Seafood and your health

CORONARY HEART DISEASE
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 planner specifically designed for people at high risk of developing coronary heart disease.
A healthy balanced diet including seafood and regular physical activity can help to reduce the risk of coronary heart disease. The benefits of eating seafood include:

- protection against cardiovascular diseases;
- protection against coronary mortality;
- lowered blood pressure;
- reduced heart rate; and
- protection for veins and arteries.

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-3s, 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.

<table>
<thead>
<tr>
<th>Iron</th>
<th>Iron is important for maintaining energy levels and a strong immune system. Mussels, oysters and tinned sardines are good sources of iron.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine</td>
<td>Iodine is important for growth and seafood is the best natural source of iodine. Oysters, mussels and scallops are good sources of iodine.</td>
</tr>
<tr>
<td>Folate</td>
<td>Folate aids the prevention of neural tube defects in growing babies. Oysters and mussels are sources of folate.</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>Vitamin B12 helps the brain to work normally. Sardines, mussels and tuna are good sources of vitamin B12.</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>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.</td>
</tr>
<tr>
<td>Vitamins A and E</td>
<td>Vitamins A and 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.</td>
</tr>
<tr>
<td>Calcium</td>
<td>Calcium is important for maintaining healthy teeth and bones. Australian salmon and sardines are rich sources of calcium.</td>
</tr>
</tbody>
</table>

How can seafood help my heart?

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.
 Adults should aim to include 3500 - 4000mg of omega-3s 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:

<table>
<thead>
<tr>
<th>Fish Type</th>
<th>Omega-3 (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sardine - canned in oil</td>
<td>3766</td>
</tr>
<tr>
<td>Australian salmon - canned</td>
<td>3684</td>
</tr>
<tr>
<td>Atlantic salmon</td>
<td>3472</td>
</tr>
<tr>
<td>Farmed rainbow trout</td>
<td>2941</td>
</tr>
<tr>
<td>Sardine - canned in sauce</td>
<td>1323</td>
</tr>
<tr>
<td>Bream</td>
<td>1271</td>
</tr>
<tr>
<td>Oyster</td>
<td>1085</td>
</tr>
<tr>
<td>Mussel</td>
<td>1077</td>
</tr>
<tr>
<td>Mullet</td>
<td>1040</td>
</tr>
<tr>
<td>Squid / calamari</td>
<td>876</td>
</tr>
<tr>
<td>Smoked salmon</td>
<td>769</td>
</tr>
<tr>
<td>Tuna</td>
<td>631</td>
</tr>
<tr>
<td>Snapper</td>
<td>628</td>
</tr>
<tr>
<td>Flathead</td>
<td>619</td>
</tr>
<tr>
<td>Barramundi</td>
<td>414</td>
</tr>
<tr>
<td>Prawn</td>
<td>330</td>
</tr>
<tr>
<td>Lobster</td>
<td>267</td>
</tr>
<tr>
<td>Basa</td>
<td>115</td>
</tr>
</tbody>
</table>

For example, you may choose to eat 150g of sardines a week to get your omega-3s. Or you may choose to eat 150g of Atlantic salmon and 150g of prawns in a week. Mix it up so you don’t get bored!
Which fish to choose?

Examples of seafood that are excellent, very good, or good sources of omega-3s.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent sources of omega-3s</td>
<td>Very good sources of omega-3s</td>
<td>Good sources of omega-3s</td>
</tr>
<tr>
<td>Atlantic salmon</td>
<td>Bream</td>
<td>Barramundi</td>
</tr>
<tr>
<td>Trout</td>
<td>Mussels</td>
<td>Snapper</td>
</tr>
<tr>
<td>Sardines</td>
<td>Oysters</td>
<td>Smoked salmon</td>
</tr>
<tr>
<td>Canned salmon</td>
<td>Mullet</td>
<td>Canned tuna</td>
</tr>
</tbody>
</table>
14-day meal planner

This 14-day meal planner has been developed with a dietitian for people at high risk of developing coronary heart disease.

Menu suggestion: week one
(Choose one item for each meal)

Breakfast
Cereal and 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 BBQ vegetables
Simple fish in green curry
Linguine with smoked salmon and rocket
Garlic prawn skewers

Dessert
Fruit (2 pieces)
Low fat yoghurt (200ml tub)
Small bowl of low fat ice-cream
A handful of nuts
Menu suggestion: week two
(Choose one item for each meal)

Breakfast
Cereal and reduced fat milk
Sardines on toast
Boiled eggs and tomato slices on toast

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

Dinner
Grilled mullet with parmesan potatoes and vegetables
Salmon pasta with fresh garden salad
Steamed trout with spring vegetables and salsa verde

