Good nutrition

Protein, fat and carbohydrates come from staple foods.
Proteins provide the building blocks for your tissues.
Fats & carbohydrates supply the fuel for your body
to generate and store energy.

Vitamins and minerals are necessary in small amounts
for your metabolism to function normally.
Remember that energy comes from major nutrients, not vitamins,
so if you feel tired & run-down, more vitamins
are not likely to be the answer.

Even on a low-chemical diet you should be able to meet your protein and energy needs. If you begin losing weight, you're probably not getting enough kilojoules (calories) and need to increase your intake of staple foods. Ask your dietitian for help if necessary.

HEALTHY EATING GUIDE

Dairy/soy alternatives:

- *add an extra serve of* MEAT OR ALTERNATIVE PROTEIN FOODS *per day.*
- *use at least 3 cups* CALCIUM ENRICHED RICE DRINK *or* CALCIUM SUPPLEMENT *(page 87).*

Meat alternatives:

- *use legumes (lentils, beans, peas), tofu, eggs, nuts & seeds (as tolerated).*

LOW CHEMICAL SOURCES OF MAJOR NUTRIENTS

NUTRIENT	FOOD SOURCES
Protein	Meat, fish, poultry, eggs, dairy foods
Fat	Oils, margarine, meat, eggs, dairy foods
Carbohydrates	Rice, pasta, potato, bread, cereals, white sugar
Fibre	Wholegrain cereals, wholegrain bread, cabbage, Brussels sprouts, lentils, beans, pears
Essential fatty acids (omega 3 fats)	Canola, sunflower and safflower oils and margarine, flaxseed oil, egg yolk
Natural antoxidants	Foods containing Vitamins A & C (below), Vitamin E (canola, sunflower and safflower oils and margarine)
Vitamin A	Dairy foods, eggs, margarine, fish, lettuce, Brussels sprouts, beans, cabbage
Vitamin B1	Breads (brown and white), brown rice, wholemeal pasta, fortified breakfast cereals
Vitamin B12	Meat, chicken, fish, eggs, milk
Other B vitamins	Dairy products, meat, chicken, fish, lentils, wholegrain cereals
Vitamin C	Potato, parsley, Brussels sprouts, cabbage, peas, swedes (rutabaga)
Folic acid	Brussels sprouts, lettuce, cabbage, lentils, pulses, wholegrain cereals, fortified breakfast cereals
Iron	Meat, chicken, fish, eggs, lentils, wholegrain cereals
Calcium	Dairy foods, calcium fortified soy products, calcium fortified rice drinks







CALCIUM & VITAMIN D

Although bone density is strongly influenced by genetic factors, maximizing peak bone mass during growth and development in childhood is very important for achieving good bone strength that will continue throughout life. Growing and maintaining healthy bones requires calcium, Vitamin D and regular excercise.

Calcium

Calcium is stored in your bones. Bone mass increases 7-fold from birth to puberty, another 3-fold during adolescence, and then remains stable up to the age of about 50 in men and until menopause in women, after which it begins to decline. There is a balance between calcium input (intestinal absorption from dietary intake) and output (through urine, sweat, pregnancy, breast milk).

CALCIUM ABSORPTION peaks in infancy (about 60% of intake) and rises again in early puberty (about 34%). It remains steady (about 25%) in young adults and declines gradually in men after the age of 50, and more rapidly in women after menopause. Absorption is promoted by vitamin D, and can be impaired by foods containing oxalic acid (e.g. spinach, rhubarb, beans) or phytic acid (eg. seeds, nuts, grains, soy).

CALCIUM IS EXCRETED in the urine via the kidneys. More calcium is lost when you pass more urine (eg. due to alcohol, caffeine, excess salt) and with a high protein diet.

CALCIUM INTAKE varies (a lot) and should be averaged over months, not days or weeks. A few weeks of low calcium intake is not harmful. The body responds to a low calcium intake by absorbing dietary calcium more efficiently.

