



MENDED HEARTS PRESENTATION

3/12/2026

Autumn Spight, ARNP & Kaitlyn Weinberg, ARNP

AGENDA

Diet and Cholesterol

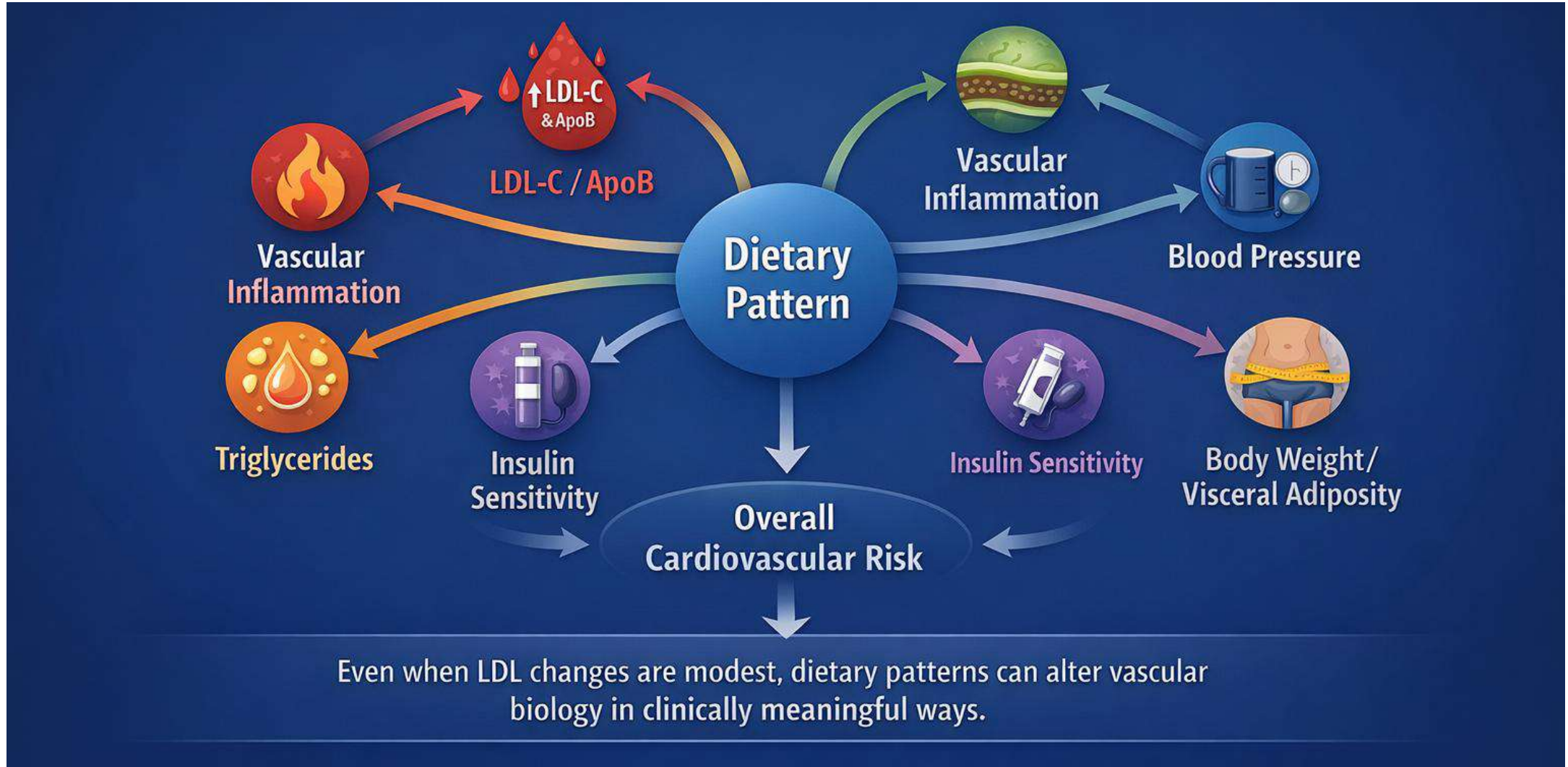
- Overview: Diet Impact on Cardiac Health
- Definitions
- Diet and Overall CV Risk
- Latest Evidence Based Information

Common Questions in Clinic

- Lipid-lowering medications
- Cholesterol Lowering Therapy and Brain Health
- Statin side effects
- Lipoprotein a



