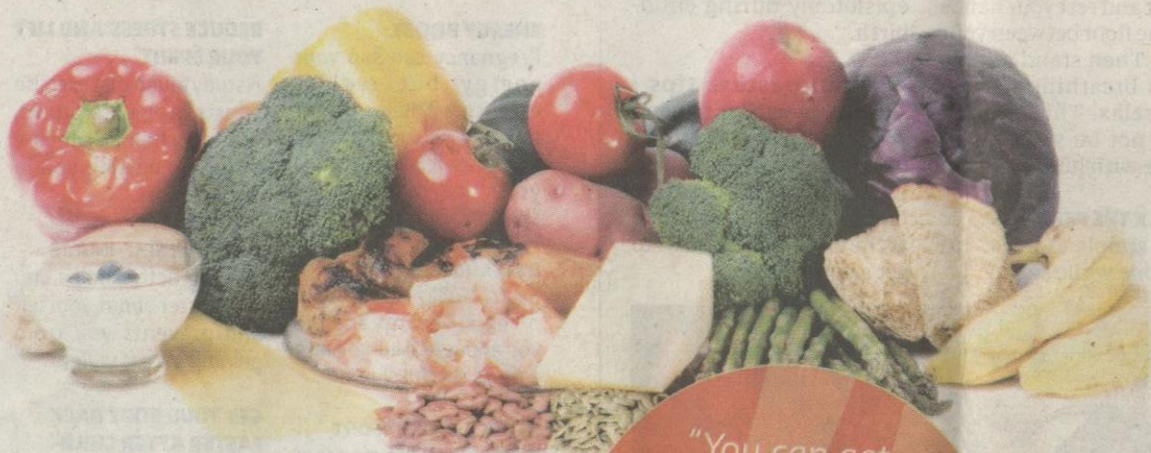


# Vitamins for vitality

MS 7/12/13 MS 8



*"You can get vitamins from the five food groups — meat, grains, vegetables, fruit, dairy and even good bacteria."*

**V**ITAMINS are nature's health ingredients in food and drinks. You may remember your primary school teacher telling you about the importance of vitamins and what they do for your body.

When you make food choices during a meal, do you actually give any thought about what vitamins the food contains?

Like most people, it's probably the furthest from your mind. Sadly, most adults make food choices based on taste.

Being a mindful eater is about being clued in on what food gives your body the proper nourishment.

are water soluble. This means they dissolve in water.

Fat soluble vitamins are harder for the body to get rid of. If you consume extremely high doses of fat soluble vitamins, such as vitamin A, it can cause toxicity in the body. This is because the body stores it in fat and the liver.

Excess water soluble vitamins, on the other hand, are excreted in urine as the body only stores what it needs.

So the chances of toxicity from water soluble vita-

Depending on the severity, this lack of absorption can cause vitamin deficiencies. In instances such as these, vitamin supplements can be of great use.

The large doses in the vitamin supplement will help the body absorb a small amount that it requires. Therefore, for general health where you don't have a deficiency, there's no real need to buy mega doses of vitamin supplements. And remem-

## Vitamin variety

Vitamin	What it does	Get it from these foods
Vitamin A (Beta carotene is the provitamin form of Vitamin A)	Normal vision, reproduction, cell growth and immunity	Liver, milk, fortified cereals, yellow/orange and dark green coloured fruit and vegetables
Vitamin D	Aids absorption of calcium and phosphorus, maintains normal blood calcium levels, helps bones to calcify	Milk fortified with vitamin D, fortified wholegrain cereals, fish oils, fatty fish such as salmon, cod, etc.
Vitamin E	As an antioxidant	Vegetable cooking oils, some fruit and vegetables, nuts, seeds and fortified grains
Vitamin K	Blood clotting factors	Green leafy vegetables, canola and soya bean oils
Thiamin	Needed for carbohydrate and amino acids metabolism	Wheat germ, enriched, cereals and Brewer's yeast
Riboflavin	Needed for carbohydrate and amino acid metabolism; used in lipid metabolism too	Dairy products, enriched breads and cereals, liver
Niacin	Needed for energy metabolism	Enriched breads and cereals, beef, liver, salmon, tuna, poultry, mushrooms
Choline	Synthesis of neurotransmitters and phospholipids and metabolic processes	Common in a wide variety of foods
Vitamin C (ascorbic acid)	Antioxidant properties; enhance immune function; used in metabolic processes	Fruit and vegetables
Vitamin B12	Cellular processes including folate metabolism; healthy myelin sheaths	Meats, seafood, eggs, milk, fortified cereals, fortified soya milk
Vitamin B6	Involved in amino acid metabolism and neurotransmitter and	Meat, fish, poultry, vegetables and fruit

## WHAT ARE VITAMINS

Vitamins are organic compounds that are complex in structure and is part of the physiological processes in your body. The only way we get vitamins is by eating something.

