Australian Government
Department of Defence

ADF Guide to Healthy Eating

DRAFT ONLY

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Department of Defence

This book is part of a larger project to update the national dietary guidance system for Australia, undertaken for the National Health and Medical Research Council (NHMRC), the Australian Government Department of Health and Ageing and the Defence Science Technology Organisation (DSTO).

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WHY THIS PUBLICATION?

The *ADF Guide to Healthy Eating* is based on recent research in nutrition. The Guide provides information about the amounts and kinds of food that you need to eat each day to get enough of the nutrients essential for good health and wellbeing. It is also consistent with the dietary patterns that promote optimum health and wellbeing as recommended in the Australian Dietary Guidelines. Healthy eating habits throughout life will also reduce the risk of chronic health problems such as heart disease, cancer, type 2 diabetes and obesity.

This version of the guide has been adapted for use by the Australian Defence Forces in order to help ADF personnel make good food choices both within ADF managed catering facilities and in the home. The *Australian Guide to Healthy Eating* provides additional assistance for children and older Australians. The recommendations in the *ADF Guide to Healthy Eating* are based on the special nutrient needs of ADF personnel, taking into account the Australian Defence Force Fresh Food Provisioning Scale.

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Draft Australian Dietary Guidelines

Guideline 1

Eat a wide variety of nutritious foods from these five food groups every day.

- plenty of vegetables, including different types and colours, and legumes/beans
- fruit
- grain (cereal) foods, mostly wholegrain, such as breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley
- lean meat and poultry, fish, eggs, nuts and seeds, and legumes/beans
- milk, yoghurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under the age of 2 years).

And drink water.

Guideline 2

Limit intake of foods and drinks containing saturated and trans fats, added salt, added sugars and alcohol.

a. Limit intake of foods and drinks containing saturated and trans fats
   - Include small amounts of foods that contain unsaturated fats
   - Low-fat diets are not suitable for infants.

b. Limit intake of foods and drinks containing added salt
   - Read labels to choose lower sodium options among similar foods.
   - Do not add salt to foods.

c. Limit intake of foods and drinks containing added sugars. In particular, limit sugar-sweetened drinks.

d. If you choose to drink alcohol, limit intake.

Guideline 3

To achieve and maintain a healthy weight you should be physically active and choose amounts of nutritious food and drinks to meet your energy needs.

- Children and adolescents should eat sufficient nutritious foods to grow and develop normally. They should be physically active every day and their growth should be checked regularly.
- Older people should eat nutritious foods and keep physically active to help maintain muscle strength and a healthy weight.

Note: The Australian Dietary Guidelines are due to be released in 2013.

Guideline 4

Encourage and support breastfeeding.

Guideline 5

Care for your food; prepare and store it safely.

Food Groups

Food Groups

The food group information on pages 8-21 applies to both ADF personnel and their families. However, this guide only provides basic information on the amount of foods to include in the diets of ADF families. For more information that applies to family members, please refer to the *Australian Guide to Healthy Eating*, available at www.eatforhealth.gov.au.

The five food groups are:

- Vegetables
- Fruit
- Grains
- Dairy and alternatives
- Meat, poultry, fish, eggs, nuts and alternatives.

Foods from these five groups can provide all the nutrients the body needs.

Unsaturated oil and spread allowance:

Small amounts of unsaturated oils and spreads can be included for taste & texture and to provide essential nutrients.

What about other foods and drink choices?

Other foods and drinks such as cakes, pastries, butter, cream, energy drinks and alcoholic drinks, are not necessary to provide the nutrients the body needs but may add variety to the diet. *(More about this later; see page 21)*.

Serve sizes

For simplicity, the same serve sizes have been used throughout this booklet.

Measures used in this book:

1 cup = 250 mL 1 tablespoon = 20 mL

Abbreviations:

g = gram mg = milligram mL = millilitre

VEGETABLES

- Vegetables come from different parts of plants, including the leaves, roots, tubers, flowers, stems, seeds and shoots. Some varieties are included in this group because they are used as vegetables (e.g. tomatoes, pumpkin, sweet corn).
- Legumes are the seeds from particular types of plants. They are eaten in the immature form as green peas and beans, and the mature form as dried peas, beans, lentils and chick peas.
- Including plenty of vegetables and a variety of different colours and types of vegetables each day can provide a range of nutrients that may help reduce the risk of some diseases such as heart disease and some cancers, and may also help reduce the risk of obesity.
- *Vegetables and legumes/beans* are a good source of vitamins, minerals and dietary fibre. Legumes/beans and a few vegetables, such as potatoes, sweet potatoes and green peas also provide carbohydrate.
  - All vegetables provide vitamin C, although capsicum, broccoli, cauliflower, cabbage, Asian greens and tomatoes are particularly high in this vitamin.
  - Dark green and orange vegetables such as spinach, broccoli, carrots and pumpkin are a particularly good source of carotenes which the body converts to vitamin A and also of other important carotenoids that may have protective effects for health.
  - Green vegetables (including salad vegetables), beetroot, cauliflower, asparagus and dried peas, beans and lentils are good sources of folate.
- Canned and frozen vegetables can be included, but choose those without added salt.
- Limit intake of fried vegetables such as potato chips and crisps. These are Discretionary choices (see page 21).

Eat plenty of vegetables, including different types and colours and legumes/beans every day

Over the week, try to make sure you get approximately equal amounts of:

- dark green or cruciferous vegetables such as bok choy, spinach, broccoli, cauliflower, cabbage, brussels sprouts
- orange vegetables such as sweet potato, pumpkin and carrots
- salad vegetables such as lettuce, tomato, cucumber and capsicum
- starchy vegetables such as potatoes, sweet potato, taro and corn
- legumes such as dried peas, beans, lentils and chick peas.

