



# WE GUARD

Web-based | Guidelines Updates, Advances  
Education | & Researches in Dyslipidemia

## Non-Pharmacological Management of Dyslipidemia

Z5-7296 Expiration Date: 16/08/2025





## Diet<sup>(2)</sup>

✓ One of the most important aspects of human life related to atherogenesis is the dietary pattern.

☠ **Nutrients are linked to many atherosclerosis risk factors:**



Hypertension



Alteration of the lipid profile



Obesity



Diabetes



Altered coagulation

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## Diet<sup>(2)</sup>



Diet is a multi-component mixture of many nutrients which may interact with one another. We still do not have a definitive study of the impact of nutrients on CVD.

✓ **Many approaches have been used to examine the influence of nutrition on atherosclerosis :**

Cross population comparisons

01



02

Nutritional questionnaires administered to large population groups



Interventional studies.

03

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## Diet<sup>(2)</sup>

✓ Notes about these approaches :

**Some of these approaches can be very informative about individual nutrients.**

**Metabolic ward studies** where the nutrients are varied in a specific fashion without changing total calories or nutrient balance, are most likely to yield relatively definitive answers.

**However, they are not closely related to the real lives of free living peoples.**

**DIET**



## Diet<sup>(2)</sup>

✓ The primary dietary determinants of hypercholesterolemia are  particularly :



### Dietary fat

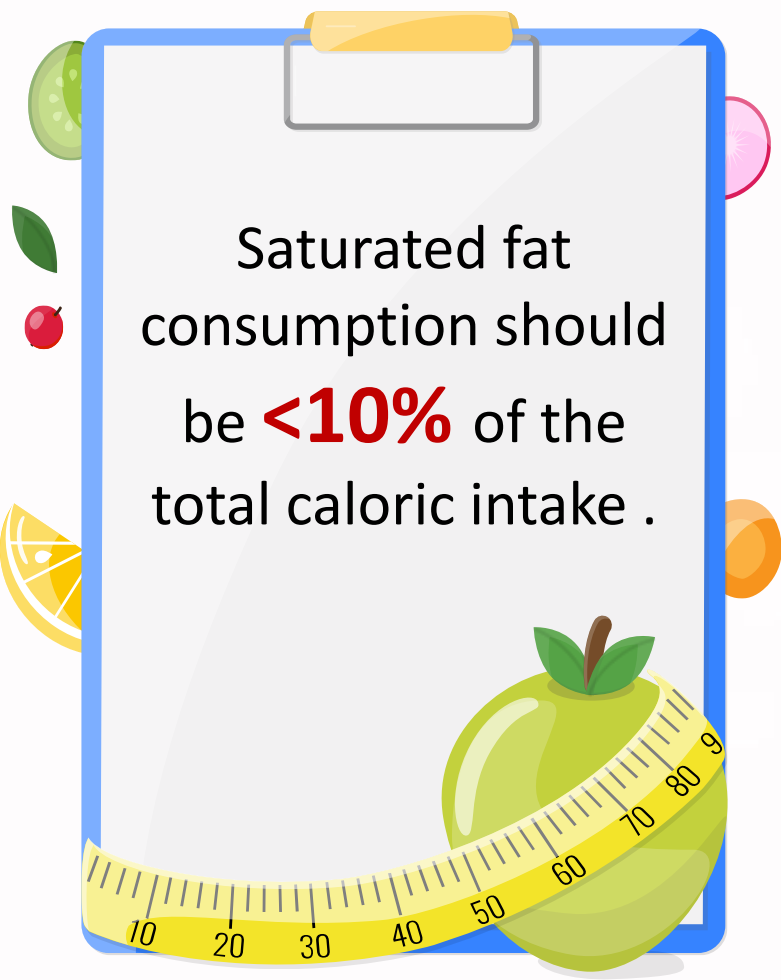
Dietary fat which is almost completely absorbed in the intestinal tract

### Cholesterol


The absorption of cholesterol is incomplete and is regulated at the intestinal epithelium.

