



CESSH
CENTRE OF EXCELLENCE
SCIENCE SEAFOOD HEALTH

Seafood and your health

CANCER

Contents

Seafood and your health	2
How can seafood help prevent cancer?	3
How much seafood do I need to stay healthy?	3
Omega-3s	4
How much omega-3?	4
Which fish to choose?	5

Food guide

Meal planners	6—7
Recipes	8—10
Fortnightly shopping list	11
For more information	12



Seafood and your health

Evidence shows that eating a balanced diet high in seafood will reduce your risk of some chronic conditions, or help you manage your symptoms.

This booklet will help guide your food choices and includes a 14 day meal plan specifically designed for people at high risk of developing cancers that have been linked to diet.

How can seafood help prevent cancer?

Including seafood in a balanced diet can improve and maintain your health. Research suggests that adequate levels of physical activity and a balanced, healthy diet have a significant preventative effect on the development of some cancers. In particular, consumption of oily fish has been linked with a reduced risk of prostate, breast, colon, oesophageal and lung cancers. When prepared in a healthy manner, fish is a valuable part of a healthy diet.

Selecting seafood is also a smart choice for lowering cholesterol, and the omega-3 fatty acids in oily fish can actually help to prevent coronary heart disease. In addition to omega-3, seafood contains many other nutrients beneficial to health, including: selenium; iodine; zinc; calcium and vitamin D.

It's also low in saturated fat, high in protein, and a good source of energy.

Iron	Iron is important for maintaining energy levels and a strong immune system. Mussels, oysters and tinned sardines are good sources of iron.
Iodine	Iodine is important for growth and seafood is the best natural source of iodine. Oysters, mussels and scallops are good sources of iodine.
Folate	Folate aids the prevention of neural tube defects in growing babies. Oysters and mussels are sources of folate.
Vitamin B12	Vitamin B12 helps the brain to work normally. Sardines, mussels and tuna are good sources of Vitamin B12.
Vitamin D	Vitamin D is good for the immune system and strong bones and muscles. Australian salmon, Atlantic salmon and tuna are good sources of Vitamin D.
Vitamins A & E	Vitamins A & E are powerful antioxidants which help the immune system and eye health. Mussels are the richest seafood source of vitamin A. Atlantic salmon and sardines are good sources of vitamin E.
Calcium	Calcium is important for maintaining healthy teeth and bones. Australian salmon and sardines are rich sources of calcium.

How much seafood do I need to stay healthy?

Evidence suggests that we should aim to consume 600mg of omega-3s per day for men, and 500mg for women.

Some types of seafood contain higher levels of Omega-3s than others. So the number of serves of seafood you need to eat each week to maintain good health depends on the type of seafood you eat. Generally, one serve of seafood is around 150g.



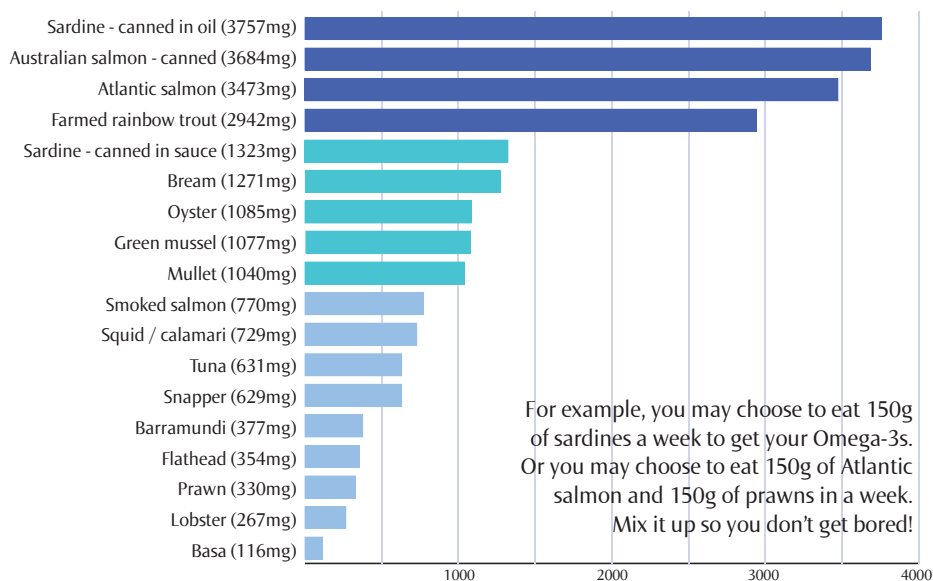


Omega-3s

Omega-3 fatty acids (Omega-3s) are essential to our health. Our bodies cannot produce these fatty acids and so we need to eat foods that contain them. The best source of omega-3s is seafood. In fact, the regular intake of Omega-3s as part of a healthy diet provides health benefit for conditions such as diabetes, heart disease, arthritis and some cancers.













