

# LDL-C: Lower for Longer is Better

## Key Takeaways

- Early, intensive reduction of LDL-cholesterol (LDL-C) is recommended and can have significant clinical impact on reducing the risk of ASCVD and recurrent events
- LDL-lowering contributes to plaque regression and stabilization as shown in studies using coronary angiography and intravascular ultrasound
- The long-term risk of cardiovascular events is significantly influenced by LDL levels over the course of a life

## What is the LDL-cholesterol hypothesis?

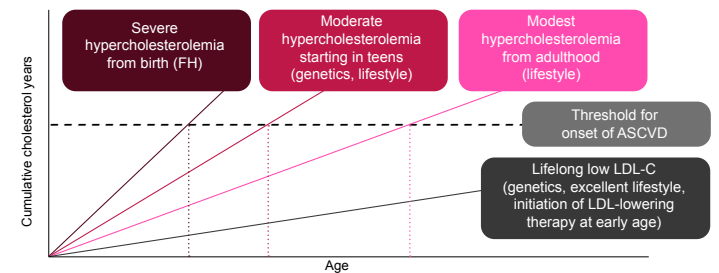
This hypothesis refers to the concept that **elevated LDL-C is a key risk factor** for the development of atherosclerosis and cardiovascular disease.

## What is it founded on?

- Cholesterol deposits constitute a significant component of atherosclerotic plaque
- Strong evidence indicates that the cholesterol found in plaque is delivered there by LDL particles
- Reducing LDL-C levels can result in significant regression of coronary atherosclerosis as shown in angiographically monitored trials
- LDL-lowering contributes to plaque stabilization according to studies using coronary angiography and intravascular ultrasound

## Why should LDL-C be aggressively managed as early as possible?

Lifetime exposure to LDL-C associated with greater risk

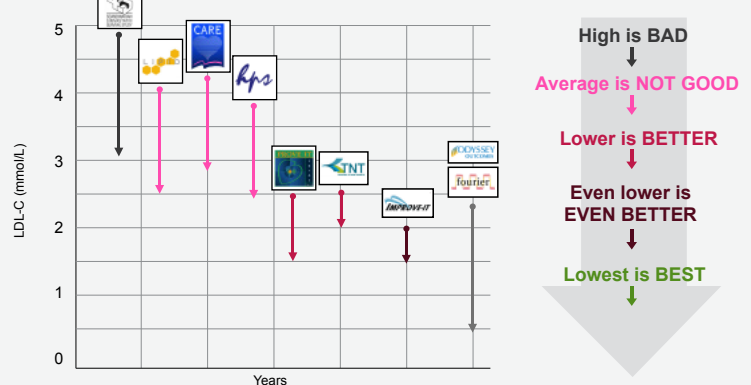


Observations from large Mendelian randomization studies have emphasized the concept of area under the cholesterol curve. The concept of cholesterol-years represents the cumulative lifetime exposure of the arterial wall to LDL-C. It considers the product of the magnitude and duration of exposure to LDL-C over time to estimate the risk of ASCVD.

## What are the clinically relevant implications?

- A measure of exposure to cholesterol over time is superior to a static measure of cholesterol at a given time
- The long-term risk of cardiovascular events is significantly influenced by LDL levels over the course of a life

## Evolution of evidence over 25 years supporting lower treatment targets



**Lower LDL-C for longer is better for reducing the risk of ASCVD and recurrent events**



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