

A well balanced diet is important for fuelling the body for exercise. Nutritious food will:

- Assist with the preparation of physical activity and sport
- Assist with the recovery of physical exercise and sport
- Maintain a healthy weight and body composition
- Boost energy levels
- Support immune function
- Keep bowels healthy and regular
- Improve quality of life
- Help maintain concentration, improve memory and stabilise mood
- Protect the body from developing type 2 diabetes, heart disease, various types of cancer, high blood pressure and osteoporosis
- Maximise the benefits of training

## WHAT NUTRITION ISSUES DO ACTIVE WOMEN FACE?

### Achieving the 'ideal' body for activity, health & wellbeing

Active women need to be careful not to aspire to a weight or body composition that is unrealistic. Achieving an ideal body weight for health is paramount. This will optimise immune function, ensure normal menstrual function, provide positive subsequent effects on bone health and maximise positive psychological effects in relation to self-esteem and self-image.

### Meeting energy needs

The active woman has increased energy requirements. Carbohydrate rich foods are an important source of energy. These foods include grains and their products such as bread, breakfast cereal, rice and pasta, as well as fruit, starchy vegetables and legumes. Sub maximal energy intake will potentially result in fatigue, poor concentration, poor performance, inadequate nutrient intake and possibly a disruption in the reproductive cycle, which can have a negative impact on bone health and in extreme cases cause osteoporosis.

### How much carbohydrate?

This depends on the amount and intensity of training, other daily activities as well as body weight. To calculate your individual carbohydrate requirements please go to:

[www.ausport.gov.au/nutrition/factsheets/basics/carbohydrate\\_how\\_much](http://www.ausport.gov.au/nutrition/factsheets/basics/carbohydrate_how_much)



# WHAT NUTRIENTS ARE CRUCIAL?



## IRON

Iron plays a vital role in energy production by transporting oxygen in the blood and muscles.

### How much iron?

Girls 9-13 years	8mg per day
Girls 14-18 years	15mg per day
Women 19-50 years	18mg per day
Post-menopausal women	8mg per day
Pregnant women	27mg per day

### What are the best sources of iron?

Iron absorption is best from haem-iron sources. Absorption is not as efficient from non haem-iron sources. Serves provide 2mg:

Type of iron	Food source	Serve
Haem iron	Beef, cooked	70g
	Chicken, cooked	200g (minimum)
	Fish, cooked	150g (minimum)
Non haem iron	Eggs	2
	Spinach, cooked	65g
	Legumes	100g
	Tofu	100g
	Almonds	60g

### Do you have an iron deficiency?

A blood test which measures blood iron levels and stores is needed to diagnose iron deficiency anaemia. Early stage symptoms are fatigue and decreased athletic ability. Later stage symptoms are dizziness, shortness of breath and impaired immune function. Iron supplements (taken under medical direction) and an iron rich diet is used to treat anaemia. Women participating in heavy training schedules should have iron levels checked three to four times a year.

NOTE: Women are more at risk of developing anaemia than men due to iron being lost via the menstrual cycle.

## CALCIUM

Calcium plays an essential role in growth, muscle contraction and transmission of nerve impulses, and is important for the development of strong bones.

### How much calcium?

Girls 12-18 years	1300mg per day
Women 19-50 years	1000mg per day
Post-menopausal women	1300mg per day
Pregnant/lactating women	1000mg per day

### How much calcium is in food?

The following foods provide approximately 300mg of calcium:

1 cup of milk	1/3 cup (100g) of salmon or sardines with bones
200g yoghurt	100g almonds with skin
40g hard cheese	1 cup cooked spinach provides 100mg
1/2 cup ricotta cheese	
1 cup calcium fortified soy drink	

NOTE: Low or reduced fat dairy products are excellent sources of calcium especially for those watching their weight or fat intake.

## MAXIMISING YOUR INTAKE



### Foods that increase iron absorption

Vitamin C rich foods or combining haem iron with non-haem iron sources

### Foods that decrease iron absorption



### Foods that decrease calcium absorption

Excessive caffeine, unprocessed bran, Oxalate (found in spinach and rhubarb) and alcohol



## WHAT ABOUT VEGETARIAN DIETS?

Active women who are vegetarians need to put effort into planning their daily nutrient requirements. If not planned correctly a vegetarian diet may be detrimental to both performance and health. Important considerations include:

### Energy

The vegetarian diet, if high in vegetable, fruit and high fibre foods, is potentially low in kilojoules, yet nutrient dense. This makes it difficult to meet energy requirements. Therefore, it is important to plan frequent meals and snacks to avoid discomfort from overfilling with large meals. Sources of energy include: nuts and seeds, dried fruit, rice and pasta, and dairy products (for lacto and lacto-ovo vegetarians).

### Protein

Lacto and lacto-ovo vegetarians can meet protein needs by regular inclusion of low fat dairy products and by eating a variety of plant foods to obtain all the essential amino acids. Protein is found in legumes, nuts, seeds, soy products, wholegrain cereals, eggs and dairy products.

### Vitamins

Foods such as cereals, grains, nuts, seeds, fruit, vegetables and legumes are rich in many essential vitamins such as the B-group vitamins, which are necessary for optimal athletic performance. Vitamin B12 however is not found in many plant foods and vegan women must choose vitamin B12 fortified foods including soy products. Lacto or lacto-ovo vegetarians can obtain adequate B12 through dairy products and eggs.



### MINERALS

#### Calcium

Most vegetarian women can meet calcium requirements through a regular consumption of low fat dairy foods, however vegans risk inadequate intake. Non-dairy sources of calcium include fortified soy drinks, tofu, nuts, seeds and dark green vegetables.

#### Iron

Vegetarians are at risk of becoming anaemic. Sources of iron include wholegrain and fortified cereals, rice, pasta, bread, green leafy vegetables, dried fruit, legumes and tofu. To maximise absorption it is important to consume the listed foods with a source of vitamin C such as citrus fruit, berries, tomato, capsicum and melons.

#### Zinc

To provide the body with zinc in a vegetarian's diet sources include legumes, wholegrain cereals and nuts.

## FOR FURTHER INFORMATION



### Sports Medicine Australia

[www.sma.org.au](http://www.sma.org.au) • [www.smartplay.com.au](http://www.smartplay.com.au)  
03 9674 8777

### Sports Dietitians Australia

[www.sportsdietitians.com.au](http://www.sportsdietitians.com.au)

### Australian Dietary Guidelines

[www.eatforhealth.gov.au/guideines](http://www.eatforhealth.gov.au/guideines)

### Dietitians Association of Australia

[www.daa.asn.au](http://www.daa.asn.au)

### References

For a full list of references, contact Sports Medicine Australia.

### Acknowledgments

Authored by Joanna Shinewell, Complete Lifestyle Management

Sports Medicine Australia wishes to thank the sports medicine professionals and Active Women in Sports Project partners who provided expert feedback in the development of this factsheet.

This factsheet has been developed with support from the Victorian Department of Transport, Planning and Local Infrastructure.

### Disclaimer

The information contained in this fact sheet is in the nature of general comment only, and neither purports, nor is intended, to be advice on a particular matter. No reader should act on the basis of anything contained in this fact sheet without seeking independent professional medical advice. No responsibility or liability whatsoever can be accepted by Sports Medicine Australia or the authors for any loss, damage or injury that may arise from any persons acting on any statement or information contained in this fact sheet and all such liabilities are expressly disclaimed.

# NUTRITION FOR ACTIVE WOMEN

