

# Session 3 Diet and Exercises

- ❖ **Understanding Chronic Diseases and Conditions**
- ❖ **A Balanced Diet**
- ❖ **Water Balance**
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- ❖ **Health Exercise 3: Self-Massage**

# Understanding Chronic Diseases and Conditions

## What are chronic diseases and conditions?

- ✧ There is no single uniform definition for chronic diseases or conditions. For example, US Department of Health and Human Services defines chronic diseases as “conditions that last a year or more and require ongoing medical attention and/or limit activities of daily living”, while the World Health Organization (WHO) defines chronic diseases as “diseases of long duration and generally slow progression”.
- ✧ Some common chronic disease and conditions include Alzheimer’s disease, arthritis, cardiovascular diseases (e.g., heart failure), chronic respiratory diseases (e.g., asthma, chronic obstructive pulmonary diseases), depression, diabetes, hypertension, obesity, stroke, and substance abuse disorders (drug and alcohol).

## What are the differences between chronic and acute conditions?

- ✧ **Acute** conditions generally develop suddenly and last a short time, often only a few days or weeks, such as flu, common cold, and heart attack.  
**Chronic** conditions develop slowly and may worsen over an extended period of time -- months to years.

## Causes, symptoms and treatment:

- ✧ **Causes:** Chronic conditions are often caused by unhealthy behaviors that increase the risk of disease -- poor nutrition, inadequate physical activity, overuse of alcohol, or smoking. Social, emotional, environmental, and genetic factors also play a role. As people age, they are more likely to develop one or more chronic conditions.
- ✧ **Symptoms and Treatment:** Chronic conditions are slower to develop, may progress over time, and may have any number of warning signs or no signs at all. Chronic health conditions cannot be cured -- only controlled.

## Why is self-management important?

- ✧ As mentioned above, chronic conditions can only be controlled. Controlling (or managing) the symptoms of a chronic condition can often be done by creating a health care plan in partnership with your physician -- the plan may include taking medication, healthy eating, physical or occupational therapy, exercise, or complementary treatments, such as acupuncture or meditation.
- ✧ Managing your condition can keep your symptoms from getting worse, improve the quality of your life and lower health care costs.

- ✧ Frequently, you can prevent new chronic conditions by practicing healthy lifestyle behaviors, such as staying physically active, maintaining a healthy weight and nutritional status, and refraining from drugs, smoking, and excessive alcohol use.

We are going to discuss how to perform self-management in medication, diet and exercises (session 4).