CALCIUM REQUIREMENTS change throughout life. Normal adult requirements are about 1,000 – 1,300 mg per day. An adult diet without dairy foods or supplements contains about 300 mg of calcium, which is approximately one-quarter of the daily requirement.

During PREGNANCY the growing baby's needs are met by an increase in the efficiency of maternal calcium absorption, so dietary intake does not need to change. During LACTATION, the calcium in breast milk is hormonally drawn from the mother's bone stores, causing a temporary loss of bone density. Increased calcium intake does not prevent this, but natural recovery is quite rapid after weaning.

CALCIUM REQUIREMENTS

Age group	Recommended daily intake
0 – 6 months	210 mg
7 – 12 months	270 mg
1 – 3 years	500 mg
4 – 8 years	700 mg
9 – 13 years	1000 mg
14 – 18 years	1300 mg
19 – 50 years	1000 mg
> 50 years	1300 mg
Pregnancy	1000 mg
Lactation	1000 mg

Excercise

In childhood, weight bearing exercise (running, jumping, dancing) has a positive influence on bone strength, especially for girls during late childhood and teen years. In adult life, muscle-building exercise (with weights) and weight-bearing exercise (walking, running) are best for maintaining bone strength. Swimming is not a weight-bearing exercise and is not helpful for bone strength.

Vitamin D

Vitamin D is responsible for maintaining calcium balance. It regulates both the efficiency of calcium absorption and the movement of calcium into and out of bone storage. It occurs in two forms: D2 is found in a limited range of foods (fortified margarine, fatty fish, eggs); D3 is produced by the action of sunlight on the skin.
It is almost impossible to get enough vitamin D from diet alone, so regular sun exposure is essential for bone health.

RECOMMENDED SUN EXPOSURE LEVELS FOR PEOPLE WITH FAIR SKIN IN AUSTRALIA

Region	Dec–Jan 10am or 2pm	July–Aug 10am or 2pm
Cairns/Townsville	5-7 mins	9-13 mins
Brisbane/Perth	5-7 mins	15-25 mins
Sydney/Adelaide	5-8 mins	26-38 mins
Melbourne	6-8 mins	32-52 mins
Hobart	7-9 mins	40-47 mins

Dose is important – the stronger the sun, the less required, but the darker a person's skin the more they need. Sunscreens, clothing, glass and plastic shielding all prevent Vitamin D production in the skin. People who work for long hours indoors, nightshift workers, and those with dress codes or handicaps that limit their ability to get sufficient daily sun exposure are at risk of vitamin D deficiency, osteoporosis and fractures. Children can develop rickets. In the absence of sun exposure, supplementation with 1000 IU (25 micrograms) of cholecalciferol (D3) is required daily for both children and adults.

CALCIUM CONTENT OF FOODS

FOOD	AMOUNT	CALCIUM (mg)
Milk	1 cup, 250ml	300
Low fat milk	200ml	300
Yoghurt	200g, natural or plain	300
Ricotta	1/2 cup, 125ml	300
Soy drink, fortified	250ml	300
Rice drink, fortified	250ml	300
Bok Choy, cooked	1 cup	250
Cheese	30g	200
Cottage cheese	1 cup	200
Ice cream,	1 cup	200
Spinach, cooked	1 cup	200
Almonds or walnuts	1/2 cup	150
Tinned salmon, with bones	100g	150
English muffin,	1 whole	150
Tofu (soy bean curd)	1/2 cup	150
Broccoli, cooked	100g	100
Tahini (ground sesame seeds)	1 tablespoon	100
Oysters, raw	1/2 cup	100
Beans, cooked	1 cup	100
Butternut pumpkin	1 cup	80
Blackberries	1 cup	50
Soy drink, unfortified	1 cup	50
Cabbage or carrots, cooked	1 cup	50
Cashews	1 cup	50
Egg	1 whole	25
Baked beans	1/4 cup, 50g	25
Orange juice	1 cup	25
Bread	1 sandwich thickness slice	25
Meat, chicken or fish	60g	10
Tuna, tinned in oil	90g	10

