

Modified fibre diet for the prevention of bowel obstruction

This resource is for people who are at risk of bowel obstructions, usually due to a narrowing in the bowel (stricture) or tumour causing a partial blockage. Because this is a restrictive diet, it is important to make sure you understand the reason for the diet and how long you need to follow it for.

What is fibre?

Fibre is the part of the plant that humans cannot digest. It passes through the bowels mostly undigested, giving bulk to the stool. It can also act as a sponge to help absorb fluid and soften the stool.

Why modify fibre in the diet?

- For most people, a high fibre diet is good for keeping the bowels healthy.
- However, as fibre, **particularly insoluble fibre**, provides bulk to the stool, it may increase the risk of bowel obstruction for those who have narrowed areas within the bowel.
- Reducing the amount of fibre passing through narrowed parts of the bowel may help reduce the risk of food causing a bowel obstruction.
- Symptoms of bowel obstruction include:
 - Pain
 - Abdominal (belly) cramping
 - Gas/bloating
 - Nausea (feeling sick in the stomach)/ vomiting
 - Feeling of fullness

Follow your doctor's advice if you have obstructive symptoms.

Different types of fibre

SOLUBLE FIBRE	INSOLUBLE FIBRE
<p>Dissolves in water to form a thick gel in your bowels and softens the stool.</p> <ul style="list-style-type: none">• Bananas• Oats and oat bran• Legumes and pulses (e.g. kidney beans, chickpeas)• Okra, eggplant	<p>Found in the rough, hard part of the plant, for example skins, grains and seeds. It does not dissolve in water and adds bulk to the stool.</p> <ul style="list-style-type: none">• Fruit (skin and seeds have the most fibre)• Vegetables (skin and seeds)• Whole-grain products e.g. breads, pasta, brown rice, quinoa• Nuts and seeds• Wheat and rice bran

How to reduce insoluble fibre in the diet?

- Remove stalks, stems, pips, seeds and skins from fruit and vegetables.
- Chop and cook vegetables well.
- Reduce tough, fibrous fruit and vegetables – chop these foods finely where possible (e.g. celery, mango).
- Avoid dried fruits, nuts and seeds.
- Strain fruit and vegetable juices and soups.
- Avoid wholegrain, high fibre breads and cereals. Use white varieties where possible.

How to prevent constipation on a modified fibre diet?

- Eat low/moderate fibre fruits and vegetables (see table below) with stalks, stems, pips, seeds and skins removed.
- Puree or soft/well-cooked fruit and vegetables may be better tolerated than fresh/raw.
- Drink plenty of water. Most people need around 8-10 glasses of fluids per day.
- Discuss with your doctor if constipation is still a problem.

General hints

- Follow a diet low in fibre, particularly low **insoluble** fibre.
- Chew all food well.
- Eat slowly in a relaxed setting.
- Cook your food well – this can make some foods easier to digest.
- Avoid any food that is tough or stringy (e.g. tough gristly meat).
- Some people find they need to have soft/puree foods to limit symptoms.

This is a consensus document from Dietitian/ Nutritionists from the Nutrition Education Materials Online, "NEMO", team.

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- Read food labels and avoid foods stating they are high in fibre.
- Eat 6-8 small meals instead of 3 large meals.
- Have a variety of foods across the 5 food groups (choosing foods from the following table).

FOOD GROUP	INCLUDE (low in total fibre)	INCLUDE MODERATE AMOUNTS of soluble fibre as desired	LIMIT (high insoluble and total fibre)
Bread, cereals, rice, pasta, noodles	<ul style="list-style-type: none"> • White bread, crumpets, scones, English muffins • White pita bread • Refined breakfast cereals e.g. <i>Rice Bubbles, Cornflakes</i> • White rice, pasta, sago, tapioca, semolina • White flour, cornflour • Plain sweet and savoury biscuits or cakes • Low fibre crackers • Rice cakes/Corn thins 	<ul style="list-style-type: none"> • Oats/oatmeal, instant, cooked (½ cup) • Breakfast biscuits/bars (2 biscuits/ ½ bar) • Barley, cooked (¼ cup) • Chia seeds (1 teaspoon) • Sourdough bread (2 thin slices) • Light rye bread (1 thin slice) 	<ul style="list-style-type: none"> • Wholemeal or wholegrain bread • Bread containing intact grains, nuts, seeds, coconut or dried fruit • Oat bran - unprocessed, raw • Wholegrain breakfast cereals or any with dried fruit, nuts or coconut e.g. <i>Muesli, All-Bran, Weetbix</i> • Wild rice, brown rice, brown pasta • Wholemeal flour, wheatgerm • Sweet and savoury biscuits or cakes made with seeds, nuts, dried fruit or coconut
Dairy foods	<ul style="list-style-type: none"> • All varieties of milk • Plain yoghurt, custard, vanilla <i>Fruche</i>, plain cheese, plain or flavoured ice cream 	<ul style="list-style-type: none"> • Desserts containing peeled and stewed fruit • Nutritional supplements with fibres 	<ul style="list-style-type: none"> • Desserts containing dried fruit, chunky fruit pieces, nuts, seeds or coconut • Milkshakes made with whole fruits, seeds and high fibre cereals
Meat, fish, poultry, eggs, nuts, legumes	<ul style="list-style-type: none"> • Any tender, soft meat, chicken and fish • Tofu • Eggs and soy products 	<ul style="list-style-type: none"> • Smooth nut butters (1 tablespoon) • Legumes e.g. baked beans, kidney beans (2 tablespoons) 	<ul style="list-style-type: none"> • Nuts & seeds • Crunchy nuts or seed butters (e.g. peanut butter, tahini)

