



Nuts and seeds,
pulses and tofu
products are good
plant sources
of protein.

Going vego without giving up meat

A healthy vegetarian-style diet needn't be all lentils and lettuce. PAULA GOODYER tells how you can have your steak and eat it ... and your fish and chicken, too

Apart from their star status, Woody Harrelson, Orlando Bloom, Natalie Portman and Reese Witherspoon all have something in common: when they sit down to dinner tonight, they're unlikely to be eating meat. All are vegetarians, and their healthy good looks challenge any ideas that swapping bacon for beans turns you pale and weedy.

In fact, there's no shortage of evidence that vegetarians are often in better shape than omnivores. In one of the largest comparisons of the health of vegetarians with that of meat eaters — a UK study of 57,000 people in the late 90s known as the Oxford Study — it was found that vegetarians had 25 per cent less heart disease and cancer, enjoyed lower blood pressure and were slimmer.

No one knows whether you have to forsake meat entirely to get the same benefits as with a vegetarian diet. Sydney-based dietitian Sue Radd, herself a vegetarian and co-author of *Eat to Live* (Hodder), a book explaining how plant hormones protect against disease, says there have been no studies directly comparing the health of people who eat only small amounts of flesh foods with that of total vegetarians.

What is clear, she says, is most nutrition experts agree that, for long-term good health, the best choice is a plant-based diet, meaning most of the food that goes on your plate should come from plants, not animals. One way of eating that fits this description is the Mediterranean diet — not the cream-based pasta dishes or tiramisu on offer at the local Italian, but the traditional cuisine of countries like Italy and Greece that's

characterised by big helpings of vegetables, fruit, grains, legumes and nuts, with some fish and only small amounts of meat and dairy products. Studies show this style of eating offers similar benefits to those of vegetarian diets, including less heart disease and protection against some cancers, says Radd.

And if that's not enough to get you tossing a Nicoise salad, this diet also seems to slow skin ageing: research at Melbourne's Monash University has linked a high intake of vegetables, fruit, olive oil and oily fish to fewer wrinkles, while full-fat milk, red meat and sugary foods appeared to increase skin damage.

