

# Foods that build

Fish, meat, poultry, egg, legumes and nuts provide nutrients that are vital for health and maintenance of the body.

By Dr TEE E SIONG

**M**OST people know that fish, meat and poultry are good sources of protein. Protein is required for building tissues in the body, and for repair and maintenance of such tissues.

Less well known is that legumes, nuts and seeds are also valuable sources of protein and a number of other important nutrients. In addition, they also contain several healthful bioactive substances. These foods are grouped together with the meat proteins in the fifth key message of the Malaysian Dietary Guidelines (MDG) 2010.

The MDG 2010 is a set of advisory statements aimed at promoting appropriate dietary patterns and active living. I have summarised the 14 key messages contained in the MDG 2010 and dealt in detail four of the key messages in previous articles.

This fifth key message recommends the consumption of moderate amounts of fish, meat, poultry, egg, legumes and nuts. Actually, these foods are more than just body-building foods. They provide nutrients that are vital for health and maintenance of the body, including protein, B vitamins, iron, zinc and magnesium.

This message in the MDG explains the nutritional goodness of these foods and the rationale for its recommendations. Several tips on how to achieve the recommendations are provided.

## Fish

Fish is recommended to be consumed frequently, if possible daily. This strong recommendation is based on the positive nutritional value of fish.

- Protein in fish is similar to that found in meat and poultry.
- The fat content of fish is variable and is generally lower than meat and poultry. The cholesterol content of fish is marginally lower than that in meat and poultry.
- Some fish (such as salmon, trout and herring) are high in a type of polyunsaturated fatty acids (PUFA) called omega-3 fatty acids. These fatty acids have been shown to provide specific health benefits, notably in relation to cardiovascular health.
- The amount of iron and zinc in fish is lower than those in meat, but they are more easily available to the body. In contrast, the vitamin B12 level of fish is similar to that of meat or even higher, depending on the species. Fish are also a valuable source of iodine.
- Small fish consumed with edible bones such as *ikan bilis* are good sources of calcium, especially for individuals who do not consume milk.
- Shellfish such as clams, crabs, lobsters, mussels, oysters, scallops and shrimp are all generally low in fat and provide essential nutrients. Cholesterol content is variable, with prawns and squid having relatively higher levels compared to the others. In prawns, removing the head removes most of the cholesterol in it.

## Meat and poultry

The recommendation is to consume meat and poultry in moderate amounts. The main nutritional value of meat and poultry include the following:

- Meat and poultry are a valuable source of dietary protein.
- They are also valuable sources of iron that is easily absorbed and utilised by the body. They also provide substantial amounts of zinc and vitamin B12.
- To reduce saturated fat intake, it is advisable to select only lean meat and, for chicken, with the skin removed.
- Offal or organ meats such as liver and kidneys, heart, gizzard and visceral organs are not encouraged to be consumed regularly as

they are somewhat high in cholesterol.

## Eggs

Eggs have high nutritional value and hence are recommended for consumption by all healthy persons. They can be eaten in various forms, up to one egg every day. Eggs can become an important source of protein for children. They are also relatively less expensive compared to other animal-derived foods.

The important nutrients in eggs include the following:

- Protein in eggs is of excellent quality, and the amount present is just slightly lower than in meat.
- They are good sources of vitamin B12 and provide substantial amounts of iron and zinc.
- Egg yolk contains substantial amounts of cholesterol but unlike dairy products and meat, does not provide saturated fatty acids. Thus, for adults with high blood cholesterol, consumption of egg yolks should be limited, eg to three eggs per week.

## Legumes

A variety of legumes and their products should be consumed daily by everyone in the family, including people who eat meat, poultry and fish regularly. These plant foods are generally recognised as alternatives to animal foods and have important nutritional factors.

