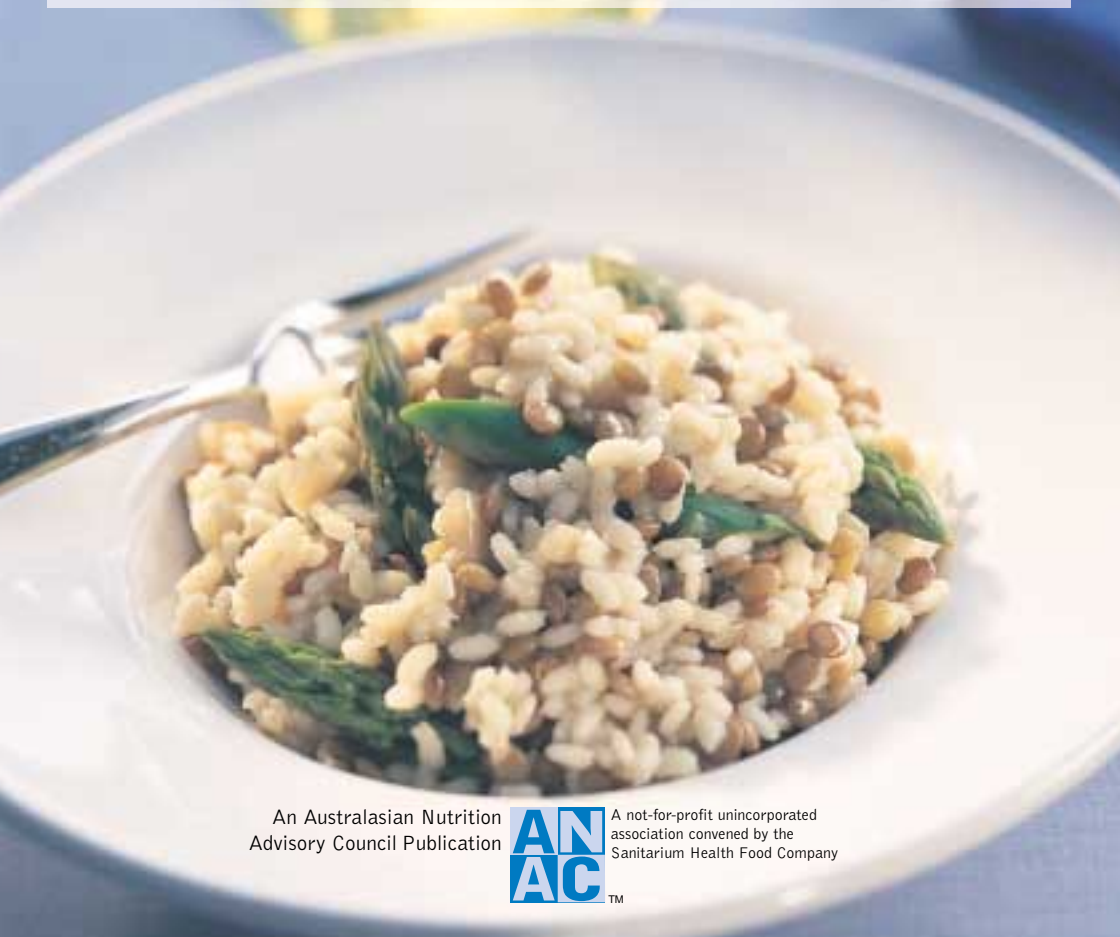


Food *for* Cancer Protection

A remarkable 30 to 40 percent of cancers can be prevented by making healthy eating choices and adopting a healthier lifestyle. Eating a nutritious and varied diet that follows the recommendations in this booklet can help to reduce the risk of cancer.



An Australasian Nutrition
Advisory Council Publication



A not-for-profit unincorporated
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Cancer is Preventable

This encouraging finding was established by the World Cancer Research Fund (WCRF) in its 1997 report¹ examining the role of diet in the prevention of cancer. After a review of more than 4,000 published scientific papers on the link between diet and cancer, the WCRF concluded some of the most common cancers affecting the western world are largely preventable - providing we eat an appropriate diet.

That's 30,000 cases in Australia² and 5,000 in New Zealand³ every year that could be prevented.

The Australasian Nutrition Advisory Council (ANAC) has an interest in "whole of health" issues — including different types of cancer, and the group has now adapted the WCRF recommendations to make them suitable for Australians and New Zealanders.

