



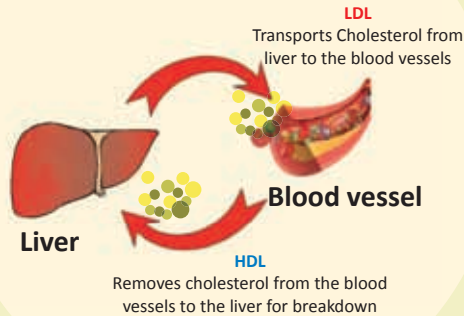
# Advice on Healthy Eating for Lowering Cholesterol

## What is blood cholesterol?

- A waxy, fat-like substance in the blood
- Made by the liver and also comes from food
- Important for building and maintenance of body cell membranes, making of Vitamin D, hormones and bile acids

## What should my blood cholesterol profile be?

### The 'Good' (HDL) and 'Bad' (LDL) Cholesterol Concept



Total Cholesterol	< 5.2 mmol/L (200 mg/dL)
HDL-cholesterol ('good' cholesterol)	> 1.0 mmol/L (40 mg/dL)
LDL-cholesterol ('bad' cholesterol)	< 2.6 mmol/L (100 mg/dL)
Triglycerides (fat in the blood)	< 1.7 mmol/L (150 mg/dL)

## Why high cholesterol matters?

- High cholesterol narrows the blood vessels which increase the risk of heart attack or stroke

## How to lower your cholesterol level?

### 1. Lose weight if you are overweight

- Aim for a healthy weight range of Body Mass Index (BMI) from 18.5 to 23kg/m<sup>2</sup>
- Tips:
  - Reduce extra calories from fats and sugar
  - Watch your food portion
  - Lead an active lifestyle

## 2. Eat healthily

- (a) **Limit total fat intake and replace unhealthy types of fat (saturated and trans fat) in your diet with healthier fats (monounsaturated and polyunsaturated fat).** The table below shows the food sources of the different types of fat found in our diet and their effects on blood cholesterol level

**Types of fat:** Saturated Fat (SF)

**Effects on blood cholesterol:** ↑ LDL-cholesterol

**Food sources:**

*Animal:* butter, lard, ghee, fat/ skin on meat, full cream dairy products

*Plant:* palm kernel oil, non-dairy creamer, coconut oil, coconut milk, cocoa butter



**Types of fat:** Trans Fat

**Effects on blood cholesterol:** ↑ LDL-cholesterol ↓ HDL-cholesterol

**Food sources:**

*Fried food* (e.g. French fries, potato chips and donuts)

*Baked goods* (e.g. pastries, biscuits, cookies), shortenings, partially hydrogenated vegetables oil



**Types of fat:** Unsaturated Fat - Monounsaturated Fat (MUFA)

**Effects on blood cholesterol:** ↓ LDL-cholesterol

**Food sources:**

Avocados, nuts, seeds, olive oil, canola oil, sesame oil, peanut oil



**Types of fat:** Unsaturated Fat - Polyunsaturated Fat (PUFA)

**Effects on blood cholesterol:** ↓ LDL-cholesterol

**Food sources:**

Salmon, mackerel, tuna, sardines, soybean oil, corn oil, safflower oil, sunflower oil



**(b) Limit food high in cholesterol**

- Cholesterol is only found in animal products
- Food sources: organ meat, egg yolk, animal fat, fish roe, squid, prawns, crabs
- The recommended dietary cholesterol intake is 300mg/day. For those with high blood cholesterol level, limit dietary cholesterol to 200mg/day
- Table below shows the cholesterol content of some common foods:

Food Item	Cholesterol Content (mg per serving)
Chicken Liver, boiled (½ cup, 80g)	315
Oyster, raw (6 whole, 300g)	243
Egg Yolk, boiled (1 whole)	240
Sotong, sambal (1 serving, 120g)	204
Crab, steamed (1 whole, 262g)	188
Pig, Stomach, braised (1 serving, 100g)	150
Prawn, steamed (5 whole, 80g)	150
Chicken, breast, baked (1 serving, 90g)	82
Fish, Snapper, steamed (1 serving, 120g)	72

(source: Health Promotion Board)

**(c) Eat more high fibre food**

- Helps to ↓ Total Cholesterol & ↓ LDL-cholesterol as it removes cholesterol by excreting through faeces
- Sources: fruits, legumes, vegetables and wholegrains such as oats, oat bran, barley, brown rice, wholemeal bread

