

Fructose-Restricted Diet

What is dietary fructose intolerance?

Dietary fructose intolerance (DFI) is the inability to absorb fructose efficiently. Fructose is a simple sugar that is found in fruits, some vegetables, some commercially prepared baked goods, and foods containing high fructose corn syrup. The symptoms of fructose intolerance may include bloating, abdominal pain, diarrhea, headache, weight loss, and fatigue. The treatment for DFI is to follow a fructose-restricted diet.

What is a fructose-restricted diet?

The following pages give more detailed information on foods containing fructose. The main principles of the fructose-restricted diet include:

- avoiding foods containing High Fructose Corn Syrup (HFCS)
- avoiding most fruits and some vegetables
- avoiding some commercially baked goods
- avoiding sorbitol
- incorporating dextrose into the diet

These fructose-restricted diet recommendations serve as a guideline. Many people with DFI are able to tolerate varying amounts of fructose in their diet. Most physicians recommend following the diet strictly for several weeks before slowly testing the tolerance of individual foods. When trying to incorporate questionable foods into your diet, eat them no more frequently than every four days, since it typically takes fructose about three days to pass through the gastrointestinal (GI) tract.

What is dextrose and how does it help?

Dextrose is a simple sugar that is not normally available in U.S. grocery stores. It may be found in some health food stores and wine-making supply stores. When dextrose is incorporated into the diet, it bonds to the free fructose in the GI tract, which aids absorption of fructose to help relieve symptoms.

How do I ensure a balanced diet?

Since restricting fructose eliminates fruits and most vegetables, the intake of nutrients found in these foods is limited. A multivitamin with 100% of the Recommended Dietary Allowance of Vitamin C and Vitamin E is necessary.

SUGARS

Allowed:

- Barley malt syrup
- Brown rice syrup
- Corn syrup
- Corn syrup solids
- Dextrin
- Dextrose/glucose
- Duocal®
- Isomaltose
- Lactose
- Maltodextrin
- Maltose
- Moducal®
- Polycal®
- Polycose®
- Sucrose (cane sugar/table sugar)
- Sugar substitutes
 - Aspartame (NutraSweet®, Equal®)
 - Saccharin (Sweet 'n Low®)
 - Sugar Twin®
 - Sweet One®

BEVERAGES

Allowed

- Alcoholic beverages (limit to one ounce/day)
 - Gin
 - Rum
 - Vodka (from grain or potato)
 - Whiskey
- Carbonated mineral water
- Cranberry juice, 100%, sweetened with allowed sugars
- Coffee/tea
- Carbonated beverages, diet, dark colors (Diet Coke, Diet Pepsi)
- Kool-Aid packet mix, regular and made with table sugar (sucrose) or other allowed sugar substitutes
- Milk
- Powdered drinks, sugar-free
- Water

Avoid:

- Agave syrup
- Brown sugar
- Caramel
- Fructose
- High fructose corn syrup
- Honey
- Invert sugar
- Isoglucose
- Karo® light corn syrup
- Levulose
- Maple syrup
- Molasses
- Palm sugar
- Sugar substitutes
 - Splenda® — *to Sucralose*
- Sugar Alcohols
 - Mannitol
 - Sorbitol
 - Xylitol

Avoid:

- Beer
- Wine
- Carbonated beverages, sweetened; diet, citrus-based
- Chocolate milk, sweetened
- Cider
- Crystal Light® containing sugars to avoid
- Juice
- Fruit drinks
- Vegetable drinks
- Powdered drinks, sweetened
- Sports drinks (Gatorade®, etc.) — *flavor*
- Tropicana Light
- Kool-Aid Jammers

PROTEINS

Allowed:

Eggs
Beef--plain, unbreaded
Fish and shellfish--plain, unbreaded
Poultry--plain, unbreaded
Steak-umm Sliced Steaks®

Legumes

- Chick peas (garbanzo beans), $\frac{1}{4}$ - $\frac{1}{2}$ cup
- Lentils, $\frac{1}{2}$ cup
- Lima beans, $\frac{1}{4}$ cup
- Mung beans, $\frac{1}{4}$ cup

Grains, seeds, nuts

- Amaranth, 2-4 T uncooked
- Flax seed, 2-3 T
- Millet, 2-4 T raw
- Poppy
- Pumpkin, 1 T
- Sesame, 2 T
- Tahini, 1 T
- Pistachios, 2-3 T

Soy products

- Soy protein isolates
- Tofu, $\frac{1}{4}$ block

Avoid:

Meat processed with honey, brown sugar,
or other intolerated breading (honey-
baked ham, honey-roasted
chicken/turkey)
Legumes (other than those listed)
Nuts (other than pistachios)
Peanut butter



BREADS

Allowed:

