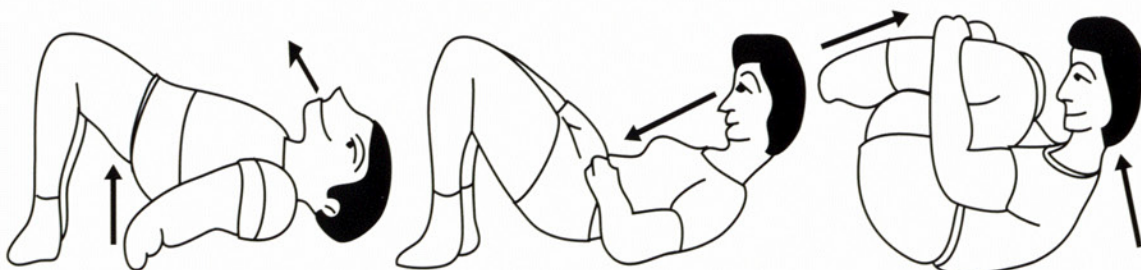
While breathing out slowly lift your extended leg (leave the other leg bent upwards as you do it) / While breathing in lower your leg

2) Knee bending and extension, leg lifting exercise



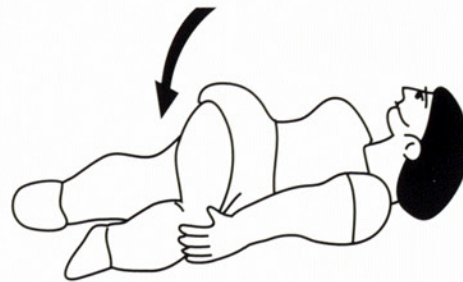
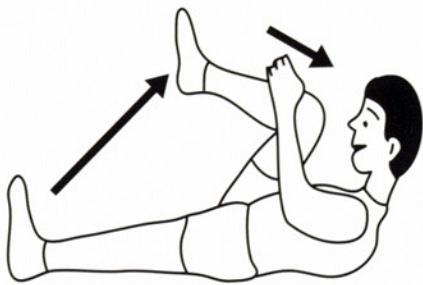
Lift your leg upright, perpendicular to your body, bending your knee at the halfway point. While breathing out lift your extended leg / While breathing in lower your leg

3) Waist lifting exercise 4) Head lifting abdominal exercise 5) Knee tuck exercise



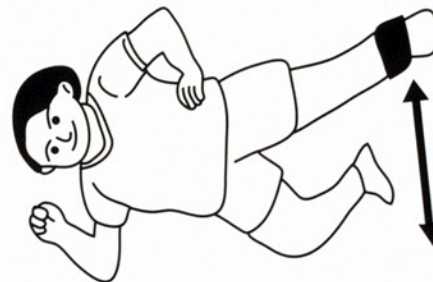
While breathing in lift your waist / While breathing out lift your head / While breathing out lift your knees up under your chin

6) Single knee tuck exercise (alternating knees) 7) Waist twisting exercise



While breathing out lift one knee up under your chin / While breathing out twist your waist

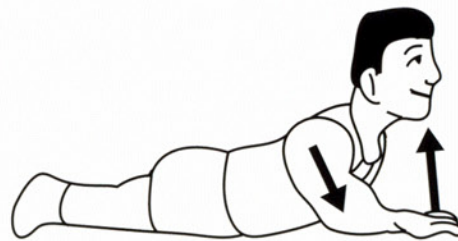
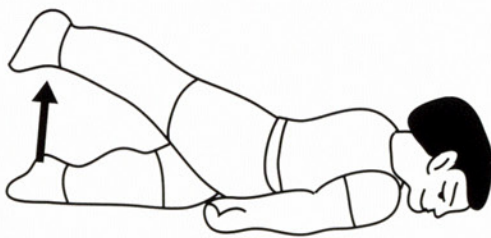
8) Side leg raising exercise (alternating legs)



