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Foundation*

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South Asians and Cholesterol

Cholesterol disorders are extremely common in South Asians. This is due to a combination of high-risk genetics, diet and a lack of activity. High cholesterol increases the risk of heart attack and stroke. Since South Asians develop heart disease at such a young age, high cholesterol must be brought under control as soon as possible. The following will explain the most common cholesterol disorders in South Asians and what changes can be made to improve your results. Fortunately, healthy lifestyle changes can significantly improve cholesterol levels, but medication is necessary for many people to adequately control their cholesterol.

What test do I need?

A standard fasting lipid (cholesterol) panel is a good starting point. This test is done after fasting for 10 to 12 hours and measures total cholesterol, LDL (bad cholesterol), HDL (good cholesterol) and triglyceride (floating fat) levels.

What about more advanced tests?

In most cases, a standard fasting cholesterol test (*see above*) is all that is necessary. More advanced testing such as direct cholesterol measurements, lipoprotein (a) and c-reactive protein (CRP) testing are only indicated if the combination of your medical history, family history and your initial cholesterol results suggest that further testing may be useful. In borderline cases, these tests (available at any PAMF clinic location) may help doctors decide if medications or stricter cholesterol guidelines are indicated.

What do the individual numbers mean?

- **LDL** is the bad cholesterol that deposits fat on the inside of your blood vessels leading to heart attacks or strokes. Most South Asians should aim for an LDL level of less than 100 mg/dL. Discuss your individual target level with your doctor.
- **HDL** is the healthy cholesterol that helps sweep the fat away from the inside of your blood vessels. Men should aim for an HDL level of above 40 mg/dL and women should aim for a level above 50 mg/dL.
- **Triglycerides** are another form of cholesterol that can also raise heart attack risk. A level greater than 150mg/dL is considered high.

To better understand your cholesterol results, go to www.pamf.org/southasian/video/cholesterol.html for a short audio-visual presentation on understanding cholesterol results in South Asians.

What is a typical South Asian cholesterol profile?

The cholesterol profile for South Asians has some distinct characteristics when compared to other ethnic groups.

- Triglyceride levels are usually high
- HDL (good cholesterol) levels are usually low
- LDL (bad cholesterol) levels tend to be normal or only mildly elevated*

**Since most physicians emphasize LDL as the primary heart attack risk factor, cholesterol abnormalities in many South Asians may be overlooked. Although keeping your LDL at goal levels is still important, be sure to also keep track of your triglycerides and HDL.*

What are the most important things I can do to improve my cholesterol?

There are a few basic things you can do that can improve each of the different components of your cholesterol (LDL, HDL and triglycerides):

- **Lose weight:** It takes very little excess weight for South Asians to develop high cholesterol, diabetes and heart disease. As a result, the abnormal BMI (body mass index) cutoff has been lowered to 23 for South Asians in comparison to 25 for the general population. To calculate your South Asian adjusted BMI, go to www.pamf.org/southasian/healthy/screening/bodysize.html.
- **Exercise regularly:** Aim for a minimum of 30 minutes of aerobic exercise at least four to five times per week. For tips on exercise, visit www.pamf.org/southasian/healthy/fitness.html.
- **Reduce saturated fats:** These include fried foods, greasy foods, meats, chicken skin and whole dairy products like milk, ghee, cheese, cream and ice cream. Some saturated fats are also found in plant foods like tropical oils (coconut or palm kernel oil) and chocolate. Men should limit saturated fat to less than 20 grams per day and women to less than 15 grams per day. Visit

www.pamf.org/southasian/healthy/nutrition/fat.html for more information on fats.

- **Replace saturated fats with healthy fats:** Healthy fats include monounsaturated fats such as canola oil, olive oil, avocados, nuts (almonds, peanuts, walnuts, etc.) and seeds (pumpkin and sesame). Simply changing from ghee or butter to olive or canola oil can help improve your cholesterol levels. Omega-3 fats found in fish are another healthy fat that are good for heart health, can lower triglycerides and can raise healthy HDL cholesterol. Visit www.pamf.org/southasian/healthy/fishoil.html for more about omega-3 fats. Remember that even these healthy fats are high in calories, so they should be used in moderation and replace unhealthy saturated fats. You should not consume more than 1.5 ounces (one-third cup) of nuts per day.
- **Increase fiber:** Increasing fiber (www.pamf.org/southasian/healthy/nutrition/fiber.html) in your diet not only improves cholesterol, but can also reduce diabetes and cancer risk. Fiber comes in soluble and insoluble forms. Soluble fiber in particular reduces LDL cholesterol and is found in oats, fruits, vegetables, peas, beans, barley and psyllium. Supplements such as Metamucil and Citrucel are derived from psyllium. Insoluble fiber helps with digestive health and includes whole-wheat flour, wheat bran, nuts and many vegetables. Aim for at least 30 grams of total fiber daily of which at least 10 grams should be soluble fiber.

