



# Reaching Immigrants Through Community Empowerment



## **SESSION 4:**

# **Preventing Diabetes Complications & Other Chronic Diseases**

# Welcome back!



- Questions, comments, or concerns?
- Changes in diet or exercise?
- Challenges?



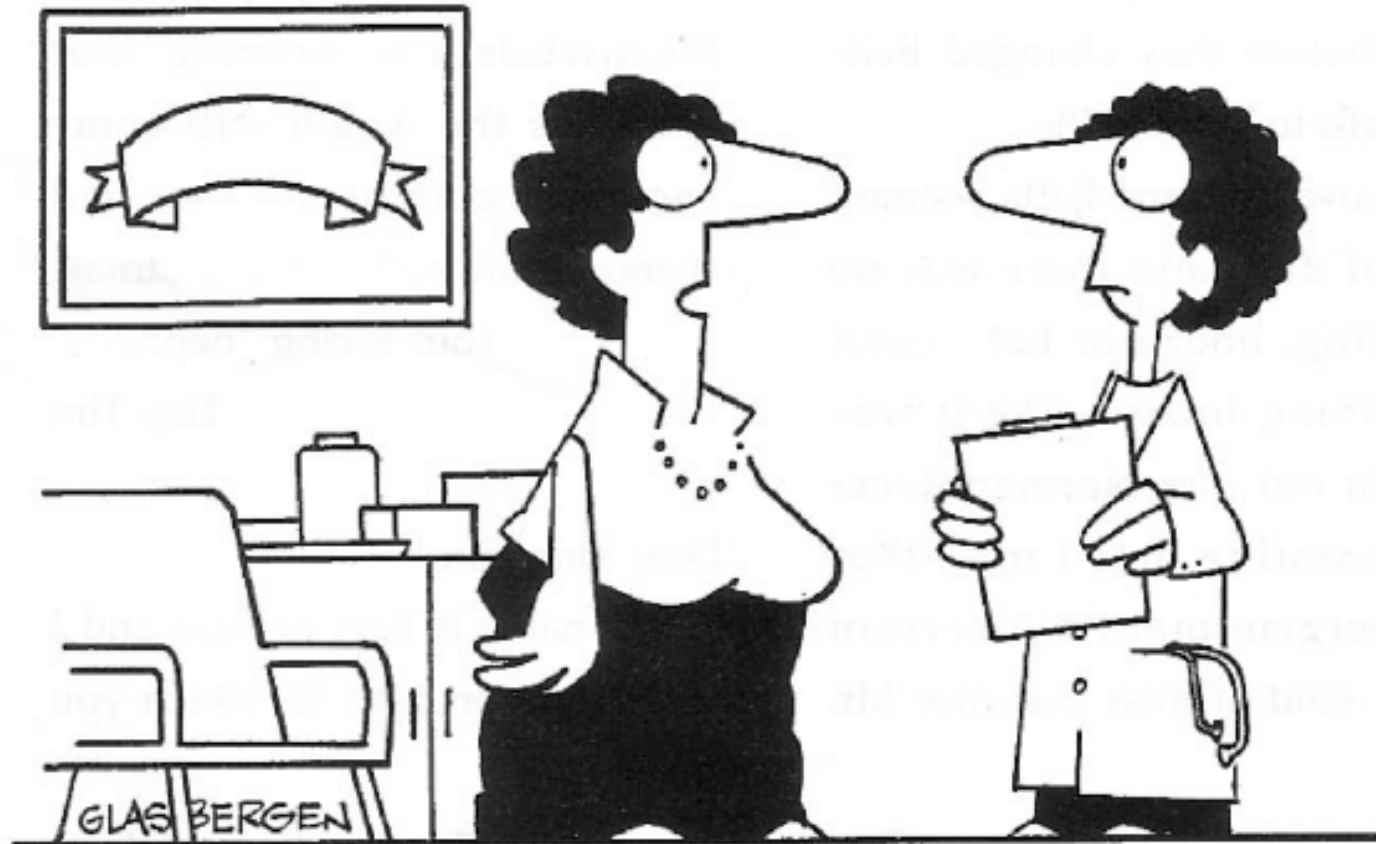
# Preventing Diabetes Complications & Chronic Diseases



At the end of today's session, you will be able to:

- Understand how a healthy lifestyle can prevent certain chronic diseases
- Describe how to control blood glucose, blood pressure, cholesterol, and weight
- Describe how smoking, alcohol, poor diet, and low physical activity can contribute to certain chronic diseases

It's not always easy  
to have a healthier lifestyle...



*"I'm willing to make some lifestyle changes as long as  
I don't have to do anything different."*

translation here:

# So why is it so important to have a healthier lifestyle?



- Diabetes
- Heart disease
- Metabolic Syndrome
- Heart attack
- Stroke
- Kidney failure
- Gum disease
- Certain types of cancer



Can all be prevented through maintaining a healthy diet, a healthy weight, and being physically active!