## A Balanced Diet

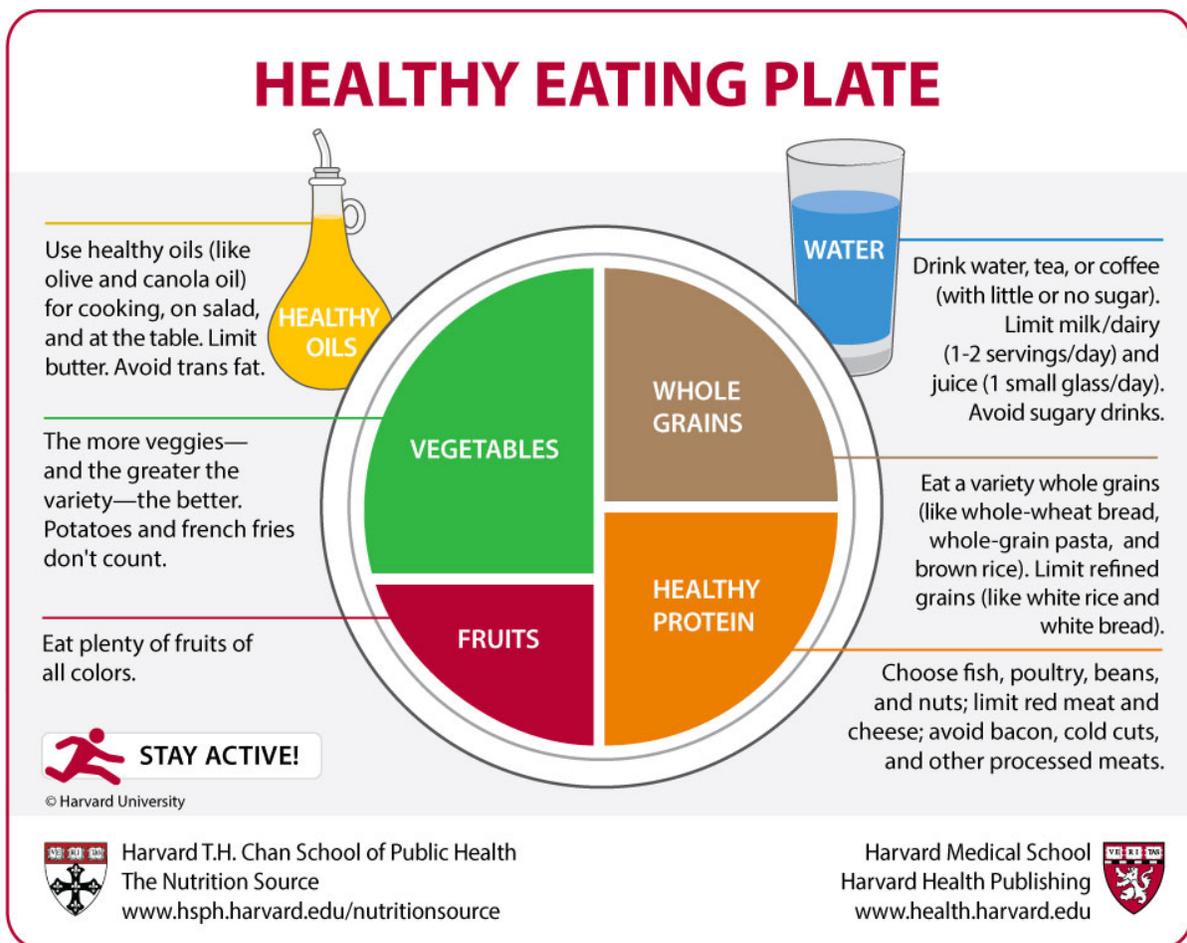


Figure 3.1 Healthy Eating Plate

### Make most of your meal vegetables and fruits – ½ of your plate:

- ✧ Aim for color and variety, and remember that potatoes don't count as vegetables on the Healthy Eating Plate because of their negative impact on blood sugar.

### **Go for whole grains – ¼ of your plate:**

- ✧ Whole and intact grains—whole wheat, barley, wheat berries, quinoa, oats, brown rice, and foods made with them, such as whole wheat pasta—have a milder effect on blood sugar and insulin than white bread, white rice, and other refined grains.

### **Protein power – ¼ of your plate:**

- ✧ Fish, chicken, beans, and nuts are all healthy, versatile protein sources—they can be mixed into salads, and pair well with vegetables on a plate. Limit red meat, and avoid processed meats such as bacon and sausage.

### **Healthy plant oils – in moderation:**

- ✧ Choose healthy vegetable oils like olive, canola, soy, corn, sunflower, peanut, and others, and avoid partially hydrogenated oils, which contain unhealthy trans fats. Remember that low-fat does not mean “healthy.”

### **Drink water, coffee, or tea:**

- ✧ Skip sugary drinks, limit milk and dairy products to one to two servings per day, and limit juice to a small glass per day.

### **Stay active:**

- ✧ The red figure running across the Healthy Eating Plate’s placemat is a reminder that staying active is also important in weight control.

### **The main message of the Healthy Eating Plate is to focus on diet quality:**

- ✧ The type of carbohydrate in the diet is more important than the amount of carbohydrate in the diet, because some sources of carbohydrate—like vegetables (other than potatoes), fruits, whole grains, and beans—are healthier than others.
- ✧ The Healthy Eating Plate also advises consumers to avoid sugary beverages, a major source of calories—usually with little nutritional value—in the American diet.
- ✧ The Healthy Eating Plate encourages consumers to use healthy oils, and it does not set a maximum on the percentage of calories people should get each day from healthy sources of fat.

**A healthy balanced diet indicates daily diet should contain protein, fat, carbohydrates, vitamins, minerals, water, and cellulose; therefore, the daily diet should include the following food:**

Food categories	Content	Function	Quantity
<b>Milk:</b> such as milk, cheese a. Should choose low-fat milk and skimmed milk b. Avoid drinking condensed milk with high sugar content	Calcium, protein, vitamin B	Maintain healthy teeth and bones	1-2 cups
<b>Meat:</b> Such as fish, chicken, pork, beef	Protein, iron, vitamins, fat	Maintain and promote metabolism, and supply essential protein element for the body	160-200g
<b>Fruits and vegetables:</b> Such as green leafy vegetables, melons, fruits	Vitamin A, C, minerals, cellulose	Enhance immunity, and prevent constipation	240-320g
<b>Grains:</b> Such as noodles, rice, cookies, bread, cereal products	Starch, a small amount of vitamin B complex, vegetable protein, cellulose	Supply and replenish; Whole-grain cereals contain a high amount of fiber, which can prevent constipation	3-4 bowls (medium-sized bowl)

These four categories of food are like the four wheels of a car; missing one will make the car unable to move, just as missing any type of food in the diet will affect one's health.