What specific measures can help reduce my triglycerides?

High triglycerides are very common in South Asians. A level of greater than 150 mg/dl is considered to be elevated. Despite triglycerides being a form of fat, it is a diet high in refined carbohydrates (see www.pamf.org/southasian/healthy/nutrition/healthycarbs.html for more information) that contributes just as much to elevated triglycerides. These refined carbohydrates must be replaced by healthy carbohydrates. Visit www.pamf.org/southasian/healthy/nutrition/carbtips.html for tips on incorporating healthy carbohydrates into your diet. Vegetarians, in particular, are at risk for elevated triglycerides due to their consumption of excess amounts of refined carbohydrates. Below is a list of some helpful tips for improving your triglycerides. Visit www.pamf.org/southasian/video/tri.html for a brief audio lecture on how South Asians can lower triglycerides. Additional tips are listed below.

- Follow the general tips for reducing cholesterol (*listed above*) with emphasis on weight loss, exercise and reducing saturated fats.

- Emphasize foods rich in omega-3 fats, such as fish, walnuts and flaxseed. (See www.pamf.org/southasian/healthy/fishoil.html for more information.)
- Reduce or replace white rice intake. This is a major cause of elevated triglycerides in the South Asian diet. Healthier alternatives are brown rice, whole grain couscous, quinoa, bulgur or other healthier grains. To see a short video about grains, visit www.pamf.org/southasian/video/grains.html.
- Replace bread products such as naan and puri with 100-percent whole wheat chapattis.
- Replace starchy vegetables, such as potatoes, with less starchy vegetables including sweet potatoes, carrots, broccoli, carrots and green beans.
- Reduce intake of sweets and replace with fresh fruits.
- Switch to non-fat or low-fat dairy products.
- Limit or eliminate alcohol intake. Visit www.pamf.org/southasian/risk/concerns/alcohol.html for more information on alcohol intake in South Asians.

What specific measures can help reduce my LDL?

For most South Asians, the target level for LDL should be less than 100 mg/dl. Talk to your physician to confirm your individual goal LDL and visit www.pamf.org/southasian/video/ldl.html for an audio lecture on how South Asians can reduce their LDL levels. A few useful tips are listed below.

- Follow the general tips for reducing cholesterol (*listed above*) with emphasis on exercise, weight loss and cutting saturated fat.
- Increase fiber intake (*see general tips above*).
- Consider plant sterols or stanols. Foods fortified with these plant-based oils can lower LDL by more than 10 percent. Look for plant sterols listed on margarine products such as Take Control or Benecol, or in beverages such as orange juices and yogurt drinks. Benecol Smart Chews are another convenient source of plant sterols. At least 2 grams of plant sterols daily should be consumed regularly to be effective.
- Consume healthy fats, especially monounsaturated fats, which can lower LDL (*see general tips above*).

What specific measures can help raise my HDL?

A low level of HDL (healthy cholesterol) is extremely common in South Asians and is often found in combination with high triglycerides. Visit www.pamf.org/southasian/video/ldl.html for an audio lecture on how South Asians can raise their HDL levels. A few tips are listed below.

- Follow the general tips for reducing cholesterol (*listed above*) with particular emphasis on exercise and weight loss.
- Quitting smoking can help raise HDL levels.
- Healthy fats such as monounsaturated and omega-3 fats can raise HDL (*see general tips above*).
- Eat more fiber (*see general tips above*).
- Consuming one daily serving of alcohol for women and two daily servings for men can help raise HDL levels. If you do not drink, do not start drinking to help raise HDL levels. There are a number of other healthy lifestyle changes you should try first. Since alcohol can be harmful to your health, discuss this strategy with your doctor. Visit www.pamf.org/southasian/risk/concerns/alcohol.html for more information on alcohol intake in South Asians.
- Taking calcium supplements for postmenopausal women has been shown to help raise HDL levels.

Are cholesterol medications safe to take?

If diet and exercise cannot help you achieve your recommended cholesterol levels, then medications are the only other option. While many patients are skeptical about the safety of cholesterol medications like statin medications (such as Lipitor® or Zocor®), South Asians in particular should be thankful that medications exist that can significantly reduce their high risk of a heart attack. In fact, statins are safer than many over-the-counter medications. The most common side effects are liver and muscle damage, and these occur in less than 1 percent of patients. More importantly, these side effects can be monitored closely with blood tests. Aside from statin medications, South Asians may also benefit from medications including prescription niacin or fibrates (such as TriCor® or Lopid®), which can help reduce triglycerides and raise HDL (good cholesterol). Prescription strength fish oil is also available for individuals with extremely high triglycerides. These options can be discussed with your doctor.

Visit www.pamf.org/prana for more information on South Asian health.