# Monitoring healthy levels



A healthy lifestyle will help reduce the risk for diabetes, heart disease, stroke and other chronic diseases by keeping these at healthy levels:

- Blood glucose (sugar)
- Blood pressure
- Cholesterol
- Weight / Body Mass Index (BMI)

# Blood Sugar Levels & Diabetes



- When a person eats food, glucose (sugar) is produced as a basic fuel for the cells of the body.
- Insulin is produced by the body to help glucose move from the blood into the cells, which will use glucose for energy.
- Eating and drinking large amounts of sugars and starches leads to more glucose in the blood, which means the body has to produce more and more insulin to control blood glucose levels.
- If insulin is not working properly, sugar will build up in the blood, leading to diabetes.
- Have your blood sugar checked.

Target:

HbA1c less than 7%      OR

Fasting Plasma Glucose Test of less than 100 mg/dL

How does diabetes affect different parts of the body?

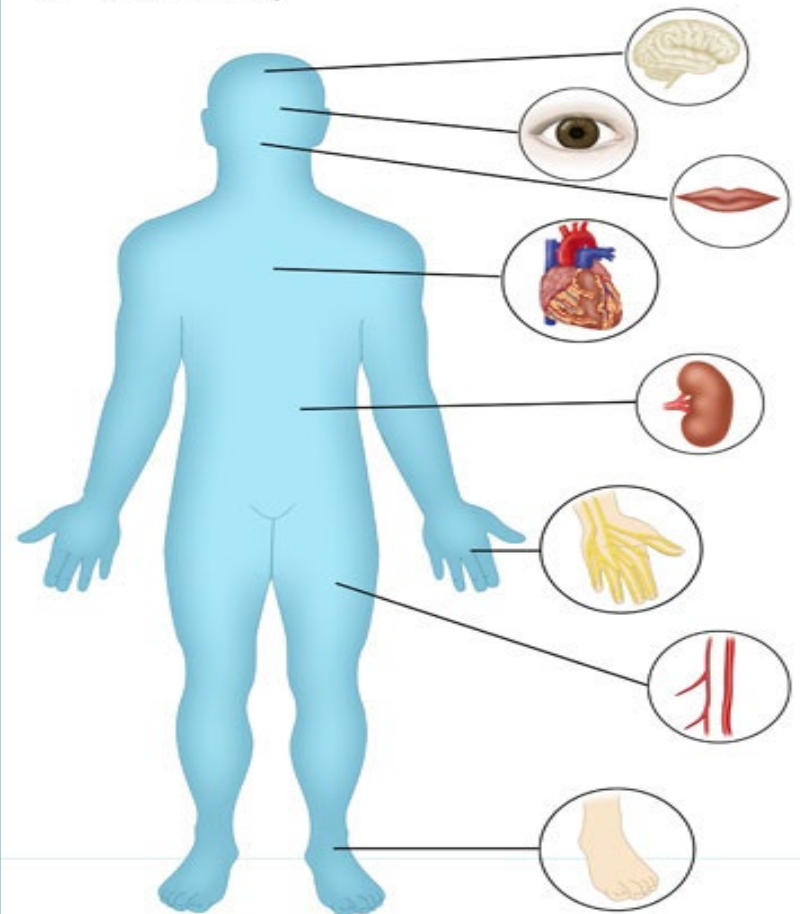
# REVIEW: Complications of Diabetes

Diabetes is a serious disease.

It increases your chance of:

- Vision loss & blindness
- Kidney failure
- Nerve damage
- Amputations
- Gum disease
- Heart disease
- Stroke

Diabetes Can Affect Various Parts of Your Body



# Vision loss & Blindness



Diabetes can lead to vision loss and blindness.

- Diabetic retinopathy—damage to the blood vessels in the retina.
- Cataract—clouding of the eye's lens. Cataracts develop at an earlier age in people with diabetes.
- Glaucoma—increase in fluid pressure inside the eye that leads to optic nerve damage and loss of vision. A person with diabetes is nearly twice as likely to get glaucoma as other adults.



