RISK FACTORS
Risk factors are items that increase your risk of disease.
RISK FACTORS

Unmodifiable
• Can’t be changed

Modifiable
• Can be changed
Risk Factors that cannot be changed

- Age
- Gender
- Family history of coronary heart disease
- Family history of high cholesterol
- Race/Ethnicity
Modifiable Risk Factors

- Smoking
- Hypertension
- Sedentary lifestyle
- Obesity
- Diabetes
- Stress
- Elevated cholesterol levels
Which is a modifiable risk factor?

A. Age
B. Family History
C. Hypertension
D. Sex
1. Smoking

- #1 modifiable risk factor
- Damages the artery walls
- Reduces HDL cholesterol level
- Triggers blood clots to form
- Biggest risk factor for sudden cardiac arrest
- Increases heart rate
- Raises blood pressure
- Reduces blood vessels size by 50%
2. Hypertension

- Incidence increases with age
- Damages vessel walls
- African American more likely to have high blood pressure than whites
- Family history and obesity at high risk
- Dietary intake of sodium can affect Blood Pressure
JNC VII Classification of BP

**BP Classification**
- Preferred
- Normal
- Stage 1 HTN
- Stage 2 HTN

**SBP**
- <120
- 120-139
- 140-159
- 160+

**DBP**
- <80
- 80-89
- 90-99
- 100+
3. Sedentary Lifestyle

More than 60% of American adults are not regularly physically active

25% of all adults are not active at all
Benefits of Exercise

- Improves lipid profile
- Improves energy expenditure
- Increases fat loss
- Preserves lean body mass
- Increases sense of well-being
- Reduces feelings of depression and anxiety
Exercise Benefits continued

- Lowers blood glucose levels during and after exercise
- Improves insulin sensitivity
- Lowers glycated hemoglobin levels
- Improves mild to moderate hypertension
- Increases cardiovascular conditioning
- Increases strength and flexibility
4. Obesity

- Overweight  BMI 25-39
- Obesity  BMI 30+
- 80% of Type II diabetics are overweight
- Apple vs. pear
5. Diabetes

- Obesity and physical inactivity are two risk factors for Type 2 diabetes.
- Risk of death from CVD 2-4 times higher in women with diabetes compared to women without diabetes.
- Diabetes raises the build up of plaque & fatty deposits.
6. Stress

- Increases heart rate
- Increases blood pressures
- Increases cholesterol level
- Tightness in muscles
- Increases Blood Sugars
Managing Stress

Relaxation techniques

• Progressive muscle relaxation
• Guided imagery
• Biofeedback
• Yoga
• Reduces catecholamine levels thus reducing stress
CHOLESTEROL-What is it? An unnecessary necessity

Necessary component of human physiology
- Building block of cell membranes, bile acids, sex hormones

Waxy fat-like substance, produced in the body and unnecessarily acquired in the diet

Present in all animals and products of animal origin such as milk, cheese, and eggs

NO cholesterol found in any plant products including fruits, grains, legumes (dried peas and beans), vegetables, or the oils made from them
Which of the following is not a source of cholesterol?

A. Eggs
B. Hamburgers
C. Peanut Butter
D. Hot Dogs

C. Peanut Butter
A Little is a Lot!

FOR EVERY 1% DECREASE IN CHOLESTEROL, THE HEART ATTACK RATE IS LOWERED BY 2%

Often this decrease can be achieved by following a healthy, low-fat diet with regular exercise.
What Test Checks for High Cholesterol?

The Lipid Profile--includes

<table>
<thead>
<tr>
<th>Total Cholesterol</th>
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<tbody>
<tr>
<td>HDL</td>
</tr>
<tr>
<td>LDL</td>
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<tr>
<td>Triglycerides</td>
</tr>
<tr>
<td>Cholesterol:HDL ratio</td>
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</tbody>
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ROCHESTER REGIONAL HEALTH
High Cholesterol Levels
NCEP Guidelines (National Cholesterol Education Program)

- Cholesterol < 200 mg/dL
- Triglycerides < 150 mg/dL
- HDL > 40 mg/dL
- LDL < 70 mg/dL
Lipoproteins

- special carriers that transport cholesterol to and from the body’s cells

"The Good"

High-density lipoproteins (HDL’s)

- known as “the good” cholesterol and help scavenge LDL cholesterol from arterial walls which decreases the risk of plaque development
# “The Bad and The Ugly”

| Low-density Lipoproteins (LDL’s) |  
|----------------------------------|------------------  
| Primarily made of fat and little protein |

| “The Bad” |  
|-----------|------------------  
| Responsible for transporting 60%-80% of the body’s cholesterol through the blood stream |

| “The Ugly” |  
|------------|------------------  
| Excess LDL not used by the body remains in circulation, collects on arterial walls, causes inflammation, and produces plaque which can result in blockages |
“The Bad and The Ugly”

Triglycerides is a type of fat, too much can cause blockages.

Ratio – looking at total cholesterol vs. HDL
### Lifestyle Changes

<table>
<thead>
<tr>
<th>Change</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Decrease saturated fats</td>
<td>(&lt;7% of total calories) and cholesterol (&lt;200mg/d)</td>
</tr>
<tr>
<td>Increase HDL, alcohol increases triglycerides but may help raise HDL. If you don't drink, don't start!</td>
<td></td>
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<tr>
<td>Increase soluble fiber (10-25 g/d)</td>
<td></td>
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<tr>
<td>Exercise</td>
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<tr>
<td>Reduce weight</td>
<td></td>
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<tr>
<td>Increase physical activity</td>
<td></td>
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<tr>
<td>Decrease sugar and sweets</td>
<td></td>
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</tbody>
</table>
Cholesterol Doesn’t Decrease

If the levels do not come down enough with lifestyle modification, medications called statins may be necessary.

If medications are prescribed—**TAKE THEM**
Your Health Depends on You

- Quit smoking
- Eat healthful foods
- Be physically active
- Have regular medical check-ups
- Follow your doctor’s advice
- Stay on treatment for high blood pressure and high cholesterol
Which modifiable risk factor when changed, reduces a person’s risk for heart disease by 50%?

A. Hypertension  
B. High Cholesterol  
C. Lack of exercise  
D. Smoking

D. Smoking
By increasing physical exercise, we can positively affect which of the following risk factors?

A. Blood Pressure  
B. Cholesterol  
C. Weight  
D. Stress  
E. All of the Above