

What is Cholesterol?

Cholesterol is a fat-like substance produced naturally in the liver. Our bodies need a certain amount of fat to help make bile acids, important hormones and precursors for vitamin D. The body also produces other fats called triglycerides.

Cholesterol joins with lipoproteins to travel through blood. **Low-Density Lipoproteins (BAD ONES)** accumulate on the walls of the arteries. **High-Density Lipoproteins (GOOD ONES)** carry excess lipids away for excretion.

High Cholesterol

Cholesterol is dangerous when there is more than necessary in your body. When there are excess lipid carriers (LDL) and inadequate lipid removers (HDL) in your bloodstream, excess cholesterol and triglycerides cannot be removed efficiently from the body. This excess cholesterol is left behind in various parts of the body. The cholesterol that remains on the walls of the arteries can hinder the blood flow.

With a commitment to a low fat diet, a healthy lifestyle and your doctor's instruction, you should be on your way to improving cholesterol. Our diets, on average, contain too much fat, which means eating for lower cholesterol is simply a matter of making a better choice. Researches have shown that eating less saturated fats, trans fats and cholesterol will help to improve cholesterol and triglyceride levels in the blood.

Healthy Diet to prevent elevated cholesterol

1. Eat less fatty foods, especially those with saturated fat (in animals) and trans fat (in bakeries/package products).
2. Limit consumption of high cholesterol foods (yolks, organs, squids, octopus, etc).
3. Eat more high fibre foods (vegetables, fruits, wheat and soy products).
4. Avoid too much sugar.
5. Maintain regular physical activities.
6. Achieve and maintain moderate weight.
7. Eat functional foods which can lower blood cholesterol and improve heart health (oats, soy, mushrooms, coldwater fish, etc).

Different kinds of Dietary Fats

SATURATED FATS affect total cholesterol level, particularly increasing the bad ones. Meats, dairy products and many processed foods that are made with lard, palm or coconut oils contain saturated fat.

UNSATURATED FATS come from plants. They can be classified into **POLYUNSATURATED FATS** and **MONOUNSATURATED FATS**. **POLYUNSATURATED FATS** increase the clearance of bad cholesterol from circulation, thus lowering bad cholesterol level. However, too much polyunsaturated fats may be associated with the decrease in good cholesterol. Examples of polyunsaturated fats include corn, sunflower and soybean oils. Replacing saturated fats with **MONOUNSATURATED FATS** can reduce both total and bad cholesterol. Olive, canola and peanut oils contain monounsaturated fats.

TRANS FATS are found in the food manufacturing process during which the product is hydrogenated to change oil from liquid to solid. This process can lengthen the shelf life and enhance the taste. Trans fats are detrimental to heart health because they increase bad cholesterol, decrease good cholesterol and affect the essential fatty acids metabolism. Consumers are reminded of reading the labels when choosing packaged foods, and be aware of the names like hydrogenated oil, partially hydrogenated oil, shortening, etc. There is also a small amount of trans fat naturally found in animal meats and dairy products.

Eat Well, Live Well with Cholesterol

The eating advice issued by the **American Heart Association** recommends 25-35% of total calories from total fats, less than 7% from saturated fats, less than 200-300 mg cholesterol, 20-30g fibre (with 10-25g from soluble fibre) per day and to reduce foods with trans fat. Here are the data of some common foods. And always read food product labels for specific information.

	Portion	Weight	Energy (kcal)	Fibre (g)	Total fats (g)	Saturated fats (g)	Trans fats (g)	Cholesterol (mg)
Brown rice, cooked	1bowl	184g	186	3.36	0.62	0.089	NA	0
White rice, cooked	1bowl	186g	242	0.6	0.39	0.106	NA	0
Whole wheat bread	1sl	28g	69	1.9	0.94	0.209	0.232	0
White bread	1sl	25g	66	0.6	0.82	0.179	NA	0
Apple (w skin)	1no	182g	95	4.4	0.31	0.051	NA	0
Orange	1no	151g	69	3.6	0.32	0.038	NA	0
Avocado	1no	201g	322	13.5	29.47	4.273	NA	0
Spinach (raw)	1bowl	100g	23	2.2	0.39	0.063	NA	0
Tomato	1no	111g	18	1.0	0.21	0.028	NA	0
Potato (w skin)	1no	213g	147	5.1	0.21	0.053	NA	0
French fries (fast food)	medium	114g	384	4.7	20.39	4.060	5.371	0
Egg yolk	1no	17g	54	0	4.51	1.624	NA	210
Egg white	1no	33g	16	0	0.06	0	NA	0
Shrimp		100g	106	0	1.73	0.328	NA	2.737
Oyster		100g	81	0	2.3	0.510	NA	50
Lean pork		100g	109	0	2.17	0.698	0.021	65
Bacon		100g	458	0	45.04	14.993	0	68
Butter	1tbsp	14g	102	0	11.52	7.294	NA	31
Margarine	1tbsp	14g	102	0	11.34	2.355	NA	0
Plant stanol margarine (Light)	1tbsp	14g	50	0	5.42	0.668	0.31	NA
Coconut Oil	1tbsp	14g	117	0	13.6	11.764	NA	0
Apple pie (fast food)	1no	77g	249	1.5	12.06	3.995	4.717	6
Chicken pie (frozen)	1no	283g	733	4	43.87	17.801	0.481	62
Pound cake	1sl	30g	116	0.1	5.97	3.468	NA	66

NA=Not available

Sources: USDA National Nutrient Database for Standard Reference, Release 20 (2007).

Reference: American Heart Association website, www.americanheart.org accessed on Jan 29, 2008.

