

# Eagle's Landing Diabetes & Endocrinology

## Cholesterol Control for Diabetics: Patient-Friendly Explanation

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### What is Cholesterol, and How Does it Affect Your Body?

Cholesterol is a waxy, fat-like substance found in your blood. Your body needs some cholesterol to function properly, but too much “**bad**” **LDL cholesterol** can harm your arteries and circulation.

1. **Effects on Arteries:**

- Excess LDL cholesterol deposits in artery walls, forming **plaque**.
- Plaque buildup narrows and stiffens arteries, a condition called **atherosclerosis**.
- Reduced blood flow can lead to **heart attacks, strokes, and poor circulation in the legs** (peripheral artery disease or PAD).

2. **Diabetics and Cholesterol Risk:**

- Diabetes accelerates plaque buildup and worsens artery damage.
  - High cholesterol, combined with elevated blood sugar, dramatically increases the risk of heart and vascular diseases.
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### Risk Factors of Elevated Cholesterol

1. **Heart Attacks:** Blockages in coronary arteries reduce oxygen to the heart, causing a heart attack.
  2. **Strokes:** Plaque in neck or brain arteries can block blood flow, leading to a stroke.
  3. **Leg Circulation Problems (PAD):**
    - Reduced blood flow in the legs causes pain, cramps, and slow-healing wounds.
    - Severe cases can lead to ulcers or even amputation.
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### Treatment Goals for LDL Cholesterol in Diabetics

1. **For Most Diabetics:**

- **LDL Goal: <70 mg/dL.**
- Lowering LDL helps reduce the risk of cardiovascular complications.

2. **For Diabetics with Atherosclerosis:**

- **LDL Goal: <55 mg/dL** (even more aggressive).
- This applies if you've had a heart attack, stroke, or diagnosis of peripheral artery disease (PAD).

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## Why Treating Cholesterol is as Important as Controlling Glucose

1. **Synergistic Risks:**
  - Uncontrolled blood sugar and high cholesterol worsen artery damage together.
  - Treating both reduces the overall risk of heart attacks, strokes, and circulation problems.
2. **Lifesaving Benefits:**
  - Lowering LDL cholesterol significantly reduces cardiovascular deaths in diabetics.
  - Combining cholesterol control with blood sugar management improves long-term health outcomes.

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## How Lifestyle Changes Can Improve Cholesterol

1. **Diet:**
  - **Add Soluble Fiber:** Found in oats, beans, lentils, fruits, and vegetables, fiber helps remove cholesterol from the body.
  - **Choose Healthy Fats:** Use olive oil, nuts, seeds, and fatty fish instead of saturated fats (e.g., butter, red meat).
  - **Limit Trans Fats and Added Sugars:** Avoid processed snacks, fried foods, sugary beverages, and pastries.
2. **Weight Loss:**
  - Losing just **5–10% of your body weight** can lower LDL cholesterol and improve HDL ("good" cholesterol).
  - Reducing abdominal fat is particularly important for diabetics.
3. **Exercise:**
  - Regular physical activity increases HDL cholesterol, which helps remove LDL cholesterol from arteries.
  - **Guidelines:**
    - **150 minutes/week** of moderate aerobic activity (e.g., walking, cycling).
    - Include strength training at least 2 times/week.
4. **Genetic Factors:**
  - For many, high cholesterol is due to genetics rather than diet alone.
  - Lifestyle changes help, but medication may be necessary to achieve target LDL levels.

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## Medications to Treat High Cholesterol

1. **Statins (First-Line Treatment):**
  - Lower LDL cholesterol by reducing cholesterol production in the liver.

- Examples:
  - **Atorvastatin (Lipitor)**
  - **Rosuvastatin (Crestor)**
  - **Simvastatin (Zocor)**
- **Benefits:** Reduce LDL by 30–50%; proven to lower the risk of heart attacks and strokes.
- **Side Effects:** Muscle pain, liver enzyme changes (rare).
- 2. **Ezetimibe (Zetia):**
  - Reduces cholesterol absorption in the intestines.
  - Often added to statin therapy for additional LDL reduction (by ~20%).
  - **Side Effects:** Stomach pain, diarrhea (rare).
- 3. **PCSK9 Inhibitors:**
  - Block a protein that reduces the liver’s ability to remove LDL cholesterol.
  - Examples:
    - **Alirocumab (Praluent)**
    - **Evolocumab (Repatha)**
  - **Benefits:** Lower LDL by 50–60%; reduce risk of heart attacks and strokes.
  - **Side Effects:** Injection site reactions, mild flu-like symptoms.
- 4. **Leqvio (Inclisiran):**
  - A new injectable medication using RNA technology to lower PCSK9 levels.
  - **Dosing:** Given twice a year after initial doses.
  - **Benefits:** Significant LDL reduction similar to PCSK9 inhibitors.
  - **Side Effects:** Injection site reactions.
- 5. **Nexlizet (Bempedoic Acid + Ezetimibe):**
  - A combination pill that inhibits cholesterol production and absorption.
  - **Benefits:** Lowers LDL by ~25–30% when added to statins.
  - **Side Effects:** Joint pain, muscle spasms, liver enzyme changes (rare).

## Key Takeaways

1. **For Diabetics:** Elevated LDL cholesterol dramatically increases risks of heart attacks, strokes, and circulation problems. Aggressive cholesterol control is essential.
2. **Treatment Goals:**
  - General LDL goal: **<70 mg/dL.**
  - For those with atherosclerosis: **<55 mg/dL.**
3. **Lifestyle Matters:** Diet, weight loss, and exercise help improve cholesterol, but medications are often needed for optimal control, especially with genetic risk factors.
4. **Medications:** Include statins, Zetia, PCSK9 inhibitors, Leqvio, and Nexlizet, all of which target LDL cholesterol through different mechanisms.

By combining lifestyle changes with appropriate medications, you can lower your cholesterol, protect your arteries, and reduce your risk of serious complications.