DIET INFLUENCES CARDIAC HEALTH THROUGH MANY BIOLOGIC PATHWAYS



TYPES OF CHOLESTEROL: DEFINITIONS

LDL Cholesterol
Low-Density Lipoprotein
“Bad” Cholesterol

High LDL raises your risk of Heart Disease & Stroke

Builds up as **Plaque** in Arteries

HDL Cholesterol
High-Density Lipoprotein
“Good” Cholesterol

Helps Remove Cholesterol from the Blood

Lowers Your Risk of Heart Disease & Stroke

Too Much LDL Can Lead to **Plaque Buildup** in Blood Vessels

What are Triglycerides?
— A Type of Fat in Your Blood Used for Energy —

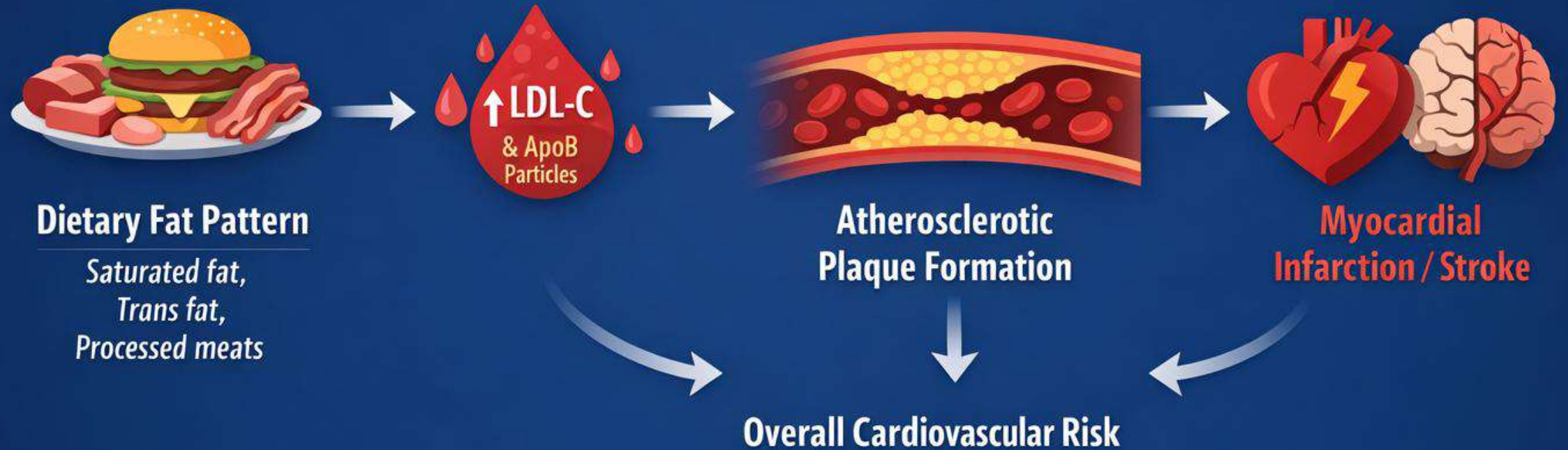
High Triglycerides + Low HDL or High LDL
↓
= **Increased Risk of Heart Attack**

The infographic is divided into three main sections. The top left section, titled 'LDL Cholesterol' in an orange banner, defines it as 'Low-Density Lipoprotein' or 'Bad' Cholesterol. It features a cartoon liver character holding yellow spheres, with text stating 'High LDL raises your risk of Heart Disease & Stroke' and 'Builds up as Plaque in Arteries'. Below this is a cross-section of an artery heavily clogged with yellow plaque. The top right section, titled 'HDL Cholesterol' in a green banner, defines it as 'High-Density Lipoprotein' or 'Good' Cholesterol. It features a cartoon liver character holding blue and green spheres, with text stating 'Helps Remove Cholesterol from the Blood' and 'Lowers Your Risk of Heart Disease & Stroke'. Below this is a cross-section of an artery with less plaque, and green arrows indicate the removal of cholesterol. A blue banner between the two sections states 'Too Much LDL Can Lead to Plaque Buildup in Blood Vessels'. The bottom section, titled 'What are Triglycerides?' in a purple banner, defines them as 'A Type of Fat in Your Blood Used for Energy'. It includes an illustration of a blood test tube, a burger, and french fries. Text indicates that 'High Triglycerides + Low HDL or High LDL' leads to an 'Increased Risk of Heart Attack'.

