

Controlling Cholesterol and Triglycerides

One of the most common blood tests performed at health screenings measures the cholesterol and triglycerides levels. Dyslipidemia is an abnormal level of cholesterol and other lipids in the blood. Unhealthy diet habits, lifestyle, genetics and certain health conditions can contribute to dyslipidemia. If left undetected or without proper management, dyslipidaemia will increase the risk of stroke and heart disease.



Regular aerobic activity is shown to be one of the means to raise the HDL (good) cholesterol.

Understanding dyslipidaemia

A diagnosis of dyslipidaemia is made if blood tests show abnormal levels of the followings.

- High total cholesterol level;
- Low HDL level;
- High LDL level; or
- High triglycerides level

Cholesterol

Cholesterol is a waxy substance found in our cells. Liver produces cholesterol endogenously. The body needs cholesterol to produce certain hormones, vitamin D and some digestive fluids, such as bile. Dietary sources of cholesterol can only be found in animal products such as meat, offals, poultry, fish, seafood and dairy foods.

There are two types of cholesterol in our body-low-density lipoprotein (LDL), also known as the "bad" cholesterol, which delivers the cholesterol made in the liver to the bloodstream and deposits the cholesterol in the arterial wall. On the other hand, high-density lipoprotein (HDL), or the "good" cholesterol, removes the cholesterol from the bloodstream and carries it back to the liver for metabolism.

Triglycerides

Triglycerides are a form of fats in the bloodstream. They play an important role in metabolism, heat insulation, absorption of fat soluble vitamins, and transportation of fats.

High levels of LDL and triglycerides or very low HDL levels increase the overall risk of developing atherosclerosis, where hard, fatty deposits called plaques build up in the arteries. It can thicken the arterial walls, over time reducing the blood flow and causing more severe circulation problems such as heart attack and stroke.

What the blood test can reveal

The blood test looks at the levels of different cholesterol and triglycerides. The desirable results should be within the ideal range:

	Ideal range (mmol/L)
Total cholesterol	< 5.20
HDL	> 0.90
LDL	< 3.40
Triglycerides	< 2.26
*Chol / HDL Ratio	< 5.0

* Ratio of total cholesterol to HDL cholesterol. A high figure indicates an increased risk of stroke and heart disease.

mmol/L = millimoles/litre, is the unit for measuring fats in blood.

The above figures may vary slightly subject to the laboratory.

Learn more about fatty acids?

- **Monounsaturated fatty acids:**

A type of fat found in a variety of food and oils, such as nuts, oily fish and plant oils. Studies have shown that eating foods rich in monounsaturated fatty acids can reduce the risk of stroke and heart disease.

- **Saturated fatty acids:** A type of dietary fat which mainly comes from an animal source such as fatty meat, animal skin and butter. Coconut and palm oils are also rich in saturated fat. Studies have shown that saturated fatty acids increase the LDL in blood and the risk for heart disease.

- **Trans fatty acids:** These are produced by hydrogenation of plant oils to increase the shelf life of foods. Trans fatty acids increase the LDL (bad) cholesterol and reduce the HDL (good) cholesterol. The US and some European countries have passed legislation to restrict trans fatty acids in foods served commercially.

Maintaining healthy levels of cholesterol and triglycerides

Watching what you eat is essential to the management of dyslipidaemia, in combination with medication if necessary. Diet therapies should always be individualised, therefore, it is important to seek the advice from a dietitian or a doctor.

Below are recommended diet modifications to manage dyslipidaemia:

Goal	Goal Actions	Recommendations
Lower LDL cholesterol	Increase monounsaturated fat intake	Choose foods such as olive oil, canola oil, peanut oil, avocado and nuts
	Reduce trans fat intake	Avoid foods such as cakes, chocolate, margarine, chips, biscuits and pastry
Lower total and LDL cholesterol	Reduce saturated fat intake	Avoid foods such as butter, lard, mayonnaise, fatty cuts or skin of meat, fried foods and full fat dairy products
	Increase soluble fibre intake	Choose foods such as fruit and vegetables, oat, wholegrain products and beans
Lower triglycerides	Increase omega-3 intake	Omega-3 fatty acids are found naturally in tuna, salmon, sardine, mackerel, flaxseed, walnut, soybean and canola oil
	Control alcohol intake	Men: less than two units/day Women: less than one unit/day (Refer to the picture below for actual amount of alcohol in one standard drink)
	Reduce refined carbohydrate	Reduce added sugar intake Choose unprocessed whole grains such as barley, oat, brown rice and quinoa instead of refined grain products
Increase HDL cholesterol	Increase physical activity	At least 150 minutes of moderate-intensity aerobic physical activity throughout the week
	Limit added sugar	Reduce consumption of snacks and drinks with added sugar



Beer
250ml
5% alcohol



Red wine
150ml
13% alcohol



White wine
150ml
13% alcohol



Spirits
50ml
40% alcohol



Cider
330ml
4% alcohol

Amount of alcohol in one standard drink

Medication for dyslipidaemia

If diet alone cannot improve the condition of dyslipidaemia, doctors may prescribe medicine that can lower the lipids in the blood, particularly for patients with established cardiovascular disease or those with multiple risk factors. For more information regarding medical treatments for dyslipidaemia, please consult a doctor.

Reviewed by:

Karen Chong, Dietitian in-charge
Matilda International Hospital

References:

UpToDate health information source

The materials contained here are for general health information only, and are not intended to replace the advice of a doctor. Matilda International Hospital and Matilda Medical Centre will not be liable for any decisions the reader makes based on this material.