The advice given by ANAC in this booklet, has been developed in Australia and New Zealand within the context of work carried out over the last 30 years, to define preferred ways of eating, food selection guides (eg CSIRO 12345+ Plan, NHMRC Core Food Groups) and food-based dietary guidelines.

The outstanding conclusion of the recommendations is that eating a plant-based diet - rich in fruits, vegetables and

unrefined cereals - provides considerable protection from cancer. In addition, certain foods and dietary components have been identified for moderation due to potential increase in cancer risk.

Animal fats, refined sugar and salt are to be limited. Dietary supplements are of little value in reducing cancer risk. Alcohol and meat intake should be moderated.

This booklet outlines ANAC's advice concerning each recommendation. It also provides three sample meal plans along with some recipes to help make it easy to follow a cancer protective diet.



The Australasian Nutrition Advisory Council* (ANAC) includes some of Australasia's prominent nutrition and medical experts and is dedicated to improving the nutritional well-being of the Australasian community. Chaired by Professor Mark Wahlqvist (Chair of Nutrition Australia and Director, International Health & Development Unit, Monash University), the six members are drawn from a variety of specialist disciplines including medical nutrition, public health, gastroenterology, cancer, heart disease and hypertension research.

1. World Cancer Research Fund & American Institute for Cancer Research, *Food, Nutrition and The Prevention of Cancer: A Global Perspective*, 1997.
2. Excluding non-melanocytic skin cancers, there were 77,666 new cancer cases and 34,089 deaths due to cancer in Australia in 1996, Cancer in Australia, 1996, AIHW & AACR, 1999.
3. Cancer Society of New Zealand, Cancer: New Registrations and Deaths 1994. Health Statistical Services, Ministry of Health, 1998.
4. CSIRO and Anti Cancer Foundation SA. The 12345+ Food & Nutrition Plan. 1992.
5. National Health and Medical Research, Dietary Guidelines for Older Australians, 1999.

*A not-for-profit unincorporated association convened by the Sanitarium Health Food Company.



Dietary Recommendations for Preventing Cancer

Focus on Plant Foods

Choose predominantly plant-based diets rich in a variety of vegetables and fruits, pulses (legumes) and minimally processed starchy staple foods (such as rice, oats, potatoes etc).

As well as providing dietary fibre and vitamins and minerals, many plant foods are a rich source of biologically-active compounds called 'phytochemicals' (these compounds may be responsible for the protection against some types of cancers provided by plant-based diets).

Maintain a Healthy Weight

Avoid being underweight or overweight and limit weight gain during adulthood to less than 5 kg (11 pounds). Apart from reducing the overall dietary intake, optimum body weight may be maintained by consuming a greater proportion of foods of low energy density, for example vegetables, fruits, wholegrain cereals, legumes and root/tuber foods. Try to avoid putting on body fat, especially around the waist.

The latest National Nutrition Surveys report that 63% of men and 47% of women in Australia and 64% of men and 45% of women in New Zealand are overweight.

It is better to avoid eating too many foods that are rich in fat or sugars as they may contribute excess energy to the diet.

Eat more vegetables, fruits, wholegrain cereals, legumes and root/tuber foods instead.

Keep Physically Active

Regular exercise, preferably daily, should be encouraged in people of all ages in Australia and New Zealand. Participation by children in school sport and physical activity programs should be actively promoted. The health benefits associated with active participation rather than a passive attitude to physical activity needs to be better recognised by the adult population.

Eat a Variety of Plant Foods

Include a variety of at least seven serves of breads, cereals, grains, pasta and rice, preferably wholegrain, each day. All adult Australasians should also consume at least five serves of a variety of vegetables (including legumes) and fruits each day.

In addition, eat only small to moderate amounts of foods and beverages high in added sugars.

Grains are good sources of plant protein, starch, and a range of nutrients and biologically-active compounds, which seem to provide protection against disease. They also contain dietary fibre and resistant starch.



One serve is one slice of bread (30g), 90g cooked rice or pasta or 30g breakfast cereal.

Vegetables (including legumes) and fruits can also provide dietary fibre, resistant starch, many vitamins and minerals and other protective plant substances (such as antioxidants) that help to reduce the risk of disease. One serve is approximately equal to half a cup of vegetables, half a cup of cooked lentils or one piece of fruit. Keep in mind that fruit juice does not provide all the goodness you get from eating the whole fruit.

