

# Diet for Management of Irritable Bowel Syndrome



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# General Guidelines for Dietary Management of IBS

1. Reduce inflammation in all parts of the digestive tract
2. Reduce the amount of fermentable substrate passing into the colon

Strategies to promote these objectives:

1. Avoid inflammatory triggers
2. Increase digestion and absorption in the small intestine

## Dietary Management of IBS (continued)

Eliminate triggers and exacerbators of inflammation including:

- Allergens
- Chemicals that enhance release of inflammatory mediators (e.g. benzoates)
- Raw foods
- Alcohol
- Caffeine and other methylxanthines

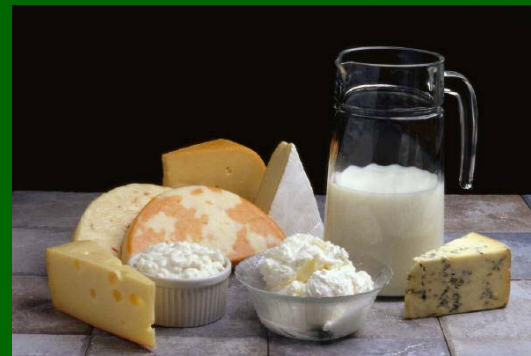
# General Instructions

- It is important to eat a balanced diet complete in all essential nutrients
- Eat three meals a day, with two or three snacks as desired
- For each food avoided, substitute one of equal nutritional value
- Supplemental micronutrients (vitamins and minerals) can be taken
- Choose ones without additives (colour, sugar, preservatives)

# Summary of Dietary Guidelines: Milk

AVOID: All milk and milk products

- Eliminate:
  - Milk
  - Cheese of all types
  - Yoghurt
  - Butter
  - Any food containing milk solids or derivatives
- Consume protein to level usually consumed as milk products
- Add calcium and Vitamin D supplements to age-appropriate level



# Summary of Dietary Guidelines: Grains

- AVOID: Specific cereal grains and flours: wheat, rye, oats, barley, and corn
- Use alternative grains to provide equivalent nutrients:
  - Millet
  - Tapioca
  - Arrowroot
  - Sago
  - Quinoa
  - Amaranth
  - Rice



# Summary of Dietary Guidelines: Fruit and Vegetables

**COOK All:** Vegetables (including salad vegetables)  
Fruits

Fruit and vegetable juices

- Raw vegetables, raw salads, raw fruit, raw juices, are not allowed
- Corn is a grain, not a vegetable

• Substitute with:

- Tinned fruit
- Pasteurised juices



# Summary of Dietary Guidelines: Spices and Herbs



AVOID: Spices (root, seed, bark of plant); examples:

- Cinnamon
- Curry spices
- Chilli seasoning spices
- Coriander seed
- Mustard seed
- Pepper
- Others

Substitute with:

- Herbs (leaves and flowers); examples:
  - Thyme
  - Sage
  - Rosemary
  - Oregano
  - Mint
  - Parsley
  - Basil
  - Coriander leaves
  - Others
- Cooked garlic and ginger are allowed, if tolerated



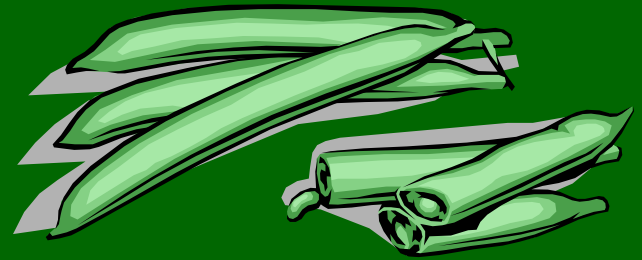
# Summary of Dietary Guidelines: Disaccharides

## Avoid:

- Sucrose (Table sugar)
  - Granulated
  - Castor
  - Demerara
  - Brown
  - Syrup of any type
- Substitute with:
  - Honey
  - Fructose (“fruit sugar”; laevulose)
  - Glucose (dextrose) is allowed but is not very sweet