Bread (homemade or made from bakery
without fructose, brown sugar, honey)
Cereal
• cooked (barley, Cream of Wheat, grits,
grouts, oatmeal, plain)
• ready-to-eat (those without ingredients
to avoid) (Puffed Rice®, Puffed Wheat®,
Post Grape-Nuts®, Quaker Life®
[regular and cinnamon])
Chow mein noodles
Corn meal
Crackers (rice, rye, wheat, soda)
English muffin (without ingredients to
avoid)
Flour (white/rye)
Pasta (without ingredients to avoid)
Rice (white/brown)
Tortilla (flour)

Avoid

Breads (those containing ingredients to
avoid)
Crackers (those containing ingredients to
avoid)
Cakes and cookies (those containing
ingredients to avoid)
Cereal
• cooked (instant, flavored)
• any containing ingredients to avoid
Popcorn

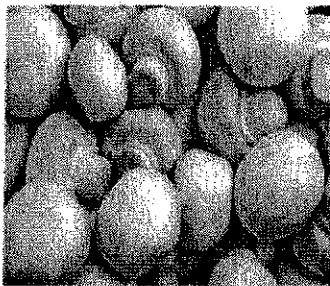


VEGETABLES

Allowed:

2-4 servings/day; serving is $\frac{1}{4}$ to $\frac{1}{2}$ cup

Broad beans
Celery
Chives
Dandelion greens
Endive
Mushrooms
Mustard greens
Pea pods
Potatoes, white
Shallots
Spinach
Swiss chard
Turnip greens
Escarole



Avoid:

Beets
Carrots
Corn
Eggplant
Onions
Peas
Sweet potatoes
Tomatoes
Turnips
Winter squash

2 servings/week; serving is $\frac{1}{4}$ to $\frac{1}{2}$ cup

Asparagus
Beans, snap
Broccoli
Brussel sprouts
Cabbage, white
Cauliflower
Cucumber
Green peppers
Leeks
Lettuce, iceberg
Radishes
Summer squash
Watercress
Zucchini
Lettuce, Romaine



FRUITS

Allowed:

1-2 times per week

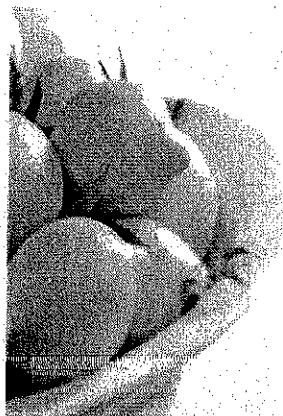
Avocado *Coddins*

Cranberries ($\frac{1}{4}$ - $\frac{1}{2}$ cup)

Lemons

Limes

Rhubarb ($\frac{1}{4}$ - $\frac{1}{2}$ cup)



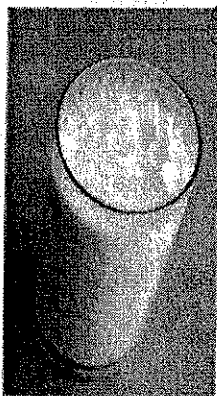
Avoid:

All other fruit, fruit juice or drinks
Jam and jelly

MILK

Allowed:

Cheese (other than veined cheese - see avoid list)
Buttermilk
Milk (skim, 1%, 2%, whole)
Goat milk
Dry; whole, skim
Ice cream (homemade) made with regular sugar
Lactaid
Yogurt (plain, lemon, key lime, vanilla sweetened with aspartame)



DI Sugar

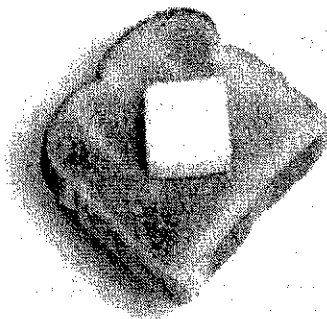
Avoid:

Chocolate milk sweetened with high fructose corn syrup
Sweetened condensed milk
Yogurt (fruited, sweetened with high fructose corn syrup or Splenda)
Blue or green veined cheese such as Roquefort, Danish Blue, Italian Gorgonzola, English Stilton, etc.
Ice cream made with corn syrup

MISCELLANEOUS

Allowed:

Bouillon
Salad dressing (without ingredients to avoid)
Butter, margarine, oil
Sugar-free gelatin
Vinegar (rice, malt, some balsamic, distilled white)
Cornstarch



Avoid:

Vinegar-apple cider
Tomato-based sauces (catsup, salsa, spaghetti, pizza) *Not Sauce*
Soy sauce
Condiments (with ingredients to avoid)

- Barbeque sauce
- Worcestershire sauce
- Honey mustard
- Sweet & sour sauce

Sugarless gum
Sugar-free products (candy, cookies)
Teriyaki sauce

Not