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Saturated fat consumption should be **<10%** of the total caloric intake .



Saturated fat should be further reduced to **<7%** in the presence of high cholesterol level.



fat intakes **>35-40%** of calories are associated with **↑** intakes of saturated fat and calories.

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01

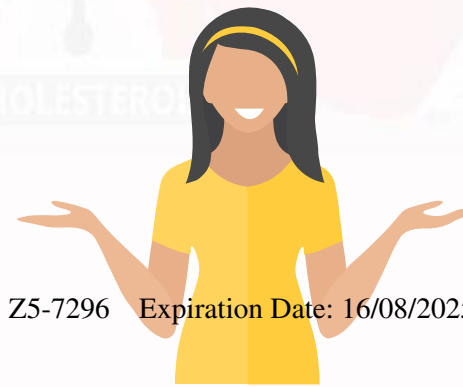
Conversely, low intakes of fats and oils increase the risk of inadequate intakes of vitamin E and of essential fatty acids, and may contribute to a **reduction of HDL-C**.

02

Fat intake should predominantly come from sources of monounsaturated fatty acids, including both **n-6 and n-3 PUFAs**.

03

The cholesterol intake in the diet should be reduced (**<300 mg/day**), particularly in people with high plasma cholesterol levels.



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# 1. DIET

## B. Dietary Carbohydrate and Fiber



# Dietary carbohydrate



Has a 'neutral' effect on LDL-C



Excessive consumption is represented by untoward effects on plasma TGs and HDL-C levels.



Should range between 45-55% of total energy intake

# Soluble Dietary fiber



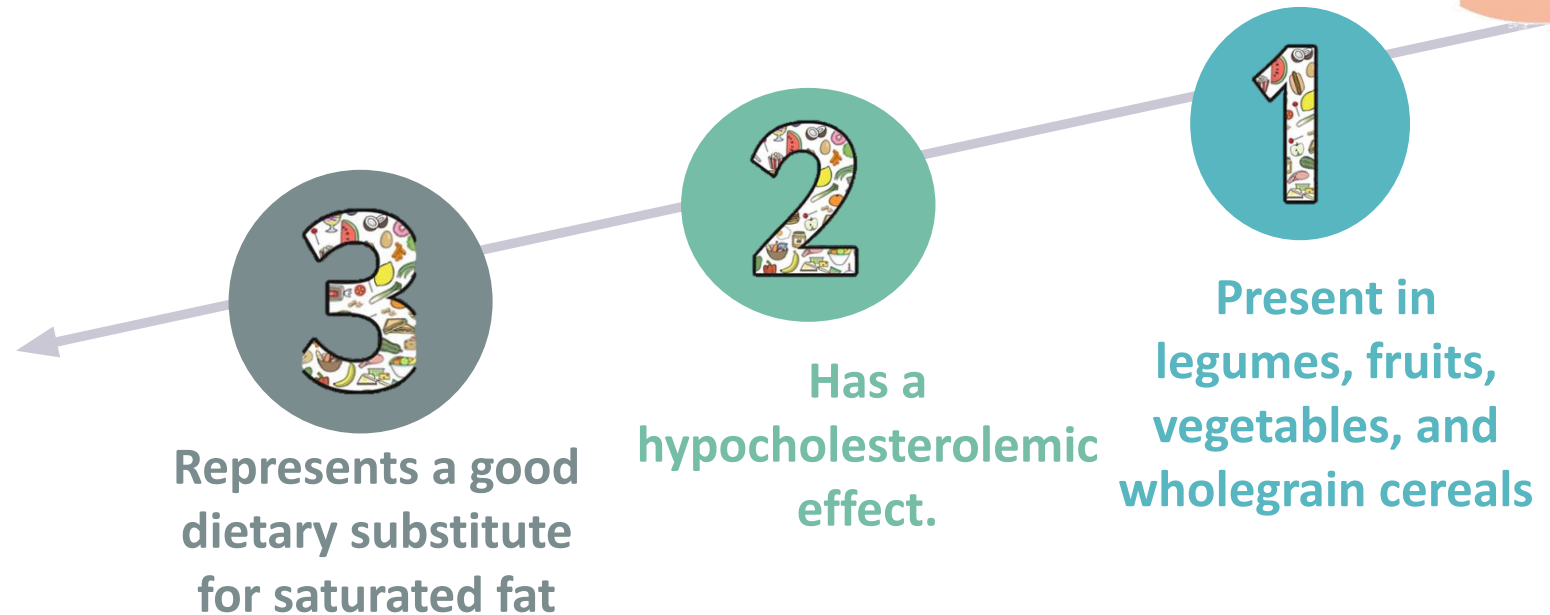
Added sugar should not exceed 10% of total energy