How much omega-3?

Adults should aim to include 3500 - 4000mg of omega-3 in their diet each week. This table shows you how much Omega-3 is in a 150g serve of a variety of fish and seafood:



Which fish to choose?

Examples of seafood that are high, medium or low in Omega-3s.

A	B	C
High omega-3	Medium omega-3	Low omega-3
 Atlantic salmon	 Bream	 Baramundi
 Trout	 Mussels	 Snapper
 Sardines	 Oysters	 Smoked salmon
 Canned salmon	 Mullet	 Canned tuna



14-day menu planner

Menu Suggestion: Week One

(Choose one item for each meal)

Breakfast

Cereal & reduced fat milk

Poached eggs on toast

Egg white omelette with smoked salmon

Lunch

Tuna bean salad

Canned salmon salad

Tuna Caesar wraps

Smoked salmon wraps

Tuna and green bean sushi rolls

Dinner

Grilled trout with honeyed vegetables

Baked mullet with tasty rice noodles

Garlic prawn skewers & potato salad

Salmon risotto

Dessert

Fruit (2 pieces)

Low fat yoghurt (200ml tub)

Small bowl of low fat ice-cream

A handful of nuts

14-day menu planner

Menu Suggestion: Week Two

(Choose one item for each meal)

Breakfast

Cereal & reduced fat milk
Sardines on toast
Boiled eggs & tomato slices on toast

Lunch

Tuna & salad roll
Potato salad
Coleslaw and bean salad
Caesar salad (no dressing)
Smoked salmon sushi rolls

Dinner

Trevally & vegetable pasta
Steamed bream with spring vegetables
& salsa verde
Teriyaki salmon with sesame wild rice &
Asian greens
Mullet fish pie

Dessert

Fruit (2 pieces)
Small bowl of low fat custard
Low fat yoghurt (200ml tub)
A handful of nuts

Recipes

Salmon, leek and potato soup (Serves 4)



Ingredients:

- | | |
|--------------------------------|------------------------------|
| 150g smoked salmon, chopped | 1 cup low fat milk |
| 2 large potatoes, chopped | 1 tbsp canola oil |
| 2 medium leeks, sliced finely | 1 tbsp fresh chives, chopped |
| 2 spring onions, sliced finely | salt and pepper |
| 3 cups chicken stock | bread to serve |

Method:

1. Heat oil in a large pan. Add leeks and cook over medium heat for 5 minutes or until soft. Add the potatoes and stock. Simmer for 20 minutes, or until the potatoes are tender. Stir in the milk and season with salt and pepper.
2. Allow the soup to cool slightly, then puree until smooth. Return the soup to the pan and stir through half the salmon, the spring onions and chives.
3. Toast the bread until golden and top with the remaining salmon. Cut the toast into fingers and serve with the soup.

Baked mullet with tasty rice noodles (Serves 2)

Ingredients:

- | | |
|---|-------------------------|
| 2 mullet fillets (120g each), skin on | handful of snow peas |
| 3 lemons, juiced | 200g rice stick noodles |
| 4 green onions, thinly sliced | ½ cup rice milk |
| 2 small carrots | 2 tbsp chopped dill |
| 1 zucchini | 1 clove garlic, crushed |
| cooking oil spray (canola or olive oil) | |

Method:

1. Preheat oven to 180°C/160° fan-forced. Spray mullet fillets with oil.
2. Place skin-side down in a roasting pan. Drizzle with 2 tbsp lemon juice. Cover with foil and bake for 10-12 minutes or until cooked through. Sprinkle with half the onion.
3. Meanwhile, use a vegetable peeler to cut carrot and zucchini into long ribbons.
4. Put noodles in a heatproof bowl and cover with boiling water for 10 minutes to soften. Drain.
5. Spray a large non-stick frying pan with oil. Add vegetable ribbons and snow peas and cook over medium heat, stirring, for 1-2 minutes. Add noodles, remaining lemon juice, rice milk, dill, garlic and remaining onions. Toss to combine; do not boil.
6. Place noodles onto plates and top with mullet to serve.

