

LACTULOSE

**BRAND NAMES: CEPHULAC, CHRONULAC, CHOLAC,
CONSTULOSE, ENULOSE, KRISTALOSE**

AVAILABLE AS
SYRUP OR AS CRYSTALS (KRISTALOSE®)

HOW THIS MEDICATION WORKS

Sugar molecules are common biochemicals and the chances are you have heard of their various scientific names: sucrose, fructose, glucose etc. Fructose, for example, is the natural sugar that sweetens fruit. Sucrose is table sugar. Glucose is the basic sugar our bodies depend on for fuel. Other sugars are converted to glucose for either storage or immediate use within our bodies. The suffix "ose" generally means a substance is a sugar.

Lactulose is a disaccharide: a sugar molecule composed of two smaller sugar molecules bonded together, in this case fructose and galactose. Mammals and birds are not able to digest lactulose so it passes unabsorbed from the mouth all the way down to the large intestine. There, the resident large numbers of bacteria are able to digest the lactulose and consume it as their own food. In doing so these bacteria produce lactic, acetic, and formic acid as well as carbon dioxide gas. These acids biochemically draw fluid into the bowel which softens the stool, hence the common use of lactulose as a laxative.

The generation of these acids also acidifies the colon contents which attracts ammonia from the bloodstream and traps it there to be excreted with the stool. This is very helpful for patients in liver failure as their diseased livers are not able to detoxify ammonia; excess ammonia in the blood stream leads to a form of dementia called "hepatic encephalopathy." Colon acidification removes ammonia from the bloodstream by trapping it in the stool to be passed from the body.

Basically, lactulose is primarily used as a stool softener or in the treatment of liver patients as described above.

SIDE EFFECTS

- Obviously, diarrhea can be a side effect of using a stool softener. This can usually be controlled by administering less lactulose.
- Gas or cramping may result from lactulose usage.

INTERACTIONS WITH OTHER DRUGS

The stool softening effect of lactulose is compounded by the use of additional laxatives. This may or may not be desirable.

Antacids can interfere with the colon acidification process and make lactulose less effective in trapping ammonia.

CONCERNS AND CAUTIONS

- Lactulose should be stored at room temperature away from light. If lactulose has been prescribed to you in a clear plastic bottle, be sure to store it in a cabinet or inside a bag. If lactulose is not stored properly, it can become cloudy or darkened but this does not affect the efficacy of the drug.
- Lactulose is very sweet tasting and can be objectionable to some animals and because it is a syrup, it can create a sticky mess in the fur around the face. (It has been determined that cats are not able to taste sweetness; we do not know what lactulose might taste like to them but they generally seem to dislike it. Lactulose crystals, instead of the syrup, added to food may be more acceptable for cats.)
- Lactulose should not be taken by diabetics. Even though lactulose is not readily absorbed by the mammalian intestine, there is still a small percentage (approximately 3%) which is absorbed and could be enough to interfere with diabetic regulation. In addition, there may be some unbound fructose or galactose in the syrup, enough to be a problem for a well-regulated diabetic.

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