**(d) Limit alcohol**

- May ↑ blood pressure and ↑ body weight

### 3. Do not smoke

Smoking harms your blood vessels and lowers your HDL-cholesterol

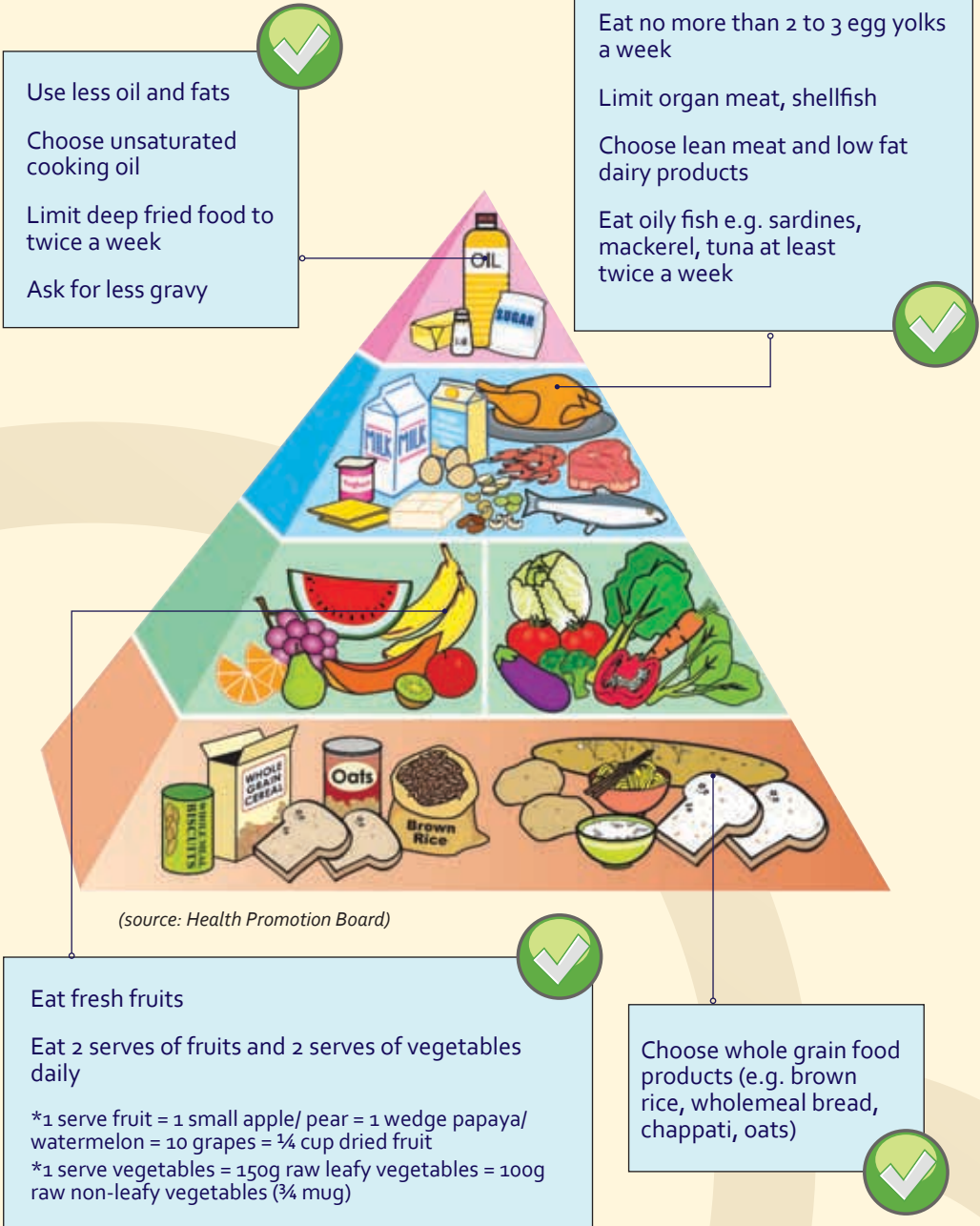
### 4. Active lifestyle

- Helps to ↑ HDL-cholesterol
- Encourage 150minutes per week of moderate intensity activity e.g. brisk walking, cycling, jogging, swimming, dancing or as advised by your doctor

### 5. Take your medicine as prescribed by your doctor



## Dietary Tips



### ✔ Choose healthier cooking methods

- Grill, boil, microwave, stir-fry, steam, bake, roast, stew
- Use low fat yoghurt/ evaporated milk/ soymilk to replace coconut milk in cooking
- Use a non-stick pan when cooking

### ✔ When eating out

- Choose plain rice instead of flavoured rice
- Choose noodle soup instead of dried/ fried noodles
- Remove skin or visible fat from meats
- Ask for no/ less gravy
- Leave behind the gravy/ soup
- Ask for more vegetables

### ✔ When shopping for food, read the food labels

- Compare and choose products which have lower fat, saturated fat and cholesterol content
- Choose products labeled "fat free", "low fat", "reduced fat" and with Healthier Choice Symbol
- Limit food products with vegetable fat, lard, shortening or hydrogenated vegetable oils listed amongst the first three ingredients, as they are high in saturated fat or trans fat

#### **In short,**

- Limit cholesterol rich food e.g. organ meat, egg yolks, seafood
- Limit food high in saturated fat by removing fat and skin from meats, less deep fried food, less coconut containing foods
- Eat more high fibre food e.g. fruit, legumes, vegetables and wholegrain



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