### Principles of healthy eating:

- ✧ Keep a balanced diet by including various types of food
- ✧ Maintain an ideal body weight
- ✧ Eat less salt
- ✧ Eat less sugar
- ✧ Eat less fat
- ✧ Eat more high-fiber foods, such as fruits, vegetables, whole grains, and so on
- ✧ Eat food containing vitamins and minerals
- ✧ Pay attention to diet, do not eat too much cholesterol-containing foods

### Vitamins

Vitamin s	Food sources	Main effects	Side effects of excessive intake
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<b>A</b>	Liver, butter, egg yolks, fish, Laura Portuguese fruit, tomatoes spinach, yellow-green fruits and vegetables	<ul style="list-style-type: none"> <li>✧ Maintain normal vision</li> <li>✧ Prevent night blindness and retinal sicca (dry eye syndrome)</li> <li>✧ Prevent the drying of epithelial tissue, causing keratosis (aging spots and warts)</li> </ul>	dry skin, hair loss, hepatomegaly (enlarged liver), arthralgia (joint pain), etc.
<b>B1</b>	Skin of grains, meats, beans, egg yolk	<ul style="list-style-type: none"> <li>✧ Maintain a normal appetite, digestion, and stomach tension</li> <li>✧ Maintain the normal function of the nervous system</li> <li>✧ Prevent beriberi (vitamin B-1 deficiency)</li> </ul>	Dyspnea and dysphagia (difficulty breathing and swallowing)
<b>B2</b>	Liver, animal and plant tissues, milk	<ul style="list-style-type: none"> <li>✧ Prevent various skin lesions and weight loss</li> </ul>	Urine will show yellow
<b>B6</b>	Most foods contain vitamin B6, Especially liver, eggs, whole grains	<ul style="list-style-type: none"> <li>✧ Involved in normal metabolism of amino acid and starch into sugar</li> <li>✧ ease anxiety</li> </ul>	Easy to develop dependence and sensory nervous system disorders
<b>B12</b>	Liver, kidney, meat, dairy	<ul style="list-style-type: none"> <li>✧ Anti-pernicious (vitamin B-12) anemia factor</li> </ul>	Side effects are rare; usually the absorption of vitamin B12 intake relates to personal abilities, regardless of the diet
<b>C</b>	Citrus fruits, tomatoes, green peppers, spinach, potatoes	<ul style="list-style-type: none"> <li>✧ Prevent scurvy (bleeding gums, fatigue, and rash)</li> </ul>	May cause gastrointestinal discomfort, anticoagulants (blood clotting) interference
<b>D</b>	Cod liver oil, egg	<ul style="list-style-type: none"> <li>✧ Help absorb calcium and</li> </ul>	Hypercalcemia,

	yolks, butter	<p>phosphorus</p> <ul style="list-style-type: none"> <li>✧ Help normal formation of bones and teeth</li> <li>✧ Prevention of osteoporosis and rickets</li> </ul>	and symptoms include: weakness, soft tissue calcification, elevated blood pressure, loss of appetite, vomiting, weight loss, uremic (waste in the blood)
<b>E</b>	Vegetable oils, egg yolks, beef liver, food grains	<ul style="list-style-type: none"> <li>✧ Maintain normal reproductive functions</li> <li>✧ Muscle development and other functions</li> <li>✧ Antioxidants</li> </ul>	Side effects are not common
<b>F</b>	Spinach, egg yolk, liver	<ul style="list-style-type: none"> <li>✧ Catalytic liver, synthesis of clotting factor to prevent bleeding</li> </ul>	Can cause thrombosis (blood clot in blood vessel)

