



CESSH
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Seafood and your health

DIABETES

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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, or have diabetes that is related to diet (commonly called Type 2).

How can seafood help with diabetes?

A healthy diet can help you manage your weight and may help prevent Type 2 diabetes. If you already have diabetes, a healthy diet can help you manage your condition. Diabetes may also increase your risk of other chronic conditions such as heart disease.

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.

Selecting seafood is also a smart choice for lowering cholesterol, and the omega-3

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-3 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.



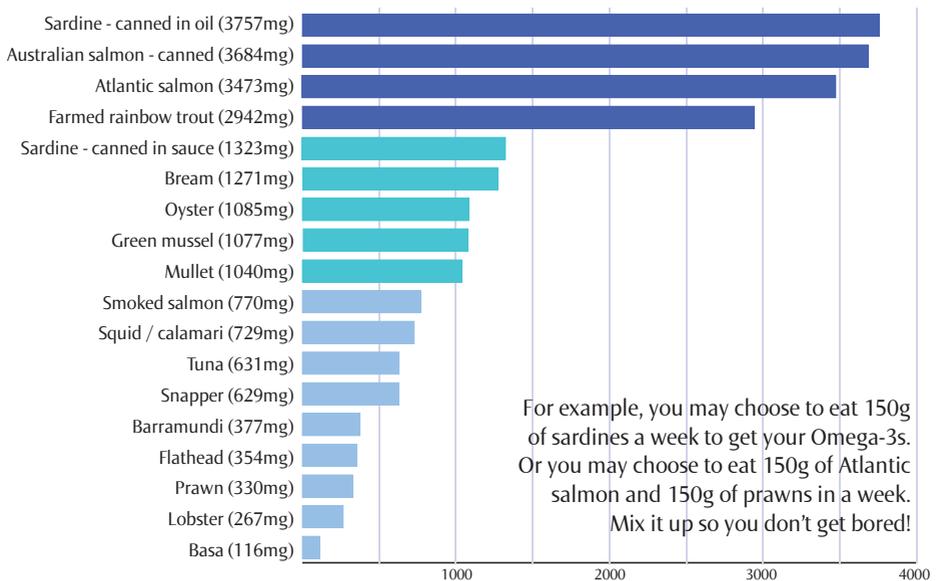


Omega-3s

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
Tuna and green bean sushi rolls

Dinner

Grilled tuna steak with parmesan potatoes & vegetables
Grilled trout with BBQ vegetables
Simple fish in green curry
Garlic prawn skewers

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

Baked barra fillets with chunky mushroom,
tomato & basil sauce

Steamed bream with honeyed vegetables

Curried fish in foil with julienne vegetables

Salmon pasta with fresh garden salad

Dessert

Fruit (2 pieces)

Small bowl of low fat custard

Low fat yoghurt (200ml tub)

A handful of nuts

Recipes

Grilled tuna steak with parmesan potatoes & vegetables (Serves 4)

Ingredients:

4 tuna steaks (100g each)	1 bunch spring onions, trimmed and thinly sliced
extra virgin olive oil, for brushing and to serve	40g fresh parmesan cheese, shaved
2 tsp lemon juice	4 tbsp fresh basil, finely shredded
lemon wedges to serve	3 tbsp olive oil
salt and pepper	4 florets of broccoli
750g potatoes, unpeeled	2 large carrots, sliced julienne
25g butter	16 green beans

Method:

1. Put the potatoes into a pan of salted water, bring to the boil and cook for 15 minutes until tender. Drain. When cool enough to handle, peel, return to the pan and crush against the sides with a fork until they burst. Cover to keep warm.
2. Melt the butter in a small pan, add the onions and cook gently for 3-4 minutes. Stir into the potatoes with the Parmesan, basil, olive oil and seasoning. Cover and keep warm.
3. Place vegetables in a steamer.
4. Brush the tuna with oil and season, then put on a smoking hot griddle, skinned-side down, and cook over a high heat for 2 minutes, pressing gently with a palette knife until it takes on golden bar marks. Sprinkle with lemon juice, cook for a few seconds, then turn and cook for 30 seconds. Turn off the heat and leave on the grill for 30 seconds. The tuna should be slightly rare inside.
5. Spoon the potatoes onto 4 warm plates, steamed vegetables on the side and rest the fish on top. Drizzle with a little oil, sprinkle with pepper and sea salt and serve with lemon wedges.



Recipes

Grilled trout with BBQ vegetables

(Serves 2)

Ingredients:

2 trout fillets (120g each)	1 baby zucchini, halved lengthways
1 tbsp olive oil	½ red capsicum, seeded and halved
Juice of ½ lemon	1 yellow squash, halved
½ large red onion, cut into 4 wedges	1 firm ripe tomato, halved
2 flat mushrooms, sliced thick	olive or canola oil spray
1 baby eggplant, halved lengthways	

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).

Salmon pasta with fresh garden salad

(Serves 2)

Ingredients:

2 salmon fillets (120g each), cut into cubes	½ to 1 cup of chicken stock
extra virgin olive oil	2 cups of pasta (any sort)
1 small onion, diced	1 packet of soup (French onion/ pea and ham)
1 x 400g tin of diced tomatoes	

Method:

1. Add oil to frypan 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.



Recipes

Baked barra fillets with chunky mushroom, tomato & basil sauce

(Serves 4)

Ingredients:

4 barramundi fillets	2 fresh truss tomatoes, finely chopped
1 to 2 tbsp butter, melted	½ brown onion, chopped
1 lime, juiced	1 cup button mushrooms, finely chopped
4 tbsp olive oil	½ cup basil, finely chopped
2cm to 3cm ginger, grated	salt and pepper, to taste
4 cloves of garlic, crushed	fettuccine
1 tbsp coriander, chopped	

Method:

1. Combine melted butter, lime juice and olive oil in a large bowl and stir together. Add grated ginger, crushed garlic, coriander, tomatoes, onion, mushrooms, basil, salt and pepper. Stir thoroughly. The result should be a thick combination, but still contain plenty of juice.
2. Pour half of the marinade into a shallow baking dish, and place the fish fillets on top. Place the rest of the marinade over the top of the fish so it is completely covered. Cover with aluminium foil, and refrigerate for 2 hours.
3. Preheat the oven, and cook fish for 20 minutes at 180°C, covered with aluminium foil (or until fish is cooked through).
4. Meanwhile, cook pasta to al dente and serve fish on top of pasta.

*As an alternative to pasta, serve on a bed of rice.



Tuna and bean salad

(Serves 2)

Ingredients:

1 small tin tuna	¼ red capsicum, diced
1 small tin 4 bean mix	¼ 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.

Fortnightly shopping list

Grocery

Cereal (rolled oats, bran flakes or Weetbix)

Eggs

Tuna & salmon (cans)

Sardines (can)

Three bean mix (can)

Rice (brown & jasmine)

Pasta (fettuccine/spaghetti)

Extra virgin olive oil /Canola oil

Mayonnaise, low fat

Chicken stock

Curry paste

Dried apricots

Mixed nuts

Dairy

Milk, reduced fat

Cheese & cottage cheese, reduced fat.

Parmesan cheese

Yoghurt, low fat

Custard, low fat

Crème fraiche

Seafood

Barramundi

Bream

Trout

Tuna steaks

Salmon

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, basil, chives

Garlic & ginger

Red onions/spring onions

Potatoes

Zucchini, leeks

Broccoli/broccolini, cauliflower

Capsicums

Bok choy & 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 diabetes visit:

Diabetes Australia
www.diabetesaustralia.com.au

Diabetes WA
www.diabeteswa.com.au