Choose vegetables in season for better value and easier availability.

How much from the vegetables, legumes/beans group is needed?

The minimum recommended intake is 5-6 serves a day on average for adults. Additional amounts can be included depending on energy needs (age, activity levels and body size).

Use the information on page 26 to work out how many serves you should include.

What is a serve?

A serve of *Vegetables* is approximately 75 g:

- 75 g or ½ cup of raw or cooked orange or cruciferous vegetables
- 75 g or ½ cup cooked or canned (no added salt) dried beans, peas or lentils
- 1 cup of green leafy or salad vegetables (raw e.g. tossed salad)
- 1 small-medium tomato (75 g)
- 1 small or half a medium potato or equivalent for starchy vegetables such as sweet potato, taro, cassava or ½ cup sweet corn (75 g).

FRUIT

- A wide variety of fruit is available in Australia. Most fruit forms from the flower and contains the seeds of the plant. Some vegetables, such as pineapple and rhubarb are included in this group because they are used as fruit. Most fruit is sweet because of its natural sugars.
- Including fruit each day can help reduce the risk of some diseases, including heart disease and some cancers, and may also help reduce the risk of obesity.
- Fruit is a good source of vitamins, including vitamin C and also contributes folate and a range of phytonutrients with health benefits. Fruit also provides dietary fibre and carbohydrates in the form of natural sugars. Edible skins are especially high in dietary fibre, but dietary fibre is also in the fruit flesh.
- Canned or frozen fruits can be used. Choose canned fruit with little or no added sugar or sugary syrups (pear juice is sometimes used as a liquid for canned fruits and is high in sugar).
- Fruit juices belong in this group, but most juice is low in fibre so should only be an occasional choice. Fruit juices are acidic and frequent consumption can increase the risk of dental erosion. Dried fruit can be used occasionally, but it will not provide as much vitamin C as the equivalent fruit and can add extra kilojoules. Dried fruits can stick to the teeth and increase the risk of dental decay.

Eat a wide variety of fruit each week such as:

- apples and pears
- citrus fruit such as oranges and mandarins
- tropical fruit such as bananas and pineapple
- melons
- berries
- grapes
- stone fruit such as apricots and peaches.

Choose fruits in season for better value and easier availability.

How much from the Fruit group is needed?

The minimum recommended amount is 2 serves a day for adults. Additional amounts can be included depending on energy needs (age, activity levels and body size).

Use the information on page 26 to work out how many serves you need.

What is a serve?

A serve of *Fruit* is about 150 g in the form of:

- 1 medium apple, banana, orange, pear
- 2 apricots, kiwi fruit, plums
- 1 cup diced pieces or canned fruit (with no added sugar)

or occasionally

- 125 mL fruit juice (with no added sugar)
- 30 g dried fruit, e.g. 4 dried apricot halves; 1½ tablespoons of sultanas.

GRAINS

(e.g. breads, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa, barley)

- Foods in this group come from grains such as wheat, oats, rice, rye, barley, millet, quinoa and corn. The grains can be eaten whole, ground into flour to make a variety of foods such as bread, pasta and noodles, or consumed as breakfast cereals.
- Consumption of grain (cereal) foods, mostly wholegrain, can help reduce the risk of heart disease, type 2 diabetes and obesity.
- The nutrients provided by the foods in this group include carbohydrates, protein, dietary fibre and a wide range of vitamins and minerals including folate, thiamin, riboflavin, niacin and iron.
- Some foods in this group may have nutrients added during processing. For example, in Australia, food regulations require that vitamin B1 (thiamin) and folic acid are added to wheat flour used for bread making, and any salt used in bread making must be iodised. This type of fortification is legislated because it may be difficult for some groups to achieve recommended intakes of these essential nutrients. Most breakfast cereals manufacturers also voluntarily add vitamins and minerals to their products.
- This group includes both refined and wholegrain varieties of grain (cereal) foods, although wholemeal or wholegrain varieties are preferable because they provide more dietary fibre, vitamins, minerals and other phytonutrients than refined grain (cereal) foods.
- Grain (cereal) foods which have relatively large amounts of added fats, sugars and/or salt such as cakes and biscuits are not included in this group but are classified under Discretionary choices (see page 21).

How much from the Grain (cereal) group is needed?

The minimum recommendation is 6 serves a day for adults. At least two thirds of the choices should be wholegrain varieties.

Additional amounts can be included depending on energy needs (age, activity levels and body size). Use the information on page 26 to work out how many serves you need a day.

What is a serve?

A serve of *Grains* is:

- 1 slice of bread or half a medium roll or flat bread (about 40 g)
- ½ cup cooked rice, pasta, noodles (weights vary according to the product)
- ½ cup cooked porridge or polenta
- ⅔ cup breakfast cereal flakes (30 g) or ¼ cup muesli (30 g)
- 3 crispbreads
- 1 crumpet (60 g) or a small English muffin or scone (35 g)
- ½ cup cooked barley, buckwheat, semolina, polenta, bulgur, quinoa (weights will vary)
- ¼ cup of flour

MEAT, POULTRY, FISH, EGGS, NUTS AND ALTERNATIVES

- The wide variety of foods in this group includes all kinds of lean meat and poultry, fish, eggs, nuts, seeds and legumes/beans (or tofu). In general, the foods in this group are a good source of protein, iron, zinc and other minerals and vitamins of the B complex. Vitamin B12 is found mainly in animal-based choices.
- Lean red meats are a good source of iron, zinc and vitamin B12. Iron is especially important for pregnant women, menstruating women and in those undergoing endurance activities.
- Fish and seafood are a valuable source of long chain omega-3 fats. Small quantities of these fats are also found in lean grass-fed red meat, poultry and some eggs.
- Fresh, frozen and canned varieties of meats, poultry or fish can be included, but choose varieties that are low in salt and fat. Processed meats high in fat or sodium such as salami, mettwurst, bacon or ham are not part of this food group and are classified as Discretionary food choices (see page 21).
- Eggs are also very valuable sources of low cost, easy to prepare protein.
- Legumes/beans have been placed in this food group as well as in the vegetables group, as they provide many of the nutrients in meats, poultry, fish and eggs. Nuts and seeds can also provide protein, essential fatty acids, and a range of minerals and vitamins.
- For those who do not eat animal foods, nuts, seeds and legumes can provide a good mix of plant-based protein. Lacto-ovo vegetarian diets that include milk products, eggs, nuts, seeds and legumes can provide all the nutrients required for health.