If You Consume Alcohol, Limit Your Intake

Limiting excessive intake of alcohol will reduce risk for certain cancers. ANAC recommends that the current NHMRC guidelines (published in 1987), are followed. Men should have no more than four drinks or 40g of alcohol per day and women should have no more than two drinks or 20g of alcohol per day. These recommendations should be seen as upper limits and are only applicable in the setting of an otherwise nutritious and varied diet, maintenance of an optimal level of physical activity and body weight and on a background of good physical and psychological health.

Eat Meat in Moderation Only

Various health authorities^{4,5} have recommended that a safe and optimal range for meat consumption is 60-100 grams per day or about 85 grams per

day. This range (ie 60 – 100 g/day) is consistent with the original WCRF meat recommendation (ie 80 g/day) and is supported by the ANAC group as it provides adequate nutrition for the majority of the population. This recommended intake is consistent with red meat as one component of a meal rather than being the major item consumed and is comparable to current average intakes in Australia. It also reflects advice for the prevention of certain types of cancer, especially if recommendations on other plant foods are followed. A stir-fry with abundant vegetables and a moderate quantity (60-100 grams) of red meat is a practical example of this recommendation. Above and beyond your meat intake, where individually acceptable, regularly include fish in small amounts.

Cut Down on Fatty Foods

Limit consumption of fatty foods, particularly those of animal origin and hard fats. Choose from a variety of fats from basic plant commodities, namely seeds (grains, nuts) and fruits and, where individually acceptable, from lean meat, low fat milk and dairy products.



Keep Salt Intake Low

Limit consumption of salted foods and the use of cooking and table salt. Use herbs and spices to season foods. The Dietary Guidelines for Older Australians⁵ in relation to salt and salting are supported by ANAC: Choose low salt foods and use salt sparingly. Do not add salt to foods either at the table or during cooking. To add flavour to foods use herbs and spices. In particular, try to choose low salt breads and processed foods and eat a wide variety of foods including vegetables, fruit and cereals and low fat dairy products.

Store and Preserve Food Carefully

Do not eat food, which as a result of prolonged storage at room temperatures is likely to be contaminated with toxins. Use refrigeration and other appropriate methods to preserve perishable food as purchased and at home. Minimise food wastage in the interests of environmental sustainability and by sustainable means.

Perishable food, if not consumed promptly, should be kept frozen or chilled or, where practical, dehydrated, canned or bottled to increase shelf life and reduce food wastage.

Additives and Residues

When levels of additives, contaminants and other residues are properly regulated their presence in food and drink is not known to be harmful.

However, unregulated or improper use can be a health hazard, and this applies particularly in economically developing countries.

Cook at Low Temperatures

Do not eat charred food. Avoid burning meat juices. When meat is eaten, the use of direct flame to cook it should be minimised.

Relatively low-temperature cooking by steaming, boiling, poaching, casseroles, stewing, braising, baking, microwaving or roasting should be the preferred method of food preparation. Stir-frying is a healthful option. Marinating foods prior to cooking is beneficial.

Most People Do Not Need Dietary Supplements

The wide and abundant supply of good quality food available in Australia and New Zealand makes the selection of a nutritious diet relatively easy. With respect to cancer, diets which regularly contain high levels of whole plant foods that are rich in cancer-protective compounds, like dietary fibre and phytochemicals, offer more protection against disease than do dietary supplements.



How to Adopt a Healthier Diet

A healthy lifestyle is the best way known to reduce the risk of cancer. As well as exercising regularly, we should follow a varied diet that is predominantly plant-based and avoid smoking and excess alcohol. This type of lifestyle - which is also protective for other so-called 'western diseases' like heart disease - is a good health insurance policy to protect your whole family's well being.

Be sure to maximise your protection from cancer by filling your plate first with a variety of plant foods such as vegetables, pasta, rice and bread, then, if desired, adding small amounts of meat.

Not only are these food choices important for cancer prevention, but this is an eating pattern which is appropriate for reducing the risk of most diet-related chronic diseases.

To guide you on what constitutes a healthier diet, the following meal plans and recipe ideas present different ways of putting the recommendations into practice.