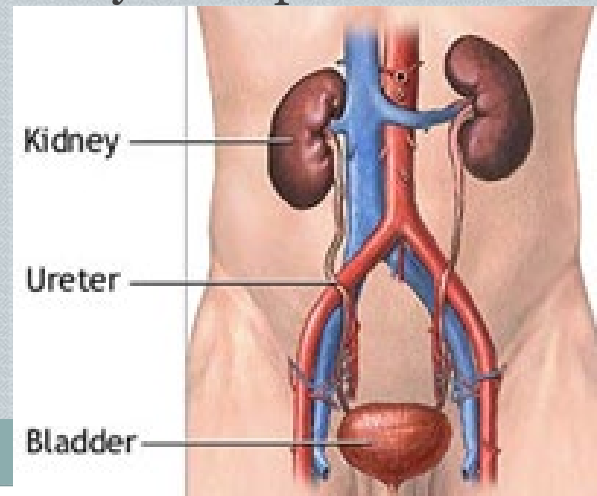
Normal vision



Vision with  
diabetic retinopathy

# Kidney disease

- Your kidneys are important in your body because they remove waste products and excess fluid from the body. These waste products and excess fluid are removed through the urine.
- High blood glucose and high blood pressure damage the kidneys' filters.
- When the kidneys are damaged, protein leaks out of the kidneys into the urine. Damaged kidneys do not do a good job of cleaning out wastes and extra fluid. Wastes and fluid build up in your blood instead of leaving the body in urine.
- If a person's kidneys fail, then dialysis or a kidney transplant is necessary to remove wastes from the blood.



# Kidney & Bladder Infections



- See a doctor right away for bladder or kidney infections. You may have an infection if you have these symptoms:
  - pain or burning when you urinate
  - a frequent urge to go to the bathroom
  - urine that looks cloudy or reddish
  - fever or a shaky feeling
  - pain in your back or on your side below the ribs

# Nerve Damage



- Nerves carry messages back and forth between the brain and other parts of the body. All of your nerves together make up the nervous system.
- Having high blood glucose for many years can damage the blood vessels that bring oxygen to some nerves. High blood glucose can also hurt the covering on the nerves. Damaged nerves may stop sending messages. Or they may send messages too slowly or at the wrong times.
- Damage to nerves can make your arms, hands, legs, or feet feel numb. Also, you might not be able to feel pain, heat, or cold when you should. You may feel shooting pains or burning or tingling, like “pins and needles.”

# Nerve Damage & Amputations



- With damaged nerves, you might not feel pain, heat, or cold in your legs and feet. A sore or cut on your foot may get worse because you do not know it is there. Nerve damage can lead to a sore or an infection.
- The second problem happens when not enough blood flows to your legs and feet. Poor blood flow makes it hard for a sore or infection to heal. Smoking when you have diabetes makes blood flow problems much worse.
- If the foot or skin is injured, wounds may heal slowly. If the wound is not treated correctly, severe infection may occur, leading to gangrene and amputation.



# Keep your teeth and gums healthy



Who has been to visit a dentist in the last year?



# Gum Disease



People with poor diets, high stress, diabetes, and who smoke are more likely to develop gum disease.

There are two common forms of gum disease.

1. Gingivitis is mild inflammation of the gums.
2. Periodontitis is a more severe inflammation of the gums, and the bone that holds the teeth in place begins to be gradually destroyed.



Gingivitis with bleeding gums



Severe gum infection or Periodontitis

# How do I know if I have gum disease?



- Healthy gums are pink and firm, are tightly attached to the teeth, and don't usually bleed when you brush your teeth .
- Gingivitis develops when the teeth are not brushed effectively.
- Plaque builds up on the teeth, next to the gum, and the bacteria in plaque cause the gums to become inflamed. As a result, the gums look inflamed and swollen, and may bleed when you brush your teeth.



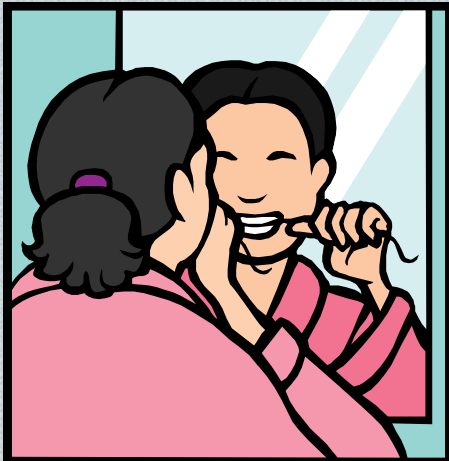
Gingivitis with bleeding gums



Severe gum infection or Periodontitis

# What can I do to prevent gum disease?

- By having a healthy diet, keeping good control of your blood sugar, and not smoking you can reduce the likelihood of gum disease.
- Brush and floss your teeth regularly, being careful to brush every part of the tooth. If this makes the gum bleed, it may be a sign of gum inflammation. If you are concerned about bleeding gums, be sure to visit a dentist.
- Visit a dentist at least once per year for a check-up.



Let's review: How can you keep your blood glucose in a healthy range?

