You may be aware that a high cholesterol level in the blood is associated with an increased risk of cardiovascular disease (including heart disease and stroke) due to the build-up of fatty deposits that block or weaken blood vessels. By eating a healthy diet, you can help lower your blood cholesterol level.

Confusion can arise when people with a high cholesterol level are wrongly advised to avoid certain foods because they are 'high in cholesterol'. Only a small amount of cholesterol in the blood comes directly from our food. Cholesterol in the blood is produced in the body by the liver. Generally, cholesterol from food has very little effect on blood cholesterol level; the amount of saturated fat you eat is far more important.

What we should focus on, is eating a balanced diet and cutting down on our intake of saturated fat, rather than excluding cholesterol containing foods. Shellfish is a prime example. The many shellfish species available in the UK are both delicious and an excellent source of many important nutrients. Shellfish are very low in saturated fat and eating shellfish counts towards the recommended two portions of seafood we are advised to eat each week.

Recent studies have shown that most species of shellfish are a good source of omega 3. In particular, crab, oysters and mussels contain as much omega 3 as some oil-rich fish. Omega 3 has been shown to provide benefits to heart health.

In a small number of people (about 1 in 100) high blood cholesterol can be caused by a genetic condition called Familial Hypercholesterolaemia (FH) or Familial Combined Hyperlipidaemia (FCH). Those with this condition often need to be more cautious in their consumption of high cholesterol foods.

Eating shellfish as part of a balanced diet:

- Shellfish can play an important part in a healthy balanced diet.
- Many types of shellfish are valuable sources of the heart-protective omega 3 fats. They are also a rich source of many key minerals, such as iron, zinc, selenium and iodine; nutrients which are not readily available in many other foods.
- Shellfish are naturally low in saturated fat. For example, a 100g portion of prawns (a typical prawn cocktail) contains only 0.2g of fat, whilst 100g of beef mince contains around 13.5g of fat.

For more information on this subject go to
www.shellfishandcholesterol.org

SEAFISH

www.seafish.org

Shellfish Association
of Great Britain
www.shellfish.org.uk

H•E•A•R•T UK - The Cholesterol Charity has assisted in the production of this leaflet.
www.heartuk.org.uk
Helpline number: 0845 450 5988

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Shellfish, cholesterol and cardiovascular health

This leaflet is a guide for people who want to know more about cholesterol, diet and health. It aims to dispel the myth that eating shellfish is 'bad for our cholesterol' and reveals that eating more seafood, as part of a healthy diet, can be of benefit to our health.

Q. What is cholesterol?

Cholesterol is a type of fat made by the body. The human body needs it to exist and a certain amount is essential for good health. We make our own cholesterol in the liver and it is naturally present in the blood. However, too much cholesterol circulating in the blood increases the risk of cardiovascular disease.

Q. What is the difference between blood cholesterol and dietary cholesterol?

Blood cholesterol is the level of cholesterol in the bloodstream. Dietary cholesterol is the cholesterol present in some of the foods we eat, such as eggs, some shellfish and offal.

Q. How can I lower my blood cholesterol level?

Eating a healthy diet as part of a healthy lifestyle can help lower cholesterol levels in the blood. Some people may also require medicines to help bring cholesterol levels down to desirable levels.

Q. Is dietary cholesterol the main cause of high blood cholesterol?

No. Blood cholesterol levels are determined by a number of factors. Genetic factors can affect the absorption of cholesterol, the manufacture of cholesterol or the uptake of cholesterol into body cells. ***Research has shown that the amount of saturated fat in the diet has a greater effect in raising blood cholesterol than the amount of cholesterol in the diet.*** Even the use of certain foods or drugs can modify absorption from the gut. Drugs can also modify liver metabolism or reduce the manufacture of cholesterol in the body.

Q. What are the main sources of saturated fat in the diet?

These include meat, especially fatty and processed meats, full-fat dairy foods (cream, cheese and milk), as well as butter, lard, and hard margarines and any foods made from these such as cakes, biscuits, pastry, pies and puddings. Good practice is to replace these with lower fat dairy foods, lean meat, seafood and nuts. Choose oils like rapeseed and olive oils for cooking, and spreads based on olive or sunflower oils.

Q. Why have we been told in the past to avoid or cut down on shellfish?

In the past it was believed that people should avoid certain foods containing dietary cholesterol. It is now known that saturated fat is more influential in raising blood cholesterol than dietary cholesterol itself.

Dietary cholesterol is present in crustaceans (prawns, crabs and lobsters), as well as in squid, octopus and cuttlefish. But despite containing some cholesterol, they contain very little fat and for most people they do not cause a rise in the level of cholesterol in the blood.

Shellfish which are molluscs (such as cockles, mussels, oysters, scallops and clams) are very low in cholesterol, about half as much as chicken, and contain much less cholesterol than red meats - so these do not need to be avoided by anyone.

Because shellfish are very low in saturated fat, low in calories and contain omega 3 fats, they are a heart-healthy option. Eating shellfish also counts towards the two portions of seafood a week that the Food Standards Agency recommends the general population should be eating as a minimum.

Q. Does anyone need to avoid certain shellfish?

For the vast majority of people trying to control cholesterol levels, moderate consumption of any shellfish as part of a balanced diet should not be a problem. However, for a small group of people with Familial Hypercholesterolaemia (FH) or Familial Combined Hyperlipidaemia (FCH), dietary cholesterol may need to be more carefully managed in line with the advice of their doctor or dietitian.

FH and FCH are forms of inherited high cholesterol which occur in about 1 in 100 people. People with FH or FCH often have unusually high levels of cholesterol in the blood and may be more sensitive to changes in dietary cholesterol. In FCH triglycerides, another form of fat is also raised.

Advice from the experts

"Dietary advice should focus on the type of fat in the diet. Individuals with high blood cholesterol often mistakenly seek out and actively avoid foods that are rich in cholesterol such as shellfish and eggs, whereas the key issue is to decrease saturated fatty acids." Medical Research Council Human Nutrition Research.

"For the majority of people, shellfish can be eaten in moderation as part of a healthy balanced diet. However, people diagnosed with FH or FCH should monitor their cholesterol levels carefully. For them dietary cholesterol may need to be controlled more cautiously and in line with the advice of their doctor and dietitian."
H•E•A•R•T UK - The Cholesterol Charity.

"The Agency's current nutritional advice remains that consumers should be eating more fish and should be aiming to eat at least two portions of fish a week, one of which should be oily."
Food Standards Agency, Feb 2008.