DIET: DEFINITIONS

- **Mediterranean diet:** Mostly **vegetables, fruits, whole grains, legumes, nuts, olive oil,** plus **fish.** Limited sweets/red meat.
- **Vegan / Low-fat vegan:** **No animal products** (no meat, dairy, eggs); the **low-fat** version also limits added oils/high-fat foods.
- **Ketogenic (keto):** **Low-carb, high-fat** plan that promotes ketosis.
- **Plant-based meat:** Meat-style products made from **soy/pea/grain proteins.**
- **Ultra-processed foods:** Industrially formulated foods high in **refined starches/sugars/fats** and additives (packaged snacks, processed meats, ready meals).
- **Saturated fat:** Type of unhealthy dietary fat, raises "bad" cholesterol. Commonly found in: butter, red meat, cheese, fried foods
- **Trans fat:** Type of unhealthy fat, raises "bad" cholesterol. In the past, most trans fat came from partially hydrogenated oils (PHOs), formed through a manufacturing process that converts vegetable oil into a solid fat. The FDA has designated trans fats as generally unsafe and manufacturers are not permitted to add them to food. Also occurs naturally in food products from milk, butter, cheese, and certain meat products.

A PRIMARY PATHWAY: HOW DIET CAN LEAD TO A CARDIAC EVENT



Lowering LDL reduces cardiovascular events — proven in clinical trials.



THIS OR THAT?

BUTTER or OLIVE OIL?

FRIED CHICKEN or GRILLED CHICKEN?

DELI TURKEY or SALMON?

POPCORN or CHIPS?

AVOCADO or NUTS?

EVIDENCE-BASED INFORMATION: DIET AND CHOLESTEROL

Carter, Sharayah et al. "Impact of dietary cholesterol from eggs and saturated fat on LDL cholesterol levels: a randomized cross-over study." *The American journal of clinical nutrition* vol. 122,1 (2025): 83-91.
doi:10.1016/j.ajcnut.2025.05.001

Lower saturated fat = lower LDL

- LDL was reduced ~6 mg/dL when participants ate 2 eggs/day with a **low-saturated-fat diet**

EVIDENCE-BASED INFORMATION: DIET AND CHOLESTEROL

Burén, Jonas et al. "A Ketogenic Low-Carbohydrate High-Fat Diet Increases LDL Cholesterol in Healthy, Young, Normal-Weight Women: A Randomized Controlled Feeding Trial." *Nutrients* vol. 13,3 814. 2 Mar. 2021, doi:10.3390/nu13030814

Keto Diets Raise LDL

- In healthy young women, **LDL jumped by ~70 mg/dL** in 4 weeks on a keto diet (**rose in every participant**).
- Keto raised **LDL by +10%** vs **Mediterranean which lowered LDL by ~5%**
- **Triglycerides dropped** more on keto (~16%), but **LDL rose**, raising long-term heart-risk questions.

EVIDENCE-BASED INFORMATION: DIET AND CHOLESTEROL

Landry MJ, Ward CP, Cunanan KM, et al. Cardiometabolic Effects of Omnivorous vs Vegan Diets in Identical Twins: A Randomized Clinical Trial. *JAMA Netw Open*. 2023;6(11):e2344457.
doi:10.1001/jamanetworkopen.2023.44457

Plant-Based Diets Lower LDL

- **LDL dropped by ~14mg/dL on vegan diet as compared to twin on omnivorous diet**
- **Vegan diet reduced LDL by ~15mg/dL**
- **LDL was ~11mg/dL lower with plant-based meat vs animal meat**

INDIVIDUAL DIFFERENCES

✓ What We Know



ApoB particles drive plaque formation



Lowering LDL cuts cardiac events



Genetic disorders like familial hypercholesterolemia drive heart risk



Hypertension & diabetes increase long-term atherosclerosis



? What We're Still Learning



Why people vary in response to *saturated fat*



Gut microbiome & lipid interactions



Individual genetic variation in diet response



LDL-independent inflammatory pathways



What makes some plaque more vulnerable

Cardiovascular Risk = ApoB burden + Inflammation + Metabolic Health + Blood Pressure + Genetics + Time

Diet interacts with nearly every variable in this equation.

A medical clipboard with a stethoscope and a pen on a light blue surface. The clipboard is positioned in the upper left, with a black stethoscope resting on it. A black pen lies horizontally across the top of the clipboard. The background is a light blue, slightly blurred surface, possibly a desk or table. The overall scene is clean and professional, representing a clinical setting.

