Gut Feeling
Mindful menus for the microbiome

Professor Amanda Devine & Dr Claus Christophersen
We’ve long known that eating vegetables and whole grains is good for our health. But now researchers are beginning to uncover at least part of the reason why these foods are so good for us – and the answer is the bacteria that live in our gut, or what is called the microbiome.

There is evidence that having a healthy microbiome can reduce the chances of developing obesity, non-alcoholic liver disease and even certain types of cancer. That’s why it’s so important to look after our gut and feed our microbiome the foods that it needs to thrive and that’s where this cookbook comes in.

What is resistant starch?
Resistant starch is a form of dietary fibre which has many of the same functional properties as dietary fibre. Resistant starch is naturally present in plant based foods, like cereals such as corn, wheat and rice, as well as beans, peas and legumes, fruit and vegetables. Resistant starch is defined as a starch which cannot be digested in the small intestines. This means it ends up in the large intestine where it is partly or wholly fermented by bacteria or what we now call the microbiome.

What is the gut microbiome?
The gut microbiome is a collection of trillions of microorganisms; bacteria, viruses, fungi, archaea and eukaryotic organisms living in the gastrointestinal tract. The majority live in the large intestine and their collective weight is around 1.5 kg in an average healthy adult.

Currently we know more about the bacteria than any of the other microorganism in the gut, that’s why we often focus on the bacteria. The bacteria in the gut have been associated with many diseases and conditions, like inflammatory bowel disease, irritable bowel syndrome, obesity, some cancers and non-alcoholic liver disease. Mood and mental health can also be affected by the bacteria in the gut via the gut-brain axis. Consequently, it is critical that we look after the gut microbiome and feed it appropriately.
How do you look after your gut microbiota?

One way to look after the gut microbiome is to increase the amount of resistant starch in your diet. When we eat this type of dietary fibre we are actually feeding the gut microbiome. Other forms of fibre (also found in plant foods) are also beneficial to us but are only partially fermented in the large intestine. These fibres help to keep the body regular, relieve constipation and improve feelings of fullness and weight management.

One of the benefits of these bacteria when they feed on resistant starch provided by the diet, is their ability to produce metabolites or small molecules which we can use. One such metabolite is butyrate which is the preferred energy source of the cells lining in the large intestine. In addition, butyrate has a beneficial effect on the immune system.

There is a mutual relationship between the individual and the gut microbiome.

How do you increase your intake of resistant starch?

Eat plenty of plant based foods every day and at every meal. This book can help you integrate many high resistant starch foods to your daily diet. Follow the daily plans to make a start.

Does cooking affect the amount of resistant starch in foods?

Tests have shown that cooking and cooling foods can increase the amount of resistant starch in many starchy foods, like potato, rice and pasta. The process of cooking changes the crystalline form of some of the components in the starch, amylose and amyllopectin. When the food cools these components realign and form chains and bridges increasing the resistant starch component which ends up feeding the microbiome.

Some great examples of high resistant starch foods are:

- cold potato salad
- rice salad with the addition of corn
- chickpea and cous cous salad.
## DAY 1 - WEEKENDER

### 10,000kJ

#### Breakfast bites
- Poached egg 2 eggs
- Rye or wholegrain bread 2 slices
- Spinach ½ cup
- Chutney 1 tb
- Mushroom, sautéed 1 giant

#### Snack & go
- Apple 120g
- 100% whole F&V smoothie 375 mL

#### Lite lunch
- Lentil burger 2 serves

#### Afternoon top-up
- Pear 1 medium fruit
- Cheddar cheese, reduced fat 40g or 1 slice

#### Mindful main meal
- Lamb fillet baked 1 medium fillet
- Microwaved potato 1 large potato
- Carrots and peas, steamed 1 cup
- Brussels sprouts, steamed 8 sprouts
- Gravy, low salt, prepared with water 1/8 cup
- Wholemeal bread roll 1 dinner roll
- Margarine 1 tsp

### 8,000kJ

#### Breakfast bites
- Poached egg 1 egg
- Rye or wholegrain bread 1 slice
- Spinach ½ cup
- Chutney 1 tb
- Mushroom, sautéed 1 giant

#### Snack & go
- Apple 120g
- 100% whole F&V smoothie 250 mL

#### Lite lunch
- Lentil burger 1 serve

#### Afternoon top-up
- Pear 1 medium fruit
- Cheddar cheese, reduced fat 40g or 1 slice

#### Mindful main meal
- Lamb fillet baked 1 small fillet
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- Wholemeal bread roll 1 dinner roll
- Margarine 1 tsp

*Recipes: Lentil Burger (p.7).*
LENTIL BURGERS

METHOD
1. Combine all ingredients for patties in a large bowl, except oil and cornflakes.
2. Shape into patties.
3. Coat in crushed cornflakes.
5. Fry the patties until golden brown.
6. Serve in a wholemeal bread roll with lettuce, tomato, slice of cheese and chutney.

