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Heart Attack Under 50

Why a heart attack under fifty often has a different cause, and the workup that finds it.

1 in 250
is about how many people carry familial hypercholesterolemia (FH)

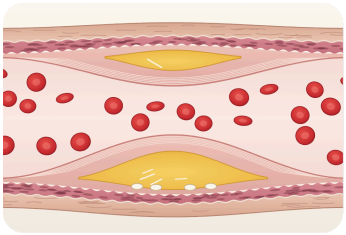
About 1 in 5
adults has an elevated Lp(a), which routine panels don't check

50%
chance each parent, sibling or child carries the same FH gene

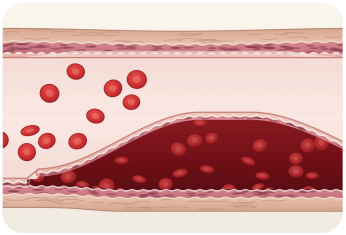
SORTING OUT THE CAUSE

Four ways a young heart attack happens

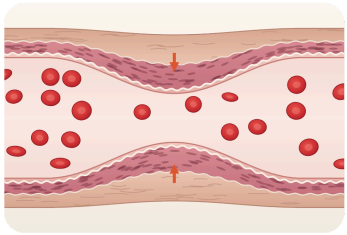
1 Plaque decades early



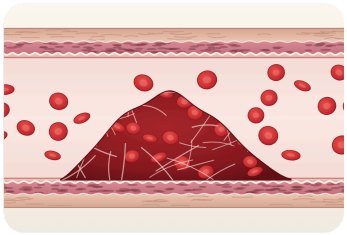
2 A tear in the wall



3 A hard squeeze



4 A clot in an open artery



Premature atherosclerosis is the same plaque biology seen in older patients, decades early, driven by inherited cholesterol problems, severe insulin resistance or diabetes that started young, long-term smoking or cocaine. In **SCAD** the artery wall tears on its own, and about 90% of cases happen in women. In **vasospasm** the artery goes into a hard squeeze, classically set off by cocaine or methamphetamine, and it tends to come on at rest, often early in the morning. A **clotting tendency**, inherited or autoimmune, can form a clot in a wide-open artery. A clean-looking angiogram is called **MINOCA**, a label that still needs a cause.

INHERITED CHOLESTEROL PROBLEMS

Two that are easy to miss

Familial hypercholesterolemia (FH)

A single-gene disorder that causes very high LDL cholesterol from birth. Clues include an LDL above 190 mg/dL in adults, a close relative with an early heart attack, cholesterol deposits in the tendons of the hands or the Achilles, or a white ring around the cornea before 45. A high-intensity statin for life is the foundation, often with ezetimibe or a PCSK9 inhibitor added.

Elevated Lp(a)

A cholesterol-carrying particle whose level is set almost entirely by your genes and barely moves with diet, exercise or statins. Every patient with a heart attack under 50 should have it checked once. No medicine yet lowers it selectively, so every other risk factor is lowered aggressively, often with a lower LDL goal.

Call 911

Call 911 for heart attack symptoms. In young women, chest discomfort that feels new, lasts more than a few minutes, or comes with shortness of breath, sweating or unexplained exertional symptoms needs an ER check with a troponin and an EKG.

THE FULL WORKUP AND FAMILY SCREENING ARE ON THE BACK

THE WORKUP AND WHAT FOLLOWS

Tests beyond the standard, and your family

The standard workup is the floor. Every heart attack gets a troponin trend, an EKG, an echocardiogram, a coronary angiogram, a basic lipid panel, a hemoglobin A1c and a kidney panel.

BEYOND THE STANDARD, UNDER 50

Expanded lipids	LDL, HDL, triglycerides and total cholesterol, plus Lp(a) once. A particle-count panel when the numbers are borderline or the family history is strong, and consideration of genetic testing for FH when the LDL is very high or the family history points that way.
Clotting tendency	Ordered if the angiogram looks clean, if you or your family have had unusual clots at a young age, or if you've had recurrent miscarriages. Some tests are unreliable during the heart attack or on a blood thinner, so they are repeated a few months later with a hematologist.
Autoimmune	An ANA, complement levels and inflammatory markers, especially for women.
Drug screen	Mandatory for every young heart attack patient.
Family history	Heart disease in first- and second-degree relatives, age at first event, sudden cardiac death at any age, unexplained early death, relatives' cholesterol numbers and any known genetic diagnoses.
After SCAD	CT or MR angiography of the carotid, vertebral, renal and iliac arteries, looking for the beaded artery pattern seen in about half of cases.
Suspected spasm	If the angiogram looks clean, a provocation test with acetylcholine in the cath lab can confirm it.

WHO IN YOUR FAMILY GETS CHECKED

If you have FH	Parents, siblings and children each have a 50% chance of carrying the gene. They need a lipid panel and, when available, a genetic test. Children of an FH parent start lipid screening around age 2, and by age 10 at the latest.
Lp(a) or clotting	With an elevated Lp(a), relatives get their own level checked once, and about 50% will share it. With an inherited clotting tendency, relatives should know and ask their doctors whether testing makes sense, with a hematologist or genetic counselor guiding that conversation.
Plaque, no clear cause	Siblings and adult children benefit from a lipid panel and a coronary calcium score, starting about ten years younger than your age at the event.

LIFELONG FOLLOW-UP

Targets	With plaque in play, the 2026 ACC/AHA LDL goal is below 55 mg/dL for most heart attack survivors (very high risk) and below 70 for others. Blood pressure is kept below 130/80 in most cases.
Matched to the cause	A plaque-driven heart attack with a stent typically gets two antiplatelet drugs for at least twelve months. SCAD usually gets aspirin alone. A clotting tendency often calls for a long-term oral blood thinner. Cardiac rehab lowers the risk of a second event by roughly 20 to 30%.

MY CHOLESTEROL WAS FINE

Routine panels miss Lp(a) entirely and can underestimate risk from small dense particles. A normal LDL with a high Lp(a) and a strong family history can still be the driver.

READ THE FULL ARTICLE

damianrasch.com/
young-heart-attack-workup

For education only, and not a substitute for advice from your own physician. Sources include the 2019 AHA scientific statement on MINOCA, the 2018 AHA scientific statement on SCAD, the 2026 ACC/AHA dyslipidemia guideline, the 2015 AHA statement on familial hypercholesterolemia and the 2021 AHA/ACC chest pain guideline.

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