- Have a healthy diet
- Lose weight if you're overweight
- Be more physically active
- Reduce stress
- Quit smoking if you smoke
- Limit alcohol

translation here:

# REVIEW: Blood Glucose Level & Diet



- Carbohydrate foods have the greatest effect on blood glucose levels.
  - Limit sweets, bread, rice, noodles, starchy vegetables (corn, potatoes).
  - When eating carbohydrates, choose whole grains, such as brown rice, whole wheat bread, and whole grain noodles.
- Eat well-balanced meals according to the plate method to keep your blood sugar at a healthy level and get the nutrients your body needs.
  - 1/2 of your plate should be vegetables
  - 1/4 of your plate should be lean meats and protein sources
  - 1/4 of your plate should be starches and grains (whole grains are best)
  - Add 1/2 cup of milk or yogurt and 1/2 cup fruit

# Monitoring healthy levels



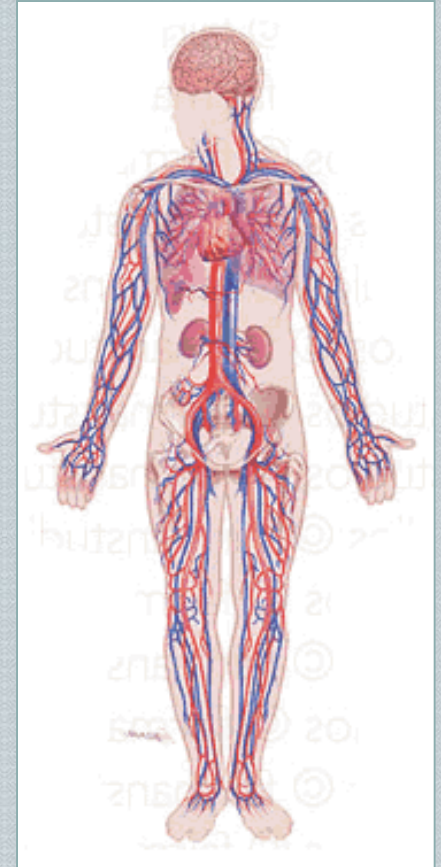
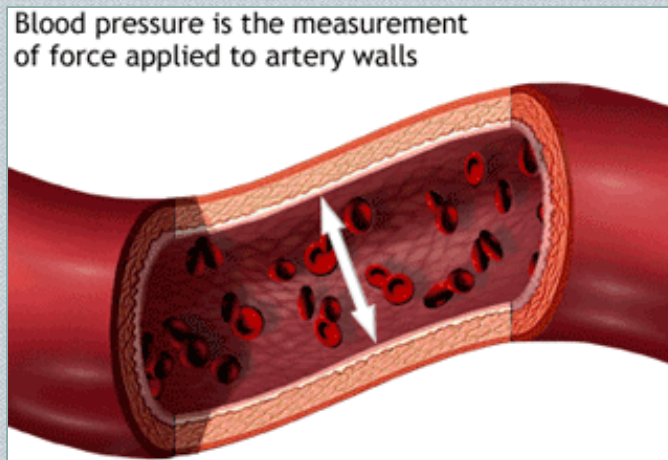
In addition to maintaining healthy blood glucose levels, it is important to keep these levels healthy:

- Blood pressure
- Cholesterol
- Weight / Body Mass Index (BMI)

# What is Blood Pressure?



- Blood pressure is the force of blood against the walls of your arteries.
- Blood pressure is needed to move blood through your body.
- Blood pressure is recorded as two numbers—the systolic pressure (as the heart beats) over the diastolic pressure (as the heart relaxes between beats).



# What is a healthy blood pressure?



- If you have high blood pressure (hypertension), it means your heart has to pump harder than it should to get blood to all parts of your body.
- High blood pressure increases your chances of having a heart attack, a stroke, kidney problems, or blindness.
- People with high blood pressure often have no symptoms— so it is important to check your blood pressure regularly!



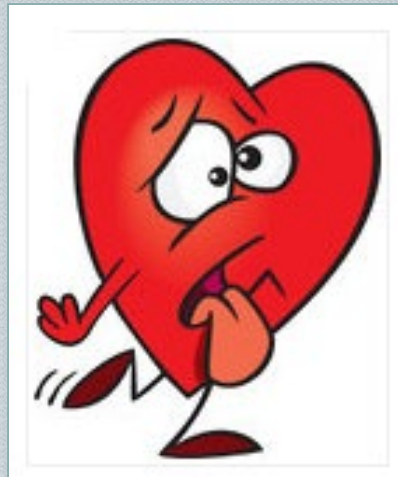
Blood Pressure Category	Systolic mm Hg (upper #)		Diastolic mm Hg (lower #)
Normal	less than 120	and	less than 80
Prehypertension	120 – 139	or	80 – 89
High Blood Pressure (Hypertension) Stage 1	140 – 159	or	90 – 99
High Blood Pressure (Hypertension) Stage 2	160 or higher	or	100 or higher
<b>Hypertensive Crisis (Emergency care needed)</b>	Higher than 180	or	Higher than 110

