

Essential and deadly

Diet, exercise and sometimes drugs keep the good and bad cholesterol in check

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Having high cholesterol can be compared to driving on a congested freeway.

If your cholesterol level is over 200, it is like the 710 at rush hour; there's a risk it will be slow, slow, slow.

If your level is close to 240, throw in the risk of a few accidents, which may double or triple your commute.

And if your level is over 240, there's a risk of a complete shutdown -- a lot like that Sig-Alert on the 405 last week, where a big rig overturned, shutting down all lanes for hours and causing untold discomfort for thousands of travelers.

By the way, no one died in that Sig-Alert, but that cannot always be said for a patient who has a massive heart attack due to a congested artery.

Heart attacks are still the leading cause of death in this country, and the American Heart Association says nearly one in three Americans have cholesterol in the unsafe range. About a third of those people are in the high-risk range.

But what is cholesterol, exactly? And why can it harm us?

“Cholesterol is body fat attached to protein,” said Jeannie Moon, a clinical dietitian at Community Hospital of Long Beach.

Cholesterol, also known as lipoprotein, is manufactured by the liver. And, like every other chemical in your body, is delivered to cells by the blood.

It is essential to your body's function, added Moon. One function of cholesterol is in helping maintain cell membranes (the cell's outer covering) and every cell in your body needs cholesterol to survive.

THE GOOD, THE BAD

But when your doctor checks the cholesterol level in your blood, he or she is actually checking for two kinds of cholesterol -- HDL, or high density lipoprotein, and LDL, or low density lipoprotein.

When it comes to blood vessel blockage, LDL is the culprit, therefore often called “bad cholesterol.” HDL, or “good cholesterol” is easily broken down by the body and excreted. LDL, however, isn't as easy to break down, and tends to stick to blood vessel walls. Too much in one spot and, combined with other substances, it turns into a gummy deposit called plaque.

Plaque makes blood vessels less flexible and eventually builds up enough that it narrows the vessel and slows down blood flow, kind of the way shutting down a lane on the freeway slows down traffic. Should the blood vessel get completely blocked, blood stops pumping through and a heart attack ensues.

How much LDL is too much? According to the American Heart Association, anything more than 130 milligrams is risky. And this means that, even though your overall cholesterol level is less than 200 milligrams (your level of HDL also figures into your total score), you are still at risk because your LDL is too high.

RISK FACTORS

As for your personal risk, even though one in three Americans have unsafe levels of LDL in their bloodstreams, some groups are more prone to it than others. If you are male, you are more likely to have high LDL. Women are less likely to have high LDL because certain hormones -- mainly estrogen -- seem to keep LDL in check. As women age, however, and hit menopause, their estrogen levels drop, and their risk increases.

In fact, Moon said, "age is one of the factors" for everybody when assessing the risk of a heart attack due to high cholesterol levels. An older person will usually have more plaque built up in their blood vessels than a younger one.

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Certain ethnic groups also have a higher risk. Whites, for instance, are more susceptible than blacks.

Being overweight will increase your risk. However, thin people are just as prone to high cholesterol as fat ones.

That is because your cholesterol level doesn't have as much to do with your diet as you think, said Dr. Winfried Waider, a cardiologist at Long Beach Memorial Medical Center.

"Most cholesterol is manufactured by the body," said Waider, who has worked at the hospital's heart center since 1974. "About one-third is taken from outside."

However, Waider warns, eating too many foods high in cholesterol

and saturated fat, or containing trans-fats (which actually increase your LDL absorption), certainly won't help you if you are at risk, since you are just adding fuel to the fire.

“It never made a lot of sense to eat a lot of those kinds of foods anyway,” said Waider, adding that most nutritionists recommend diets rich in fruits, vegetables and grains, not meat and fat.

(For more information on foods that increase or lower your cholesterol, the difference between different kinds of fats, and healthy recipes, please see Tuesday's story in Food.)

HEREDITY

So what is the main reason someone has high cholesterol?

“It runs in the family,” Waider said, adding that if your father had a heart attack before 40, chances are you are at risk also.

But, Waider adds, there are ways to lower your cholesterol even if you lost the genetic lottery.

Exercise, Waider said, helps increase your HDL. A higher level of HDL helps counteract damage done by LDL. So even if your LDL is at an acceptable level, you may still need more HDL to avoid possible damage.

“It cleans out blood vessels,” Waider said of HDL, adding that doctors strive to help patients achieve a better balance between the two cholesterols.

If exercise doesn't help, there are drugs available, though doctors generally do not prescribe them to younger patients.

One group, called statins, seems so far to be the most effective, and has the least side effects, Waider said.

Statins, Waider said, ``decrease production of cholesterol." Brand names out there include Lipitor and Crestor, and are advertised heavily.

There are also drugs that increase HDL production, and drugs that work with the intestines or the liver to help break up LDL more easily.

THE BIG DEBATE

A big question that is being debated by doctors right now, however, is: What is the ideal amount of LDL a person should have?

Though 130 milligrams has been considered acceptable for some time, many are pushing for it to be even lower.

``Keep your LDL below 130," Waider said. ``And if you have coronary disease, 100."

But lately, Waider added, he has been urging his patients to lower levels to 70. And there is even talk of making that 50.

``Studies have told us to be even more aggressive," Waider said.

However, the medical community is still unsure how low is too low, Waider said. After all, the body does need LDL to survive.

Until doctors make up their minds, however, it may wise for those of us not at immediate risk of heart disease to strive for lower than 130, and closer to 100, Waider said.

SCREENINGS

Curious to know your cholesterol levels? Your doctor or local hospital can check it with a simple blood test, usually done after

you have fasted between 9-12 hours. You can also get tested without fasting, though the results may not be as accurate. Even certain grocery stores with pharmacies offer cholesterol screenings.

The American Heart Association recommends getting screened as early as 20 years old and to get a test every five years. There are even home testing kits on the market, though the American Heart Association does not endorse them.

In the end, however, having low cholesterol means nothing if you lead an otherwise unhealthy lifestyle. Smoking, drinking, eating poorly and not exercising will hurt you just as much, doctors say. Like a bad accident on the freeway, there are usually a number of factors that lead to it.

And checking your cholesterol, like checking your traffic report for accidents before you set off on your daily commute, may help you avoid getting into a jam.