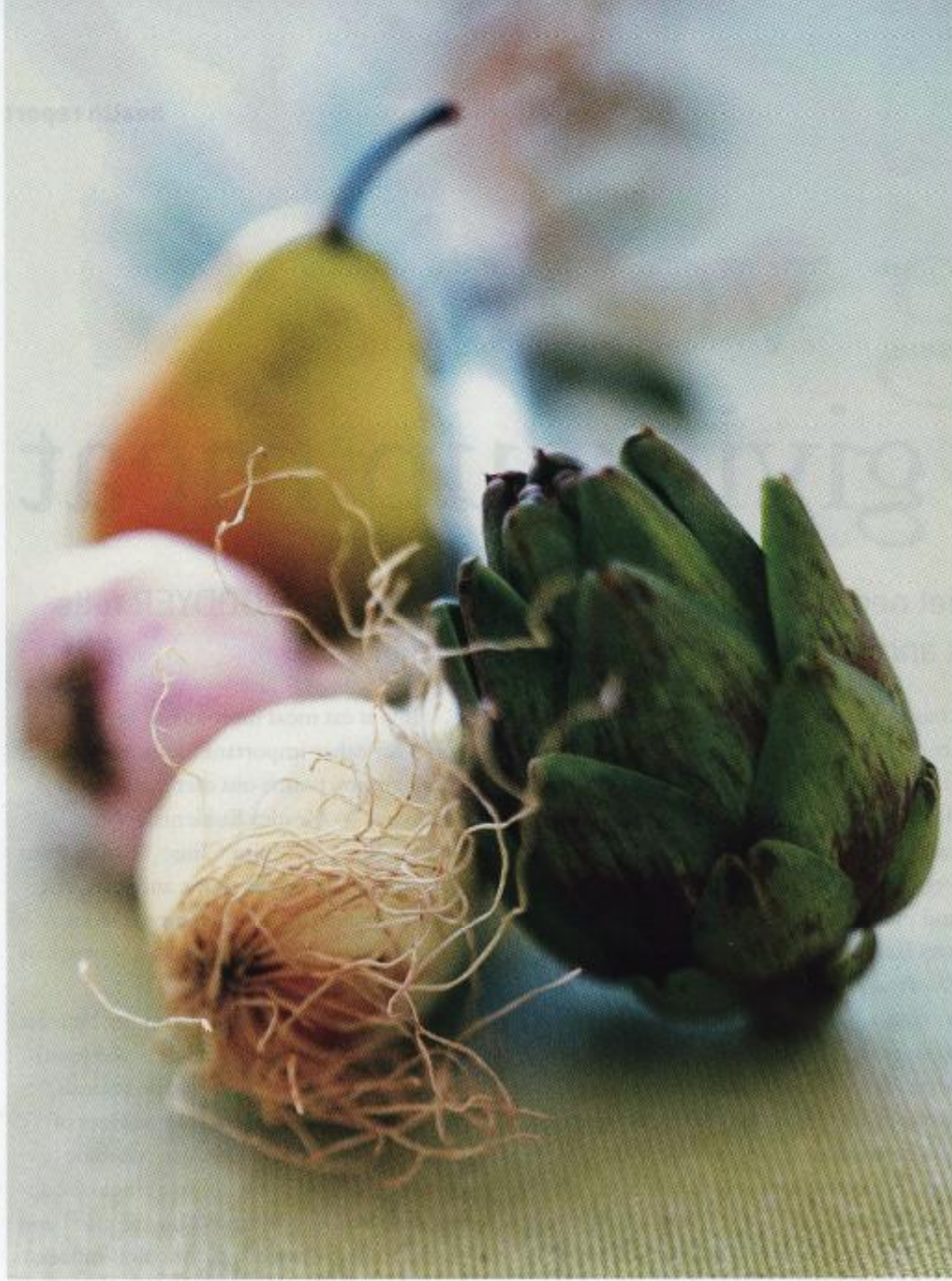
Though generous helpings of meat might still dominate the plates on many Australian tables, that's not how health authorities want us to eat. A piece of meat no larger than a pack of cards is the advice of the Commonwealth Government's *Australian Guide to Healthy Eating*, which recommends only 65g to 100g servings of cooked meat or chicken, or 80g to 120g of cooked fish. As for how often we should eat red meat, the latest *Dietary Guidelines for Australians* suggests just three to four times a week.

If you eat meat more often, there's less room for other important foods such as fish and legumes, points out dietitian — and omnivore — Monica Kubizniak of the Sydney Bone and Joint Clinic. "Eating meat you are getting protein, zinc and iron, but you're not getting as much omega-3 fat as you would if you included more servings of fish," Kubizniak says.

"You're also missing out on the benefits of legumes like beans, chickpeas and lentils, which can be the basis of meatless meals," she adds. "Besides being plant sources of iron and zinc, these foods also combine protein and carbohydrates in a single food, making them very filling. They've also been found to help protect against colon cancer, breast cancer, heart disease and diabetes."

There's no denying lean red meat has real nutritional benefits. Its high protein content makes you feel full for longer, making it helpful for losing weight, and it's a good source of selenium, a mineral that appears to help protect against cancer. The downside is that fatter cuts are high in saturated fat; and meat, especially processed meats such as sausages and salami, has been increasingly linked to a higher risk of some cancers. ➤

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In 2005, two major studies reported a link to colon cancer. In a study of 150,000 Americans, the American Cancer Society found that people eating the most processed meat — hot dogs, ham, sausages, bacon and salami — had twice the risk of bowel cancer compared with those who ate the least, while those who ate the most red meat had a 40 per cent higher risk. People who ate the most poultry or fish had a lower risk.

