

Laxative

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Drug that support bowel movements. They were originally developed for constipation therapy and became widely used. This phenomenon is probably related to a change in people's lifestyle and mindset, according to which every „healthy“ person should have at least 1-3 stools a day on a regular basis. Physiologically, however, there are significant differences between individuals. The number of times a day - 3 times to 3 times a week can be considered normal. The diagnosis for each patient is mainly a change against the normal rhythm. It is always necessary to teach the patient about sufficient supply of fluids and fiber in the diet plus physical activity. In general, it is better to avoid drug therapy. This, in turn, must be initiated if diagnosed:

1. strangulating stools (eg postoperatively);
2. hemorrhoids - it is necessary to soften the stool;
3. liver failure - the amount of absorbed neurotoxic substances must be reduced;
4. constipation caused by drugs

Warning - laxatives are contraindicated in mechanical bowel obstruction. According to the mechanism of action, they can be divided into several categories:

Contact laxatives

Depending on the mechanism of action, they are **irritant** or **stimulant** laxatives. They are only suitable for short-term administration. Chronic stimulation leads to mucosal atrophy, intestinal distension and tolerance - forcing the patient to increase the dose. The cause is damage to the mucosal nerve plexus, which is usually not fully reversible. Contraindication is administration during pregnancy and lactation.

Castor oil

Senna

A plant containing glycosides, which are hydrolysed by the action of the intestinal flora to active *sennosid A* and *sennosid B*. These substances increase the intestinal response to normal stimuli, that's why it is important to administer volume laxatives (which act as a physiological stimulus). However, they probably also have a direct stimulating effect on the intestinal wall. After administration, they are rapidly absorbed and enter the large intestine by active secretion. The effect therefore starts with a delay of about eight hours.

Side effects

Colic and diarrhea in case of overdosage. Stains urine yellow or red. *Melanosis coli* - benign pigmentation of the intestinal mucosa caused by the deposition of anthraquinone pigments (released from the drug) into the intestinal mucosa.

Aloe, cascara

They contain *emodin* - a natural alkaloid, that is absorbed in the small intestine and then actively secreted into the lumen of the large intestine - where it stimulates motility. The effect starts with a delay of 6-8 hours.

Phenolphthalein, bisacodyl, picosulfate

Chemically similar synthetic substances. Significant enterohepatic circulation prolongs their effect and delays its onset by 10 hours.

Glycerin suppositories

The release of glycerin irritates the rectal mucosa. The effect is practically immediate.

Volume laxatives

Hydrophilic colloids, agar, tragacanth, methylcellulose, bran

They contain indigestible parts of fruits, vegetables and cereals. In the intestine, upon contact with the contents, they swell and form a bulky gel-like mass, which leads to intestinal distension and stimulation of motility. At the same time they bind organic substances (eg bile acid salts - elimination of cholesterol from the body carcinogens etc.). Bran is contraindicated in gluten enteropathy.



Glycerin suppositories

Osmotic laxatives

Osmotically active non-resorbable substances - retain water in the intestine and subsequent intestinal distension and stimulation of motility.

Magnesium sulphate, magnesium hydroxide, sodium sulphate

Non-absorbable inorganic salts. Magnesium-containing salts are partially absorbed (contraindicated in renal failure) and subsequent release of cholecystokinin, which facilitates a prokinetic effect on the gut.

Lactulose

Synthetic non-absorbable disaccharide (galactose-fructose). In the large intestine, it is transformed by the action of the fermenting microflora into non-absorbable anions (mostly acetic and lactic acid), which keep water in the lumen of the intestine. At the same time, the pH of the intestinal contents decreases. This property is advantageous in the treatment of liver failure, where a decrease in pH inhibits the proliferation of ammonia-producing microorganisms. The acidic pH of also prevents the absorption of already formed ammonia and its escape through the stool. It is taken orally once a day after breakfast. The effect starts within 2-3 days.

Sorbitol

Stool emollient laxatives

Soft emulsifiers - facilitate intestinal passage and defecation.

Mineral oils (paraffin oil)

Today, the obsolete group of drugs - the only indication is intoxication with strongly lipophilic substances (petrol, kerosene, organophosphates) - prevents their absorption and accelerates elimination by stool by accelerating the passage.

Motility stimulating laxatives

Drugs that directly stimulate the smooth muscle of the intestine. Used mainly in the treatment of functional constipation based on hypomotility and sudden passage disorders (paralytic - eg postoperative paresis)

Metoclopramide, alizapride, domperidone, cisapride

Prokinetics used in the treatment of gastric passage disorders.

Distigmine, neostigmine, pyridostigmine

Cholinesterase inhibitors. Indicated in the therapy and prophylaxis of postoperative intestinal atony.

Naloxone

In the treatment of constipation accompanying overproduction of endorphins.

Yohimbine

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