How much from the Lean meat and poultry and alternatives group is needed?

- The minimum recommended amount ranges from 1 to 3 serves a day for adults.
- To obtain sufficient iron, about half the serves from this food group should comprise lean red meat – this equates to a weekly intake of approximately 450 g cooked, lean red meat. Those who choose not to eat red meats, or eat predominantly plant-based or vegetarian diets, will need higher intakes of lean poultry, fish, eggs and/or iron rich plant foods such as wholegrain cereals and legumes.
- Around 2 serves of fish a week is recommended for adults
- For women, at least 2-3 serves a week of nuts and seeds are recommended; and for men, at least 7 serves a week.

Use the information on page 26 to work out how many serves you need.

What is a serve?

A serve of *Meat, poultry, fish, eggs, nuts and alternatives* is:

- 65 g cooked lean red meats (about 90-100 g raw weight of beef, lamb, pork or kangaroo)
- 80 g poultry e.g. chicken (about 100 g raw weight)
- 100 g cooked fish fillet (about 115 g raw weight) or small can
- 2 large eggs (120 g)
- 1 cup (170 g) cooked (dried) beans, lentils, chick peas, split peas, or canned beans or 170 g tofu
- 30 g nuts or seeds or nut/seed paste

Many people consume meat, poultry or fish in larger serve sizes than the serves listed above. This is not a problem, so long as you adjust by having fewer serves a day later on.

DAIRY AND ALTERNATIVES

- Milk, yoghurt and cheeses are the important foods in this group. The foods in this group are an excellent source of calcium and are a good source of a range of other nutrients (protein, iodine, riboflavin and vitamin B12). However, foods from this group can increase the saturated fat in the diet if you choose full fat products.
- A wide range of milk and yoghurt products is available with varying fat levels. Some also have added sugar and other ingredients. Milk can be fresh, dried, evaporated or UHT long-life. Some cheeses have reduced levels of fat and salt.
- Soft cheeses such as ricotta, cottage and fetta are lower in calcium than hard cheeses requiring a larger serve size. Although a larger serve will provide more energy. Low salt cheeses are preferable.
- Other milk-based products such as ice cream and fromage frais can contribute some calcium to the diet, but they may be relatively high in fat and contain added sugar, so they are placed in the Discretionary food choice category (see page 21).
- Custard contributes calcium, but has about one and a half times as many kilojoules as regular milk.
- For most people, the best choices are reduced-fat milks, yoghurts and cheeses. Limit regular cheeses to two to three serves a week.
- For those who prefer to avoid dairy products, alternative products such as soy beverages have added calcium and other nutrients, including vitamin B12. Always check the nutrition information panel on the label of these products.
- Some people elect to follow a dairy food free or milk-free diet because of allergies, intolerances to lactose (the natural sugar in milk) or because they believe that milk increases mucus.

How much from the Milk, yoghurt, cheese and alternatives group is needed?

The minimum recommended amount of milk, yoghurt, cheese and alternatives ranges from 2-3 serves a day in younger adults pregnant and breast feeding women, and from 3-4 serves a day in older adults, particularly women.

Use the information on page 26 to work out how many serves you need.

What is a serve?

A serve of the *Dairy and alternatives* group is:

- 1 cup (250 mL) fresh, UHT long life or reconstituted dried milk
- ½ cup (120 g) evaporated milk
- 2 slices, or 4 x 3 x 2 cm piece (40 g) hard cheese
- 80 g higher calcium feta cheese or 120 g ricotta cheese
- ¾ cup or 1 small carton (200 g) yoghurt
- 1 cup soy beverage or beverages made from rice or other cereals), which contains at least 100 mg of added calcium per 100 mL

If you do not eat any foods from this group, try the following foods, which contain the same amount of calcium as a sample serve of *Milk, yoghurt, cheese:*

- 100 g almonds with skin
- 60 g sardines, canned in water
- 100 g (½ cup) canned pink salmon or Australian salmon with bones
- 100 g firm tofu (check the label as calcium levels vary, depending on the setting agent).

Seafood, especially mussels, oysters and prawns, and most plant foods, especially seeds, grain-based foods and vegetables contain some calcium.

WATER

- Water is constantly lost from the body and needs to be replaced regularly.
- Water requirements vary with age and at some life stages. Pregnant and breastfeeding women have a slightly increased water requirement compared to other women. Older people can experience dehydration due to an inadequate fluid intake.
- Military personnel, particularly those working in the tropics, often face a daily water turnover that is several times greater than for sedentary people living in thermal comfort.
- Thirst, decreased body weight, and reduced output of darker coloured urine all indicate onset of dehydration.

How much water is needed?

There is no single recommended intake for water, as water requirements at any one time will vary depending on climate, physical activity, and individual metabolism. As a general guide, women should consume about 8 cups a day (9 cups in pregnancy and lactation) and men should consume about 10 cups a day. This includes fluids from all sources (e.g. milk, soups, beverages such as coffee and tea, soft drinks/cordials etc.).