## Minerals

Minerals	Food sources	Main effects
<b>Calcium</b>	Milk, meat, beans	<ul style="list-style-type: none"> <li>✧ Maintain healthy bones and teeth</li> <li>✧ Help blood to clot</li> <li>✧ Maintain normal functioning of nerves and muscle cells</li> </ul>
<b>Sodium</b>	Salt	<ul style="list-style-type: none"> <li>✧ Maintain normal functioning of nerves and muscle cells</li> <li>✧ Maintain moisture balance</li> </ul>
<b>Magnesium</b>	Green beans, milk	<ul style="list-style-type: none"> <li>✧ Important component of many enzymes</li> <li>✧ Essential element of bones and teeth formation</li> </ul>
<b>Potassium</b>	Meat, fruits, vegetables	<ul style="list-style-type: none"> <li>✧ Maintain normal functioning of the nervous system</li> <li>✧ Maintain moisture balance</li> </ul>
<b>Iron</b>	Beef, spinach, eggs	<ul style="list-style-type: none"> <li>✧ Essential elements of hemoglobin formation</li> <li>✧ Prevent anemia</li> </ul>
<b>Zinc</b>	Meat, seafood	<ul style="list-style-type: none"> <li>✧ Necessary components of some</li> </ul>

		enzymes ✧ Maintain normal taste and olfactory functioning
<b>Phosphorus</b>	Meat, fruits, vegetables	✧ Essential elements of bone and teeth formation ✧ The composition of protein and nucleic acids
<b>Iodine</b>	Seafood	✧ Maintain normal functioning of the thyroid gland ✧ Thyroid hormone composition

### Cholesterol content in food

*\*Cholesterol per 100 grams of food (mg)*

Food Name	Cholesterol	Food Name	Cholesterol
<b>Eggs</b>		<b>Cheese and dairy</b>	
One Egg (50 g)	266	Cream	140
One egg yolk	266	Cheese	100
One egg white	0	Ice-cream	45
One quail egg	74	Milk	15
One quail egg yolk	74	<b>Vegetable oil</b>	
One protein quail	619	Peanut oil	0
One duck egg		Corn oil	0
<b>Seafood</b>		Canola oil	0
Perch	80	<b>Meat</b>	
Tooth fish	244	Beef	65
Cuttlefish	348	Fat beef	99
Squid	1170	Veal	140
Eel Whitefish	63	Cattle lamb	90-107
River eel	186	Bovine Brain	2300
Grass carp	186	Bovine heart	145
Salmon	86	Bovine liver	376
Flatfish/Flounder	87	Tripe	150
Quarry	90	Sirloin	400
Grass carp	90	Ham	62
Shrimp	154	Yellow croaker	98
Crab	164	Sheep meat	70
Clam	180	Goat tripe	41
Clams	65	Goat liver	610
Sea cucumber	0	Goat meat	60
		Lean pork	77

Jellyfish	16	Pork ribs	105
Lobster	85	Pig brains	2530
Canned abalone	103-170	Pork liver	368
<b>Fruit</b>		Pig tripe	150
Orange	0	Chitterlings	150
Apple	0	Pig kidney	380
Watermelon	0	Pork lard	56
		Chicken breast	39
		Chicken meat	95
		Spleen	74
		Chicken oil	90
		Pigeon	70-90
		Duck	
<b>Vegetables</b>		<b>Whole grains</b>	
Spinach	0	Rice	0
Chinese white	0	Bread	0
Cabbage	0	Macaroni	0
Heart of cabbage	0		
Zucchini	0		
Cucumber	0		
Tomato			

## Learning Activity

### Is My Diet Healthy?

1. Write down everything you ate yesterday:

Breakfast	Lunch	Dinner	Snacks

Honestly circle food that you think is unhealthy.

2. What leads to the knowing mistakes?

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3. What methods can be used to help change eating habits?

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# Water Balance

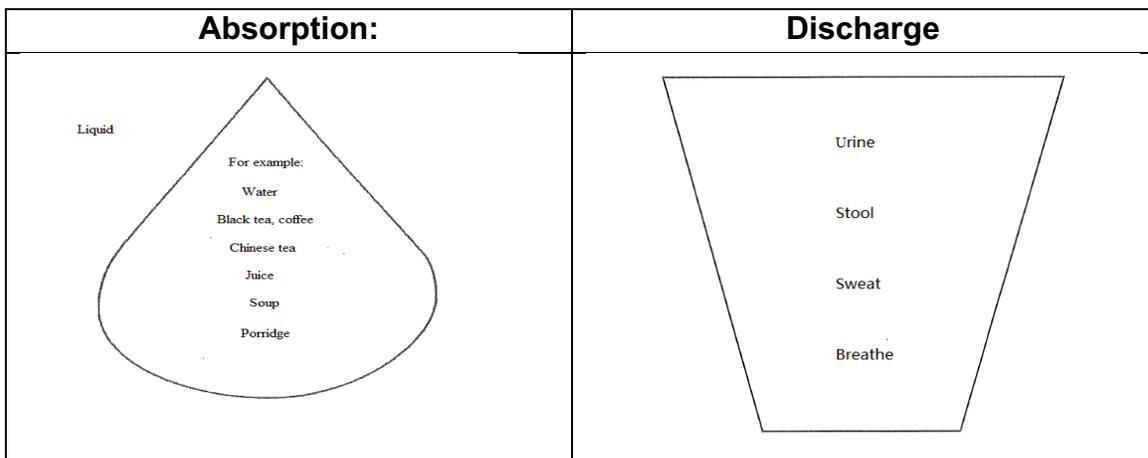
Sixty percent of the human body is water. Water is very important to sustain life: it will assist in shipping protein, carbohydrates, fat, vitamins and minerals to every cell of the body, and excrete waste from the body. In addition, water helps the body maintain a stable temperature.