Scan the QR code to obtain information of our medical centre or clinic downtown



控制膽固醇及三酸甘油脂

身體檢查中的血液化驗通常都包括測試膽固醇和三酸甘油脂水平。不良飲食和生活習慣、遺傳因素及部分健康問題都會構成血脂異常症——即膽固醇及三酸甘油脂指數超過正常水平。如未能及早發現及治理，會增加中風和心臟病的風險。



帶氧運動是能增加高密度脂蛋白的好方法。

認識血脂異常症

如驗血報告出現以下異常水平結果，會診斷為血脂異常症：

- 總膽固醇過高
- 低HDL(高密度脂蛋白)
- 高LDL(低密度脂蛋白)
- 三酸甘油脂水平過高

膽固醇

膽固醇是由肝臟製造出來的一種蠟狀物質。身體需要膽固醇來製造部分荷爾蒙、維他命D和一些消化液，如膽汁。所有源自動物的食物如肉類、內臟、家禽類、魚、海鮮和奶類製品均含有膽固醇。

膽固醇分為兩類：低密度脂蛋白 (LDL)及高密度脂蛋白 (HDL)。LDL將膽固醇從肝臟運送到血管，並在動脈壁上積聚，故稱壞膽固醇。HDL 則會將膽固醇由血管帶至肝臟並代謝，故稱好膽固醇。

三酸甘油脂

三酸甘油脂是血液內脂肪的一種，於新陳代謝、調節體溫、輔助脂溶性維他命的吸收和傳送脂肪方面擔當重要的角色。

低密度脂蛋白和三酸甘油脂高、或高密度脂蛋白極低都會增加動脈粥樣硬化的整體風險，以致令稱為「斑塊」的堅硬脂肪積聚在動脈中，隨年月流逝，會導致動脈壁增厚，因而減少血流量，嚴重者，更可以引致循環的問題，如心臟病和中風。

血脂異常症的診斷

驗血報告中會列出不同膽固醇和三酸甘油脂的水平。理想的血脂應在以下理想的範圍內：

	理想範圍 (mmol/L)
總膽固醇	< 5.20
高密度脂蛋白HDL	> 0.90
低密度脂蛋白LDL	< 3.40
三酸甘油脂	< 2.26
*總膽固醇CHOL / 高密度脂蛋白HDL	< 5.0

* CHOL/HDL是總膽固醇和HDL的比例，若結果超出範圍，則代表患上中風及心臟病的機會增加。
mmol/L = millimoles/litre 是量度血脂的單位。

*不同化驗室的數值或稍有差別

脂肪小知識

- **單元不飽和脂肪酸**：可在不同食物和食油中找到，例如果仁、富含脂肪的魚類和植物油。有研究指出，進食單元不飽和脂肪酸的食物能減低中風和患心臟病的風險。
- **飽和脂肪酸**：是膳食脂肪的一種，主要來自動物，例如肥肉、動物的皮和黃油。椰子油和棕櫚油亦富含飽和脂肪。有研究指出，飽和脂肪酸能增加血液中總膽固醇和壞膽固醇的含量，增加患心臟病的風險。
- **反式脂肪**：植物油經過氫化過程後會產生反式脂肪，用作延長食物的保存期。反式脂肪會增加血液中壞膽固醇的含量，並降低好膽固醇。美國和一些歐洲國家通過法例禁止生產商製造含有反式脂肪的食品。

如何降低膽固醇及三酸甘油脂水平？

要治療血脂異常症的最佳方法是要留意日常飲食，有需要時可輔以藥物治療。飲食治療須視乎個人飲食健康情況來制定，應先諮詢營養師或醫生的建議。

以下是一些控制血脂異常症的飲食調整建議。

目標	行動	方法及建議
降低低密度脂蛋白	揀選含單元不飽和脂肪酸的食材	選用橄欖油、芥花籽油、花生油、牛油果和果仁
	減少反式脂肪的攝取量	應減少進食蛋糕、朱古力、薯片、植物牛油、餅乾和酥皮等食物
降低總膽固醇和低密度脂蛋白	減少飽和脂肪酸的攝取量	應減少進食牛油、豬油、蛋黃醬、肥肉或皮、油炸食物和全脂奶類製品
	增加水溶性纖維的攝取量	食用蔬果、燕麥、全麥食品和豆類
降低三酸甘油脂	增加奧米加3的攝取量	吞拿魚、三文魚、沙丁魚、鯖魚、亞麻籽、核桃、豆類和菜籽油均可找到豐富的奧米加3
	控制酒精攝取量	控制酒精攝取量為： 男士：每天少於2單位 女士：每天少於1單位 (見下圖，1單位的分量)
	減少攝取精製碳水化合物	減少添加糖的攝取量 選擇未加工的全穀物，如大麥、燕麥、糙米、藜麥等，而非精製穀物產品
增加高密度脂蛋白	增加運動量	成人應每星期作至少150分鐘中等強度的帶氧運動
	減少添加糖	減少進食甜品或含糖飲品



啤酒
250毫升
5%酒精



紅酒
150毫升
13%酒精



白酒
150毫升
13%酒精



烈酒
50毫升
40%酒精



蘋果酒
330毫升
4%酒精

每單位的酒精分量

以藥物控制血脂異常症

如單靠飲食仍未能改善血脂異常症的狀況，醫生或會建議患有心臟病或有多個健康風險因素的人士服用藥物來控制血液中的脂肪含量。請諮詢醫生有關藥物控制的資訊。

核對：

明德國際醫院註冊營養師鍾錦鈴

參考資料：

UpToDate 網站及衛生署網站

此健康單張所提供的資訊僅供參考之用，並不能取代醫生的專業意見。明德國際醫院及明德醫療中心對讀者在閱讀後所作出的任何決定並不負上任何責任。

掃描以下QR Code，
查閱醫院位於市區的
醫療中心或診所資料

