What is fibre?

Dietary Fibre is the edible part of plants that escapes digestion in the small intestine, passing through to the large bowel where it is mostly broken down by bacteria.

Different types of fibre

There are different kinds of dietary fibre with different functions in the body:

- **Insoluble fibre** passes through the large bowel unchanged. Insoluble fibre also helps add bulk to the stool and prevent constipation.

- **Soluble fibre** can be dissolved in water and stimulates the growth of good bacteria in the large intestine. Soluble fibre also helps lower blood cholesterol levels. A wide variety of fruit, vegetables, grains and legumes ensures an adequate intake of all kinds of fibre.

What is Resistant Starch?

Like insoluble fibre, this type of starch also resists digestion in the small intestine. It reaches the large intestine where it builds healthy bacteria. Resistant starch is found in cooked and then cooled potato, ‘al dente’ pasta, raw oats and banana. Cornflakes contain little fibre, but are high in resistant starch. Commercial products such as Wonder-white® bread and products with Hi-Maize® also include resistant starch.

Benefits of eating more fibre

Dietary fibre helps to prevent constipation, haemorrhoids, irritable bowel syndrome, diverticular disease and bowel cancer. It may also help to lower blood cholesterol levels and improve blood sugar control in diabetes. A high fibre diet is satisfying and can help prevent hunger and assist with weight management.
High Fibre Diet

How much fibre do I need?
Aim to include 25 to 30 grams of fibre each day. We often don’t eat enough foods rich in fibre to meet this amount. Eat plenty of high fibre foods from a variety of food sources.

What foods contain fibre?
Dietary fibre is only found in plant foods:

- cereals & grains
- wholegrain or wholemeal breads
- legumes
- vegetables
- fruits
- nuts & seeds

Foods of animal origin (such as meat and dairy), whilst important sources of protein and other nutrients, do not provide dietary fibre.

Are Probiotics healthy?
Probiotics are ‘good’ bacteria added to some yoghurts and other fermented dairy products. They can promote the growth of beneficial bacteria in our intestines. Probiotics are also thought to ease the effects of chronic diarrhoea. Probiotics must be able to survive digestion to arrive alive at their ‘site of action’ in the digestive system (Lactobacilli for the small intestine and Bifidobacteria for the large intestine). Probiotics are found in fermented products such as Yakkult®, and some yoghurts such as Vaalia®. They are also available in capsule form such as ‘Inner Health Plus’.
## High Fibre Diet

<table>
<thead>
<tr>
<th>Food</th>
<th>Per serve</th>
<th>Dietary Fibre (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cereals and grains</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural muesli</td>
<td>2 heaped Tbsp</td>
<td>3.0</td>
</tr>
<tr>
<td>Rolled oats or oatmeal</td>
<td>1 cup</td>
<td>3.3</td>
</tr>
<tr>
<td>Weetbix/Vitabrits</td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>All Bran</td>
<td>1/3 cup</td>
<td>8.9</td>
</tr>
<tr>
<td>Guardian (Kellogs)</td>
<td>30g</td>
<td>5.2</td>
</tr>
<tr>
<td>Sultana Bran</td>
<td>3/4 cup</td>
<td>4.5</td>
</tr>
<tr>
<td>Cornflakes</td>
<td>1 cup</td>
<td>0.4</td>
</tr>
<tr>
<td>Wheatgerm</td>
<td>1 tsp</td>
<td>1.5</td>
</tr>
<tr>
<td>Rice - white</td>
<td>1 cup</td>
<td>1.2</td>
</tr>
<tr>
<td>Rice - brown</td>
<td>1 cup</td>
<td>2.4</td>
</tr>
<tr>
<td>Pasta - white</td>
<td>1 cup</td>
<td>3.0</td>
</tr>
<tr>
<td>Pasta - brown</td>
<td>1 cup</td>
<td>8.0</td>
</tr>
<tr>
<td>Bread - white</td>
<td>1 slice</td>
<td>0.8</td>
</tr>
<tr>
<td>Bread - multigrain</td>
<td>1 slice</td>
<td>1.5</td>
</tr>
<tr>
<td>Bread - wholemeal</td>
<td>1 slice</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Nuts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuts - all types</td>
<td>30g (small hand full)</td>
<td>2.0-3.0</td>
</tr>
<tr>
<td>Peanut butter</td>
<td>1 Tbsp</td>
<td>2.0</td>
</tr>
<tr>
<td>Sesame seeds</td>
<td>1 Tbsp</td>
<td>1.0</td>
</tr>
<tr>
<td>Sunflower kernels</td>
<td>1 Tbsp</td>
<td>1.5</td>
</tr>
<tr>
<td>Pumpkin seeds</td>
<td>1 Tbsp</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Legumes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baked beans</td>
<td>1 small can</td>
<td>7.0</td>
</tr>
<tr>
<td>Haricot beans</td>
<td>1/2 cup</td>
<td>8.0</td>
</tr>
<tr>
<td>Chickpeas</td>
<td>1/2 cup</td>
<td>4.5</td>
</tr>
<tr>
<td>Butterbeans</td>
<td>1/2 cup</td>
<td>6.6</td>
</tr>
<tr>
<td>Mung beans as dahl</td>
<td>1/2 cup</td>
<td>2.5</td>
</tr>
<tr>
<td>Soy beans</td>
<td>1/2 cup</td>
<td>5.0</td>
</tr>
<tr>
<td>Lentils</td>
<td>1/2 cup</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green beans</td>
<td>1/2 cup</td>
<td>1.8</td>
</tr>
<tr>
<td>Broccoli</td>
<td>1 cup</td>
<td>3.0</td>
</tr>
<tr>
<td>Cabbage</td>
<td>1/2 cup</td>
<td>1.5</td>
</tr>
<tr>
<td>Carrot</td>
<td>1/2 cup</td>
<td>3.0</td>
</tr>
<tr>
<td>Celery</td>
<td>10cm long</td>
<td>0.5</td>
</tr>
<tr>
<td>Corn kernals</td>
<td>1/2 cup</td>
<td>2.0</td>
</tr>
<tr>
<td>Lettuce</td>
<td>2 leaves</td>
<td>0.5</td>
</tr>
<tr>
<td>Green peas</td>
<td>1/2 cup</td>
<td>4.0</td>
</tr>
<tr>
<td>Potato with skin</td>
<td>1 medium</td>
<td>2.0</td>
</tr>
<tr>
<td>English spinach</td>
<td>1/2 cup</td>
<td>4.5</td>
</tr>
<tr>
<td>Tomato</td>
<td>1 medium</td>
<td>2.0</td>
</tr>
</tbody>
</table>
High Fibre Diet