## Body's need for water

- ✧ An adult without eating for eight weeks can still rely on the body's stored nutrients to survive. However, the human body is unable to store water; therefore, a person will only last for a few days without water.

## Water balance

- ✧ Healthy adults need to drink 4 to 6 cups of water a day (1000-1500 ml) in order to maintain a healthy body. Apart from water, other liquids such as fruit juice, tea, soup, porridge, and milk can provide hydration. Other foods, such as fruits and vegetables, also supply additional water for body. In the process of decomposing solid foods, the body can also absorb water. Through these methods, coupled with the beverages we drink every day, the body absorbs about 8-12 cups of water from different sources. Since the body is unable to store the water, it will be excreted through urine, feces, sweat, as well as our breath, from the body.



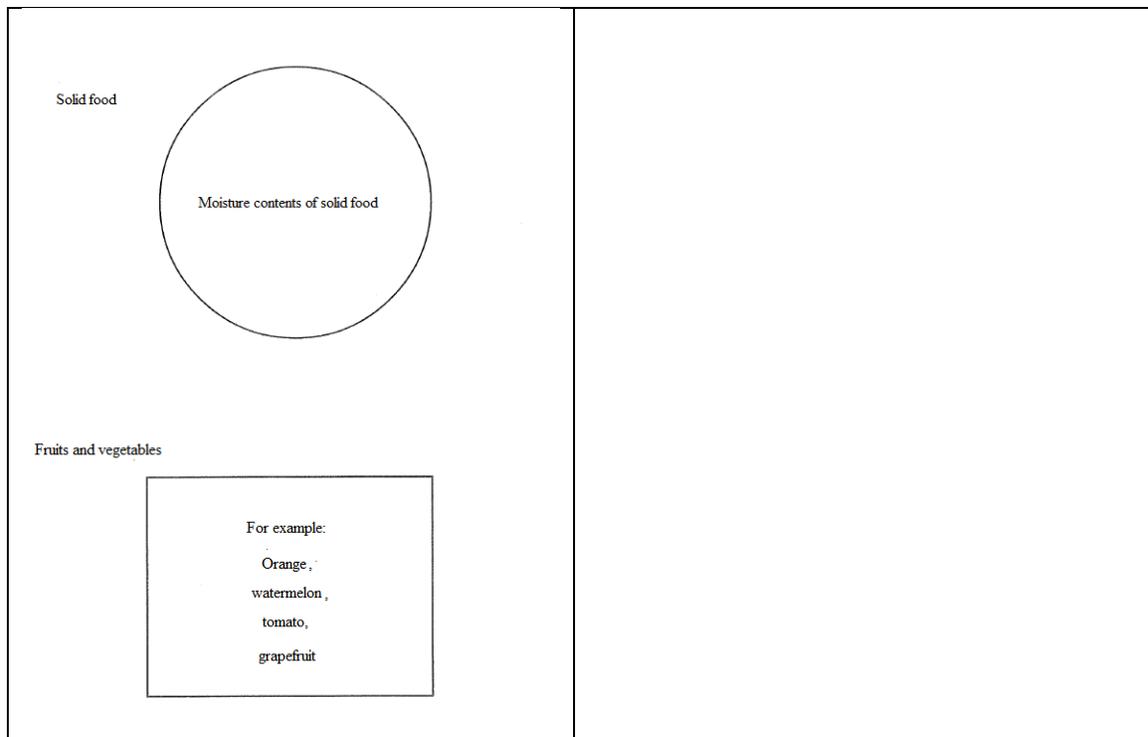


Figure 3.2 Examples of water absorption and discharge

### Too little or too much water into the human body will have adverse consequences:

- ✧ If there is insufficient water dehydration can occur, and without timely treatment, this may have serious consequences. However, if liquids are absorbed far more than being emitted, water will accumulate in the tissues of the body, causing foot edema, pulmonary edema, and hypertension problems.