Then came the results of a study of more than half a million people across Europe, co-ordinated by the World Health Organization, which found that those who ate 160g or more of beef, lamb, veal and pork daily had a 35 per cent higher risk of bowel cancer, while eating 80g of fish every day was linked to a 30 per cent lower risk.

Soon after, a study of 100,000 people by the Cancer Research Centre at the University of Hawaii linked processed and red meat to a higher risk of pancreatic cancer, but there was no increased risk linked to eating poultry, fish or dairy products. Eating at least five serves of vegetables daily, on the other hand, especially onions, garlic, beans, orange vegetables, corn and dark leafy greens, reduced the risk of pancreatic cancer by 50 per cent compared with people who ate two servings or less per day.

It's not clear what's behind the link between meat and cancer. Is there something in meat that contributes to cancer? Or do larger servings of meat leave less room for the plant foods that help prevent it? With processed meat, one suspect is thought to be the use of preservatives called nitrates, which can be converted to carcinogens in the gut. With other meat, the problem may be how we cook it: cooking meat (and poultry and fish) at high temperatures, especially over open flames, can produce potentially carcinogenic chemicals called heterocyclic amines (HCAs), which can be absorbed when you eat, according to the American Institute for Cancer Research.

Other theories, suggests the Cancer Council of NSW, include the effects of meat's high iron content. While iron is essential, too much can cause free radical damage to the DNA of cells, making them vulnerable to cancer.

HEALTHIER WAYS TO EAT AND COOK MEAT

- Choose lean meat or skinless poultry, and limit sausages, hot dogs, salami, bacon and ham. Apart from any cancer link, they're high in saturated fat, which is a) bad news for arteries and b) contributes to overweight, a risk factor for cancer. Unlike lean meat, processed meats are also lower in zinc and iron.
- Roasting, baking, stewing or poaching meat (or poultry or fish) may be healthier than barbecuing, grilling or frying. Cooking at high temperatures can produce potentially carcinogenic chemicals called heterocyclic amines (HCAs), according to the American Institute for Cancer Research. Meat that's charred may contain HCAs.

- Use the leanest meat or poultry for barbecuing, as fat dripping onto the fire can send smoke and flames back to the food, dumping on it other carcinogens called polycyclic aromatic hydrocarbons (PCAs).

- Marinate meat. This can reduce HCAs by up to 90 per cent. The American Institute for Cancer Research recommends oil-free marinades with acidic ingredients like citrus juice or balsamic vinegar.

- Sprinkle rosemary or oregano on meat, chicken or fish before cooking at high temperatures, as this may reduce the formation of HCAs, according to research at Kansas State University.

Meat's fat content may boost production of bile acid, too, which can fuel cell growth in the lining of the colon — a problem if there are any malignant cells around. Omega-3 fatty acids in fish, on the other hand, seem to do the opposite, reducing cell growth.

Another theory is that when undigested protein from meat arrives in your colon, it's eaten up by bacteria which then produce ammonia — a potential carcinogen. This is where a big salad or stirfried vegetables with starchy food such as rice or noodles come to the rescue, encouraging the growth of other bacteria that help mop up the ammonia.

That said, not all meatless meals are healthy. Some vegetarian foods — think quiche or cheese croissants — are high in saturated fat, and there are plenty of vegetarians who don't know how to replace the protein and minerals lost from skipping meat by eating legumes and nuts instead. People who opt for a vegan diet — meaning not even dairy products or eggs are allowed — can also become low in calcium and vitamin B₁₂, found in food from animal sources such as dairy foods and meat.

