If you participate in the State Health Plan, you can find a nutritionist close to you by logging into your BCBSNC account or calling BCBS. Dietitian visits are covered at 100% when an in-network provider is used. Visit www.shpnc.org to learn more.

For future wellness lunch and learn events, or recordings of previous events, visit https://oshr.nc.gov/wellness-webinars.

Let’s LUNCH AND LEARN!
Cholesterol: Know your Numbers!

Presented by Katie Godin, RD, LDN
What is Cholesterol?

A waxy, fat-like substance made in the liver, and found in the blood and in all cells of the body.

Your liver makes all the cholesterol you need. The remainder of the cholesterol in your body comes from foods from animals.

Too much cholesterol can pose a problem. About 38% of American adults have high cholesterol (total blood cholesterol ≥ 200 mg/dL) according to the Centers for Disease Control and Prevention.
Types of Cholesterol

**LDL (Low Density Lipoprotein) or “Bad” Cholesterol** is responsible for carrying cholesterol to the cells that need it. Too much of this type of cholesterol in your blood causes the buildup of fatty deposits (plaques) in your arteries which reduces blood flow. If a plaque(s) ruptures, it can lead to a heart attack or stroke.

**HDL (High-Density Lipoprotein) or “Good” Cholesterol** helps carry away the LDL cholesterol back to the liver, keeping arteries open and your blood flowing smoothly.
What about Total Cholesterol? What makes up this number?

- Total cholesterol is the sum of your blood’s different types of cholesterol
- This will include
  - HDL + LDL + 20% of TG

\[
\text{LDL} + \text{HDL} + \left(\frac{\text{triglyceride}}{5}\right) = \text{Total Cholesterol}
\]

LDL - 100
HDL - 70
Triglyceride - 150

100 + 70 + \left(\frac{150}{5}\right)
What about Triglycerides? What’s the difference?

Triglycerides and cholesterol are different types of lipids that circulate in your blood.

Cholesterol is used to build cells and certain hormones. When you eat, your body converts calories it doesn’t need into triglycerides and are stored in fat cells.

High triglyceride levels are often present if you are overweight, eating too many sweets, drinking too much alcohol, smoking, being sedentary, or having diabetes with elevated blood sugar levels.
Lipid Panel Testing: What’s included?

• Total Cholesterol
• HDL
• LDL
• Triglycerides
• We test in house at LMC within your first 2 visits.
• You need to be fasting for these tests.
• CVS currently doing free testing for the month of February while funding lasts.
Desired Lipid Panel measurements

![Optimal Lipid Profile Graph]

- Cholesterol: <200 mg/dL
- TG: <150 mg/dL
- LDL: <100 mg/dL
- HDL: >60 mg/dL
Numbers: Taking a Further Look
<table>
<thead>
<tr>
<th>Total Cholesterol</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 200 mg/dL</td>
<td>Desirable</td>
</tr>
<tr>
<td>200-239 mg/dL</td>
<td>Borderline high</td>
</tr>
<tr>
<td>240 mg/dL and above</td>
<td>High</td>
</tr>
</tbody>
</table>
**LDL Cholesterol**

<table>
<thead>
<tr>
<th>LDL Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 70 mg/dL</td>
<td>Best for people who have coronary artery disease — including a history of heart attacks, angina, stents or coronary bypass.</td>
</tr>
<tr>
<td>Below 100 mg/dL</td>
<td>Optimal for people at risk of coronary artery disease or who have a history of diabetes. Near optimal for people with uncomplicated coronary artery disease.</td>
</tr>
<tr>
<td>100-129 mg/dL</td>
<td>Near optimal if there is no coronary artery disease. High if there is coronary artery disease.</td>
</tr>
<tr>
<td>130-159 mg/dL</td>
<td>Borderline high if there is no coronary artery disease. High if there is coronary artery disease.</td>
</tr>
<tr>
<td>160-189 mg/dL</td>
<td>High if there is no coronary artery disease. Very high if there is coronary artery disease.</td>
</tr>
<tr>
<td>190 mg/dL and above</td>
<td>Very high.</td>
</tr>
</tbody>
</table>
HDL Cholesterol