# Why it's important to stay in a healthy range



By keeping your blood pressure in the healthy range, you are:

- Reducing your risk of your vessels becoming overstretched and injured
- Reducing your risk of your heart having to pump harder to compensate for blockages
- Protecting your entire body so that your tissue receives regular supplies of blood that is rich in the oxygen it needs



# Blood Pressure & Diet



- For some of us, dietary salt can increase blood pressure.
- You should limit salt intake to about **1/2 teaspoon a day**, including salt that is in prepared foods, pickled foods (kimchi) or sauces (soy sauce).
- If you have hypertension, reducing your salt intake may reduce your blood pressure.
- Most of the sodium that we eat comes from packaged foods, processed foods, and restaurant and fast foods.



# Watch your salt intake!



Avoid high sodium foods:

- Salty snacks (crackers, popcorn, chips)
- Processed or frozen food (ham, bacon, pizza)
- Canned foods (soup, canned fish, canned meat)
- Instant foods (ramen, jjapagetti, instant soup)
- Preserved foods (kimchi, banchan, pickled cucumbers, salted fish)
- Seasonings (salt, ketchup, salad dressing, soy sauce, dashida, MSG)



Use less salt/soy sauce in cooking.

Don't add any at the dinner table!

Eat out less often.



# What is Cholesterol?



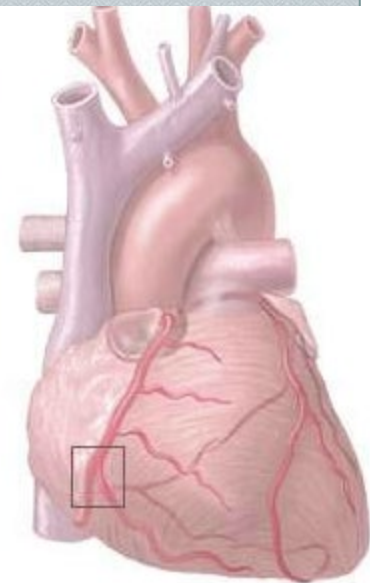
- Cholesterol itself isn't bad. In fact, cholesterol is just one of the many substances created and used by our bodies to keep us healthy.
- Some of the cholesterol we need is produced naturally (and can be affected by your family health history), while some of it comes from the food we eat.
- Cholesterol is found in foods from animals, such as meats, eggs, milk, yogurt, and cheese.
- There are 2 types: LDL (bad cholesterol) and HDL (good cholesterol).

# What is a healthy cholesterol level?

- High levels of bad cholesterol (LDL) and not enough good cholesterol (HDL) can clog your arteries and put you at risk for heart disease, heart attack, and stroke.
- Get your cholesterol levels checked!
  - Total cholesterol should be less than 200.
  - LDL (bad cholesterol) should be below 100.
  - HDL (good cholesterol) should be above 40 for men and above 50 for women.
  - Triglycerides should be less than 150.



Blockage in right coronary artery



# Cholesterol & Diet

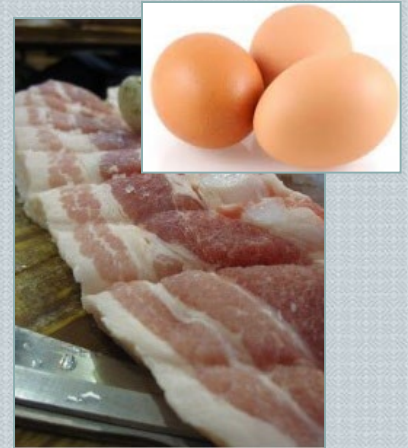


Cholesterol is found in meats and animal products (cheese, eggs, ice cream, milk)

- Liver, eggs, pork belly (samgyupsal), and shellfish are high in cholesterol.

Eat these less often.

Choose fat-free or low-fat versions of milk, yogurt, and cheese because these have less cholesterol than the full fat versions.



Foods that come from plants do not contain cholesterol.

