Preventing Heart Disease

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### Risk Factors

<table>
<thead>
<tr>
<th>Modifiable</th>
<th>Nonmodifiable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyslipidemia</td>
<td>Age</td>
</tr>
<tr>
<td>High LDL-C</td>
<td>Gender</td>
</tr>
<tr>
<td>Low HDL-C</td>
<td>Family history of premature CHD</td>
</tr>
<tr>
<td>Elevated triglycerides</td>
<td></td>
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<tr>
<td>Hypertension</td>
<td></td>
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<tr>
<td>Diabetes</td>
<td></td>
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<tr>
<td>Obesity</td>
<td></td>
</tr>
<tr>
<td>Dietary factors</td>
<td></td>
</tr>
<tr>
<td>Sedentary lifestyle</td>
<td></td>
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<tr>
<td>Smoking</td>
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</tbody>
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Focus on....
The relationship of lifestyle, risk factors, and cardiovascular disease


Effects of Targeted Diet and Lifestyle Interventions on Mortality Risk in Individuals with or without Coronary Artery Disease (CAD)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Reduction in Mortality Risk for individuals with CAD</th>
<th>Reduction in Mortality Risk for the General Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined dietary changes†</td>
<td>45%</td>
<td>15 - 40%</td>
</tr>
<tr>
<td>Moderate-intensity physical activity¥</td>
<td>25%</td>
<td>20 - 30%</td>
</tr>
<tr>
<td>Moderation of alcohol intake*</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>45%</td>
<td>15 - 40%</td>
</tr>
</tbody>
</table>

† Represents a combination of ≥ 2 of the following factors: limiting saturated fat intake (≤ 10% E) and trans fatty acid intake (≤ 1% E); regular consumption of fish (1-2 portions of oily fish per week); regular fruit and vegetable intake (≥ 400 g/day); sufficient intake of fiber-containing grain products, legumes and/or nuts (≥ 3 U/day); reduction of salt intake (≤ 2,400 mg/day).

¥ Moderate-intensity physical activity (40 – 60% of VO₂ max) for at least 30 minutes per day on at least 5 days per week.

* A maximum of 2 drinks per day for women and 3 drinks per day for men (Lestra et al., 2005).
AHA 2006 Diet and Lifestyle Recommendations for CVD Risk Reduction

Consume an overall healthy diet rich in fruits, vegetables, whole grain, high-fiber foods and include fish at least 2x/week

Aim for:
- A healthy body weight
- Recommended levels of LDL-C, HDL-C, and TG
- A normal blood pressure
- A normal blood glucose level

Be physically active
Avoid use of and exposure to tobacco products

- Limit saturated fat to <7%, trans fats to <1%, and cholesterol to <300 mg/day*. Do this by:
  - Choosing lean meats + vegetable alternatives
  - Selecting fat-free (skim), 1% fat, and low-fat dairy products
  - Minimizing intake of partially hydrogenated fats
- Minimize intake of beverages and foods with added sugars
- Choose and prepare foods with little or no salt
- If you consume alcohol, do so in moderation


CVD = Cardiovascular Disease
HDL-C = High Density Lipoprotein-Cholesterol
TG = Triglycerides
Meeting Criteria for Heart Health

American Heart Association 2020 Goals (Healthy Diet Score)

**Primary**
- **Fruits & Vegetables**: ≥ 4.5 cups/day
- **Fish**: ≥ two 3.5 oz. servings/week (preferably oily fish)
- **Fiber-rich whole grains** (≥ 1.1 g of fiber/10 g of CHO: ≥ three 1 oz. equivalent servings per day)
- **Sodium**: < 1500 mg/day
- **Sugar-sweetened beverages**: ≤ 450 kcal (36 oz.)/week

**Secondary**
- Nuts, legumes, & seeds: ≥ 4 servings/week
- Processed meats: none or ≤ 2 servings/week
- Saturated fat: < 7% of total energy intake

AHA/ACC 2013 Report on Lifestyle Management to Reduce CVD Risk

For LDL-C lowering:

1. Consume a dietary pattern that emphasizes intake of vegetables, fruits and whole grains; includes low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils and nuts; and limits intake of sweets, sugar-sweetened beverages and red meats.