ADF personnel working in the heat should drink before, during and after all strenuous activity. During exercise, select plain water (e.g. 150–200 mL every 20 min, or more in hot weather, up to a rate of about 1 L/h).

Plain, safe tap water is the best fluid option and has an advantage over other drinks, such as fruit juices and fruit drinks, sugar sweetened or low-kilojoule soft drinks, ‘sports’ and ‘energy’ drinks, tea or coffee in terms of its lower energy content and/or caffeine and/or acidity (natural or from carbonisation). Acidity can cause enamel erosion of teeth.

Further information about hydration can be viewed in SAFETYMAN VOL 2, Ch 25 which can be found on the DEFWEB home page, “manuals”.

OILS & SPREADS

Replace saturated & trans-fats with polyunsaturated & monounsaturated fats where ever possible

- There are three types of fats found in food, saturated fats, polyunsaturated fats and monounsaturated fats. Polyunsaturated fats can be further divided into omega-3 and omega-6 types. Trans-fats are a type of fat that is produced when vegetable oils are processed.
- Saturated fats, found in large quantities in butter, lard and dripping and in lesser amounts in meats and milk products can be harmful to health. They are associated with increased risk of heart disease. Some vegetable oils such as palm oil and coconut oil also have saturated fats.
- Trans-fats can also be harmful. They occur naturally in small amounts in animal products but can also be present in some commercial cooking margarines used to produce baked products such as doughnuts and pastries.
- Polyunsaturated and monounsaturated fats are found in a range of foods such as seeds and nuts, legumes/beans, avocado, fish, lean grass-fed meat, poultry and some eggs. However, they are found, in concentrated form, in oils or spreads used for preparing or dressing foods. Polyunsaturated varieties include sunflower, safflower, soybean, cottonseed, sesame, corn and grapeseed. Monounsaturated include canola, macadamia, peanut and olive.

How much of the spreads and oils can I include in my daily diet?

The foods that provide unsaturated fat are also high in kilojoules (energy), so the amount consumed needs to be balanced with total energy needs. For active men and women the limits for spreads and oils are 40-60 g a day for spreads or 30-45 g for oils depending on activity.

DISCRETIONARY CHOICES

What about all the other foods that don't fit into the main food groups?

Some foods and drinks do not fit into the five food groups and are not essential to provide the nutrients the body needs. They may contain high amounts of saturated fat (natural or added), added sugars, salt or alcohol or a mix of these. These foods can contribute many kilojoules and displace other more nutritious foods from the diet. However they can also provide variety and enjoyment to a diet.

If you choose these foods (see examples in the serve size information below), then use only occasionally and in small amounts. Discretionary foods are best avoided if you are working on reducing your weight.

How many Discretionary choices can I have?

The amount of Discretionary choices to be included will vary by activity level (see page 26). Choices should be predominantly high carbohydrate to provide necessary energy needs without excess fat or alcohol.

What is a Discretionary choice serve?

A serve of discretionary foods provides about 600 kJ. Examples are:

- 2 scoops ice-cream
- ¼ cup condensed milk
- 50-60 g processed meats, salami, mettwurst
- 1½ thick or 2 thinner sausages
- 30 g salty crackers
- 2-3 sweet biscuits
- 1 slice (40 g) plain cake or small cake-type muffin
- ½ small bar (25 g) chocolate
- 40 g sugar confectionary
- 60 g jam, honey
- 2 tablespoons (40 g) cream
- 1 tablespoon (20 g) butter or saturated (hard) margarine,
- 200 mL wine (2 standard drinks, but note this is usually 1 glass for many Australian wines)
- 60 mL spirits (2 standard drinks)
- 600 mL light beer (1½ standard drinks)
- 400 mL regular beer (1½ standard drinks)
- 1 can (375 mL) soft drink
- ⅓ (60 g) commercial meat pie or pastie
- 12 (60 g) fried hot chips

Make Your Choices

The following guide to food choices is based on the special nutrient needs of highly active ADF personnel only and is tailored for ADF personnel eating in ADF catering facilities. Recommendations for all (less physically active) Australians can be found in the Australian Guide to Healthy Eating—see back page.

STEP ONE: Identify your level of activity

The system devised by DSTO classifies physical activities as shown in the table below.

	ACTIVITY LEVEL	*ENERGY RANGE*	*EXAMPLE ACTIVITIES*
1	inactive or sedentary	<13 MJ/day	Administrative tasks on base
2	light activity	13-14.5 MJ/day	Navy ships or submarine at sea, some moderate activity on base
3	moderate activity	15-16.5 MJ/day	Physical training Exercises, Army recruit training, Infantry initial training, most military exercises
4	high activity	17-19.5 MJ/day (low) 20-21 MJ/day (high)	Foot patrol with large load carriage, jungle warfare, naval clearance diving, patrol boat, SASR base squadron
5	extreme activity	>21 MJ/day	SASR selection course

If you are mostly engaged in administrative or management tasks your energy requirements are similar to most civilian Australians (level 1).

If you are a woman of average body size engaged in very high levels of physical activity on a daily basis, then you may need 14.5 MJ/day (level 2) and if you are tall (>170 cm) or undertaking extensive rigorous exercise you may need 16.5 MJ/day (level 3).

If you are a male engaged in extended foot patrols carrying large loads or undertaking rigorous exercise on a daily basis you may require 17-21 MJ/day (level 4). The upper end of the range (level 5) would be required by very few male ADP personnel, for example those attempting the Special Air Service Regiment selection course.

STEP TWO: Identify your energy requirements & how they might be met

The food groups and serves are the same as those given on pages 8-21, but the mix of foods within food groups should be aligned with ADF provisioning and daily food patterns for ADF personnel with differing activity levels given in the table below.