Key Points to Remember

- When following a high fibre diet, it is important to consume plenty of fluid - drink at least 2L of fluid daily, ideally water.

- A high fibre diet should **gradually** be introduced to your eating to prevent any adverse gastrointestinal symptoms.

- Passing of flatus is common in people with a diet high in fibre as it is the by-product of the bacteria breaking down the fibre. It is usually a sign of a healthy digestive system.

- Keep up your activity. Exercise, such as walking, keeps your intestine ‘moving’ in the right direction!

<table>
<thead>
<tr>
<th>Food</th>
<th>Serve</th>
<th>Dietary Fibre (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fruit</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple, fresh</td>
<td>1 medium</td>
<td>4.5</td>
</tr>
<tr>
<td>Apricot, fresh</td>
<td>1 medium</td>
<td>1.0</td>
</tr>
<tr>
<td>Apricot, dried</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>Banana</td>
<td>1 medium</td>
<td>3.0</td>
</tr>
<tr>
<td>Blackberries, raspberries</td>
<td>1 cup</td>
<td>7.0</td>
</tr>
<tr>
<td>Date, dried</td>
<td>4</td>
<td>3.0</td>
</tr>
<tr>
<td>Figs, dried</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>Orange</td>
<td>1 medium</td>
<td>4.2</td>
</tr>
<tr>
<td>Passionfruit</td>
<td>1 medium</td>
<td>3.0</td>
</tr>
<tr>
<td>Peaches, fresh</td>
<td>1 large</td>
<td>2.2</td>
</tr>
<tr>
<td>Pear</td>
<td>1 medium</td>
<td>4.5</td>
</tr>
<tr>
<td>Prunes</td>
<td>4 medium</td>
<td>3.0</td>
</tr>
<tr>
<td>Sultanas/raisins</td>
<td>1 tablespoon</td>
<td>2.5</td>
</tr>
<tr>
<td>Canned fruit</td>
<td>1/2 cup</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Sample High Fibre Meal Plan

Breakfast
Fruit (fresh, stewed or dried)
High fibre cereal e.g. bran flakes, rolled oats, wheat biscuits, natural muesli with low fat milk or soy-milk
Wholemeal bread or toast
Beverage

Lunch
Vegetable soup or lentil soup
Wholemeal bread or roll with salad and cheese or baked beans
Fresh fruit salad
Beverage

Dinner
Fish, lean meat, poultry or legume dish
Jacket potato, brown rice or wholemeal pasta
Cooked vegetables or salad (3-4 varieties)
Wholemeal bread
Fresh fruit
Beverage

Snacks
Wholemeal bread, fruit loaf, wholemeal crackers, scone or muffin
Fresh fruit
Dried fruit and nuts
Milk or soy-milk smoothie

This will provide approximately 35 grams of fibre.