COMMON QUESTIONS IN CLINIC

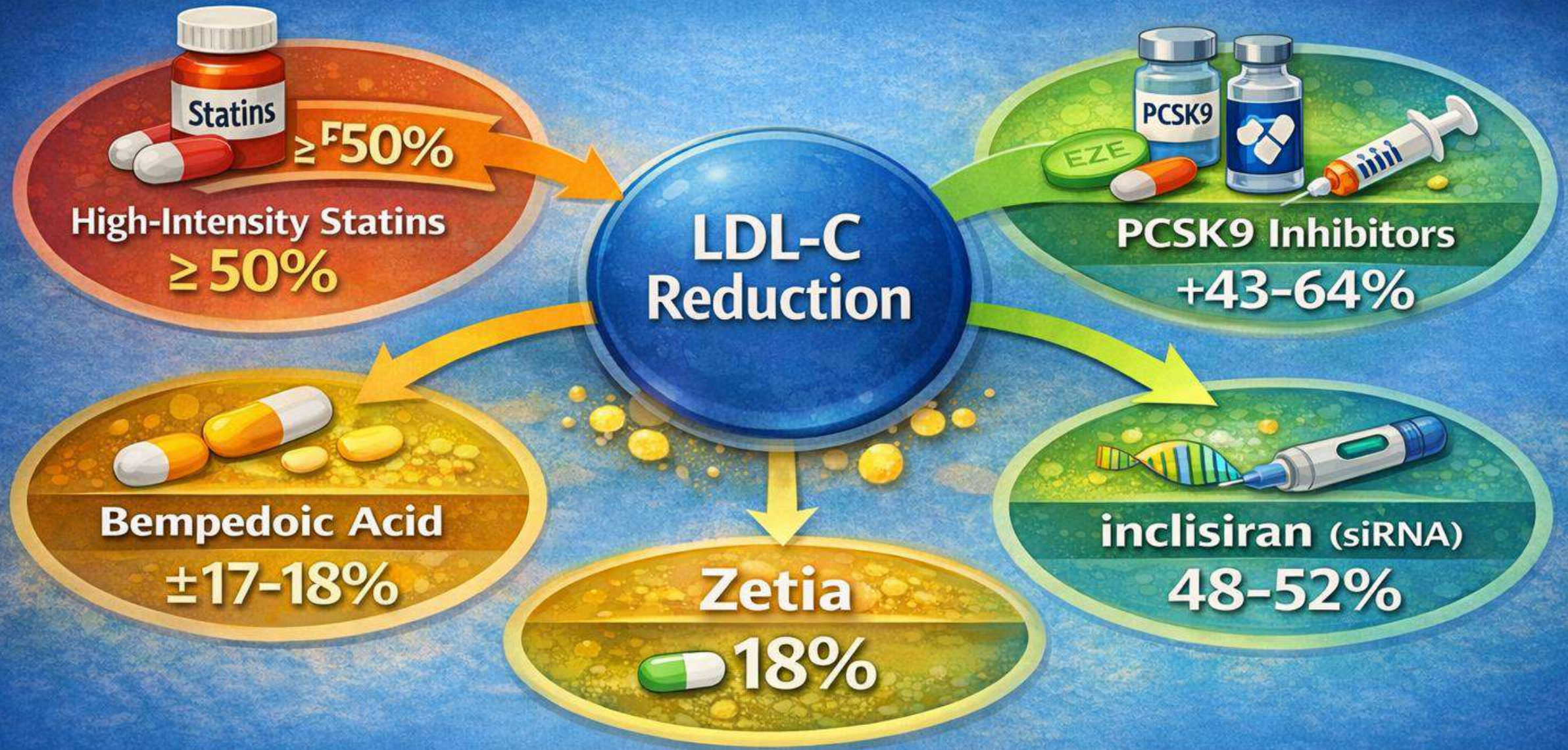
WHAT ARE SOME
MEDICATIONS USED TO
LOWER MY
CHOLESTEROL?