While breathing out lift your leg / While breathing in lower your leg / (It is also beneficial to strap a 500g - 1kg weight to your ankle for this exercise)

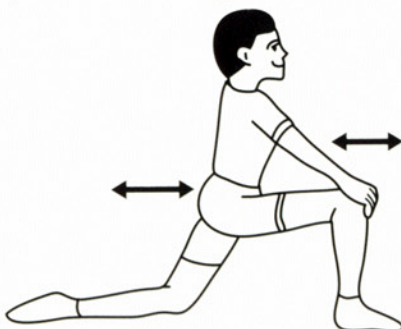
9) Face down leg raising exercise

10) Upper-body lifting exercise



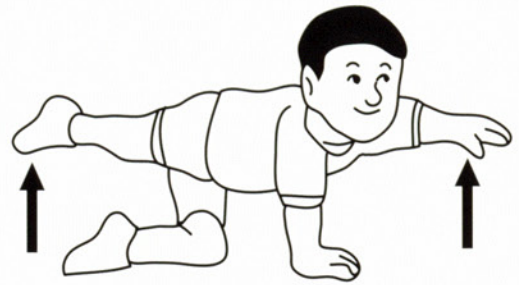
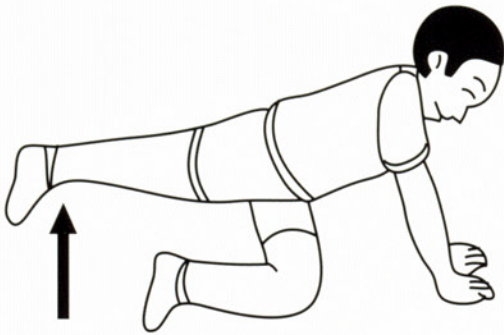
While breathing out raise your leg behind you / While breathing in lift your upper-body

11) Stretching backwards and forwards on one knee exercise



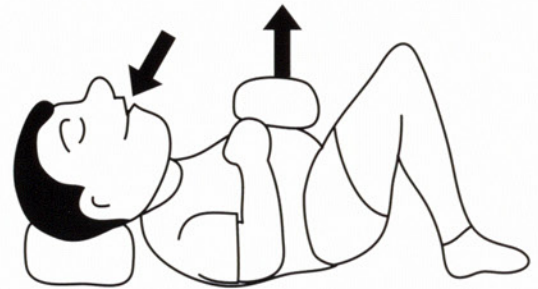
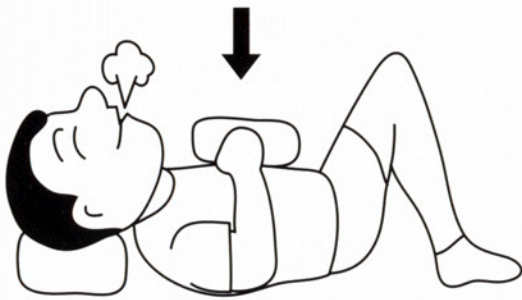
Putting your hand and weight on the front knee stretch forwards and backwards 3-6 times
(People with problem knees should not do this exercise)

12) Leg raising on one knee exercise 13) Left hand and right leg raising exercise



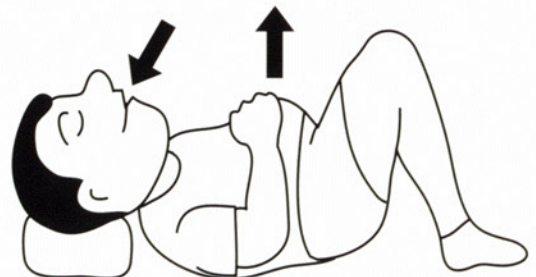
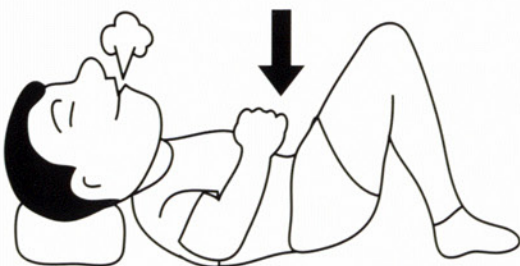
While breathing out lift up one leg behind you / While breathing out lift one leg and hand together