- Vegetables, Fruits
- Beans, Tofu
- Rice, Grains and Cereals



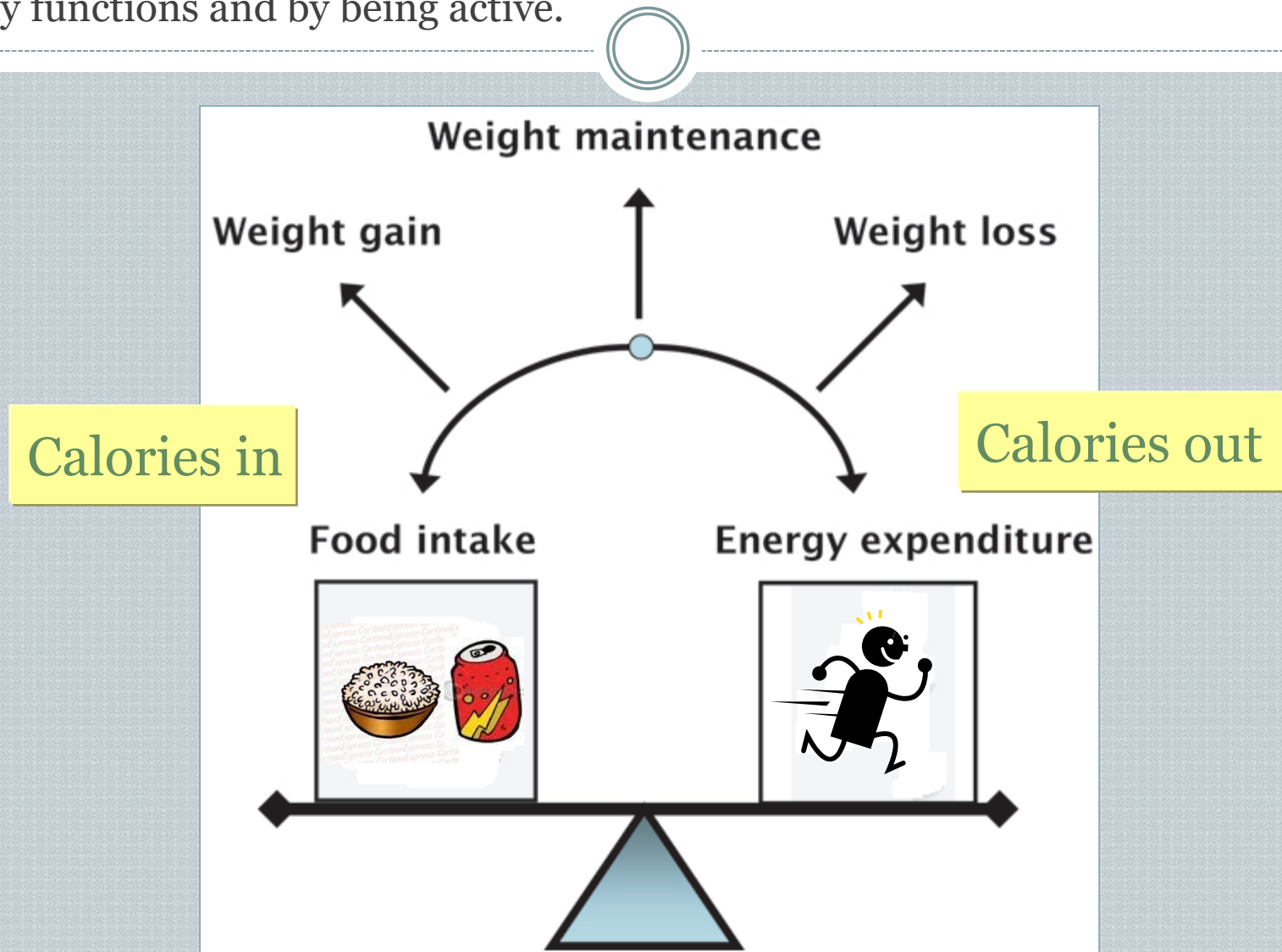
# Weight & Body Mass Index (BMI)



- If you have too much fat — especially around your waist (“apple shaped”) — you're at higher risk for health problems, including high blood pressure, high blood cholesterol, diabetes, heart disease and stroke.
- Lose weight if you are overweight or obese (maintain a healthy weight for your height).
- Watch the calories you put into your body (food) and increase the calories you use up (physical activity / exercise).



**REVIEW: Calorie balance** is the balance between the calories (or energy) you take in by eating and drinking, and the calories (or energy) you use up in all your body functions and by being active.



# Cut the fat!



To help keep a healthy weight and reduce your risk of heart disease and diabetes, limit the fats and sweets in your diet.

Eat smaller amounts or eat them less often.

Foods that are high in fat are high in calories. That's one reason why it's so important to eat less fat.



# How to be healthy about fats



## Avoid saturated fats and trans fats

- Increase LDL (bad cholesterol)
- Decrease HDL (good cholesterol)
- May cause heart disease
- Saturated fats are found in meat and animal products
  - Kalbi, organ meat, bacon, pork fat, butter, milk, cheese
- Trans fats (partially hydrogenated fats) are mainly found in fast food, snack foods, baked foods, and fried foods.
- Replace saturated fats with monounsaturated fats
- Reduce oil used in cooking and avoid deep-fried foods such as tempura
- Skim the fat off the top of soups and stews before eating

# How to be healthy about fats



- Monounsaturated fats: These are natural fats which lower “bad” cholesterol and can raise levels of “good” cholesterol.
  - Found in canola oil, olive oil, peanut oil, nuts and avocados. Have these instead of trans fats and use in moderation.
  