LIPID-LOWERING MEDICATIONS

- Statins (atorvastatin, rosuvastatin, pravastatin)
 - Daily, Oral
- Ezetimibe (Zetia)
 - Daily, Oral
- siRNA therapies (Leqvio)
 - Bi-weekly, injectable
- PCSK9 inhibitors (Repatha)
 - Every 6 months, injectable



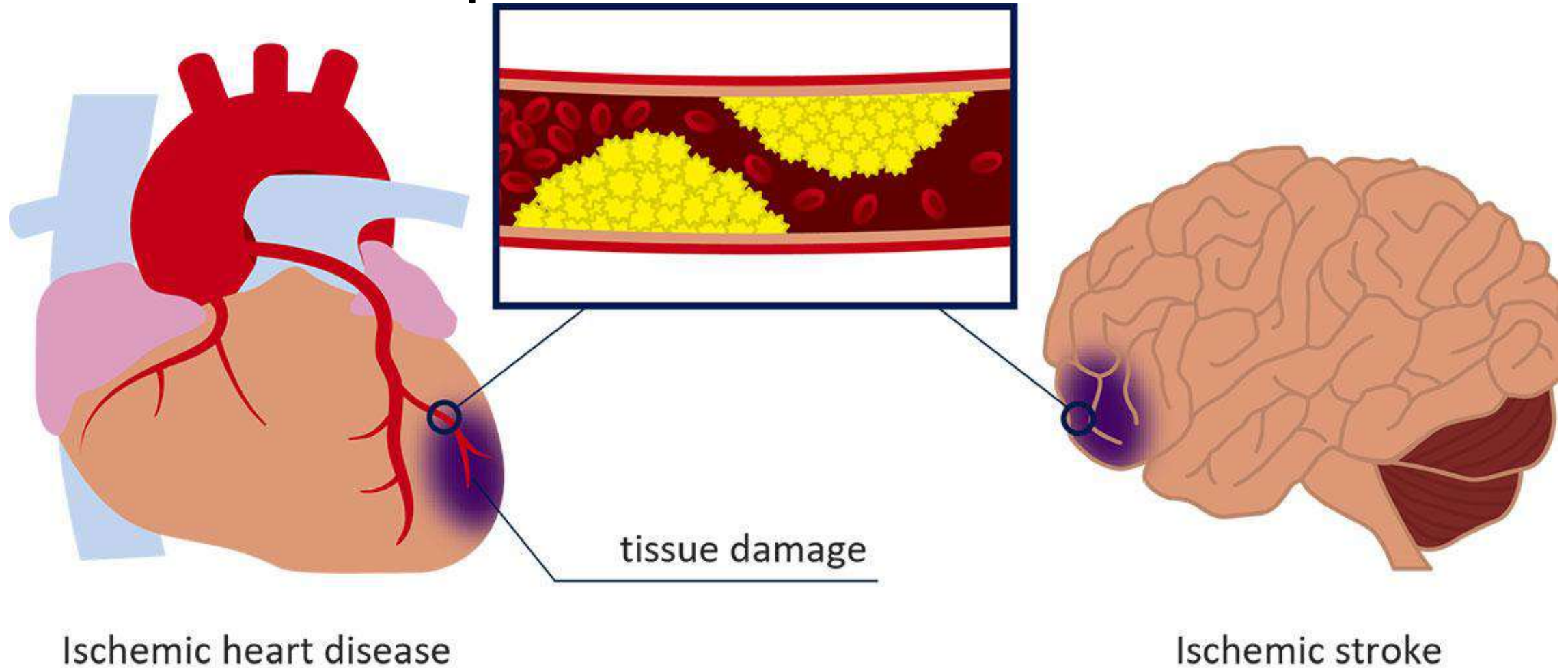
Improved Options for Lowering LDL Cholesterol



Multiple Therapies Now Allow Greater LDL Reduction.

CAN STATINS CAUSE ALZHEIMER'S DISEASE?

LDL impact on Cardiovascular Disease



NO LINK BETWEEN LDL THERAPY AND COGNITIVE DECLINE

- Large clinical trials, IMPROVE-IT, FOURIER, and ODYSSEY Outcomes demonstrate that aggressive LDL lowering significantly reduces cardiovascular events
- Statins and newer therapies show no increased dementia risk
- Very low LDL levels have not demonstrated cognitive harm

Statins and Brain Health

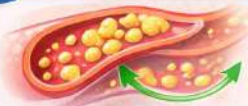
Can Cholesterol-Lowering Therapy Help Protect Your Brain?

Could Statins Benefit the Brain?

- Studies show statins may lower **dementia risk by 20%** & **Alzheimer's risk by up to 30%**
- Statins improve **blood vessel health & reduce stroke risk**, helping to protect the brain



How Do Statins Help?