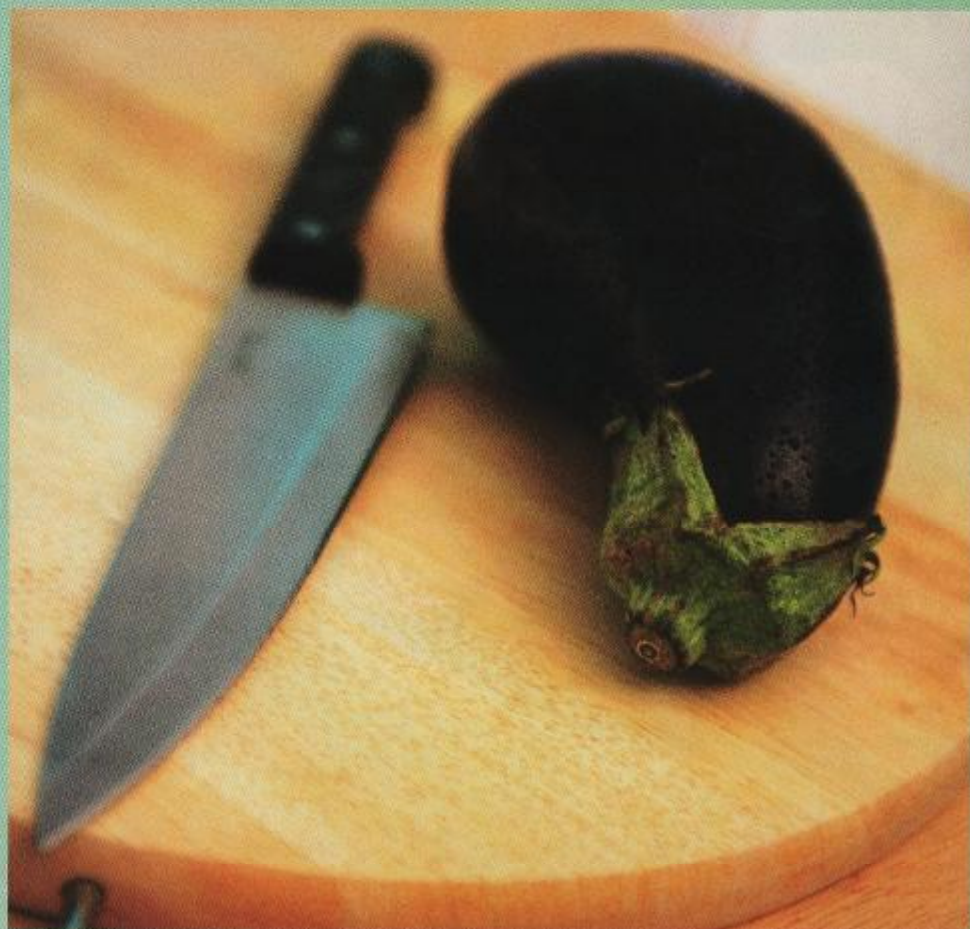
Because it's important to get enough protein, iron and zinc while reducing the amount of meat in your diet, Radd suggests eating legume-based dishes two to three times a week — but have them daily if you choose to eat no meat, poultry or fish at all.

"If you want to include flesh foods, have fish twice a week — it's high in omega-3s but low in saturated fat — and include a serve of chicken. Compared with red meat, most research shows no link between poultry and cancer.

"But avoid processed meats. If you want to have them, eat them only very occasionally, such as at a party. The risk appears to be stronger than with other meats," she warns.

MORE NUTRIENTS FOR YOUR MONEY

Teaming the right foods together can deliver extra health benefits. Skip the fat-free dressing on salads — the good fat in olive oil helps you absorb more fat-soluble antioxidants from fruits and vegetables. Adding avocado — another source of healthy fat — to salad has the same effect.



PUTTING MORE PLANT FOOD ON YOUR PLATE

When people come to her Nutrition and Wellbeing Clinic for advice to revamp their eating, Sue Radd gets them to keep a food diary for three days. It's a reality check that often shows they're getting nowhere near the five servings of vegetables and two of fruit that are the recommended minimum for good health.

"The next step is to find opportunities to include vegetables and fruit in meals and snacks throughout the day rather than leave it all until dinner," she says. "Don't just have a cheese sandwich for lunch, for instance. Add some salad vegetables and eat a piece of fruit afterwards.