## Summary of Dietary Guidelines: Legumes



**AVOID:** Legumes with indigestible, hard, outer skins;  
examples:

- Dried peas and beans
- Green peas, sugar peas, lima beans, broad beans

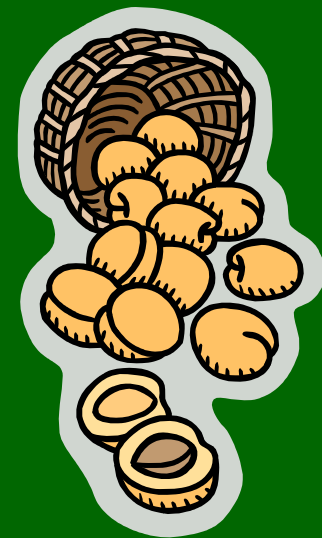
**Substitute with:**

- Runner beans, French beans, yellow wax beans, green beans
- Dried legumes without outer skins (lentils, split peas)
- Legumes ground into flours (chick pea flour, soy flour, black or red bean flour)

# Summary of Dietary Guidelines: Nuts and Seeds

AVOID: Whole nuts and seeds

- Eat as “butters” (paste) only; examples
  - Peanut butter (without any added sweeteners)
  - Almond butter
  - Cashew butter
  - Sesame butter and tahini
  - Sunflower seed butter
  - Pumpkin seed butter



## Summary of Dietary Guidelines (continued)



**AVOID: “Deli meats” such as:**

- Fermented sausages (salami, bologna, pepperoni, hot dog wieners)
- Smoked meat or fish

Cook all meats and fish from fresh or frozen sources

- No breaded, battered, sweet cured meats
- No smoked fish or meat
- Do not add cream sauces

## Summary of Dietary Guidelines: Fermented Foods and Beverages

AVOID: All alcoholic beverages of all types

AVOID: Vinegar and foods containing vinegar:

- Pickles
- Relish
- Prepared mustard
- Ketchup



AVOID: Fermented foods such as:

- Sauerkraut
- Soy sauce

## Summary of Dietary Guidelines: "Irritating" Foods and Beverages



AVOID: Caffeine and benzoates

Avoid coffees and regular tea

- Herbal tea (without spices) are allowed. Some decaffeinated coffees contain chemicals to which sensitive individuals react
- *Note: If several cups of coffee or black tea are consumed per day, reduce intake gradually; sudden total withdrawal can produce unpleasant side effects*

## Summary of Dietary Guidelines: Vitamin and Mineral Supplements

To ensure adequate intake of micronutrients, a multivitamin/mineral supplement is recommended

Supplement should be **free from**:

- Wheat
- Yeast
- Lactose
- Corn
- Additives such as artificial colours, flavours, and preservatives.



## Summary of Dietary Guidelines (continued)

- People differ in their degree of reactivity to some of the restricted foods
- Many individuals do not react adversely to vinegar and fermented foods
- Some people can drink coffee and eat chocolate but react adversely to tea (probably indicating benzoate sensitivity rather than a reaction to caffeine)



# General Guidelines

- The diet is initially followed for four weeks
- If no improvement, keep a careful record of foods consumed and symptoms experienced for a further seven days
- Based on the food/symptom record, increase restrictions for a further two weeks
- If still no improvement, proceed to reintroduction of foods

# Reasons for Non-improvement

- Diet failure due to:
  - All foods restricted were not completely avoided
  - Some food(s) remaining in the diet causing problems
    - Food allergy
    - Food intolerance
  - Food is not the problem

## Dietary Management of IBS: The Next Stage

If significant improvement is achieved,  
open food challenge may be initiated

- Symptom-free status may be maintained by avoiding the culprit foods and obtaining complete balanced nutrition from alternative sources

## Dietary Management of IBS

- Clinical experience has shown that a certain degree of “healing” of the digestive tract may take place, and over time some of the restricted foods can be reintroduced into the diet
- When the initiating circumstances are repeated (e.g. increased stress, recurrence of infection or pathology), returning to the basic IBS diet often again provides relief of GI tract symptoms

## Reintroduction of Restricted Foods

- Use sequential incremental dose challenge (SIDC) to determine sensitivity and limit of tolerance to each eliminated food in its purest form
- ***Do not test any food suspected to have caused a severe or an anaphylactic reaction except under medical supervision in a facility equipped for resuscitation***