LACTO-OVO VEGETARIAN MEAL PLAN*

BREAKFAST

- 1 serve of wholegrain breakfast cereal with 200mls low-fat milk or fortified soy drink, topped with sultanas and dried apple mix
- Orange juice, 1 glass

MORNING TEA

- Fruit smoothie made with low-fat milk or fortified soy drink (250ml), 1 ripe banana and pulp of one passionfruit

LUNCH

- Large jacket potato topped with canned bean mix, tomato, lettuce and grated reduced fat cheese
- Apple juice, 1 glass

AFTERNOON TEA

- Pear
- Cashews, small handful (10 nuts)

DINNER

- Asparagus Risotto**
- Green side salad with squirt of lemon juice, one teaspoon of extra virgin olive oil and 1/2 teaspoon of chopped mint

DESSERT

- Mixed berries with vanilla flavoured low-fat yoghurt

NUTRITIONAL ANALYSIS

Energy: 9,060 kJ; 2180 kcal Carbohydrate: 317g Protein: 92g Fat: 60g
Calcium: 1515mg Iron: 17.9mg Potassium: 5489mg Sodium: 2189mg Zinc:
12mg Vitamin C: 408mg Fibre: 49g

* (ie for those who choose not to eat meat, but do include eggs and dairy products)

** See separate recipe overleaf

Meal Plans

TOTAL VEGETARIAN (VEGAN) MEAL PLAN*

BREAKFAST

- Porridge made with 200ml of fortified soy drink and topped with wheat bran (1 tablespoon) and a handful of dried apricots
- 1 slice wholemeal toast with peanut butter
- Pineapple juice, 1 glass

MORNING TEA

- Apple
- Almonds, small handful (10 nuts)

LUNCH

- Rye bread sandwich filled with tahini and mixed salad
- Orange juice, 1 glass

AFTERNOON TEA

- English fruit muffin with margarine and jam

DINNER

- Pasta with Mushroom and Cashew Sauce**
- Side dish of steamed vegetables such as peas, broccoli and pumpkin cubes

DESSERT

- Low-fat soy yoghurt, 1 small tub
- Dried figs, 2

NUTRITIONAL ANALYSIS

Energy: 10,120 kJ; 2435 kcal Carbohydrate: 369g Protein: 89g Fat: 67g
Calcium: 1260mg Iron: 22.1mg Potassium: 5408mg Sodium: 1751mg Zinc:
12mg Vitamin C: 358mg Fibre: 75g

* (ie for those who choose not to eat meat, eggs or dairy products)
** See separate recipe overleaf

REGULAR MEAL PLAN (NON-VEGETARIAN)

BREAKFAST

- Scrambled eggs on toasted wholemeal muffins, served with oven-roasted tomatoes
- Apricot nectar, 1 glass

MORNING TEA

- Eggplant dip* with vegetable sticks
- Pecan nuts, small handful (10 nuts)

LUNCH

- Medium sized pocket bread filled with canned tuna and mixed salad
- Strawberry smoothie made with low-fat milk (250ml) and fresh strawberries

AFTERNOON TEA

- Banana
- Low fat yoghurt, 1 small tub

DINNER

- Beef and Vegetable Stir Fry* served with brown rice

DESSERT

- Baked apple, stuffed with sultanas, dusted with cinnamon; served with 2 scoops reduced fat vanilla ice cream

NUTRITIONAL ANALYSIS

Energy: 9,080 kJ; 2160 kcal Carbohydrate: 273g Protein: 107g Fat: 70g
Calcium: 1,200mg Iron: 16.3mg Potassium: 4,783mg Sodium: 2426mg
Zinc: 14mg Vitamin C: 218mg Fibre: 33g

* See separate recipe overleaf

Advice for Vegetarians

Vegetarians should follow all the recommendations to ensure an adequate intake of all essential nutrients – such as iron, zinc and calcium. Including a fortified soy beverage (with calcium and B12) is particularly important for those eating little or no meat and/or dairy products.

Children consuming a predominantly plant-based diet (which may be bulky and tend to fill them up) also need to eat enough high energy foods to help them grow. Fruits, milk and dairy products or, if preferred, soy-based products, are useful for this.

Fruit Spread

$\frac{1}{2}$ cup chopped dried apricots

$\frac{1}{2}$ cup chopped pitted dates

$\frac{2}{3}$ cup water

1 tsp. vanilla essence

1. Place dried apricots, dates, water and vanilla essence in a small saucepan. Heat over a moderately low heat for 5 minutes, stirring occasionally.
2. Place fruit mixture in the bowl of a food processor and blend until smooth. Cover and refrigerate until required.
3. Spread on lavash bread and roll or spread onto your favourite bread. Makes approx. $\frac{1}{2}$ cup.