14) Diaphragm (and inspiratory muscle) exercise with a weight



While breathing out lower the weight / While breathing in lift the weight / (Put a 500g - 1kg weight on your abdominal muscles)

15) Abdominal respiration with pursed lips method (without a weight)



While breathing out lower your abdomen / While breathing in raise your abdomen



Weekly Schedule



Using a pencil, write in the exercises and activities you plan to do. Create a schedule you think you really can manage. You can erase and change your plan as your fitness improves and you are able to do more.

	Walking Exercises (amount of steps)	Seated Exercises 1) ~18)	Standing Exercises 1) ~7)	Floor Exercises 1) ~15)
Sunday				
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				

(Make copies of this form. Leave this one blank, so you can copy it as needed.)



Monthly Progress Record



- January February March April May June
 July August September October November December

Fill out this form on the same day of each month. Compare your scores to see your improvement. Check the box of each exercise you did.

This form is for keeping track of the activities and exercises you do each day.

day	1	2	3	4	5	6	7
Walking Ex. Seated Ex. Standing Ex. Floor Ex.							
	8	9	10	11	12	13	14
Walking Ex. Seated Ex. Standing Ex. Floor Ex.							
	15	16	17	18	19	20	21
Walking Ex. Seated Ex. Standing Ex. Floor Ex.							
	22	23	24	25	26	27	28
Walking Ex. Seated Ex. Standing Ex. Floor Ex.							
	29	30	31				
Walking Ex. Seated Ex. Standing Ex. Floor Ex.							

(Make copies of this form. Leave this one blank, so you can copy it as needed.)

III. Precautions When Exercising

1. Effective Ways to Exercise

- 1) Elderly or individuals who are prone to losing their balance while exercising should do the seated and floor exercises. All of the exercises are low-intensity workouts designed so individuals with high blood pressure can also take part, but it is important to breathe correctly when performing each exercise, and not to hold your breath.
- 2) These exercises do not need to be performed continuously. Rather they can be done at any time throughout the day: while doing the housework, before going to bed or while watching television or at any other time.
- 3) Performing these exercises twice a day during winter when you cannot leave the house to go walking etc, is an effective way to maintain health and fitness.

2. Times When it is Best to Avoid Exercise

- 1) When you have a headache or a fever or any other flu-like symptoms.
- 2) When you are suffering from lack of sleep, fatigue or a hangover.
- 3) When your legs and lower back unduly hurt, but not from muscle fatigue.
- 4) When your blood pressure is higher than it normally would be.
- 5) When you have an irregular heart beat, an excessively slow heart beat (less than 50 beats per minute) or an excessively fast heart beat (more than 100 beats per minute).
- 6) When you have diarrhea or stomach pains.

3. Times When it is Best to Stop Exercising

- 1) When your chest feels tight or hurts.
- 2) When you feel dizzy or you feel you may pass out.
- 3) When you feel unusually out of breath.
- 4) When your pulse suddenly quickens or you have palpitations (when you can feel your heart beat without needing to put your hand to your chest).
- 5) When your face turns pale blue, you have a cold sweat or feel nauseas.
- 6) When your legs and lower back gradually become sore.

4. Consult a Physician if You Experience any of the Chest Pains Below (they maybe symptoms of angina or myocardial infarction).

- 1) When you experience pain that is not situated in the front of your chest, but deep in the bone running down the centre of your chest.
- 2) When the pain you experience covers a wide area, and occasionally stretches out to your throat, teeth or left shoulder.
- 3) When you unconsciously grab at your heart because of the pain in your chest.
- 4) When you experience a cold sweat as well as chest pain, and you feel listless.
- 5) When you become nauseated while doing the work outs or while incorporating the exercises into your daily routine.
- 6) When you pause to rest, and you feel relaxed, and the pain you suffered subsides.