- Polyunsaturated fats: These are natural fats which reduce bad cholesterol and promote brain health. The 2 types are Omega-3 and Omega-6 fatty acids.
  - Omega-3 common in fatty fish like salmon, mackerel, sardines, and Omega-6 found in seed oils.



# 15 Minute Stretch and Cardio



**LET'S MOVE!**



# Heart Disease & Stroke



- There's a big link between diabetes, heart disease, and stroke. In fact, 2 out of 3 people with diabetes die from heart disease or stroke, also called cardiovascular disease.
- You do not have to have diabetes to be at risk for heart disease and stroke. Unhealthy blood pressure and cholesterol levels and being overweight also lead to heart disease and stroke.

# 3 out of 5 = Metabolic Syndrome

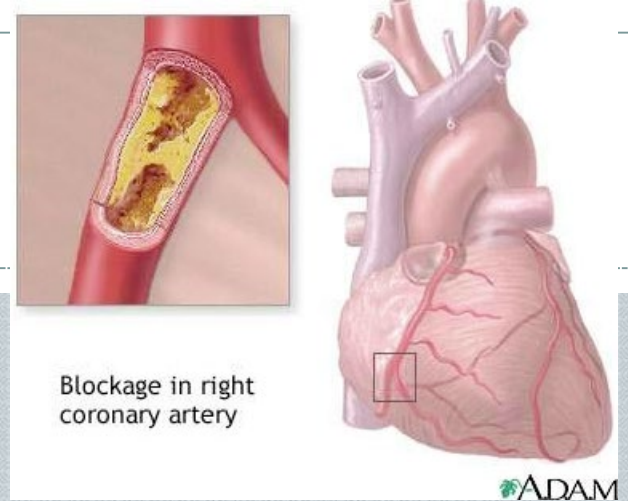


Metabolic syndrome is a name for a group of risk factors that occur together and increase the risk for coronary artery disease, stroke, and type 2 diabetes.

You have metabolic syndrome if you have three or more of the following signs:

- Blood pressure equal to or higher than 130/85 mmHg
- Fasting blood sugar (glucose) equal to or higher than 100 mg/dL
- Large waist circumference (length around the waist):
  - Men - 40 inches or more
  - Women - 35 inches or more
- Low HDL (good cholesterol):
  - Men - under 40 mg/dL
  - Women - under 50 mg/dL
- Triglycerides equal to or higher than 150 mg/dL

# What is a heart attack?



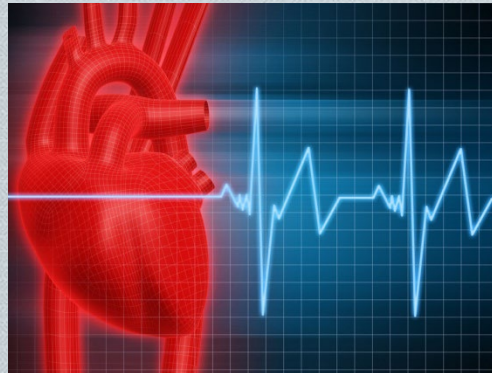
- Your heart muscle needs oxygen to survive.
- A heart attack occurs when the blood flow that brings oxygen to the heart muscle is severely reduced or cut off completely.
- This happens because coronary arteries that supply the heart with blood can slowly become thicker and harder from a buildup of fat, cholesterol and other substances that together are called plaque. This slow process is known as atherosclerosis .
- When a plaque in a heart artery breaks, a blood clot forms around the plaque. This blood clot can block the artery and shut off blood flow to the heart muscle.
- When the heart muscle is starved for oxygen and nutrients, it is called ischemia. When damage or death of part of the heart muscle occurs as a result of ischemia, it is called a heart attack or myocardial infarction (MI).

# Warning signs of a heart attack



During a heart attack, you may have:

- chest pain or discomfort
- pain or discomfort in your arms, back, jaw, or neck
- indigestion or stomach pain
- shortness of breath
- sweating
- nausea
- light-headedness



Or you may have no symptoms at all.

If you have chest pain that persists, call 911.