- The protein content of legumes is generally similar to that of meat and poultry. However, they usually lack one or two amino acids (building blocks of proteins). Mixing two or more plant proteins are encouraged, such as legumes and grains or legumes and nuts or seeds so as to produce a complete protein from two incomplete ones.
- Legumes can also be considered as starchy foods that can serve as excellent sources of dietary fibre.
- Legumes also provide other nutrients such as iron and zinc. However, the iron and zinc from plant sources are less bioavailable than from animal sources.
- Legumes are also very good sources of the B-complex group of vitamins, with the exception of vitamin B2.
- These plant foods do not contain saturated fat and cholesterol which are found in meat and poultry.
- Legumes (as well as nuts and certain seeds), also contain a wide variety of phytochemicals. These bioactive substances possess potential health benefits for various chronic diseases.
- Soya bean and its products (eg *tauhu*, *tempe*, soya bean sprout, miso) are some of the most widely consumed legumes.

## Nuts and seeds

Nuts and seeds can be included in the diet, several times a week. They provide a range of nutrients and are generally pleasantly flavoured. Many types of nuts are appropriate for consumption, eg almond, pecans, pistachios and walnuts. There are also different types of seeds such as sunflower, pumpkin, sesame, poppy or flax seeds.

The main nutritional value of nuts and seeds include the following:

- Nuts and seeds are a tasty source of protein and other nutrients. Nuts are also high in fibre and rich in a wide range of vitamins and minerals.
- Nuts are a good source of monounsaturated fat and also contain polyunsaturated essential fatty acids, which the body needs for a number of vital processes.
- However, nuts are also high in fat. Hence, they should not be consumed too much. Intake of salted nuts should also be reduced as they are high in sodium.
- Seeds contain protein, fibre and vitamins and minerals. They also add extra texture and flavour to various dishes and can be used to



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coat breads. They make a healthy snack and can be added to salads, casseroles and breakfast cereals.

The consumption of these plant-based alternatives to meat, fish and poultry is encouraged for everyone. They are particularly valuable in a vegetarian diet as an alternative source of protein and other important nutrients.

For vegetarians, these foods, together with cereal foods, can provide most (but not all) of the nutrients provided by meats, fish and poultry.

## Excessive intake is to be avoided

The recommendation is to consume "moderate" amounts of these foods. This is because although they are high in many nutrients, some foods in this group, namely those from

animal sources, are high in saturated fat, while others are high in cholesterol.

Foods that are high in saturated fat include fatty cuts of beef, pork and lamb; sausages, hotdogs and bacon; some processed meats such as regular bologna and salami; and some poultry such as duck. Some foods from this group such as egg yolk (egg white is cholesterol-free) and organ meats such as liver and kidney are high in cholesterol.

MDG 2010 has highlighted the nutritional value of these foods and the importance of consuming them. These are placed at the third level of the food pyramid, and are recommended to be consumed in moderate amounts.

There are six key recommendations within this key message.

1. Consume fish more frequently, if possible daily.
2. Consume meat, poultry and egg moderately.
3. Practise healthier cooking methods for fish, meat poultry and egg dishes.
4. Choose meat and poultry that are low in fat and cholesterol.
5. Consume legumes daily.
6. Include nuts and seeds in weekly diet.

Let the MDG 2010 guide you and your family members in adopting healthy eating habits and an active lifestyle. The complete MDG is obtainable from the Ministry of Health website: [www.moh.gov.my/v/diet](http://www.moh.gov.my/v/diet). The Nutrition Society of Malaysia has also made available leaflets of these MDG suitable for the public ([www.nutriweb.org.my](http://www.nutriweb.org.my)).

■ Dr Tee E Siong pens his thoughts as a nutritionist with over 30 years of experience in the research and public health arena. For further information, e-mail [starhealth@thestar.com.my](mailto:starhealth@thestar.com.my). The information provided is for educational and communication purposes only and it should not be construed as personal medical advice. Information published in this article is not intended to replace, supplant or augment a consultation with a health professional regarding the reader's own medical care.