Remember, it is not necessary to include Discretionary choices in the diet. Additional carbohydrate-rich foods such as cereals, fruits or certain vegetables could be included instead. However, at very high energy levels, concentrated energy sources will avoid the need to eat extremely large volumes of food.

If you are a small person with level 1 energy needs, the amount may be too large. You can cut back on cereals and starchy vegetables. For the purposes of developing recommended food patterns, Level 4 which covers a wide energy range has been split into two sublevels for those at the lower end of energy needs (17-19.5 MJ) and those at the upper end of the range (20-21 MJ).

DAILY FOOD PATTERNS FOR DIFFERENT ACTIVITY LEVELS

Recommended average daily number of serves from each of the food groups								
ACTIVITY LEVEL	*VEGETABLES*	*FRUIT*	*NUTS AND SEEDS*	*GRAINS*	*MEAT POULTRY, FISH, EGGS & ALTERNATIVES*	*DAIRY AND ALTERNATIVES*	*OILS AND SPREADS*	*DISCRETIONARY CHOICES*
1 (<13 MJ)	6	2	1	6	3	2 ½	1	<1
2 (13-14.5 MJ)	10	3	2	10	3	3	1	<1
3 (15-16.5 MJ)	11	4	2	11	3	3	1	1 ½
4 (low 17-19.5 MJ)	12	4	2	11	3	4	1	4
4 (high 20-21 MJ)	12	4	3	11	4	6	1	6
5 (>21 MJ)	14	5	3	12	4	7	1	13

Discretionary choices should be mostly carbohydrate-rich foods or drinks which are concentrated sources of energy

STEP THREE: Design a daily eating plan

Not all food groups provide the same amount of energy per serve—see the table below. A serve of Grains, Dairy and alternatives, Meat, poultry, fish, eggs and alternatives or Discretionary choices will provide about 500-600 kJ but you would need about 2 serves of fruit and from 2 serves (for starch vegetables) to 5 serves (of green leafy vegetables) from the Vegetables group to provide about 500-600 kJ.

KILOJOULE CONTENT OF ONE SERVE OF FOOD GROUPS

FOOD GROUP OR ALLOWANCE CATEGORY	*(kJ)/ SERVE*	*FOOD GROUP OR ALLOWANCE CATEGORY*	*(kJ)/ SERVE*
Grains	500	Fruit	350
Vegetables • Green leafy & brassica	100	Dairy and alternatives	600
• Orange	150	Meat, poultry, fish, eggs and alternatives	600
• Other/salad	100	Oils and spreads	250
• Starchy	250	Discretionary choices	600
• Legumes/beans	350		

Design your daily menu by constructing a table similar to the ones presented here.

SAMPLE DAILY MENUS

Level 2 (13-14.5 MJ) Sample Daily Menu

MEAL	*FOOD*	*AMOUNT*	*SERVES*
Breakfast	Breakfast cereal Milk Eggs Tomatoes Mushrooms Baked beans Toast Polyunsaturated spread Tea	80 g 120 mLs 1 egg 75 g 75 g 75 g 2 slices 20 g 1 cup	2 Grains ½ Dairy/alts ½ Meats/alts 1 Vegetables 1 Vegetables 1 Vegetables 2 Grains ⅓ Oils & spreads allowance –
Morning snack	Fruit bread Banana Iced coffee	2 slices 1 banana 1 glass	2 Grains 1 Fruit 1 Dairy/alts
Lunch	Salad with Ham Cheese Tomato Avocado Lettuce Oil Dressing Bread Fruit crumble Yoghurt Tea	65 g 40 g 75 g 110 g 38 g 20 g 2 slices 150 g fruit 100 g 1 cup	1 Meat/alts 1 Dairy/alts 1 Vegetables 1½ Vegetables ½ Vegetables ½ Oils & spreads allowance 2 Grains 1 Fruit ½ Dairy/alts –
Afternoon snack	Nuts Cheese dip Coffee	30 g 40 g cheese 1 cup	1 Nuts/seeds 1 Dairy/alts –
Evening meal	Vegetable soup Steak Broccoli Carrots Rice Fruit salad Cream Tea Wine	1 cup 110 g cooked 75 g 75 g ½ cup 150 g 1 tablespoon 1 cup 1 glass (100 mL)	2 Vegetables 1½ Meats/alts 1 Vegetables 1 Vegetables 1 Grains 1 Fruit ½ Discretionary choice – ½ Discretionary choice
Evening snack	Coffee Wholemeal crackers Nut paste	– 3 30 g	– 1 Grains 1 Nuts/seeds

Additional water can be added as needed

SAMPLE DAILY MENUS

Level 4 (lower 17-19.5 MJ) Sample Daily Menu

MEAL	*FOOD*	*AMOUNT*	*SERVES*
Breakfast	Breakfast cereal	80 g	2 Grains
	Milk	120 mLs	½ Dairy/alts
	Eggs	1 egg	½ Meats/alts
	Tomatoes	75 g	1 Vegetables
	Mushrooms	75 g	1 Vegetables
	Baked beans	75 g	1 Vegetables
	Toast	2 slices	2 Grain
	Polyunsaturated spread	20 g	$^1/_3$ Oils & spreads allowance
	Tea	1 cup	–
Morning snack	Crumpets	2	2 Grains
	Jam	60 g	1 Discretionary choice
	Orange	1 banana	1 Fruit
	Chocolate milk	1 glass	1 Dairy/alts
Lunch	Pasta with Mince	1 cup	2 Grains
	Cheese	35 g	½ Meat/alts
	Tomato	20 g	½ Dairy/alts
	Lima Beans	75 g	1 Vegetables
	Lettuce	75 g	1 Vegetables
	Oil Dressing	20 g	½ Oils & spreads allowance
	Wholegrain Bread	2 slices	2 Grains
	Apple pie	150 g	1 Fruit
	Yoghurt	100 g	½ Dairy
	Tea	1 cup	–
Afternoon snack	Nuts and dried fruit mix	60 g	1 Nuts/seeds
	Yoghurt	100 mLs	½ Dairy/alts
	Soft drink	1 can	1 Discretionary choice
Evening meal	Tomato soup	1 cup	2 Vegetables
	Pork chop	110 g cooked	1½ Meats/alts
	Spinach	150 g	1 Vegetables
	Potatoes	½ cup	2 Vegetables
	Peaches	150 g	1 Fruit
	Ice cream	60 g	1 Discretionary choice
	Fruit Juice	1 glass	1 Fruit
Evening snack	Beer	600 mL	1 Discretionary choice
	Wholemeal crackers	3	1 Grains
	Nut paste	30 g	1 Nuts/seeds