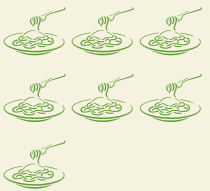
RECOMMENDED DAILY INTAKE — approximate minimum daily serves

INFANTS & CHILDREN								
FOOD GROUP	SERVING SIZE		INFANTS *0–6 mths*	INFANTS *7–12 mths*	INFANTS *1–2 years*	TODDLERS *2–3 years*	CHILDREN *3–7 years*	CHILDREN *8–18 years*
Cereals, bread, rice, pasta, noodles 	1 slice 1/2 1/2 2 1/2 cup 1/2 cup 1 cup 2 1/4 cup	bread bread roll bagel rice cakes cooked pasta, noodles cooked rice, porridge commercial cereal weetbix muesli		0–4 serves				
Vegetables 	1/2 cup 1/2 cup 1 cup 1 small	cooked vegetables legumes (lentils, beans, peas) salad vegetables potato		0–2 serves				
Fruit 	1 medium 2 small 1 small slice 1 cup 1.5 tbsp 1/2 cup	piece pieces melon canned fruit dried fruit juice		0–1 serve				
Milk, yoghurt, soy, cheese 	1 cup 1 cup 1 cup	cow, goat, sheep milk fortified soy milk fortified rice drink + 1/3 serve meat, chicken, fish or legumes etc.	500-1000 mL breast milk or formula	600-1200 mL breast milk or formula (decrease as solid intake increases)				

RECOMMENDED DAILY INTAKE — continued

INFANTS & CHILDREN								
FOOD GROUP	SERVING SIZE		INFANTS *0–6 mths*	INFANTS *7–12 mths*	INFANTS *1–2 years*	TODDLERS *2–3 years*	CHILDREN *3–7 years*	CHILDREN *8–18 years*
Milk, yoghurt, soy, cheese 	250 ml 30 g 200 g 200 ml	formula cheese natural yoghurt custard	500-1000 mL breast milk or formula	600-1200 mL breast milk or formula (decrease as solid intake increases)				
Meat, fish, poultry, eggs, or alternatives 	65 g 1/3 cup 2 slices 80 g 1/2 cup 10 1	cooked meat, poultry lean mince roast meat, ham cooked fish legumes (lentils, beans, peas, tofu) nuts egg		0–1/2 serve	 **1/2 serve**	 **1 serve**	 **1 serve**	 **1 serve**
Fats, oils 	1 teaspoon 1 teaspoon 1 teaspoon	margarine with added vitamin A butter oil		0–3 serves	 **3 serves**	 **3 serves**	 **4 serves**	 **4 serves**
Optional*  *each item is 5-10% of total daily energy	2 15 g 200 ml 1 scoop 1/2 1/4 1 small 15 g 1/4	sweet/savoury biscuits lollies. chocolate fruit juice, soft drink icecream Ice block magnum McDonalds chips potato crisps donut						

RECOMMENDED DAILY INTAKE — approximate minimum daily serves

ADULTS						
FOOD GROUP	SERVING SIZE		MALE *19+*	FEMALE *19+*	PREGNANT	LACTATION
Cereals, bread, rice, pasta, noodles 	1 slice 1/2 1/2 2 1/2 cup 1/2 cup 1 cup 2 1/4 cup	bread bread roll bagel rice cakes cooked pasta, noodles cooked rice, porridge commercial cereal weetbix muesli				
Vegetables 	1/2 cup 1/2 cup 1 cup 1 small	cooked vegetables legumes (lentils, beans, peas) salad vegetables potato				
Fruit 	1 medium 2 small 1 small slice 1 cup 1.5 T 1/2 cup	piece pieces melon canned fruit dried fruit juice				
Milk, yoghurt, soy, cheese 	1 cup 1 cup 1 cup	cow, goat, sheep milk fortified soy milk fortified rice drink + 1/3 serve meat, fish, chicken or legumes etc				