*Now let's learn physical exercises and health.*

## Benefits of Exercise

### Benefits of exercise

- ✧ Maintain normal bodily function and alleviate aging process.
- ✧ Activate blood circulation and enhance cardiopulmonary function.
- ✧ Improve the strength of muscles and resistance in order to make joints flexible, coordinate body movements, enhance body balance, and reduce the chance of falling.
- ✧ Enhance metabolism, which helps digestion and reduce constipation.
- ✧ Enhance calcium absorption of bones to reduce chance of osteoporosis.

- ❖ Feel relaxed, upbeat, and energetic.
- ❖ Broaden social circles by providing opportunities for socialization.

## **Physical fitness**

“Physical fitness” not only strengthens muscles, but also includes the following:

### **1. Cardiovascular Fitness**

- ❖ Addresses the functions of the heart, lung and circulation system. Good fitness refers to a person’s heart and lung abilities to efficiently provide sufficient oxygen to muscles and organs while exercising.
- ❖ Aerobic exercise refers to continuous and rhythmic muscle actions, such as swimming, running, biking, sailing, jumping rope, and aerobic dance. If a person exercises 3 to 4 times per week for at least 15 minutes each time, it could enhance cardiovascular fitness. In addition, aerobic exercise can burn body fat for weight loss.

### **2. Strength and muscle endurance**

- ❖ Strength is the maximum power muscles can produce (also called explosive force). If we want to improve strength, we must include appropriate weight training to allow muscles to contract.
- ❖ Muscle endurance refers to the ability of muscles to repeat a certain action. Endurance training requires low weight and multiple repetitions.

### **3. Flexibility**

- ❖ Flexibility refers to range of joint activities. Good flexibility can reduce the chance of injuries.

## **There are some safety rules to pay attention to while exercising:**

- ❖ Go step by step and start off with easy exercises. After these easier exercises, gradually increase the difficulty if needed. Do not try too hard in the very beginning, which can be too tiring and cause loss of interest.
- ❖ In order to see results, one needs to exercise regularly.
- ❖ Wear exercise clothing, socks, and shoes that fit. Warm up and stretch before starting exercises.
- ❖ Do not exercise immediately before or after meals, or when it’s too cold or too hot.
- ❖ Stop immediately and rest if one experiences chest pain, asthma, palpitation, or dizziness.
- ❖ If one has high or low blood pressure, do not change positions too fast, such as bending over and standing up.

- ✧ People who are not good at balance should pay attention to actions, such as twisting, bending over, and bending knees. If necessary, sit or lie down. Hold the handrail when standing up.
- ✧ If one has joint pain, do not include actions that will exacerbate the pain. For example, do not sway arms widely if one has stiff shoulders, and do not squat if one has knee problems.
- ✧ If there are adverse reactions after exercise, please consult a medical doctor or physical therapist.

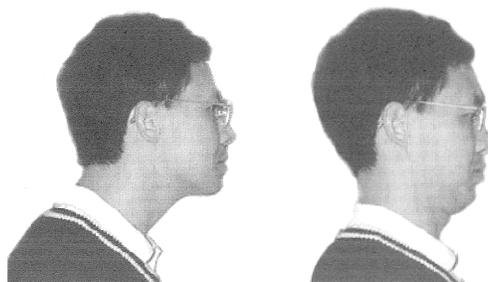
## Easy Daily Exercises

Below are some exercises that are beneficial, including six relaxation exercises and five stand-up exercises.

### Relaxation Exercises (Six)

- a. People who sit for a long time have a curved body, which causes rigid joints, shortened muscles and difficult movement. The exercise below aims to stretch body.
- b. Repeat each exercise ten times.

#### 1. Close chin



This exercise aims to move neck joints in order to enhance neck muscle.