Additional water can be added as needed

EAT SMART TO TRAIN HARD

The following advice is aimed at personnel involved in moderate physical training – for sport, recruit/initial training or pre-deployment training. Moderate training is 1 to 2 hours of intense or lengthy medium intensity physical exercise per day.

Daily food pattern category 3 (page 24) is suitable for most ADF physical training schedules.

- Training for jungle warfare and SASR have a higher requirement (see page 24)
- The pre-exercise meal should be completed at least 30 minutes prior to intense physical training. Select carbohydrate-rich foods rather than protein and fat rich foods. *This ensures good digestion and a supply of energy.*
- Drink fluids in moderate amounts frequently (e.g. 150 – 200 mL every 20 min, or more in hot weather up to about 1 L/h). See page 18 for details on fluid options. *This ensures optimum hydration.*
- Optimal recovery from exercise is important for training to be fully effective. You should drink fluids once exercise is completed and eat a snack containing both protein and carbohydrate within 15 minutes. Select 1 (female, small male) or 2 (large male) snack items from the table below. *This will replace fluids and electrolytes and muscle glycogen (the muscle's main source of energy).*
- Post-exercise food should be carbohydrate-rich and eaten two hours later.

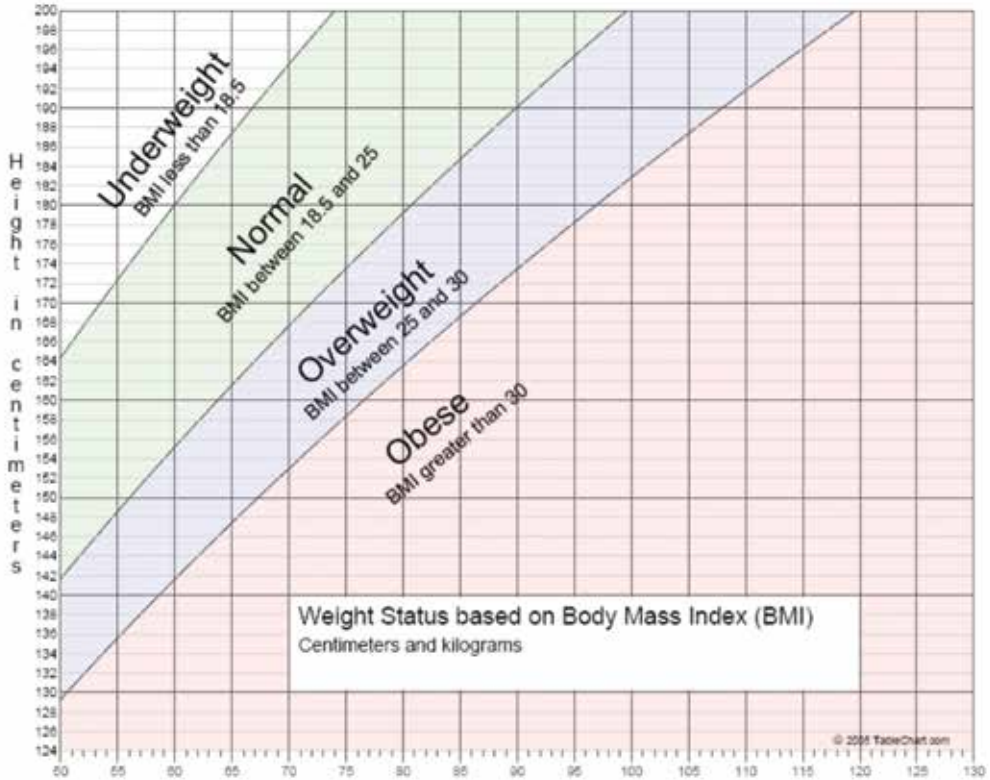
EXAMPLE SNACKS	SERVES
1 Sports drink or 2 cups cordial	2 Discretionary choices
1 carton Low-fat milk + 2 sweet biscuits	1 Dairy/alts + 1 Discretionary choice
3 Fresh fruit (medium size)	3 Fruit
1 cup thick soup +1 bread roll	1 Vegetables + 2 Grains
1 small yoghurt + muesli bar	1 Dairy/alts + 2 Discretionary choice
1 Peanut paste sandwich + 1 medium fruit	1 Meat/alts + 2 Grains + 1 Fruit
1 Muffin with jam or honey	2 Grains + 1 Dairy/alts
1½ cups noodles with sauce + grated cheese	2 Grains + 1 Dairy/alts

ACHIEVE A HEALTHY WEIGHT

What if I am overweight and wish to achieve a healthy weight?

How do I know if I am overweight or obese?

You can use the following graph as a rough guide to assess body size. It may not be appropriate for those who have a high muscle mass due to sport or physical activity.



What should I eat to lose weight/ achieve a healthy weight?

