



Constipation can mean different things to different people. Some people think they are constipated if they do not have their bowels opened every day. Other people only have their bowels opened two or three times a week and they consider this to be normal for them. In a way, being 'normal' is what you are used to and any deviation from that may be called constipation. If you are passing hard, small stools and having your bowels opened less frequently than is normal for you, you are constipated. The important thing about having your bowels opened is that it should be painless and not require too much straining

Causes

Constipation may be a symptom of an underlying disease of the bowel or anus, of the nerves supplying the bowel (e.g. spinal cord injury), or of some other generalized disease such as an underactive thyroid gland (hypothyroidism). In these cases the treatment of the constipation is to treat the underlying disease. Constipation may also be due to general debility, lack of mobility, old age or mental deficiency. However, constipation is most often caused by a diet that does not have sufficient fibre in it and poor bowel habits (not going when you feel the urge).

Drugs may cause constipation, particularly in the elderly. Often there is a combination of factors that come together; for example, an elderly patient with poor bowel actions on a diet low in fibre is prescribed a drug which has a side effect of causing constipation.

Warning You should always seek medical advice for any **change** in your bowel habits that goes on for more than a week or two, particularly if there is blood in your motions.

Drugs used to treat constipation

Drugs used to treat constipation are usually termed laxatives. Other names include cathartic, purgative, aperient and evacuant. We usually talk about a *laxative* when we wish to produce a soft, formed, easy to pass motion and a *purgative* when we wish to produce a fairly quick and fluid emptying of the bowels. However, the terms all mean the same thing and the results will depend on the type of laxative used and its dose.

There are four main groups of drugs used to treat constipation, which may be taken by mouth, and according to how they work they are referred to as stimulant laxatives, bulk-forming laxatives, osmotic laxatives and faecal softeners. Some may also be taken as suppositories or enemas.

Stimulant laxatives

These laxatives increase the movements of the large bowel by 'irritating' the lining and stimulating nerves in the bowel wall, which cause

the muscles to contract. They may also increase the production of chemicals (eg prostaglandins) by cells in the bowel wall, which stimulates the secretion of water and salts into the bowel. How they actually produce these effects is not known but the result is that they speed up bowel movement and reduce the absorption of water and salts, which makes the motions soft and watery and also more bulky.

Harmful effects

All stimulant laxatives may cause intestinal cramps and gripping pains, increased secretion of mucus and, in some people, excessive loss of water and salts (particularly potassium). Regular use may cause loss of protein and failure to absorb essential elements from food such as vitamins, which may be harmful, especially in elderly people. In addition, they may cause a weakening of the muscles of the bowel (atony of the colon) so that it does not function properly. This may actually cause constipation and the danger then is that the individual takes further doses of the stimulant laxative which only makes things worse.

Commonly used stimulant laxatives

Bisacodyl may cause intestinal cramps and, when taken by suppository, may produce soreness and irritation. To avoid irritating the lining of the stomach, bisacodyl tablets have a special protective coating (enteric coating) which does not dissolve until the tablets reach the intestine. It is structurally related to phenolphthalein (see later).

Cascara, *senna* and *danthron* are chemically related (they are anthraquinones). When they are taken by mouth, soluble breakdown products are absorbed from the small intestine into the bloodstream and excreted back into the bowel (colon) where they stimulate nerves in the bowel which cause the muscles to contract and speed up bowel movement. An acid breakdown product from these laxatives colours the urine red or brown according to how acid the urine is (brown if acid, red if alkaline). If taken over long periods of time, they produce brown patches of pigmentation on the lining of the bowel. This is not serious and clears up in 4-12 months after the drug has been stopped.

They should not be used if you are breast feeding. Danthron may irritate the skin in incontinent people.

It has been known for some time that *danthron* and related drugs (anthraquinones) could

possibly cause cancer because they have been shown to be mutagenic (i.e. they can damage the genes) and there is a relationship between this ability and the ability to produce cancer. Long-term use of high daily doses of danthron has been associated with the development of cancer in the intestines and livers of rodents. Even though there is no evidence that danthron causes cancer in humans, this once widely prescribed stimulant laxative is now reserved for treating constipation caused by morphine and related drugs used to treat pain in terminally ill patients.

Phenolphthalein is a stimulant laxative which, when taken by mouth, is absorbed from the small intestine into the bloodstream where it is taken to the liver and excreted in the bile. This means that phenolphthalein re-enters the intestine and produces a prolonged action on the intestine. After absorption into the bloodstream it is also excreted into the urine which, if alkaline, the phenolphthalein will colour red. Phenolphthalein also colours the motions red. This can be a bit alarming to the individual who may think he is passing blood in his urine and motions. Phenolphthalein may occasionally cause allergic skin rashes, protein to appear in the urine (albuminuria) and damage the red blood cells (haemoglobinaemia).

Sodium picosulphate is a powerful stimulant laxative which is used to empty the bowel before surgery or X-ray examination of the bowel.

Use of stimulant laxatives

Stimulant laxatives should be used only *occasionally* and only for a dose or two. Except in the terminally or seriously ill, they should never be taken on a regular daily basis. They should not be used to treat children or pregnant woman. They take 6-18 hours to work when taken by mouth.

Powerful stimulant laxatives should *not* be used: they include aloes, aloin, buckthorn, cassia pulp, colocynth, croton oil, euonymus, ipomoea, jalap, kaladana, podophyllum, rhubarb, tamarind and turpeth, and unstandardized preparations of cascara, frangula, rhubarb and senna.

Castor oil

Castor oil differs from other stimulant laxatives in that it is broken down in the small intestine to ricinoleic acid which causes an increase in fluid secretion from the lining of the small intestine and may possibly act as a direct irritant to the lining of the intestine. Castor oil causes the irritant contents of the intestine to move on rapidly, producing watery motions in about 3-6 hours. Because it works on the small intestine its prolonged use may result in excessive loss of nutrients, fluids and salts. It should not be used.