## Challenge

- The basic IBS diet continues during this phase
- **If an adverse reaction to the test food occurs at any time during the test STOP. Do not continue to eat the test food**
- **Wait 48 hours after all symptoms have subsided before testing another food**

# Incremental Dose Challenge

## Day 1:

- **Morning:** Eat a small quantity of the test food  
Wait four hours, monitoring for adverse reaction;  
If no symptoms:
- **Afternoon:** Eat double the quantity of test food eaten in the morning.  
Wait four hours, monitoring for adverse reaction;  
If no symptoms:
- **Evening:** Eat double the quantity of test food eaten at lunch

# Incremental Dose Challenge

(continued)

## Day 2:

- Do not eat any of the test food
- Continue to eat the basic IBS diet
- Monitor for any adverse reactions during the night and day which may be due to a delayed reaction to the test food



# Incremental Dose Challenge (continued)

## Day 3:

- *If no adverse reactions* have been experienced proceed to testing a new food, starting Day 1
- **If the results of Day 1 and/or Day 2 are unclear :**
  - Repeat Day 1, using the same food, the same test protocol, but larger doses of the test food
- **Day 4:**
  - Monitor for delayed reactions as on Day 2

## Sequential Incremental Dose Challenge

- Continue testing in the same manner until all excluded foods, beverages, and additives have been tested
- For each food component, the first day is the test day, and the second is a monitoring day for delayed reactions

## Sequence of Testing Milk and Dairy Products



### Test 1: Casein proteins

White Hard Cheese (e.g. Mozzarella or Parmesan)

Block of 6-7 ounces cut into *seven*  
equal cubes

Morning: 1 cube

Afternoon: 2 cubes

Evening: 4 cubes

# Sequence of Testing:

## Milk and Dairy Products

### Test 2: Annatto, biogenic amines, plus casein

#### – Yellow Aged Cheese (e.g. old (aged) Cheddar)

Morning:	1 cube
Afternoon:	2 cubes
Evening:	4 cubes



## Sequence of Testing: Milk and Dairy Products

### **Test 3:** casein and whey proteins without lactose

- Lactose-free (lactase treated) milk
  - 99% Lactose-free milk *or*
  - Lactaid drops: 15 drops added to one litre of milk (skim, 1%, 2%, homogenised) left for 24 hours in fridge before test

Morning:	1/4 cup
Afternoon:	1/2 cup
Evening:	1 cup

## Sequence of Testing: Milk and Dairy Products

### Test 4: **lactose** in addition to casein and whey proteins



- Regular Milk (skim, 1%, 2%, homogenized)

Morning:	$\frac{1}{4}$ cup
Afternoon:	$\frac{1}{2}$ cup
Evening:	1 cup

## Sequence of Testing: Milk and Dairy Products

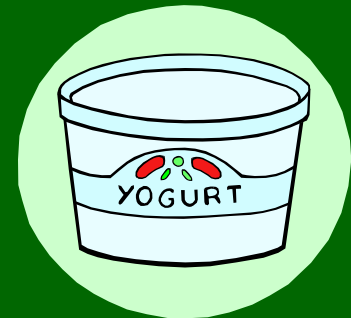
**Test 5:** ➤ modified milk components  
➤ reduced lactose (due to bacterial  $\beta$ -galactosidase)

– *Plain yoghurt*

Morning: 1/4 cup

Afternoon: 1/2 cup

Evening: 1 cup



## Sequence of Testing: Milk and Dairy Products

### Test 6: Whey proteins

- Whey powder (purchased)
  - Dilute whey powder in water according to package directions (10% wt/vol)
- **Test 6A: lactose-free whey**
  - Add commercial lactase (15 drops per 1 litre)
  - Leave for 24 hrs in the fridge

Morning	¼ cup
Afternoon	½ cup
Evening	1 cup



## Sequence of Testing: **Milk and Dairy Products**

- **Test 6B:** Lactose (in whey)
- Diluted whey powder (10% wt/vol) in water:

Morning	1/4 cup
Afternoon	1/2 cup
Evening	1 cup

## Sequence of Testing: **Milk and Dairy Products**

### **Test 7: Cottage cheese**

- Test for curdled milk with bacterial culture containing casein, whey, and lactose