Enjoyable Snow Clearing Exercises

1. Incorporate Safe Snow Clearing Techniques with Exercise

If performed correctly, snow clearing can also be used as a means of improving health and fitness. It is important for middle-aged and elderly individuals to use correct techniques when snow clearing to guard against the risk of angina, myocardial infarction or lower back pain occurring while clearing snow.

The intensity of snow clearing with a snow shovel is six to seven times that of when you are comfortably seated, burning 7.6 kcal a minute. Whereas the intensity of snow clearing with a snow scoop is eight to nine times that of when you are comfortably seated, burning 9.4 kcal a minute. The intensity of snow clearing with a snow shovel is equivalent to jogging. 10 minutes spent clearing snow at a slow leisurely pace will contribute towards improved health and fitness. However, snow clearing among middle-aged and elderly individuals results in increased blood pressure levels, and increases the strain exerted on the heart, so it is advisable to incorporate exercise with snow clearing.

2. A Safe Method of Snow Clearing

1) Before going outside to clear snow, warm your arms, legs and lower back with stretching and lower back exercises. Wear light and warm ski clothing which you find easy to move about in. Pressing a disposable body warmer (kairo) against your lower back will help prevent your lower back from becoming cold. Wrapping a cotton cloth around your waist will protect and prevent injuring your intervertebral disks and joints. Individuals suffering from lower back pain and high blood pressure should always do the warm up phase of the snow clearing exercises before snow clearing. Additionally you should wear appropriate cold weather protection gear and first go for a light walk.

2) Snow clearing should not be hurried. Decide on an appropriate length of time and work through at your own pace. When snow clearing with a snow shovel, scoop up a small amount of snow which you have no trouble lifting. When using a snow scoop be sure to take frequent breaks. Match the intensity with your physical strength, decide on the amount of snow you will clear and the pace you will work at, and take frequent breaks. When you exert pressure, do not hold your breath, and breathe out as you dispose of the snow. Separating heavy, slushy and frozen hard snow before you remove it reduces the burden involved.

3) Snow clearing performed correctly will reduce excessive pressure on your back. When snow clearing with a snow shovel, think of the weight of the snow, stay within the limits of your physical strength, and bend your knees when you lift.

Rather than hurl away any snow you have shoveled, carry it to your designated removal spot and gently dispose of it there. Avoiding exerting sudden pressure to your lower back is basic back pain prevention.

When snow clearing with a snow scoop, it is best to avoid using a straight back, and as you will be exerting pressure and thrusting using the joints in your lower back when carrying snow while using a snow scoop, if you repeat the process of bending your knees in a rotary motion you will reduce the burden on your lower back.

4) If you experience chest pain, excessive loss of breath or fatigue, dizzy spells, nauseous, severe lower back pain, or your heart beat accelerates, you should stop and consult a doctor.

The snow clearing exercises mentioned consist of both warm up and cool down exercises. Performing them will not bring on angina, myocardial infarction or lower back pain, and will help you quickly recover from any fatigue felt after snow clearing. Snow clearing is something we must do during the winter months and by becoming accustomed to incorporating exercise into this routine, and provided it is done safely, you will be able to not only prevent myocardial infarction and lower back pain, but also use the exercises as a means of training to build up your endurance and strength.

3. Snow Clearing Warm-up Exercises

Breathe out as you exert yourself and keep in rhythm with your breathing

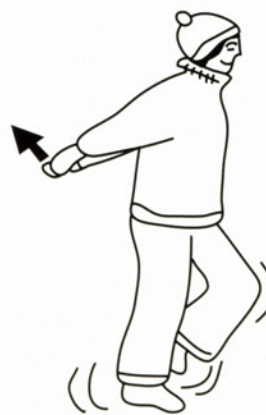
1)



2)



3)



4)



1) Walking on the spot 2) Stretching upwards 3) Raising hands clasped behind the back 4) Rotating shoulders. While walking on the spot repeat each action above from 4 - 8 times.