Dessert
Fruit (2 pieces)
Small bowl of low fat custard
Low fat yoghurt (200ml tub)
A handful of nuts
Salmon pasta with fresh garden salad
(Serves 2)

Ingredients:
2 salmon fillets (150g each), cut into cubes
Extra virgin olive oil
1 small onion, diced
400g tin of diced tomatoes
½ to 1 cup of chicken stock
2 cups of pasta (any sort)
1 packet of soup (French onion/pea and ham)

Method:
1. Add oil to fry pan and cook onion until soft. Add salmon and cook.
2. Add packet of soup and the tin of tomatoes. Stir. Add stock till sauce reaches desired consistency and simmer for about 10 minutes or until fish is cooked.
3. While the sauce is simmering, cook pasta.
4. Serve with a fresh green garden salad.

*For a variation, leave out the stock and serve the sauce over rice.

Grilled trout with BBQ vegetables
(Serves 2)

Ingredients:
2 trout fillets (150g each)
1 tbsp olive oil
Juice of ½ lemon
1 large red onion, cut into 4 wedges
2 flat mushrooms, sliced thick
1 baby eggplant, halved lengthways
1 baby zucchini, halved lengthways
1 red capsicum, seeded and cut into two
1 yellow squash, halved
1 firm ripe tomato, halved
Olive or canola oil spray

Method:
1. Combine oil and juice in a small bowl. Brush vegetables with the mixture. Heat barbecue and lightly spray with oil.
2. Barbecue vegetables until tender (about 10 minutes depending on thickness), turning after 5 minutes.
3. Once the vegetables have been turned, grill the trout fillets on the barbecue for about 2 minutes each side or until cooked through (thicker fish pieces may need a little extra time).
Recipes

BBQ garlic prawn skewers
(Serves 2)

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

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 small tin 4 bean mix
- 5 cherry tomatoes, quartered
- ¼ red capsicum, diced
- ¼ red onion, diced
- 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
- 2 hard boiled eggs
- 2 slices wholemeal lavash bread
- 2 tbsp low fat mayonnaise
- 1 tbsp capers, chopped
- 1 tsp fresh chives, chopped
- 25g baby English spinach

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.
Steamed trout with spring vegetables and salsa verde  
(Serves 2)

Ingredients:
- 4 x 150g pieces of trout
- Salt and pepper
- Sprigs of fresh dill
- 1 cup fresh basil leaves
- Sprigs of fresh rosemary
- 4 baby carrots
- 2 whole florets of broccolini
- 2 small spring onions, trimmed
- 4 small new potatoes
- 2 baby zucchinis
- Handful of snow peas or green beans

Salsa Verde*:
- 1 cup chopped fresh parsley (or use a mix of parsley and basil)
- 1 clove of garlic
- 2-3 anchovies in oil, drained
- 1 tbsp drained capers
- 1 tbsp white wine vinegar or freshly squeezed lemon juice
- 3-4 tbsp extra virgin olive oil

*Place everything in a mortar or food processor and process to a chunky paste

Method:
1. Place fish pieces in the centre of oiled cling wrap. Sprinkle with salt and pepper and place dill sprig on top. Roll up, pierce all over with the point of a sharp knife, and set aside.
2. Place the basil leaves and rosemary sprigs in the bottom of a steamer and add about 4 cm of water. Bring to the boil. Then arrange the vegetables in the steamer. Cover and steam for about 6 minutes.
3. Make the salsa verde.
4. Push the vegetables aside and nestle the wrapped fish amongst them, then steam a further 6 minutes, or until the fish and vegetables are tender.
5. Unwrap the fish and serve surrounded by the steamed vegetables, and drizzle with salsa verde.
Linguine with smoked salmon and rocket  
(Serves 4)

Ingredients:
350g dried linguine  
2 tbsp olive oil  
1 garlic clove, finely chopped  
115g smoked salmon, cut into thin strips  
55g rocket  
Salt and pepper  
Lemon wedges, to garnish

Method:
1. Bring a large saucepan of lightly salted water to the boil. Add the pasta, return to the boil and cook for 8-10 minutes, or until tender but still firm to the bite.
2. Just before the end of the cooking time, heat the olive oil in a heavy based frying pan. Add the garlic and cook over a low heat, stirring constantly, for 1 minute (do not allow the garlic to brown or it will taste bitter).
3. Add the salmon and rocket. Season with salt and pepper and cook, stirring constantly, for 1 minute. Remove the frying pan from the heat.
4. Drain the pasta and transfer to a warmed serving dish. Add the smoked salmon and rocket, toss lightly and serve, garnished with lemon wedges.
For more information on seafood and health please visit www.cessh.curtin.edu.au

For more information on coronary heart disease visit:

Heart Foundation
www.heartfoundation.org.au

National Health and Medical Research Council
www.nhmrc.gov.au