SERVES
4

TIME
20 mins

INGREDIENTS

Patties
400g can lentils, drained
2 medium potatoes, cooked and mashed
1 cup onion (1 small), grated
1 tb parsley, freshly chopped
2 tsp curry powder
½ cup carrot, grated
1 egg
½ cup cornflakes
1 tb olive oil

To serve
4 wholemeal bread roll
4 cos lettuce leaves
4 tomato slices
4 reduced fat cheddar cheese slices
4 tb chutney

BEVERAGES
Drink water, tea and coffee, and herbal teas over the day. Avoid sugar sweetened beverages.
PORRIDGE

Combine oats, milk, walnuts, LSA, cranberry and oat bran in a microwave proof bowl. Stir. Microwave on HIGH for 3 minutes. Allow to cool for 15 minutes or longer. Top with banana. Enjoy.

TIP: Slightly green bananas have more resistant starch than ripe ones.
## DAY 2 – WORKDAY

### 10,000kJ

**Breakfast bites**
- Rolled oats ½ cup
- Low fat milk ¾ cup
- Walnuts 20g
- Cranberry, dried 1 tb
- LSA 1 tb
- Oat bran 2 tb
- Banana 1

**Snack & go**
- Orange 1

**Lite lunch**
- Bean burrito 1 Serve

**Afternoon top-up**
- Hummus dip ½ cup
- Wholemeal flat bread 1 piece

**Mindful main meal**
- Fish fillet 1 large fillet
- Potato baked 1 large
- Broccoli, steamed 1 cup
- Carrots, steamed ½ cup
- Peas, steamed ½ cup
- Chutney 2 tb

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### 8,000kJ

**Breakfast bites**
- Rolled oats ½ cup
- Low fat milk ¾ cup
- Walnuts 20g
- Cranberry, dried 1 tb
- LSA 1 tb
- Oat bran 2 tb
- Banana 1

**Snack & go**
- Orange 1

**Lite lunch**
- Bean burrito 1 Serve

**Afternoon top-up**
- Hummus dip ¼ cup
- Wholemeal flat bread ½ piece

**Mindful main meal**
- Fish fillet 1 medium fillet
- Potato baked 1 medium
- Broccoli, steamed 1 cup
- Carrots, steamed ½ cup
- Peas, steamed ½ cup
- Chutney 2 tb

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*Recipes: Porridge (p.8); Bean burrito (p.11); Hummus dip (p.12)*
INGREDIENTS

1 tb olive oil
1 medium onion, finely chopped
1 tsp dried cumin
1 tsp dried coriander
½ tsp paprika
1 tsp pepper
2 tb tomato paste, low salt
1 small zucchini, grated
1 small red or green capsicum, grated
2 medium carrots, grated
140g sweetcorn kernels, frozen or canned
400g can tomatoes
400g can red kidney beans, drained
8 regular tortillas
1 cup reduced fat cheddar cheese, grated
2 large tomatoes, sliced
8 large cos lettuce leaves
4 spring onions, chopped

METHOD

1. Add oil to a non-stick saucepan and place on medium to high heat.
2. Cook chopped onion for 3 minutes, stirring occasionally.
3. Mix through cumin, coriander, paprika and season with pepper, cook for 1 minute until fragrant.
4. Add tomato paste, stir well to combine then add grated zucchini, capsicum, carrot, corn kernels, canned tomatoes and drained kidney beans.
5. Simmer uncovered for 20 minutes, stirring occasionally until thickened.
6. If desired; heat tortillas in the microwave for 1 minute on HIGH.
7. To serve, spoon bean mixture onto the tortilla with a slotted spoon. Top with cheese, tomatoes, lettuce and spring onions and roll to enclose filling.

SERVES

4

METHOD

Fry

TIME

20 mins