Remember to drink fluids (water, mineral water etc) throughout the day. At least 2L of fluid per day is required for healthy hydration.
Some high fibre snack ideas

- Fresh berry smoothie with low fat milk/soy milk, yoghurt or ice-cream.
- Small handful of dried apricots & almonds.
- Homemade popcorn
- Raisin toast
- Piece of fresh fruit
- Small can of baked beans
- Wholegrain peanut butter sandwich

Fibre-Rich Recipes

Fruit and Nut Muffins

1 cup processed bran (Rice Bran, All Bran or Multibran)
1 cup low fat milk
1 1/4 cups wholemeal self raising flour
1 teaspoon baking powder
1 teaspoon mixed spice
1/3 cup brown sugar
1/2 cup dried fruit medley
1/4 cup chopped pecans
1 egg, slightly beaten
Grated rind and juice of 1 orange

Soak bran in milk for 5 minutes. Sift flour, baking powder and spice into a bowl. Add sugar, fruit and nuts. Add egg, orange juice and rind to bran mixture. Add to flour. Mix until just combined. DO NOT OVERMIX. Spoon into lightly greased muffin tins.
Bake in hot oven for 15-20 minutes or until golden brown.
Minestrone Soup

1 1/2 cups dried cannellini beans
2 medium sized onions, finely sliced
2 cloves garlic, finely chopped
4 cups stock
1 cup finely chopped celery
3 carrots, peeled and finely chopped
2 zucchini, finely chopped
3 very ripe tomatoes, chopped
3 tablespoons tomato puree
2 teaspoons diced oregano
1/2 cup pasta - small shells or elbows
Parmesan cheese

Soak beans using slow or quick soak method. Cook for 1 hour. Place onions and garlic in saucepan with 2 cups of stock. Simmer, covered, for 5 minutes. Add all other ingredients. Simmer for 30 minutes. Puree half the soup and return it to the saucepan.
Simmer for 8 minutes. Sprinkle with Parmesan cheese.
Chilli Beans
1 large onion, chopped
1 clove garlic, crushed
1 tablespoons oil
1 capsicum, chopped
2 tomatoes, chopped
2 tablespoons tomato paste
1 cup dried kidney beans (or 2 cups cooked)
1/2 teaspoons cumin - powder
1/2 teaspoons chilli powder
1-2 dried chillies extra, if desired

Soak kidney beans. Cook for 45 minutes-1 hour. Heat oil and saute onion and garlic. Add capsicum, tomatoes and tomato paste. Mix well. Add cooked beans and spices and simmer for 15 minutes, adding water if necessary. Serve with rice, tortillas or tacos and salad.

Easy Lentil Soup
1 1/2 cups raw green lentils
6 cups water
1 can crushed tomatoes
1 large carrot, diced
1 stick celery, diced
1 medium potato, diced
1 large onion, diced
1 teaspoon dried mixed herbs

Cook lentils in water until tender. Add tomatoes, vegetables and herbs and simmer until vegetables are cooked. Garnish with fresh parsley and serve with a crusty wholemeal roll.
**Hummus**

1 cup cooked or canned chick peas  
1 tablespoon lemon juice  
1-2 cloves garlic  
1 teaspoon chilli powder  
2 teaspoons dried cumin  
2 tablespoons dried coriander/parsley

Put all ingredients in food processor and process for a short time, adding a little yoghurt if necessary. Serve with crackers and raw vegetable sticks or use as a sandwich spread. Other legumes may be used as desired.

**Bean and vegetable casserole**

1 large onion, finely chopped  
1 clove garlic, crushed  
50 gram cauliflower flowerets  
2 medium carrots, diced  
1/2 green capsicum, diced  
2 sticks celery  
1/2 cup corn kernels  
1/2 cup broccoli flowerets  
1 cup canned crushed tomatoes  
1/3 cup tomato paste  
1/2 tsp dried cumin  
2 cups cooked* or canned cannellini beans

Sauté onion and garlic in a little oil. Add vegetables, tomatoes, tomato paste and cumin. Cover and simmer for 20-30 minutes until vegetables are tender. Add beans and heat through. Garnish with parsley or coriander. Serve with steamed brown rice, barley or millet.

**Cook dried beans according to directions on pack - remember to allow time for soaking and cooking. It is often useful to cook a whole packet of beans and freeze in 1-2 cup batches for later use.**
**Apple crumble**

800 grams (4 cups) canned pie apples  
Topping:  
1/2 cup wholemeal plain flour  
2 teaspoons cinnamon  
1 tablespoon brown sugar  
2 tablespoons margarine  
1/2 cup rolled oats  
2 tablespoons chopped walnuts  
2 tablespoons sesame seeds

Place apples in a lightly greased 23 cm square baking dish. Sift flour, add spice and brown sugar. Rub in the margarine then mix in the remaining ingredients. Sprinkle over apples. Bake at 180° for 25-30 minutes or until brown on top.

**FURTHER INFORMATION**

Our outpatient Dietitian is located within the hospital and can also help you with maintaining a healthy weight (increasing or decreasing) and provide a full dietary analysis to measure dietary adequacy. Please call to make an appointment (02) 9487 9581.