

# Low fructose diet for children

## What is fructose?

Fructose (sometimes called fruit sugar) is a natural sugar that is mainly found in fruit, honey and processed foods.

## What is fructose intolerance?

Fructose intolerance occurs when the body is unable to absorb fructose well. A common symptom of fructose intolerance is diarrhoea. Some children also experience abdominal pain, bloating, wind and irritability.

The diagnosis of fructose intolerance should be confirmed by a breath hydrogen test.

Fructose intolerance *should not be confused* with 'Hereditary Fructose Intolerance' - a much more serious condition caused by a liver defect. This information sheet is *not intended for children with 'Hereditary Fructose Intolerance'*.

## Tolerance

Fructose does not need to be completely removed from the diet. Tolerance of fructose will vary greatly between children. Many children will tolerate small amounts of a high fructose food without symptoms however if large amounts are eaten symptoms may reappear.

## How to reduce the fructose in your child's diet

### Step 1: Reduce serves of fruit each day

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- Most children improve dramatically by simply reducing the amount of fruit they eat each day.
- Spreading the fruit serves over the day can also help
- The Australian Guide to Healthy Eating advises that children only need 1-2 serves of fruit each day.
- This table shows the amount of fruit needed each day for your child:

	1-2 years	2-3 years	4-8 years	9-18 years
Number of fruit serves recommended	½	1	1 ½	2

One serve of fruit is about 150g or

- 1 medium apple, banana, orange or pear,
- 2 small apricots, kiwi fruit or plums
- 1 cup diced canned fruit (with no added sugar)



## Step 2: Avoid foods that contain large amounts of fructose in a serve

- The foods in this table contain large amounts of fructose and may need to be reduced or avoided all together if your child still has symptoms after reducing their fruit intake.
- Some fruits are likely to be tolerated better than others because they contain glucose which helps the fructose be absorbed. These are marked in ***bold italics and marked with \****
- IMPORTANT NOTE:** Tolerance to high fructose foods varies greatly between children. Many children will tolerate small amounts of a high fructose food however if they eat large amounts symptoms may appear.

Food category	Foods that contain large amounts of fructose in a serve – may need to limit	
<b>Fruit</b>  <b>Serve size is 150g</b>  Fruits <u>more likely</u> to be tolerated have an <b><i>* and are in bold/italics</i></b>	Apple  <b><i>Banana*</i></b>  Berry fruits – <b><i>Blueberries*</i></b> , blackberry, boysenberry, cherries, mulberries, <b><i>raspberries*</i></b> , <b><i>strawberries*</i></b> .  Dried fruit - ALL  Tin / packaged fruit in natural juice  Fig  <b><i>Grapes (all types)*</i></b>  Jackfruit  <b><i>Kiwifruit*</i></b>  Loquat	Lychee  <b><i>Mandarin*</i></b>  Mango  Melons –watermelon, <b><i>rockmelon (cantaloupe)*</i></b>  <b><i>Orange*</i></b>  Peach  Pear  Nashi pear  Persimmon  <b><i>Pomegranate*</i></b>  Quince
<b>Drinks</b>	All fruit juice (except cranberry – ½ cup day can be consumed)  All cordial with added fruit juice (most cordials)	
<b>Cereals and cereal products</b>	Cakes and biscuits containing added fruit or jam (e.g. dried fruit)  Raisin bread (contains dried fruit)  Breakfast cereals containing dried fruit	
<b>Sauces and condiments</b>	Commercial reduced fat mayonnaise (in large amounts >3 tablespoons in one serve)  Asian sauces (in large amounts >3 tablespoons in one serve), - sweet chilli sauce, sweet and sour sauce, Hoi sin sauce plum sauce.  Commercial tomato based pasta sauce (in large amounts ½ cup or more of sauce in one serve)  Tomato paste (in large amounts >3 tablespoons in one serve)  Tomato sauce and barbeque sauce (in large amounts >3 tablespoons in one serve)  Chutney  Jam	

<b>Snack products</b>	Muesli bars with dried fruit (e.g. fruit filled bar or bar containing sultanas) Fruit straps / fruit leathers Dried fruit
<b>Sugars</b>	Golden syrup (in large amounts > 1 tablespoon in one serve) Honey Agave syrup Molasses syrup
<b>Other</b>	Pickled onions Sundried tomatoes
<b>Ingredient in food products to avoid</b>	High fructose corn syrup Corn syrup solids Fructose Fruit juice concentrate Dried fruit

### Step 3: consider other gas producing foods

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- If your child still has symptoms (e.g. diarrhoea, gas, bloating, and irritability) after following step 1 and step 2 they may need to reduce their intake of other gas producing foods– please call your Accredited Practicing Dietitian to make an appointment to discuss this.

### Other information

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#### Vitamin C

- Fruits and vegetables provide most of our vitamin C. If your child is not eating many fruits and vegetables they may need a vitamin C supplement. Discuss this with your dietitian.

#### Reducing fructose in family meals

- Pasta sauces
  - Use fresh tomato, canned chopped tomato or passata sauce to make bolognese instead of commercial pasta sauces.
  - Avoid adding tomato paste to pasta sauce
  - Try mixing tomato base with cream to make 'rosa' sauce
  - Try cream based sauce (e.g. carbonara)
  - Try pesto sauce
- Baking
  - Avoid using dried fruit and add savoury ingredients (e.g. corn, carrot, zucchini, cheese) instead.
  - Avoid using high fructose sugars (honey, golden syrup, agave syrup).

## Healthy low fructose snack ideas

### Fruit snacks:

- Remember to limit fruit to the number of serves recommended for your child's age.
- Try low fructose fruit e.g. apricot, nectarine, peach, plum, passionfruit, pineapple, passionfruit, honeydew melon.
- If tolerated try small amounts of higher fructose fruits and assess your child's tolerance— e.g. ¼ apple, ¼ banana, 4 medium strawberries, 6 grapes, 1/8 cup blueberries, 6-8 raspberries, ½ kiwifruit, ½ orange, 1/5<sup>th</sup> pear, ½ mandarin, ½ cup diced watermelon or rockmelon (cantaloupe).

### Vegetable snacks:

- Vegetable sticks (can give raw if child over 4 years, steam to soften if child < 4 years) – cucumber, carrot, celery, capsicum, snow peas. You may like to serve with a dip or nut butter).
- Olives (cut in half if child < 4 years)
- Cherry tomatoes (no more than 10 in one sitting) (cut in half if child < 4 years)

### Other healthy snacks

- Cheese and crackers
- Crackers, rice thins or corn thins with spread (e.g. nut butter or cream cheese)
- Yoghurt
- Wholegrain toast or English muffin
- Homemade Savoury muffin
- Popcorn\*
- Pretzels\*
- Pikelets
- Boiled egg
- Healthy muesli bar (no dried fruit) – search the internet for 'fructose friendly muesli bars' for a large range of recipes.
- Healthy muffin – search the internet for 'fructose friendly muffins' for a large range of recipes
- Zucchini and corn fritters
- Zucchini slice
- Tuna with crackers
- Bliss balls based on nuts – search the internet for 'fructose friendly bliss balls' for a large range of recipes.

*\*Foods marked with (\*) are hard foods and should not be given to children under 4 years due to choking risk.*

*Food product information contained in this resource was up to date at the time of revision. If you are not sure about a food, check with the manufacture*

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Revised April 2018