RECOMMENDED DAILY INTAKE — continued

ADULTS						
FOOD GROUP	SERVING SIZE		MALE *19+*	FEMALE *19+*	PREGNANT	LACTATION
Milk, yoghurt, soy, cheese 	250 ml 30 g 200 g 200 ml	milk cheese natural yoghurt custard				
Meat, fish, poultry, eggs, or alternatives 	65 g 1/3 cup 2 slices 80 g 1/3 cup 10 1	cooked meat, poultry lean mince roast meat, ham cooked fish legumes (lentils, beans, peas, tofu) nuts egg	1 serve	1 serve	1.5 serves	2 serves
Fats, oils 	1 teaspoon 1 teaspoon 1 teaspoon	margarine with added vitamin A butter oil	4 serves	4 serves	4 serves	4 serves
Optional*  *each item is 5-10% of total daily energy	2 15g 20 0 ml 1 scoop 1/2 1/4 1 small 15 g 1/4	sweet/savoury biscuits lollies. chocolate fruit juice, soft drink icecream Ice block magnum McDonalds chips potato crisps donut				

Nutritional supplements

CATEGORY	SUITABLE PRODUCTS	GUIDELINES	AVOID
MULTIVITAMINS Multivitamin supplements are only necessary if key food groups (or suitable alternatives) are not eaten in recommended amounts. On the strict elimination diet, vitamin A intake can be low if there is limited intake of fortified margarine, green vegetables or eggs. AVOID taking products with high dose vitamin A in pregnancy.	 	Take one supplement daily for adults and about 3 per week for children if the intake of fruit and vegetables is restricted to less than the recommended amounts. Energy comes from major nutrients, not vitamins. If you feel tired and run down more vitamins are not likely to be the answer. Multivitamin supplements are only necessary if key food groups (or suitable alternatives) are not eaten in recommended amounts.	Products containing: • megadoses • PABA • colours, flavours • herbs • bioflavonoids, rutin, kelp or hesperidin 

WARNING — When taken in excess of 8000 IU vitamin A can cause birth defects.

If you are pregnant, or considering becoming pregnant, do not take vitamin A supplements without consulting your doctor or pharmacist.

* The recommended adult daily amount of vitamin A from all sources is 2500 IU.

	CONTAINS MULTIVITAMINS	INFANTS up to 1 year	CHILDREN 1–7 years	CHILDREN 7–14 years	ADULTS
INFANTS & CHILDREN					
Paediatric Seravit	high in calcium	8-10 g/day	15 g/day	20 g/day	
Orthoplex Children's Formula	low in iron & calcium, no vitamin D and iodine, high in vitamin B1, B2, B3, B5, B6, B12,E, B and carotene	2 g/day	2-4 g/day	4-6 g/day	
CHILDREN & ADULTS					
Amcal One–a–Day	contains all common vitamins	1/4 tablet/day	1/2 tablet/day	1 tablet/day	1 tablet/day
Cenovis Multivitamin and Minerals *Natures Own Multivitamin & Minerals*	no folate, 1/2 adult RDI for vitamin A*	1/4 tablet/day	1/2 tablet/day	1 tablet/day	1 tablet/day
Amcal Multi Vitamins and Minerals	no vitamin A & D	1/4 tablet/day	1/2 tablet/day	1 tablet/day	1 tablet/day
Vitaminorum	no vitamin A & D				
Herron Multi Vitamin	no vitamin A	1/4 tablet/day	1/2 tablet/day	1 tablet/day	1 tablet/day
Myadec Capsules	no vitamin A & folate	1/4 tablet/day	1/2 tablet/day	1 tablet/day	1 tablet/day
Blackmores Multivitamin	high in vitamin B1, B2, B3, B5, B6, B12, E, sustained release multi adult RDI for vitamin A*				1 tablet/day
PREGNANCY & LACTATION					
Elevit	no vitamin A, high in iron				1 tablet/day
FABFOL plus	no vitamin A & E	1/4 tablet/day	1/2 tablet/day	1 tablet/day	1 tablet/day