5) Body bending left and right



6) Bodyturning left and right



7) Body rotating left and right 8) Knee bending 9) Achilles tendon stretching



From 2) - 9) use a snow shovel and repeat from 4 - 8 times

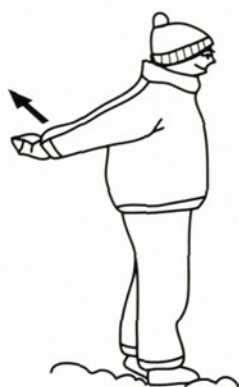
10) Snow shoveling warm up exercise 11) Snow scooping warm up exercise



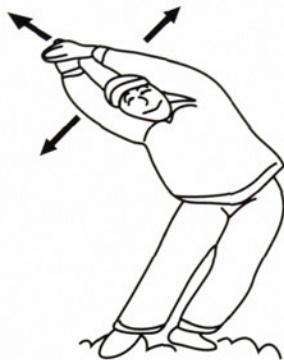
Call out '1-2-3' while doing the snow shoveling and snow scooping exercises.

1. Snow Clearing Warm-down Exercises (Do each exercise from 4-8 times)

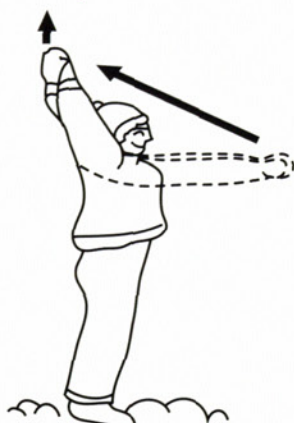
1)



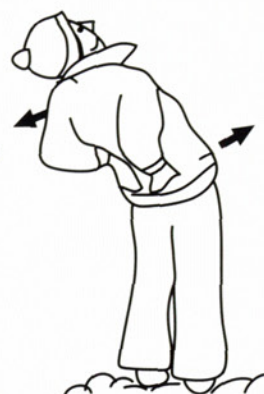
2)



3)



4)



- 1) Back stretching with hands clasped behind the back 2) Back stretching with hands clasped above the head 3) Side stretching with hands clasped above the head 4) Back stretching with hands on the lower back

5)



6)



7)



8)

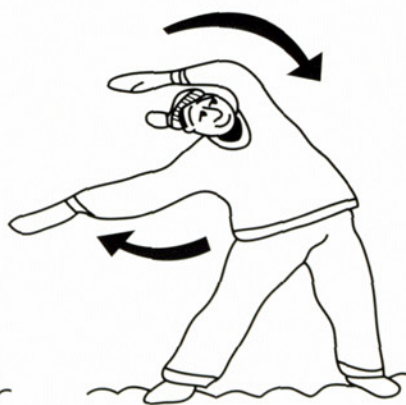


- 5) Shoulder rotating 6) Neck stretching forward, back, left, and right
7) Shoulder slapping 8) Lower back slapping

9)



10)



11)



- 9) Achilles tendon stretching 10) Body rotating 11) Deep breathing and hand upwards back stretching

Written by: Koji Yamashita; Assistant Professor, Department of Physical Therapy.
Faculty of Health Sciences, Aomori University of Health and Welfare.

Translated by: Dennis Kelly and Scott Vesty; Lecturers, Division of Human Sciences.
Faculty of Health Sciences, Aomori University of Health and Welfare.



Published by

The Training Center for Health Sciences

Aomori University Health and Welfare in 2005

Issue December 15, 2005

Mase 58-1, Hamadate, Aomori 030-8505, Japan

Tel:017-765-2009 / Fax:017-765-2188

本冊子は平成17年度青森県立保健大学健康科学教育センター
研修科によるブックレット助成事業により出版しました。

発行平成17年12月15日

連絡先 青森県立保健大学事務局企画情報課

〒030-8505 青森市浜館間瀬58-1

電話017-765-2009/FAX017-765-2188