- If you are overweight and want to achieve a healthy weight, you need to consume less energy than you are using. As a first step, you should reduce the Discretionary foods and drinks in your diet.
- If this is not sufficient, you can also try the dietary pattern recommended for those in the activity category below yours which will provide about 2000 kJ less energy each day.
- If you are already in the lowest activity category (<13 MJ/day) cut out the Discretionary choices and try further reducing your Grains and starch Vegetables intake.
- Avoid diets that do not include foods from all the food groups.

What about physical activity?

Frequency and duration of physical activity affects the rate of weight loss, but weight loss will not occur unless energy intake is less than total energy expenditure. If you are already very active, then you will need to reduce your overall energy intake.

How much weight loss?

If you manage to lower your intake by 2,000 kJ this should result in weight loss of up to 0.5 kg per week or 1-4 kg per month.

How should I maintain weight loss?

Weight loss is most likely to be maintained where dietary and physical activity habits suit personal lifestyle and are healthy, acceptable and sustainable. Focus on the basic, healthy foods in the five food groups and try to avoid consuming Discretionary choices.

What if I am overweight and have a chronic disease or if I am obese?

If you are obese, or are overweight or obese with associated health problems such as cardiovascular disease or type 2 diabetes, then you should seek advice from your doctor or dietitian – a range of treatment options are available.

Deployment and Combat Rations

Choose wisely from allied nation's facilities

Select your meals according to the guide on page 24 — but be aware that you may be less active than during your pre-deployment training and may need less energy (kilojoules). Most personnel will be engaged in category 2 (13-14.5 kJ) activities.

Special considerations for deployment

Safe Water: All water must be regarded as contaminated unless medically cleared. If the water is dirty or cloudy, first filter using the Millbank Individual Filter. Once filtered, add the water sterilisation tablets and follow the directions on the tablets package. Wait 5 minutes and shake well, wait an additional 30 minutes so bacteria are killed before further use. Water may also be sterilised by boiling for a minimum of 5 minutes. Don't drink excessive amounts of water "on an empty stomach".

Extreme heat: In extreme heat, you may have increased sweat losses and changes in energy requirements. Increased sweat losses will increase the need for water, electrolytes (sodium, mainly) and calcium. The usual canteen menu should provide enough salt (sodium), so there should be no need to eat extra "salty" snacks. Make sure you have your three serves of dairy food a day to keep up your calcium intake.

When working many hours in the heat you may need to drink around 10 Litres of water per day. The preferred fluid is water. However, for sustained (more than 1 hour) moderate-level activities a sports-type drink can be beneficial. Ideally you should drink every 15-20 minutes when working in the heat (i.e. 0.7 to 1 Litre water per hour).

In very hot conditions individuals tend to reduce their physical activity, so energy requirements may be less than during winter. However, when working at a moderate level for several hours an additional energy supplement may be needed.

Extreme cold: For guard or mine clearance duty in the extreme cold, an additional energy supplement may be needed between meals. A thermos of hot soup and/or milk drink should be considered. (See other high-carbohydrate supplements in the table below). Hydration is still important as there is water loss from breath and sweat in cold dry conditions. You will need to drink 3 to 6 litres of water per day (preferably plain water).

Jack rations: As well as providing a morale boost, food from home can be a significant source of additional concentrated energy. Good choices include: dried fruits, trail and nut mixes, confectionary (e.g. Sports Beans, Mentos, Skittles, Spacefood Sticks) rich fruit cake, muesli bars (e.g. Carmans varieties, Ski D'Lite, Enervite cereal bars), muesli mixes (e.g. Morning Sun, Farm House, Natures Works), chocolate bars, beef jerky bars, tinned or pouched tuna meals, instant noodles and other well-packaged meal varieties (e.g. Heinz and Gourmet-to-go varieties).

Forward Operating Bases (FOB)

On patrol days, eat at least one meal at the FOB and consume as much of the Combat Ration Pack (CRP) during the patrol as is practical. In the absence of meal breaks, eat often when and where you can.

As it may be difficult to get all your energy needs satisfied on patrol days it is important for you to eat well during days of "light activity" particularly if you are working in cold conditions. The CRP provides between 14.5 and 17.3 MJ of energy but in winter your energy requirement may be up to 21 MJ per day, so 1 ration pack will be insufficient. Follow daily food pattern category 4 (page 24) during "light" activity days to make up for this additional energy. Supplements can assist in meeting your additional energy requirements (see below).

EXAMPLE CARBOHYDRATE-RICH SUPPLEMENTS	
Cup thick-vegetable soup + bread roll	1 ration chocolate bar + packet M&Ms
Sandwich + piece of fruit	1 CRP tinned fruit + 1 carton of low-fat fruit yoghurt
800 mL sports drink	1 CRP noodles + CRP tinned fruit
500 mL of fruit juice, soft drink, flavoured mineral water	1 slice rich fruit cake + 1 packet of CRP fruit grains
3 medium pieces of fruit	50 g fruit nut mix + CRP chocolate bar
1 carton low-fat UHT flavoured milk + 2 plain sweet biscuits	Cheese, vegemite on 4 crackers
2 sweet biscuits + cup hot Milo/chocolate	1 Sustagen drink + small packet nuts/dried fruit
Tub low-fat yoghurt + CRP muesli bar	

What about Combat Ration Packs (CRP)?

CRP should be eaten only when fresh foods are not available OR because of the specialised requirements of the operation or exercise. You need to eat all the CRP food items to meet your daily needs for carbohydrate, protein, fats, vitamins and minerals. CRP cannot sustain high levels of activity for more than 16 days. Before eating CRP again, you should eat fresh foods exclusively for at least half the time you spent eating the previous CRP.

CRP are not intended for use by personnel with any food allergy or special dietary requirements.