2. Aim for a dietary pattern that achieves 5% to 6% of calories from SFA.

3. Reduce percent of calories from SFA and TFA.
Prevalence of ideal, intermediate, and poor cardiovascular health metrics in 2006 (American Heart Association 2020 Impact Goals baseline year) and 2020 projections assuming current trends continue.

Heart Health Factors

Get Active  
Control Cholesterol  
Eat Better  
Manage Blood Pressure  
Lose Weight  
Reduce Blood Sugar  
Stop Smoking

(http://mylifecheck.heart.org/)
Total US food expenditures away from home

- Eating and drinking places
- Foods at home
- All other foods away from home
- Retail stores, direct selling
- Hotels and motels
- Schools and colleges
- Recreational places

Just released...

DIETARY GUIDELINES
FOR AMERICANS
2015-2020
EIGHTH EDITION
DGAC 2015 Key Recommendations

- The overall body of evidence examined by the 2015 DGAC identifies that a healthy dietary pattern is higher in vegetables, fruits, whole grains, low- or non-fat dairy, seafood, legumes, and nuts; moderate in alcohol (among adults); lower in red and processed meats; and low in sugar-sweetened foods and drinks and refined grains.

- The goals for the general population are: < 2,300 mg dietary sodium per day (or age-appropriate Dietary Reference Intake amount), < 10 percent of total calories from saturated fat/day, and a maximum of 10 percent of total calories from added sugars/day.

- Sources of saturated fat should be replaced with unsaturated fat, particularly polyunsaturated fatty acids.


Relationship Between Intake of SFA and Risk of Cardiovascular Disease

- **Strong and consistent evidence** from RCTs shows that replacing SFA with unsaturated fats, especially PUFA, significantly reduces total and LDL-C.

- Replacing SFA with carbohydrates (sources not defined) also reduces total and LDL-C, but significantly increases TG and reduces HDL-C.

- **Strong and consistent evidence** from RCTs and statistical modeling in prospective cohort studies shows that replacing SFA with PUFA reduces the risk of CVD events and coronary mortality.

- For every 1% of energy intake from SFA replaced with PUFA, incidence of CHD is reduced by 2 to 3%. However, reducing total fat (replacing total fat with overall carbohydrates) does not lower CVD risk.

- **Consistent evidence** from prospective cohort studies shows that higher SFA intake as compared to total carbohydrates is not associated with CVD risk.

- **DGAC 2015 Grade: Strong**
The Guidelines

1. Follow a healthy eating pattern across the lifespan. All food and beverage choices matter. Choose a healthy eating pattern at an appropriate calorie level to help achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of chronic disease.

2. Focus on variety, nutrient density, and amount. To meet nutrient needs within calorie limits, choose a variety of nutrient-dense foods across and within all food groups in recommended amounts.

3. Limit calories from added sugars and saturated fats and reduce sodium intake. Consume an eating pattern low in added sugars, saturated fats, and sodium. Cut back on foods and beverages higher in these components to amounts that fit within healthy eating patterns.

4. Shift to healthier food and beverage choices. Choose nutrient-dense foods and beverages across and within all food groups in place of less healthy choices. Consider cultural and personal preferences to make these shifts easier to accomplish and maintain.

5. Support healthy eating patterns for all. Everyone has a role in helping to create and support healthy eating patterns in multiple settings nationwide, from home to school to work to communities.

Key Recommendations

The Dietary Guidelines’ Key Recommendations for healthy eating patterns should be applied in their entirety, given the interconnected relationship that each dietary component can have with others.

Consume a healthy eating pattern that accounts for all foods and beverages within an appropriate calorie level.

A healthy eating pattern includes:

- A variety of vegetables from all of the subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other
- Fruits, especially whole fruits
- Grains, at least half of which are whole grains
- Fat-free or low-fat dairy, including milk; yogurt, cheese, and/or fortified soy beverages
- A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), and nuts, seeds, and soy products
- Oils

A healthy eating pattern limits:

- Saturated fats and trans fats, added sugars, and sodium
Fish – Twice a Week

From www.Oldwayspt.org
Meatless Mondays ….

Fiber – Fallen out of Favor
Still Lowers Lipids
More Fiber and Much More

Nuts are In
Always Fruits and Vegetables

Seasonal Varieties and Farmer's Markets
Different kinds of meals

Practice Good Nutrition to Prevent Cardiovascular Disease