FOOD GROUP	INCLUDE (low in total fibre)	INCLUDE MODERATE AMOUNTS of soluble fibre as desired	LIMIT (high insoluble and total fibre)
Vegetables	<p>Ensure vegetables are <u>peeled</u> and <u>well-cooked</u> where able:</p> <ul style="list-style-type: none"> • Potato • Pumpkin • Zucchini • Cauliflower and broccoli florets • Mushrooms <p>Suitable salad vegetables are:</p> <ul style="list-style-type: none"> • Tomato and cucumber with skins and seeds removed • Iceberg lettuce (1 cup) • Capsicum (1 cup) cooked • Well strained vegetable juice • Tomato puree or paste 	<p>Ensure vegetables are <u>peeled</u> and <u>well-cooked</u> where able</p> <ul style="list-style-type: none"> • Eggplant (1 cup) • Sweet potato, no skin (¼ cup) • Carrot, peeled (¼ cup) • Turnip, cooked (½ cup) • Onion, cooked (½ cup) • Okra, cooked (½ cup) • Silverbeet (½ cup) • Spinach (¼ cup) • Canned diced tomato (½ can) 	<p>Raw vegetables</p> <ul style="list-style-type: none"> • Vegetables without seeds/skins removed • Stringy vegetables (e.g. celery, broccoli stems, bean sprouts, asparagus) • Vegetables with tough skins (e.g. peas, corn) • Avoid all other vegetables not listed in foods to include.
Fruit	<ul style="list-style-type: none"> • Melons (no seeds) • Well-cooked fruit no skin/pips • Canned fruits except pineapple • Fruit juice – no pulp 	<ul style="list-style-type: none"> • Banana (1 small) • Apple, no skin (1 small) • Cherries/seedless grapes (1 cup) • Oranges, pips removed (1 small) • Mango, pawpaw/papaya (2/3 cup) • Grapefruit (1 small) • Peeled peaches & nectarine, plum (1 medium) • Blueberries (½ cup) 	<ul style="list-style-type: none"> • Fruit with skin, pips or of a very “fibrous” texture - e.g. pears, pineapple • Dried fruit • Fruit with small seeds (e.g. kiwi fruit, figs, dates, pomegranate) • Strawberries/Raspberries/Blackberries • Juice with pulp

FOOD GROUP	INCLUDE (low in total fibre)	INCLUDE MODERATE AMOUNTS of soluble fibre as desired	LIMIT (high insoluble and total fibre)
Miscellaneous	<ul style="list-style-type: none"> • All fats including butter, margarine, mayonnaise, oils • Sugar, honey, syrups • Boiled lollies, jubes, chocolate with no fruit, nuts or coconut • Spreads without seeds or skin • Broths/soup made from allowed ingredients • Desserts made from allowed foods (jelly, ice-cream, custard) • Gravy, salt, pepper, dried herbs & spices 	<ul style="list-style-type: none"> • Chutney and pickles 	<ul style="list-style-type: none"> • Popcorn • Coconut • Chocolate with nuts and fruit • Jams or pastes with nuts and seeds

Summary:

- Modify your fibre intake (particularly insoluble fibre) to reduce your risk of bowel obstructions.
- Remove stalks, stems, pips, seeds and skins from fruit and vegetables.
- Cook and chew your food well.
- See your doctor if experiencing symptoms of a bowel obstruction.

For further information, contact your dietitian or nutritionist: _____

Suggested meal plan

BREAKFAST
1 Glass strained fruit juice Rice bubbles/ ½ cup cooked oats with milk White toast /sourdough bread / crumpets with margarine / butter / honey / jam (no seeds) / vegemite Egg / cheese if desired
LUNCH
Tender meat / chicken / fish / egg / cheese White bread with margarine / butter Tinned fruit/ 1x fresh banana/ 1x peeled peach/ ½ cup blueberries with custard or yoghurt Cup of tea / coffee
DINNER
Soup (made with allowed ingredients) Tender meat / chicken / fish / egg / cheese Potato (peeled) / white rice / pasta/ ¼ cup cooked barley / 1 tsp of chia seeds sprinkled Allowed vegetables – peeled and well cooked Bowl of plain ice cream Cup of tea / coffee
SNACKS
Melons, tinned fruit, 1x small banana, ½ cup blueberries, 1x peeled nectarine, 1x peeled peach, yoghurt, milk, cheese & low-fibre crackers