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LDL Cholesterol and Death Risk

Your arteries keep a running total of every year of LDL. Lower, sooner and for longer saves more years of life.

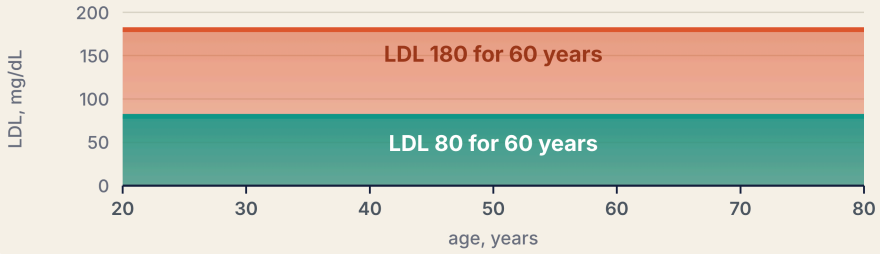
about 22%
lower risk of heart attack, stroke or heart death per 39 mg/dL less LDL

30 years
of artery damage avoided by treating an LDL of 200 at age 35 versus 65

under 55
mg/dL, the LDL goal for most people with heart disease

CUMULATIVE LDL BURDEN

The total over a lifetime is what counts



Burden is the shaded area
Your LDL level times the years you live with it, from age 20 to 80.

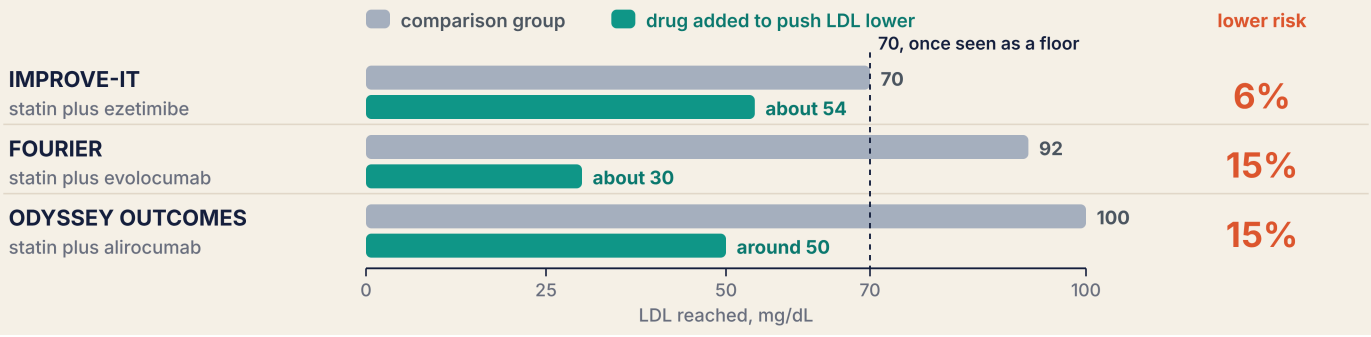
- a much lower lifetime burden
- the extra burden at 180

The damage builds slowly, and the years add up.

LDL slips into artery walls and, over years, builds plaque that can rupture and trigger a clot. A 25-year-old with inherited high cholesterol who brings LDL from 200 to 70 prevents decades of damage. A 65-year-old doing the same prevents less, because fewer years of exposure lie ahead.

LOWER IS BETTER

Pushing LDL below 70 prevented more events



Every year counts

Every year of exposure to high LDL advances plaque. Every year at a low level slows or reverses it. Starting early and aiming low saves more life than waiting.

TARGETS AND TREATMENT OPTIONS ARE ON THE BACK

YOUR LDL PLAN

Know your target, then close the gap

LDL GOALS (2026 ACC/AHA GUIDELINE)

LDL, mg/dL

Below 55	Most people with heart disease (a prior heart attack, stroke or blocked leg arteries), heart disease plus familial hypercholesterolemia, or a calcium score of 1,000 or more.
Below 70	Heart or artery disease not at very high risk, familial hypercholesterolemia (inherited very high LDL from birth) without heart disease, a 10-year risk of 10% or more, diabetes with risk enhancers, or a calcium score of 100 to 999.
Below 100	No heart disease with borderline or intermediate risk, diabetes without risk enhancers, or an LDL of 190 or higher with no other risk factors.
No floor found	Large trials and observational studies have not found credible evidence of harm from very low LDL.

THE TOOLS

how much each lowers LDL

Lifestyle	Less saturated fat, more fiber, regular activity, weight loss if needed and no smoking typically lower LDL 10 to 20%.
Statins	The foundation of treatment, lowering LDL 30 to 55% depending on the drug and dose.
Ezetimibe	Blocks cholesterol uptake in the gut, lowering LDL another 15 to 20% on top of a statin.
PCSK9 inhibitors	Evolocumab or alirocumab, given as injections, lower LDL another 40 to 60% when added to a statin and ezetimibe.
Bempedoic acid	A pill that lowers LDL about 15 to 20%, useful if you can't take a statin.
Inclisiran	An injection twice a year after the first doses, lowering LDL about as much as the PCSK9 antibody shots.

IF A STATIN BOTHERS YOUR MUSCLES

true statin muscle symptoms affect about 2 to 10%

Check other causes	Low vitamin D, an underactive thyroid and overuse injuries can cause muscle pain. Many aches continue after the statin stops, so the statin isn't always the cause.
Adjust	Try a different statin such as pravastatin or rosuvastatin, a lower dose or every-other-day dosing. If no statin works, ezetimibe plus a PCSK9 inhibitor or bempedoic acid is used to reach the target.

INHERITED HIGH CHOLESTEROL

About 1 in 250 to 500 people carry one copy of a gene for familial hypercholesterolemia, with LDL often 200 to 400 from birth. Treatment starts at diagnosis. After a heart attack before 45 in men or 55 in women, combination therapy starts right away.

READ THE FULL ARTICLE

damianrasch.com/ldl-death-risk

For education only, and not a substitute for advice from your own physician. Sources include the Cholesterol Treatment Trialists' Collaboration (Lancet 2010 and 2012), the IMPROVE-IT, FOURIER and ODYSSEY OUTCOMES trials (NEJM 2015, 2017 and 2018) and the 2026 ACC/AHA dyslipidemia guideline.

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