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**Dietary  
carbohydrate**

**Soluble Dietary  
fiber**



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# The Prospective Urban Rural Epidemiology (PURE) study

**18**  
**Countries**



**> 135,000**



Relation between fats  
and CVD

1. Total fat
2. Saturated fat

Highest mortality  
rate had  
carbohydrate  
intakes **>70%** and  
**<40%** of energy,



Minimal risk with  
carbohydrate  
intake between  
**45-55%** of total  
energy intake.



- 2. Smoking**
- 3. Weight Reduction**
- 4. Physical Activity**



## Smoking cessation<sup>(2)</sup>



Smoking cessation has clear benefits regarding overall CV risk, and specifically on **HDL**.



## Body weight reduction and physical activity<sup>(2)</sup>



01

Body weight reduction, even if modest (**5-10%** of basal body weight), improves lipid abnormalities and ↓ CV risk factors.

02

Weight reduction can be achieved by decreasing the consumption of energy-dense foods, inducing a caloric deficit of **300-500 kcal/day**.

03

People with dyslipidemia should engage in regular physical exercise of moderate intensity for **≥ 30 min/day**, even if they are not overweight.

# Improving LDL and Lipoprotein Food Choices<sup>2</sup>



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**5. Sweets and sweeteners**

**Preferred:** Non-caloric sweeteners

**Moderate:** Sucrose, honey, chocolate, sweets/ candies

**Limited:** Cakes, ice creams, fructose, soft drinks

**Limited:** Processed meats

**Preferred:** Lentils, beans, tava

**7. Dairy food and eggs**

**Preferred:** Skimmed milk and yoghurt

**Moderate:** low-fat milk, low-fat cheese and other milk products, eggs

**Limited:** Regular cheese, cream, whole milk and yoghurt



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**1. CEREALS**

**Preferred:** Whole grain  
**Moderate:** Refined bread,

**2. Vegetables**

**Preferred:** Raw and cooked  
**Moderate:** Potatoes  
**Limited:** prepared in butter or cream

**Limited:** Trans fats and hard margarines, palm and coconut oils, butter, lard, bacon fat

**Moderate:** All, unsalted (except coconut)  
**Limited:** Coconut

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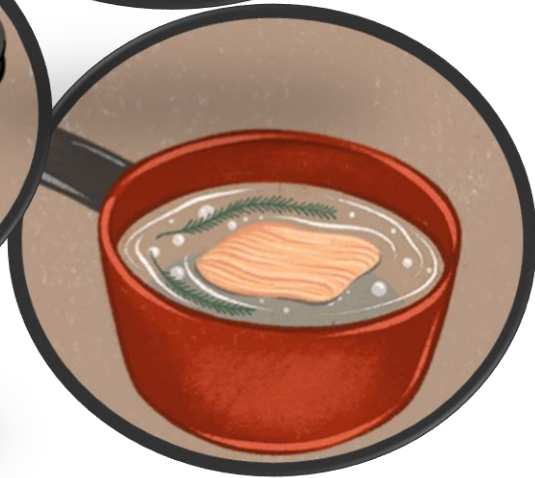
# Methods of cooking