When there's more time for breakfast at weekends, have mushrooms and corn instead of bacon and eggs."

You could also...

- Spread it on: swap butter or margarine on toast for mashed avocado or homous.
- Snack on bruschetta (chopped ripe tomato on toast) or heat up leftover vegetables to eat on toast.

- Add two or three extra vegetables to curries or pasta sauces.
- Substitute slices of eggplant for sheets of pasta in lasagne.
- Make extra salad or vegetables for dinner and take to lunch the next day.
- Eat greens with everything: add leafy veg such as spinach, rocket and bok choy to risottos, soups and pasta sauces, or curries and pilafs. Just stir them in towards the end of cooking.
- Every week, try a vegetable you've never used before.
- Buy bagged salads or pre-chopped veg for stirfry to save time.
- Toss slices of oiled eggplant, zucchini and capsicum on the barbecue.
- Make vegetables and salad irresistible with this thick, garlicky dressing: Roast a whole head of unpeeled garlic, foil-wrapped, in the oven for 45 minutes. Whiz in a food processor with 100ml each of white balsamic vinegar and olive oil, and store in the fridge.



TAKING YOUR PULSES

Enriching your diet with more nutrients means breaking out of your food rut to embrace ingredients you've never tried before, such as legumes. They're also incredibly convenient: with a can or two of chickpeas or cannellini beans in the cupboard and vegetables in the fridge, you've always got the makings of a Moroccan tajine or an Italian bean soup such as minestrone.

Some legumes are surprisingly rich in antioxidants. Black beans, a South American staple now found in Australian healthfood stores, have similar antioxidant levels to those of grapes, apples and cranberries. There's also something about soybeans and tofu — possibly a plant hormone called genistein — that may explain why countries with a high intake of soy have lower rates of hormone-related cancers including breast and prostate.

Legumes are also linked to longevity. A recent study co-ordinated by Monash

University that followed people over 70 found those who ate the most legumes were the most likely to live the longest.

"Although people might not be used to cooking with lentils, chickpeas and other dried beans, I find that once they get going they realise they have a new kind of food to experiment with," says Monica Kubizniak, who suggests the following tips for getting started:

- Use drained, canned beans, chickpeas or lentils if there's no time to soak and cook from scratch.
- Add legumes to dishes you can already cook. For example, add red kidney beans to bolognese sauce and reduce the amount of meat; add legumes to a vegetable soup.
- Mix legumes into a salad for extra protein and filling power.
- Stirfry soybeans or chickpeas with vegetables — they absorb Asian flavours such as lime, chilli, ginger and soy and taste great.

If you want to include flesh foods, have fish twice a week — it's high in omega-3s but low in saturated fat — and include a serve of chicken. Compared with red meat, most research shows no link between poultry and cancer.

A study from Ohio State University found that eating about two-and-half tablespoons of avocado helps you absorb more of an antioxidant called lutein from spinach. Lutein is thought to help prevent vision loss caused by macular degeneration.

Cooking vegetables with olive oil has a similar effect. Recent Australian research has found cooking tomatoes with olive oil increases absorption of lycopene, the antioxidant reputed to help protect against breast and prostate cancer as well as heart disease. And ignore any recipe advice to de-seed tomatoes: preliminary evidence from the Rowett Research Institute in Aberdeen, Scotland, suggests the yellow pulp inside tomatoes contains a clot-fighting compound.

Stir some natural yoghurt into a lentil curry or serve tzatziki on the side. The addition of yoghurt to a plant-based meal can help boost zinc absorption by more than 70 per cent, say scientists from Baylor College of Medicine in Texas.

Maximise your iron intake with adequate vitamin C. You'll absorb more iron from legumes if you have vitamin C-rich vegetables such as tomatoes or red capsicum at the same meal, or have a glass of orange juice. Say no to tea, though. The tannins will block absorption of iron from the legumes.