Recipes

BBQ garlic prawn skewers (Serves 2)

Ingredients:

- | | |
|------------------------|---------------------------|
| 12 prawns | 4 small mushrooms, sliced |
| 1 garlic clove, minced | 8 cherry tomatoes |
| 1 tbsp olive oil | ¼ red capsicum |
| ¼ zucchini, sliced | |

Method:

Pre-heat the BBQ. Soak prawns in garlic and olive oil while you chop vegetables. Thread prawns and vegetables onto skewers, and BBQ until prawns turn pink.



Tuna and bean salad (Serves 2)

Ingredients:

- | | |
|------------------------------|-----------------------|
| 1 small tin tuna | 1 red capsicum, diced |
| 1 small tin 4 bean mix | 1 red onion, diced |
| 5 cherry tomatoes, quartered | low fat mayonnaise |

Method:

Drain tuna and beans. Combine in a bowl and mix through diced vegetables. Add low-fat mayonnaise to taste.

Smoked salmon wraps (Serves 2 – 4)

Ingredients:

- | | |
|---------------------------------|-----------------------------|
| 100g smoked salmon | 1 tbsp capers, chopped |
| 2 hard boiled eggs | 1 tsp fresh chives, chopped |
| 2 slices wholemeal lavash bread | 25g baby English spinach |
| 2 tbsp low fat mayonnaise | |

Method:

1. Peel and mash the eggs. Add the mayonnaise, capers and chives and mix to combine.
2. Lay the lavash on a flat surface. Spread the egg mixture over the centre of the lavash and top with the spinach and smoked salmon.
3. Roll up to enclose the filling. Cut into thick slices to serve.



Recipes

Salmon Risotto

(Serves 1)

Ingredients:

1 salmon fillet (120g), chopped in bite sized pieces

1 clove garlic, chopped

½ cup Arborio rice

200ml chicken, fish, or vegetable stock (hot)

Juice of ½ lemon

2 tsp chopped chives

½ cup frozen peas

1 tbsp grated parmesan cheese (optional)

1 tbsp olive oil

¼ onion, finely diced

Method:

1. In a non-stick pan over a medium heat, gently cook onion and garlic together in olive oil until soft.
2. Add rice and peas, then hot stock gradually until absorbed. Keep stirring gently all the while until rice is creamy but still has a bite to it – about 10 minutes (If you use hot stock, it keeps the rice cooking continually).
3. Add salmon and cook for a further 3 minutes. Stir in chives and lemon juice.
4. Serve in a deep bowl topped with parmesan cheese.



Fortnightly shopping list

Grocery

Cereal (rolled oats, bran flakes or Weetbix)

Eggs

Tuna & salmon (cans)

Sardines (can)

Three bean mix (can)

Rice (Arborio/wild)

Pasta (rice noodles/penne)

Extra virgin olive oil /canola oil

Mayonnaise, low fat

Soy sauce

Eggs

Dried apricots

Mixed nuts

Dairy

Milk, reduced fat

Rice milk

Cheese & cottage cheese, reduced fat

Yoghurt, low fat

Custard, low fat

Crème fraîche

Parmesan cheese

Seafood

Trout

Bream

Mullet

Trevally

Prawns

Smoked salmon

Fruit and vegetables

Apples, pears

Oranges, mandarins

Bananas

Lemons

Tomatoes/cherry tomatoes

Carrots

Pumpkin

Mushrooms

Baby spinach

Salad leaves/rocket

Caesar salad mix/Cos lettuce

Fresh herbs-parsley, dill, chives

Garlic & ginger

Red onions/Spring onions

Celery

Potatoes

Broccoli/broccolini, cauliflower

Capsicums

Zucchini

Asian greens

Bean sprouts

Freezer

Peas, corn

Green beans

Ice-cream, low fat

Bakery

Bread (multigrain & rye)

Lavash bread, wraps

Bread rolls

Rye crisp bread & crackers



For more information on seafood and health
please visit **www.cessh.curtin.edu.au**

For more information on cancer visit:

Cancer Council Australia
www.cancer.org.au

Cancer Council WA
www.cancer.wa.asn.au