- a. Stare straight ahead;
- b. Push chin out and back in;
- c. Count one, two, three, four, five as chin is pushed outward and count again while retracting chin back in;
- d. Relax slowly and repeat,

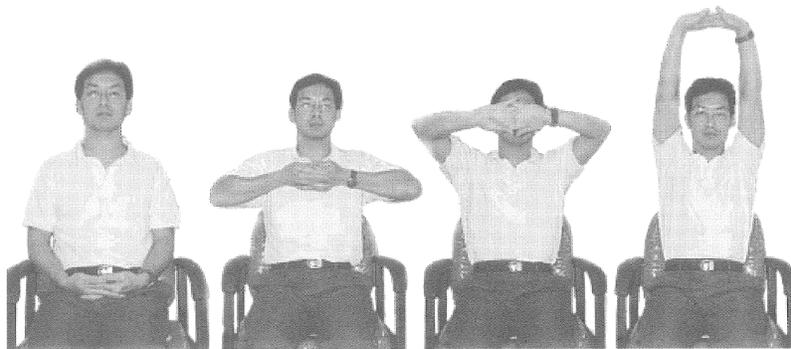
## 2. Circle arms



Relax shoulder and arm muscles, exercise shoulder joints.

- a. Relax hands;
- b. Shrink shoulder; circle to the back when reaching the highest point;
- c. Return to the original position and repeat.

## 3. Stretch



This exercise helps to stretch upper body joints.

- a. Buckle your hands with palms facing up and put them on lap;
- b. Raise hands slowly to chest and push upward with backhand until elbow is straightened completely;
- c. Slowly return to the original position;
- d. Repeat.

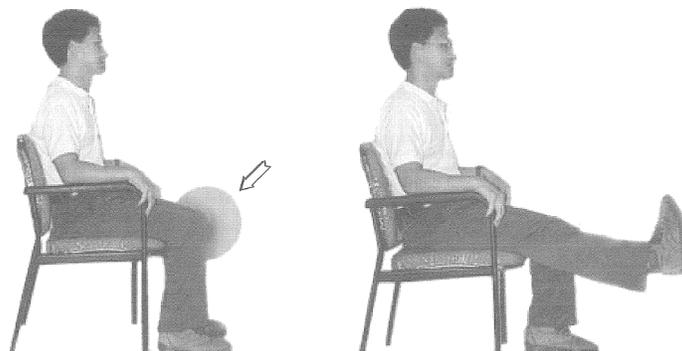
#### 4. Left and right twist



Exercise neck and back joints.

- a. Place feet apart;
- b. Cross arms and put hands on shoulder;
- c. Turn head, neck and body to one side;
- d. Turn to the original position, then turn to the other side;
- e. Repeat.

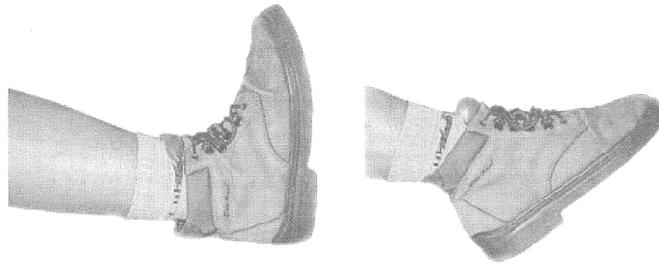
#### 5. Leg exercise



Enhance thigh muscle and exercise knee joints.

- a. Hold chair arms;
- b. Lift leg up, straighten knees and bend toes upwards, count to five and put leg down;
- c. Repeat with the other foot.

## 6. Ankle exercise



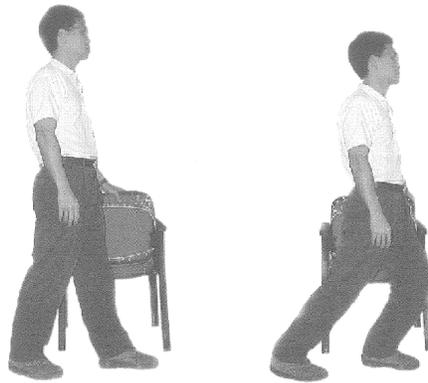
Exercise ankles.

- a. Bend foot so toes are facing upwards towards the ceiling and then straighten them so it is parallel to the floor;
- b. Repeat with the other foot.

## Stand-up Exercises (Five)

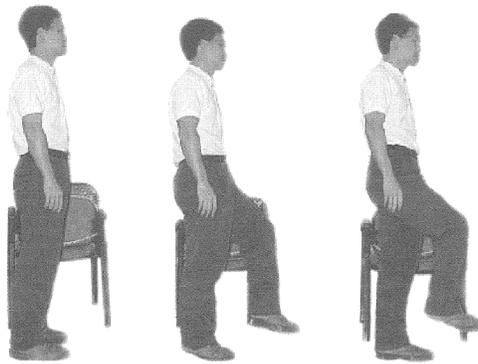
- ✧ Suitable for people who can stand stably. Hold furniture or handrail during exercise. These exercises aim to stretch lower body joints, enhance leg muscle, and increase balance.
- ✧ Repeat each exercise ten times.