健康飲食降膽固醇

Healthy Eating to lower your Cholesterol



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甚麼是膽固醇？

膽固醇是脂肪聚合物的一種，由肝臟製造而成。人體需要適量的膽固醇去製造膽汁酸、荷爾蒙及維他命D的前身。其他體內合成的脂肪，均統稱為三甘油脂酸。

膽固醇與血液中的各種脂蛋白結合後，會被運送到身體各處使用。低密度脂蛋白膽固醇(俗稱壞膽固醇)會積存在血管內壁；高密度脂蛋白膽固醇(俗稱好膽固醇)則負責將多餘的脂肪運走。

膽固醇過高

膽固醇超出理想水平，會對身體健康構成威脅。若低密度脂蛋白膽固醇含量增多，而高密度脂蛋白膽固醇卻含量不足，便無法清理多餘的膽固醇及三甘油脂酸。多餘的膽固醇及三甘油脂酸會積聚於血管的內壁上，不單使這些血管變得狹窄，嚴重者更會形成閉塞，阻礙血液循環。

如能遵從低脂肪飲食、建立健康生活模式及聽從醫生的指導，必定可改善血液膽固醇的水平。由於我們日常飲食的脂肪含量較高，所以只要小心選擇食物，便足以改善血液膽固醇的水平。研究指出，減少進食含飽和脂肪、反式脂肪及膽固醇的食物，能夠大大降低血液中的膽固醇及三甘油脂酸。

飲食建議

1. 減少進食含大量脂肪的食物，尤其是含飽和脂肪(動物脂肪)及反式脂肪(烘焙/包裝糕點)的食物。
2. 少吃含豐富膽固醇的食物(如蛋黃、內臟、魷魚、墨魚等)。
3. 多進食高纖維的食物(如蔬菜、水果、麥類及豆品食物)。
4. 避免攝取過量糖份。
5. 維持適量的運動。
6. 控制及保持適中體重。
7. 進食有助降低膽固醇或改善心臟健康的食物(如麥皮、黃豆、菇類、深海魚等)。

食物中不同的脂肪

飽和脂肪會增加總膽固醇水平，尤其影響壞膽固醇。肉類、全脂奶製品及以豬油/棕櫚油/椰油製成的食品均含有飽和脂肪。

不飽和脂肪來自植物，可分**單元不飽和脂肪**及**多元不飽和脂肪**兩種。**多元不飽和脂肪**可加快清理血液中壞膽固醇，降低壞膽固醇水平；然而，過多會造成反效果，影響好膽固醇的分量。多元不飽和脂肪的例子包括粟米油、太陽花籽油及黃豆油。若用**單元不飽和脂肪**代替飽和脂肪，可降低總膽固醇和壞膽固醇量。其例子有橄欖油、芥花籽油及花生油。

反式脂肪來自製造商以氫化加工把油份由液體轉變成固體的過程，用以延長食物的保質期和增加口感。反式脂肪不但會增加壞膽固醇水平，更會減少好膽固醇。消費者在選擇包裝食物時，應留意如氫化植物油、部份氫化植物油、起酥油等名稱。此外，動物及奶製品中亦含有少量的反式脂肪。

常見食物的總脂肪(包括飽和脂肪、反式脂肪及膽固醇)含量

根據**美國心臟協會飲食建議**，日常總脂肪應佔熱量的25-35%，飽和脂肪則少於7%，膽固醇攝取量少於200-300毫克，而纖維則要20-30克(當中水溶纖維佔10-25克)，及減少進食含反式脂肪食物。以下提供一些常見食物的資料以作參考之用。至於包裝的食物，則必須參看其標籤上的資料。

	分量	重量	熱量 (卡路里)	纖維 (克)	總脂肪 (克)	飽和脂肪 (克)	反式脂肪 (克)	膽固醇 (毫克)
糙米飯	1 碗	184克	186	3.36	0.62	0.089	NA	0
白飯	1 碗	186克	242	0.6	0.39	0.106	NA	0
全麥麵包	1 片	28克	69	1.9	0.94	0.209	0.232	0
白麵包	1 片	25克	66	0.6	0.82	0.179	NA	0
蘋果(連皮)	1 個	182克	95	4.4	0.31	0.051	NA	0
橙	1 個	151克	69	3.6	0.32	0.038	NA	0
牛油果	1 個	201克	322	13.5	29.47	4.273	NA	0
菠菜(未煮)	1 碗	100克	23	2.2	0.39	0.063	NA	0
番茄	1 個	111克	18	1.0	0.21	0.028	NA	0
薯仔(連皮)	1 個	213克	147	5.1	0.21	0.053	NA	0
薯條(快餐店)	中型	114克	384	4.7	20.39	4.060	5.371	0
蛋黃	1 隻	17克	54	0	4.51	1.624	NA	210
蛋白	1 隻	33克	16	0	0.06	0	NA	0
蝦		100克	106	0	1.73	0.328	NA	2.737
蠔		100克	81	0	2.3	0.510	NA	50
瘦肉		100克	109	0	2.17	0.698	0.021	65
煙肉		100克	458	0	45.04	14.993	0	68
牛油	1湯匙	14克	102	0	11.52	7.294	NA	31
植物牛油	1湯匙	14克	102	0	11.34	2.355	NA	0
植物固醇牛油(輕怡)	1湯匙	14克	50	0	5.42	0.668	0.31	NA
椰子油	1湯匙	14克	117	0	13.6	11.764	NA	0
蘋果批(快餐店)	1 個	77克	249	1.5	12.06	3.995	4.717	6
急凍雞批	1 個	283克	733	4	43.87	17.801	0.481	62
牛油蛋糕	1 片	30克	116	0.1	5.97	3.468	NA	66

NA: 未有數據提供

資料來源: 美國農業部國家營養參考資料庫, 2007年第廿版。

參考資料: 美國心臟協會網頁, www.americanheart.org。於2008年1月29日查閱。

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