Morning	1/4 cup
Afternoon	1/2 cup
Evening	1 cup

## Sequence of Testing: Milk and Dairy Products



### Test 8: Ice Cream: *vanilla flavour only*

- Tests for complete milk components, sucrose, and additives

Morning	1/4 cup
Afternoon	1/2 cup
Evening	1 cup

## Sequence of Testing: **Wheat**

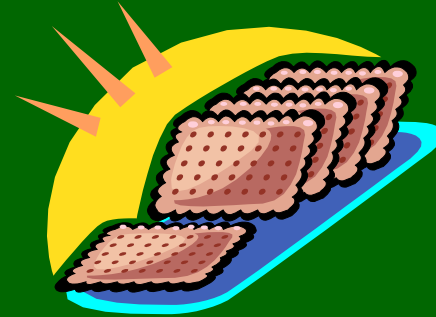


### **Test 1:** Pure cereal grain

- Puffed wheat; wheat flakes (cooked); Cream of Wheat™(cooked)
- Add tolerated fruit juice or milk substitute

Morning:	1/4 cup
Afternoon:	1/2 cup
Evening:	1 cup

## Sequence of Testing: **Wheat**



### **Test 2:** Wheat Cracker without yeast

– e.g. Triscuit™

Morning:	1 cracker
Afternoon:	2 crackers
Evening:	4 crackers

– Note; many crackers contain yeast (e.g. Saltines™; Ritz™)

# Sequence of Testing: Wheat

## Test 3: White Bread

Morning:	1/2 slice
Afternoon:	1 slice
Evening:	2 slices



- if *benzoates* are suspect, use unbleached flour
- if *milk proteins* are suspect, use milk-free bread
- if *preservatives* are suspect, use preservative-free bread
- ***note:*** many commercial breads contain *soya flour*

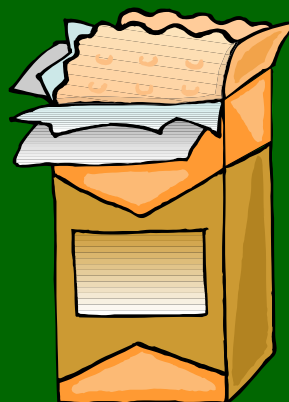
## Test 4: Whole Wheat Bread

- Test as for white bread

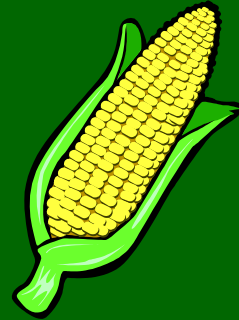
## Sequence of Testing: **Rye**

**Rye:** Test as for wheat:

- **Test 1.** Rye Flakes (cooked)
- **Test 2.** Rye Cracker (Ryvita™ (wheat-free) or Wasa™ (light))
- **Test 3.** Rye Bread (100% rye flour, wheat-free)



# Sequence of Testing: Corn



- **Test 1: pure grain**
  - corn-on-the-cob
    - ¼; ½; 1 cooked cob
  - *or.* frozen corn niblets:
    - ¼; ½; 1 cup cooked
- **Test 2: corn oil**
  - 1, 2, 4 teaspoons added to tolerated food
- **Test 3; corn syrup**
  - 1, 2, 4 teaspoons added to tolerated food



## Sequence of Testing: **Alcoholic beverages**

**Test 1.** Distilled alcohol (enhanced antigen uptake)

- Tequila; vodka; gin; white rum

**Test 2.** White wine (biogenic amines, especially histamine)

**Test 3.** Red wine (biogenic amines, especially tyramine)

**Test 4.** Beer, ale, lager (fermented grains)

**Test 5.** Cider (fermented apple, pear, peach etc)



# Sequence of Testing: **Chocolate**

- **Test 1** : Unsweetened ("bitter") baker's chocolate
  - Melt and add honey (if tolerated) as a sweetener
  - Solidify on a flat surface (e.g. baking sheet)
  - Break into squares
  - Test: 1, 2, 4 squares
- **Test 2**: Purchased chocolates