### 1. Stretch joints and muscle



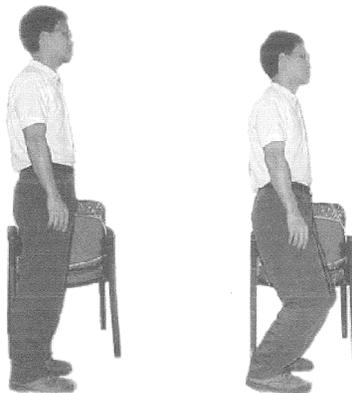
- a. Stand with feet apart and one foot in front of another;
- b. Bend the front knee (keep heel on the ground), count to five, then stand up;
- c. Repeat five times and switch feet;
- d. Repeat ten times for each foot.

## 2. Practice balance



- a. Take turns stepping with left and right foot;  
(If you do not have good balance, you can hold onto something like a chair or table, but should not support the body using just hands)

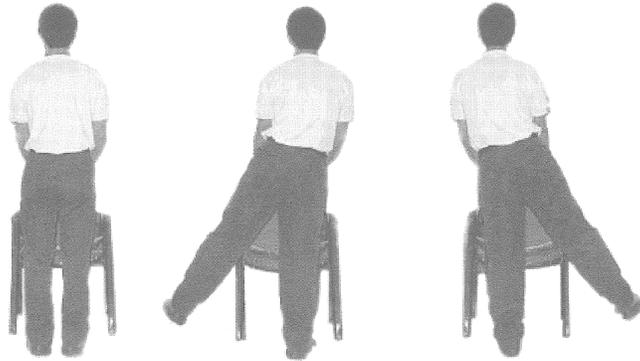
## 3. Squat



Enhance thigh muscle.

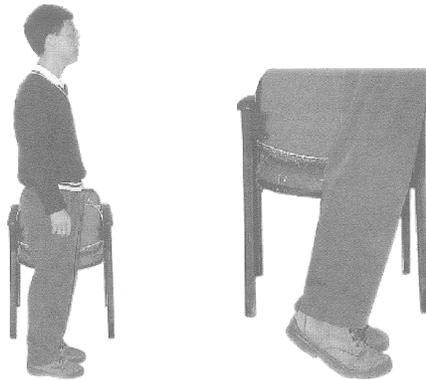
- a. Spread feet a couple inches apart and straighten the back;
- b. Bend knees to squat halfway, count to five;
- c. Stand up and repeat.

## 4. Exercise outer thigh muscle to stabilize walking



- a. Lift one leg towards the right, count to five;
- b. Put leg down, repeat the other side.

### 5. Enhance calf muscle



- a. Stand legs apart;
- b. Raise heels and stand on toes, count to five;
- c. Relax, stand back on heel and toes, and repeat.

## Health Exercise 3: Self-Massage

This self-massage helps to decrease eye and neck fatigue.

## Eyes Massage

a. Start from jingming acupoints. Use thumbs to slightly press on the acupoints;



b. Move thumbs from jingming acupoints to the end points of eyebrows while slightly pressing the upper rim of the eyes.



c. Use index fingers slightly press on the end points of lower rim of the eyes.



d. Finally, use index fingers to press on chengqi acupoints.



e. It takes 30 seconds to 1 minute to massage eyes by following those instructions.

f. If you are in a hurry, use the second joint of index fingers to massage eyes by slightly pressing and doing a circle.



### **Face Massage One**

a. Firstly, use the middle finger and ring finger to slightly press on yintang acupoints and wipe along eyebrow towards taiyang acupoints.



b. Use the same fingers to gently press and rub taiyang acupoints.



c. After rubbing taiyang acupoints, use the same fingers to wipe towards the back of ears.



### Face Massage Two

a. Use the index finger and middle finger of left hand, slightly press on yintang acupoints, while the same finger of the other hand vertically wipes upward.



### **Head Massage Movement**

- a. Put both hands on the head, like grabbing something, and use fingers to slightly press from the top of the head to the back.



- b. Remember to trim nails to avoid injury.

### **Neck Massage Movement (Fengchi Acupoints Massage)**

- a. Firstly, find fengchi acupoints;



- b. Put thumbs on fengchi, and push down along the neck with hands interlocked together.



- c. Do this movement for 30 seconds to 1 minutes or until your neck feels relaxed.

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