NUTRITIONAL SUPPLEMENTS

CATEGORY	SUITABLE PRODUCTS	GUIDELINES	AVOID
ENERGY SUPPLEMENTS 	**Carbohydrate** ***Poly Joule Powder*** (maltodextrin, gluten-free) ***Glucodin Powder*** (powdered glucose) **Milk-based** ***Pediasure Powder*** Vanilla (gluten-free) ***Ensure Powder*** Vanilla ***Sustagen Sport*** Vanilla	Proteins from staple foods provide the building blocks for your tissues, while fats & carbohydrates supply the fuel to generate and store energy**.** Even on the strict elimination diet you should be able to meet your protein and energy needs. If you are losing weight on your elimination diet you're probably not getting enough kilojoules (calories) and need to increase your intake of staple foods. Ask your dietitian for help if necessary. 	Protein-energy drinks and energy bars marketed for fitness training and bodybuilding may contain high levels of natural amines, glutamate, herbs and botanical extracts (containing salicylates) as well as added caffeine, gluten, flavouring, colouring and/or preservative. Whey protein is milk-based and may contain other food allergens, natural chemicals and/or flavourings.
VITAMIN C 	***Bioglan Cal C*** ***Herb Valley*** vitamin C ***Golden Glow*** Calcium Ascorbate (contains gluten) ***Melrose*** Calcium Ascorbate ***Melrose*** Sodium Ascorbate Ascorbic acid (vitamin C) powders are useful to add to syrups and jams as a preservative. 	**VITAMIN C REQUIREMENTS** Age group — Recommended daily intake Infants — 30 mg 1–8 years — 35 mg 9–18 years — 40 mg Adults — 45 mg Pregnancy — 60 mg Lactation — 85 mg 	Megadose intake of vitamin C (over 600 mg/day) may be harmful for some people. 

NUTRITIONAL SUPPLEMENTS

CATEGORY	SUITABLE PRODUCTS	GUIDELINES	AVOID
CALCIUM  See CALCIUM & VITAMIN D on pages 94-95	***Caltrate*** (600 mg) www.wyethconsumer.com.au/caltrate/ ***Herron*** Calcium Plus with Magnesium (600 mg) ***FABCAL*** 1-2-3 (400 mg) ***Golden Glow*** Calcium & Magnesium Chelate (250 mg) ***OsteVit-D & Calcium*** Key Pharmaceuticals (600 mg calcium & 500 IU vitamin D_3) www.keypharm.com.au	Calcium supplements can benefit bone density, but the effects are not sustained if you stop. Regular weight-bearing exercises and vitamin D (via sun exposure and/or supplements) are critical for maintaining bone health. 	Herbal calcium supplements. 
VITAMIN D 	Most brands are suitable. ***Kirkman's*** Hypoallergenic Calcium Powder with vitamin D http://www.kirkmanlabs.com/products/ product_index.html ***OsteVit-D*** Key Pharmaceuticals (1000 mg vitamin D_3) 	Vitamin D_3 is required DAILY for healthy bones so a supplement is necessary if there is no sun exposure. Vitamin D levels should be checked if you do not have regular sun exposure or you use sunscreen.	
FOLIC ACID	***Alphapharm Megafol*** ***Golden Glow*** Folic Acid ***I-Folic*** 	Folic acid supplements should be started before pregnancy and taken throughout to reduce the risk of foetal abnormality.	Herbal preparations. 
IRON	***FAB*** Iron & Vitamin B Complex (5 mg elemental iron) ***FGF Abbott*** (80 mg of elemental iron but contains lactose and gluten)	Iron requirements vary from 5mg/day in infancy to 10 mg/day in older children and adult men. Women need double the intake of men while menstruating, and almost three times as much when pregnant.	Herbal preparations. 

CALCIUM SUPPLEMENTS

Calcium type	Available calcium
Calcium carbonate	40% elemental calcium
Calcium citrate	24% elemental calcium
Calcium phosphate	23% elemental calcium
Calcium lactate	13% elemental calcium
Calcium gluconate	9% elemental calcium