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Information about Fructose malabsorption (FM)

Fructose malabsorption (FM) is defined as the incomplete absorption in the small intestine of dietary free fructose, with subsequent delivery of fructose to the distal small bowel and colon. Fructose malabsorption is not to be confused with hereditary fructose intolerance, a serious condition in which the liver enzymes that break up fructose are deficient.

Some authors describe fructose malabsorption as a more or less normal physiological state, but, in the presence of visceral hypersensitivity, the effect of malabsorbed fructose on intestinal distension induces symptoms.

The presence of fructose malabsorption in a person who has symptoms such as abdominal pain, bloating, wind, altered bowel habit and lethargy offers an opportunity for dietary manipulation to help reduce those symptoms, whether the underlying gastrointestinal condition is primarily a functional condition such as IBS, secondary to small bowel bacterial overgrowth (SBBO), or secondarily associated with other conditions.

Dietary components that fulfil both an osmotic effect and rapid fermentation are short-chain carbohydrates that are poorly absorbed in the small intestine. These comprise fructo- and galacto-oligosaccharides, sugar alcohols (polyols) and, in some patients, fructose and lactose. These related molecules are called “FODMAPs” (Fermentable Oligo-, Diand Mono-saccharides And Polyols).

Limitation of the intake of fructose and fructans specifically, but with associated minimization of other FODMAPs, led to sustained and substantial relief of all the symptoms of IBS in a study.

Problematic foods: Since fructose is absorbed efficiently in the presence of an equimolar concentration with glucose, people with fructose malabsorption need to avoid foods high in free fructose, but may manage those with balanced concentrations of fructose and glucose.

Please see table below.

Please note: The use of fructose and high fructose corn syrup (HFCS) is increasing.

I would recommend: low FODMAP diet with especially low Fructose intake.

This is best achieved with support from a registered dietitian.

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Food	Fructose (g) per 100 g raw	Low-Fructose substitutions	Fructose (g) peer 100 g raw
	Fresh Fruits		
Grapes	8.1	Apricots	0.9
Apples	5.9	Nectarines	1.4
Pears	6.2	Peaches	1.5
Bananas	4.9	Strawberries	2.4
	Fresh Vegetables		
Carrots	1	Celery	0.5
Onions	2	Peas	0.4
Asparagus	1	Spinach	0.1
Sweet potatoes	0.7	Mushrooms	0.2
	Beverages		
Brandy	16	Whiskey	8
Cola	6.1	Gatorade	0.2
Apple juice	5.7	Iced tea	0
Sprite	5.2	Coffee	0
Orange juice	2.2	Hot tea	0

Note: All dried fruits and juices are potentially high fructose foods— 100 mL (one-third glass) of “safe” fruit juices (i.e. with no excess fructose) or a tablespoon of dried fruit is the maximum to be consumed in one sitting.

Lit:

-Barrett et Gibson, PRACTICAL GASTROENTEROLOGY • AUGUST 2007

-Medscape: Sheri Helms, U.S. Pharmacist, Fructose Malabsorption

TC 7/2019