We must eat a variety of food to ensure we get sufficient vitamins as the body cannot make enough vitamins to maintain proper health.

When the body lacks vitamins, the resulting deficiency will manifest in various symptoms and lead to poor health. Once the deficiency is addressed and the person

gets sufficient amounts of the vitamins they are lacking, good health will be restored again.

Deficiencies are usually treated by making sure the person eats enough servings of foods that are rich in a particular nutrient, or by giving a standard dosage of supplements. Vitamin supplements are synthetic versions of natural vitamins.

## WATER AND FAT SOLUBLE VITAMINS

Vitamins are either water soluble or fat soluble. Vitamins A, D, E and K are fat soluble. They are present in the lipids or the fatty part of a particular food. All other types of vitamins



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## VITAMIN SOURCES

You can get your daily vitamin needs from the five food groups — meat, grain, vegetable, fruit, dairy and even good bacteria.

That's why you often hear health professionals encouraging you to eat a variety of food or follow a well-balanced diet as no one food group gives you all the vitamins you'll need. But by eating a variety of different foods, you'll be in a better position to get a more complete spectrum of all the vitamins you need.

See the table below for good food sources.

## VITAMIN ABSORPTION

Nutrients from food, vitamins included, are absorbed in your body by your small intestines. It does not absorb 100 per cent of the vitamins present from food. Usually, it will only absorb what the body needs.

So when the body is undergoing a growth spurt or is under stress or recovering from illness, for example, the small intestines will absorb more vitamins as needed.

Gastrointestinal disorders can affect the absorption of vitamins.

from water soluble vitamins is rare.

protein supplements. And remember, mega doses of fat soluble vitamins can be toxic as the body can't get rid of the excess.

In special cases where a person cannot absorb vitamins and nutrients due to gastrointestinal issues, doctors will administer injections of vitamins intravenously.

## PRESERVING VITAMIN CONTENT

A significant amount of vitamins is lost from fruit and vegetables that are not handled properly or have been stored for an extended period of time.

Not all vitamins are the same, though. Vitamin D can withstand prolonged storage and food preparation. Other vitamins such as vitamin C, thiamine and folate are not as resilient. They are easily destroyed by improper storage and cooking.

Water soluble vitamins can dissolve in cooking water. When you steam vegetables or blanch them in boiling water, don't throw the liquid. Instead, use it to cook other dishes as the vitamins are present in the water.

Fast cooking methods are recommended to better preserve vitamins. These include steaming, blanching and stir frying.

The next time you're choosing something to eat, make sure you consider the vitamins the food gives your body. Being mindful about nutrition will put you on the right path to eating well.

	neurotransmitter and haemoglobin synthesis	
Folate (folic acid)	Is a coenzyme for DNA synthesis; prevents homocysteine build up which is a risk factor for heart disease	Dark leafy greens, liver, legumes, orange juice, enriched breads and cereals
Biotin	Needed for synthesis of glucose and fatty acids	Liver, eggs, peanuts, salmon, mushroom, sunflower seeds
Panthenic acid	Part of synthesising fat; helps release energy from macronutrients	Fortified cereals, beef, liver, seeds, mushrooms, soya milk, peas

# ENRICHMENT AND FORTIFICATION

MODERN food technology means that food manufacturers have the means to enhance the nutritional value of their products.

Food processing causes certain ingredients such as grains (wheat, corn, rice, etc) to lose their vitamin content. Food manufacturers will add back the lost vitamins through a procedure called enrichment. This way, consumers can still get the full amount of vitamins which was originally present.

But enrichment does have its limitations. Certain vitamins, such as vitamins E, B6 and certain minerals

and fibre cannot be replenished through enrichment.

That's why you often hear healthcare professionals encouraging you to eat foods that are not highly processed, so that they don't lose their original vitamins and nutrients through excessive food processing.

Fortification, on the other hand, is a means of adding one or more vitamins to a food. Some vitamins added may naturally not be present in that food originally. For example, milk is fortified with vitamins D and A.