## 1. Preferred

Steaming



Grilling



Boiling

## 2. Moderate

Stir-Frying



Roasting

## 3. Limited



Frying

# SUMMARY

	To be preferred	To be used in moderation	To be chosen occasionally in limited amounts
<b>Cereals</b>	Wholegrains	Refined bread, rice, and pasta, biscuits, corn flakes	Pastries, muffins, pies, croissants
<b>Vegetables</b>	Raw and cooked vegetables	Potatoes	Vegetables prepared in butter or cream
<b>Legumes</b>	Lentils, beans, fava beans, peas		
<b>Fruit</b>	Fresh or frozen fruit	Dried fruit, jelly, jam, canned fruit, sorbets, ice lollies, fruit juice	
<b>Sweets</b>	Non-caloric sweeteners	Sucrose, honey, chocolate, sweets/candies	Cakes, ice creams, fructose, soft drinks
<b>Meat and fish</b>	Lean and oily fish, poultry without skin	Lean cuts of beef, lamb, pork, and veal, seafood, shellfish	Sausages, salami, bacon, spare ribs, hot dogs, organ meats

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# SUMMARY

	To be preferred	To be used in moderation	To be chosen occasionally in limited amounts
<b>Dairy food and eggs</b>	Skimmed milk and yoghurt	Low-fat milk, low-fat cheese and other milk products, eggs	Regular cheese, cream, whole milk and yoghurt
<b>Cooking fat and dressings</b>	Vinegar, mustard, fat-free dressings	Olive oil, non-tropical vegetable oils, soft margarines, salad dressing, mayonnaise, ketchup	Trans fats and hard margarines (better to avoid them), palm and coconut oils, butter, lard, bacon fat
<b>Nuts/seeds</b>		All, unsalted (except coconut)	Coconut
<b>Cooking procedures</b>	Grilling, boiling, steaming	Stir-frying, roasting	Frying



## Impact of specific lifestyle changes on lipid levels (ESC/EAS)<sup>(2)</sup>

	Magnitude of the effect	Level
<b>Lifestyle interventions to reduce TC and LDL-C levels</b>		
<b>Avoid dietary trans fats</b>	++	A
<b>Reduce dietary saturated fats</b>	++	A
<b>Increase dietary fibre</b>	++	A
<b>Use functional foods enriched with phytosterols</b>	++	A
<b>Use red yeast rice nutraceuticals</b>	++	A
<b>Reduce excessive body weight</b>	++	A
<b>Reduce dietary cholesterol</b>	+	B
<b>Increase habitual physical activity</b>	+	B

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## Impact of specific lifestyle changes on lipid levels (ESC/EAS)<sup>(2)</sup>

	Magnitude of the effect	Level
<b>Lifestyle interventions to reduce TG-rich lipoprotein levels</b>		
<b>Reduce excessive body weight</b>	+	A
<b>Reduce alcohol intake</b>	+++	A
<b>Increase habitual physical activity</b>	++	A
<b>Reduce total amount of dietary carbohydrates</b>	++	A
<b>Use supplements of n-3 polyunsaturated fats</b>	++	A
<b>Reduce intake of mono- and disaccharides</b>	++	B
<b>Replace saturated fats with mono- or polyunsaturated fats</b>	+	B

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## Impact of specific lifestyle changes on lipid levels (ESC/EAS)<sup>(2)</sup>

	Magnitude of the effect	Level
<b>Lifestyle interventions to increase HDL-C levels</b>		
<b>Avoid dietary trans fats</b>	++	A
<b>Increase habitual physical activity</b>	+++	A
<b>Reduce excessive body weight</b>	++	A
<b>Reduce dietary carbohydrates and replace them with unsaturated fats</b>	++	A
<b>Modest consumption in those who take alcohol may be continued</b>	++	B
<b>Quit smoking</b>	+	B

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