Per serve: 150kJ (35cal). Protein 0.5g. Fat 0g. Carbohydrate 8g. Total Sugars 8g. Sodium 5mg. Potassium 195 mg. Calcium 10mg. Iron 0.4mg. Fibre 1.4mg.

Pasta with Mushroom and Cashew Sauce

500g fettuccine

1 tablespoon olive oil

1 red onion, diced

1 clove garlic, chopped

1 tablespoon paprika

300g mushrooms, sliced

$\frac{3}{4}$ cup raw cashews

1 cup warm water

$\frac{1}{4}$ cup lemon juice

1. Bring a large saucepan of water to the boil, cook fettuccine according to the instructions on the packet.
2. Heat the olive oil in a large frypan. Sauté onion & garlic until golden.
3. Add the paprika and mushrooms. Simmer uncovered until mushrooms are soft.
4. Place the cashew nuts and water in a food processor and blend until smooth and creamy.
5. Stir the cashew cream into the mushrooms and heat through.
6. Drain the fettuccine and stir through the mushroom and cashew sauce.

Serves 6

Per Serve: 1760 kilojoules (425 calories). Protein 16g. Fat 15g. Carbohydrate 55g. Sodium 17mg. Potassium 550mg. Calcium 64mg. Iron 4.3mg. Fibre 13g.



Eggplant Dip

Tahini is a paste made from sesame seeds. It is readily available in health food stores and supermarkets.

- 2 large eggplants
- 1 tablespoon olive oil
- 3 tablespoons lemon juice
- $\frac{1}{3}$ cup tahini
- 2 cloves garlic
- $\frac{1}{2}$ tablespoon ground cumin

1. Preheat oven to 200°C.
Place eggplant whole on baking tray.
Bake for 30 minutes or until soft and wrinkled.
2. Slice eggplant open, using a spoon remove flesh, place into food processor. Discard eggplant skins.
3. Add oil, lemon juice, tahini, garlic and cumin and blend until smooth.
4. Serve* with fresh vegetables and crackers.
Dip will refrigerate covered for 3-4 days.

Serves 12

Per Serve: 320 kilojoules (75 calories). Protein 2g. Fat 7g. Carbohydrate 1g. Sodium 10mg. Potassium 90mg. Calcium 37mg. Iron 0.5mg. Fibre 2.1g.

Asparagus Risotto

As pictured on cover.

- 1 tablespoon oil
- 1 medium onion, chopped
- $\frac{1}{2}$ cup canned brown lentils, washed
- $1\frac{1}{2}$ x 10g chicken flavoured stock cube**
- $1\frac{1}{2}$ cups water
- 1 cup Arborio rice***
- 3 cups boiling water, extra
- 1 bunch asparagus, chopped and blanched

1. Heat oil in a heavy-based saucepan.
Add onion and sauté until soft.
2. Add lentils, stock cubes and water.
Bring mixture to the boil and simmer for 15 minutes.

3. Stir through rice.
4. Gradually add extra boiling water, $\frac{1}{2}$ cup at a time, until liquid has been absorbed, before adding the next $\frac{1}{2}$ cup.
5. Fold through the asparagus. Serve garnished* with extra asparagus.

Serves 4

* Serving suggestions and garnishes are not included in recipe analysis. Energy values rounded to the nearest 20 kilojoules and to the nearest 5 calories.

** Massel Ultracube chicken flavoured stock cubes are 100% vegetable based and have no animal content.

*** Arborio rice has a small round grain which absorbs a large amount of liquid easily. It is therefore especially suitable for using in risotto.

Per serve: 1120 kilojoules (270 calories). Protein 8g. Fat 6g. Carbohydrate 46g. Sodium 699mg. Potassium 368mg. Calcium 23mg. Iron 1.8mg. Fibre 4g.