# What is a stroke?



- A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts. When that happens, part of the brain cannot get the blood (and oxygen) it needs, so it starts to die.
- Depending on the part of the brain that is affected, a stroke can cause:
  - Paralysis
  - Memory loss
  - Vision problems
  - Behavioral changes
  - Speech/language problems

## KNOW THE WARNING SIGNS OF STROKE

**WEAKNESS:** Sudden loss of strength, numbness in face, arm or leg, even if temporary

**TROUBLE SPEAKING:** Sudden difficulty speaking, understanding or confusion, even if temporary

**VISION PROBLEMS:** Sudden trouble with vision, even if temporary

**HEADACHE:** Sudden severe or unusual headache

**DIZZINESS:** Sudden loss of balance, especially with any of the above signs

# What can I do to prevent heart disease and stroke?



- Keep your blood glucose under control.
- Keep your blood pressure under control and check it regularly. The target for most people is below 120/80.
- Keep your cholesterol under control. Have it checked at least once a year. The targets for most people are:
  - LDL (bad cholesterol): below 100
  - HDL (good cholesterol): above 40 in men and  
above 50 in women
- Watch the fat in your diet and check your triglycerides (a type of fat in the blood): target is below 150

# Quit Smoking / Using Tobacco



Smoking/tobacco use increases risk of developing:

- Coronary heart disease, heart attack, and stroke
- Lung diseases, lung cancer, and many other types of cancer
- Infertility, low birth weight, and birth defects
- Additional risks for women: lower bone density, increased risk for hip fractures, reduction of estrogen levels which can lead to earlier menopause

In addition, smoking/tobacco:

- Reduces HDL (good cholesterol) levels
- Temporarily raises your blood pressure
- Increases risk of blood clots
- Makes it more difficult to exercise
- Makes it harder to breathe easily



# Withdrawal symptoms



Quitting smoking/using tobacco can be very hard to do.

Cigarettes and tobacco contain nicotine, which is highly addictive. It causes changes in the brain that make people want to use it more and more.

Addictive drugs cause unpleasant withdrawal symptoms, such as:

- Physical and psychological dependence
- Headaches, anxiety, irritability
- Craving for salt and sugar
- Physical withdrawal symptoms last 72 hours
- Psychological withdrawal symptoms last six months



But the health benefits of quitting are worth it!

Let's find out...

# Health benefits of quitting smoking



- Reduced risks of developing type 2 diabetes
- Controlled level of blood sugar
- Reduced risks of cardiovascular (heart and blood vessels) related complications
- **After 20 minutes of quitting:** heart rate and blood pressure drops
- **After 12 hours of quitting:** carbon monoxide level in the blood returns to normal
- **After two weeks to nine month:** blood circulation improves, lung functionality improves
- **After one year:** decrease in the risks of coronary heart disease
- **After five years:** risk of stroke is reduced to that of a non-smoker
- **After ten years:** lung cancer death risk is half that of a continuing smoker
- **After 15 years:** risk of coronary heart disease is that of a non-smoker's

# How can I quit smoking?

translation here:

- Nicotine replacement therapy (NRT)
- Nicotine gum, patches, lozenges, and nasal sprays are very successful nicotine replacement products
- Medications: Zyban and chantix
- Acupuncture
- behavioral therapy, motivational therapy, hypnosis



You can get free patches from Medicaid or Family Health Plus.

If you are uninsured, call 311 for free patches from the city.

Ask me for more resources if you want to quit!

# Limit alcohol



- If you drink alcohol, do so in moderation. This means an average of one to two drinks per day for men and one drink per day for women.
- One drink = 12-ounce beer, 4 ounces of wine, 1.5 ounces of 80-proof spirits or 1 ounce of 100-proof spirits.
- Drinking more alcohol increases the risk of alcoholism, high blood pressure, obesity, stroke, breast cancer, suicide and accidents.



# Increase physical activity



Who remembers:  
How much of each exercise  
do we need per week?

# Review: Recommended weekly activity



- Do 30 minutes or more of moderate-intensity endurance activity on 5 or more days each week.
- Do strength exercises for all of your major muscle groups on 2 or more days per week for 30-minute sessions each, but don't exercise the same muscle group on any 2 days in a row.
- You should stretch before and after each exercise session you do.

# Checking in...



What barriers have you had in meeting your exercise goals?

# Checking in...



Who has had success in meeting your  
exercise goals?

# Checking in...



What barriers have you had in meeting  
your nutrition goals?

# Checking in...



Who has had success in meeting your  
nutrition goals?

How can we stay motivated?

Remember... The key to success is including changes in diet, physical activity, and well-being in your everyday life.

# Goals for the next few weeks



- Lower salt and cholesterol in your diet (and stick to it!)
- Reduce smoking/tobacco/alcohol use, if applicable
- At least 120 minutes of physical activity per week (Use your pedometer to count your steps!)
- Keep track of all your physical activities/exercise each week



# Goal Setting and Follow-Up Phone Calls



- I will call you again next week to check in and see how you are doing.
- I will work with you to help you meet your goals for having a healthier lifestyle.



# Next Session: Reducing Stress



In the next session, we will talk more about how to reduce stress and get the support you need to meet your healthy living goals.

I will provide you with the details for the date and time for the next class.

## See you in 3 weeks!