Better Blood Flow & Less Stroke Risk



Reduces Inflammation



Lowers Oxidative Stress

Memory Side Effects?



- Rare (**0.1–1%**) reports of memory loss



- Symptoms usually **improve** if stopped



- Benefits **outweigh** the small risks

Protecting Your Brain & Heart



Lowers Heart & Stroke Risk



May Help Preserve Future Memory



Supports Long-Term Brain Health

♥ Talk to your doctor about your heart and brain health.

COMMON SIDE EFFECTS OF STATIN THERAPY?

When Are Side Effects a Concern?

- ⚠ Remember, most side effects are mild and improve or go away over time.
- ✓ Talk to your doctor if you experience:
 - ▶ Severe or persistent
 - ▶ Unexplained dark urine or jaundice
 - ▶ Severe fatigue, or signs of an allergic reaction



Most Common Side Effects



Muscle aches / pains



Digestive issues

Headache



Elevated blood sugar
(in some people)

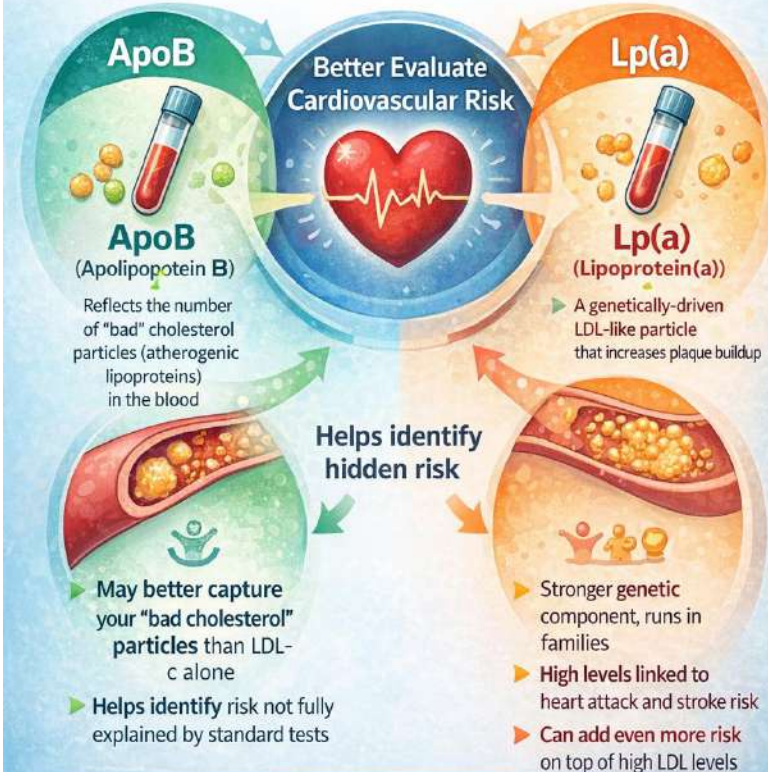
Note: Most large-scale studies show statins don't significantly increase risk of diabetes.

WHAT IS LIPOPROTEIN A?

FOR YOU AND YOUR LOVED ONES

- Additional testing to determine risk for cardiovascular disease
- Can request free screening:
 - <https://familyheart.org/cholesterol-connect#form>

How ApoB and Lp(a) Tests Can Refine Your Cardiovascular Risk



Your doctor may recommend ApoB or Lp(a) tests to get a clearer picture of your heart health.



❤️ Reducing ApoB and Lp(a) levels can help lower your cardiovascular risk.

ApoB and Lp(a): Testing Beyond the Standard Lipid Panel

Identifying Hidden Risks for Better Heart Health



Why Should We Measure ApoB and Lp(a)?

- Standard cholesterol tests can miss important risks:
 - ▶ **ApoB** measures the number of plaque-causing particles including LDL and related lipoproteins
 - ▶ **Lp(a)** is an inherited type of lipoprotein that raises risks for heart disease and aortic valve calcification

Reasons to Consider ApoB and Lp(a) Testing



Ask your doctor if ApoB or Lp(a) testing could help you.



ADDITIONAL SOURCE FOR HEART HEALTH REFERENCE

- CARDIOVASCULAR MEDIA
LIBRARY.WATCH.LEARN.
LIVE.

- <https://www.cardiosmart.org/assets/worksheet/high-cholesterol-assessing-your-heart-health>



THANK YOU!

QUESTIONS?