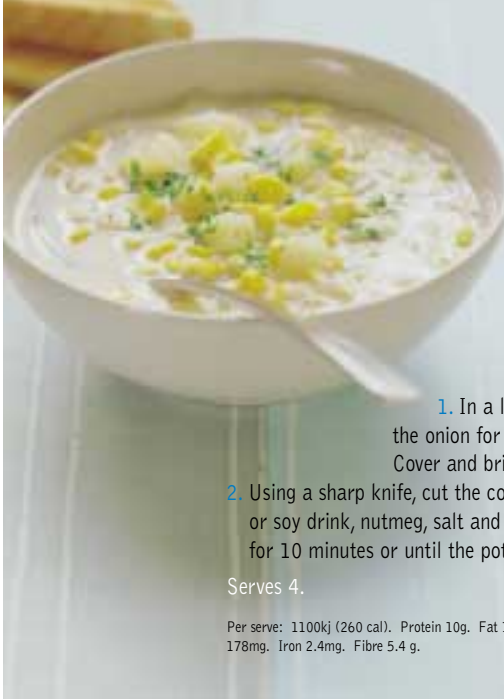
Fruity Couscous

½ cup dried apricots
 ½ cup dried figs
 ½ cup sultanas
 ½ cup boiling water
 juice of 1 lemon
 1 tablespoon brown sugar
 2 cups couscous
 2 cups water, additional
 ⅓ cup pistachio nuts, chopped

1. Place chopped apricots, figs, and sultanas in a bowl with boiling water, lemon juice, and brown sugar. Stir and cover. Set aside.
2. Place the 2 cups of boiling water in a saucepan. Add the couscous, cover and allow to swell for 2-3 minutes.
3. Stir the fruit through the couscous and sprinkle with pistachios.

Serves 6

Per serve: 1680 kilojoules (400 calories). Protein 11g. Fat 4g. Carbohydrate 80g. Sodium 20mg. Potassium 715mg. Calcium 79mg. Iron 2.1mg. Fibre 6g.



Potato & Corn Chowder

- 1 tbsp. light olive oil
- 1 medium brown onion, diced finely
- 3 potatoes, peeled and diced finely
- 1 cup water
- 2 cobs of corn, husks removed
- 2 cups of milk or fortified soy drink
- pinch of nutmeg
- salt
- 2 tbsp. chopped parsley

1. In a large saucepan, heat the olive oil over a moderate heat. Saute the onion for 3 minutes or until translucent. Add the potato and water. Cover and bring to the boil.
2. Using a sharp knife, cut the corn kernels from the cobs and add to the saucepan with the milk or soy drink, nutmeg, salt and parsley. Reduce the heat to medium low and simmer uncovered for 10 minutes or until the potato is done when tested and the chowder has thickened slightly.

Serves 4.

Per serve: 1100kj (260 cal). Protein 10g. Fat 10g. Carbohydrate 32g. Total Sugars 5g. Sodium 163mg. Potassium 1159mg. Calcium 178mg. Iron 2.4mg. Fibre 5.4 g.

Beef and Vegetable Stir Fry

- | | |
|--|---|
| 750g rump steak, fat trimmed and sliced finely | 10 green shallots, cut into 4cm lengths |
| 2 teaspoons finely chopped ginger | 200g button mushrooms, sliced |
| 1 teaspoon finely chopped garlic | 1 bunch broccolini, cut into 4 cm lengths |
| 1 tablespoon soy sauce, choose low salt | 150g snow peas, trimmed and sliced in half lengthways |
| 2 teaspoons sesame oil | $\frac{1}{4}$ cup vegetarian oyster sauce |
| 1 tablespoon canola oil | 2 tablespoons water |

1. Combine the sliced rump steak, ginger, garlic, soy sauce and sesame oil. Set aside to marinate while preparing the vegetables.
2. Heat a non-stick wok over a high heat. Stir-fry $\frac{1}{3}$ of the rump steak for one minute, remove from the wok and set aside. Continue to cook the remaining meat in two batches. Set the meat aside.
3. Heat the canola oil in the wok over a high heat. Add the green shallots and stir-fry for 2 minutes. Add the mushrooms, broccolini and snow peas. Stir-fry for 3 minutes or until the vegetables are tender yet still crisp.
4. Add the cooked rump steak, vegetarian oyster sauce and water and toss through over a high heat until combined. Serve* immediately with rice or noodles.

Serves 6

Per Serve: 1040 kilojoules (260 calories). Protein 31g. Fat 13g. Carbohydrate 4g. Sodium 497mg. Potassium 764mg. Calcium 25mg. Iron 4.2 mg. Fibre 2.2g.

* Serving suggestions and garnishes are not included in recipe analysis. Energy values rounded to the nearest 20 kilojoules and to the nearest 5 calories.



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The information contained in this brochure is correct at the time of publication with every effort being made to ensure it follows the latest nutrition research and guidelines. Before making any changes to your diet, we do recommend that you consult your dietitian or doctor for advice on your personal dietary requirements.

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