There are three types of combat rations, one designed for a group of five personnel (CR5M) and two designed for individuals (PR1M and CR1M). PRM1 is lighter in weight than CR1M so is more suitable for long-range patrolling but requires water for reconstituting the main meals, and so is less suitable in operational environments where safe drinking water cannot be obtained.

All three ration packs provide the necessary energy and nutrients for male ADF members engaged in moderately arduous physical work, and for female ADF members engaged in extremely vigorous work.

Emergency Rations are for emergency situations and not designed to deliver complete nutrition. The ER (Emergency Ration) is two 50 g blocks of chocolate, fortified with a range of vitamins and packed in a foil pouch. The EFR (Emergency Flying Ration) is a small 'survival' pack that is placed in aircraft for survivors of air crashes.

General issues for combat rations

Avoiding Food Poisoning: Do not open more containers of food than are necessary for a meal. Foods mixed with water, like the freeze dried meals, noodles and beverage powder, must be consumed once rehydrated. Unconsumed portion must be discarded.

Avoiding dehydration: It is essential that you drink plenty of water. Drink enough water to keep your urine clear.

Salt Intake: Extra salt may be needed when eating CRP and if working hard in hot environments / or during periods of heat acclimatisation when your salt losses are much greater. Extra salt can be taken dissolved in drinking water (not more than one (1) sachet for seven (7) litres of water), or sprinkled on food. Do not take extra salt unless you drink plenty of water. It is harmful to take extra salt without extra water.

NUTRITIONAL BREAKDOWN OF CR1M & PR1M

FOOD GROUP	NO	EXAMPLE ITEMS	ENERGY (kJ)	CARB (g)	PROT (g)	FAT (g)
Main meal – hot	1	Sausages & vegetables, BBQ chicken, BBQ beef	1200	20	25	15
Main meal – cold	2	Jerky bars (2), Tinned/pouched tuna, Ham & potato, Chicken & vegetables	1200	15	40	10
High starch	2	Tortilla bread, Instant beef noodles	1500	60	10	10
Bf Cereal	1	Fruit muesli mix (with milk powder)	1000	40	5	10
Dairy	2	Cheddar cheese, Sustagen. Condensed milk	1500	40	20	15
Fruit	2	Dried apricots, Sultanas, Tinned fruit, Fruit grains	1000	60	NS	NS
Confectionary	2	Mentos (fruit, mint), Sport beans, Fruitip pastilles, Skittles, Sports gel	1200	70	NS	NS
Biscuits	2	Tiny Teddy biscuits (2), Jam sandwich, Shortbread, Krispie, Shapes, vita wheat	1500	60	10	15
Muesli slice	2	Cereal bar, Ski D'lite muesli bar, Original muesli bar, Uncle Toby's	1100	40	5	5
High energy bars/mixes	1	Protein bar (Cookie, chocolate), M&Ms, Ration chocolate (original, new varieties), Honey-roasted nuts, Trail mix	1200	30	10	15
Beverages	2	Sports pouch (lemon/lime, berry, pineapple, Sports beverage (different flavours)	1800	100	NS	NS
Other items	15	Packet sugar (7 g), Cappuccino beverage, Chewing gum, Chilli sauce, Vegemite, Tomato sauce, Pepper, Tea bag, Matches, Plastic spoon, Rubber band, Toilet paper, Scouring pad, Plastic bag	650	20	5	5
Average total amount over all menus			**15000**	**560**	**132**	**100**

NOTE:

- *Nutritional breakdown is presented as the total for each food grouping. For example "Biscuits": 2 packets of Tiny Teddy biscuits plus 1 pkt jam sandwich biscuits provides 1500 kJ, 60 g carbohydrate etc. "High energy bars/ mixes": 1 ration Chocolate provides 1200 kJ, 30 g carbohydrate etc.*

ADDITIONAL INFORMATION

Mental Health fact Sheets can be found under Policy/documents on the DefWeb home page: Guides & Handbooks
http://intranet.defence.gov.au/vcdf/sites/DMH/comweb.asp?page=39103&Title=Fact%20Sheets

Health Directive No 271. Use of Dietary supplements and Complementary medicines by Australian Defence Force personnel (2003)

For background reference: HealthMan
http://defweb.cbr.defence.gov.au/home/documents/adfdocs/hlthman/hlthmanv20.htm

ADF Health Status report 2000
http://defweb.cbr.defence.gov.au/home/documents/adfdocs/HStat.htm

SAFETYMAN VOL 2 can be found on the DEFWEB home page policy/documents menu; Health policy Index, under the "s" tab. Or by running through the menu under "manuals" on the DEFWEB home page
http://intranet.defence.gov.au/vcdf/sites/ddcs/comweb.asp?page=49593#N

Health-e-Checkup can be accessed from the DEFWEBhome page \selecting VCDF (under "other groups") then use Health-e-checkup as the search term.
http://intranet.defence.gov.au/vcdf/sites/Health-e-checkup/default.asp?page=38850&ps=Health-e-Checkup

The Combat Fitness Handbook 2009 LWP-G 7-7-4 Section 15-4 can be located by searching the Doctrine-Online site (Access from the DEFWEB home page Online Tools ADEL (Army Doctrine Electronic Library)
http://intranet.defence.gov.au/armyweb/sites/Doctrine-nline/default.asp?page=243596&ps=Doctrine-Online

Australian Dietary Guidelines and Australian Guide to Healthy Eating can be viewed on the Government web site **http://www.eatforhealth.gov.au/** or from the National Health & Medical Research Council web pages:
From the home page **(http://www.nhmrc.gov.au/)** go the bottom of the page and select "nutrition" from the Your Health menu, then find the "Dietary Guidelines for all Australians" link.
http://www.nhmrc.gov.au/guidelines/publications/n29-n30-n31-n32-n33-n34

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