<table>
<thead>
<tr>
<th>HDL Level</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 40 mg/dL, men</td>
<td>Poor</td>
</tr>
<tr>
<td>Below 50 mg/dL, women</td>
<td></td>
</tr>
<tr>
<td>40-59 mg/dL, men</td>
<td>Better</td>
</tr>
<tr>
<td>50-59 mg/dL, women</td>
<td></td>
</tr>
<tr>
<td>60 mg/dL and above</td>
<td>Best</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>Below 150 mg/dL</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
</tr>
<tr>
<td>150-199 mg/dL</td>
<td>Borderline high</td>
</tr>
<tr>
<td>200-499 mg/dL</td>
<td>High</td>
</tr>
<tr>
<td>500 mg/dL and above</td>
<td>Very high</td>
</tr>
</tbody>
</table>
Who’s at risk?

Risk factors for high cholesterol include:

- A family history of high cholesterol or heart attacks
- Being Overweight
- Being physically inactive
- Diabetes
- Poor diet
- Cigarette smoking
How often should you have your lipids checked?

Most healthy adults should have their cholesterol checked every 4 – 6 years at a minimum. Ideally annually at your physical with your PCP.

Individuals who have heart disease, diabetes, or a family history of high cholesterol, should get their cholesterol checked more often and should talk with their healthcare provider for guidance.

Children and adolescents should have their cholesterol checked at least once between ages 9 – 11 and again between ages 17 – 21 years or more or according to their healthcare provider’s recommendation.

For men ages 45-65 and women 55-65, a lipid panel should be done every 1-2 years. Individuals over 65 should consider getting a test annually.

If you have had an abnormal test, are taking cholesterol-lowering medications, or you’re at higher risk of coronary artery disease due to risk factors, more frequent testing than those recommended above may be needed.
Dietary and Lifestyle changes
Tips for Lowering Total Cholesterol and LDL

Limit
- Limit trans & saturated fat. Replace with Unsaturated Fats.

Aim
- Aim for AT LEAST 25-38g of dietary fiber each day (women-men, respectively).

Choose
- Choose more heart-healthy fats and eat at least one omega-3 fat every day.

Cut back
- Cut back on “low-fat”, “reduced-fat”, and “fat-free” processed foods.
Tips for Lowering Total Cholesterol and LDL

The American Heart Association recommends limiting sodium to <1,500 mg per day if:

- You are an adult over the age of 50
- You have Diabetes
- You are African American
- You have high blood pressure

Maintain a healthy weight

5-10% weight loss, if overweight

Aim for at least 30 min of physical activity most days of the week. The more you exercise, the more LDL your body expels.
Strategies to increase HDL

- Participate in regular physical activity.
- Replace saturated & trans fats with unsaturated fats & omega-3’s.
- Increase fiber intake from plants.
- Quit smoking, if applicable.
- Maintain a healthy weight (BMI < 25).
Strategies to lower Triglycerides

1. Maintain a healthy weight
   • 5-10% weight loss, if overweight
   • Aim for at least 30 minutes of physical activity most days of the week

2. Choose foods that contain healthy fat and are low in refined carbohydrates
   • Limit refined carbohydrates: white rice, white bread, enriched pasta, etc.
   • Avoid added sugar: sweets, candy, pastries, cakes, cookies, regular soda, juices
   • Focus on more Omega 3 fat’s. Ask your provider if a supplement would be beneficial.

3. Limit alcohol consumption

4. Blood sugar control
   • If you have diabetes, good blood sugar control can help reduce your triglycerides
Breakdown of types of fats on cholesterol levels

<table>
<thead>
<tr>
<th>Type of Fats</th>
<th>Effect on LDL</th>
<th>Effect on HDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trans fats</td>
<td>Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>Saturated fats</td>
<td>Increase</td>
<td>No effect</td>
</tr>
<tr>
<td>Monounsaturated Fats</td>
<td>Decrease</td>
<td>No effect</td>
</tr>
<tr>
<td>Polyunsaturated Fats (Omega 3/Omega 6)</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
</tbody>
</table>
Handouts to review:

- Lipid Lowering Strategies
- Healthy Fat Basics
- Choosing Oils
- High Fiber Products to Look For
Let’s Cook!
Lentil Burgers