

National University of Pharmacy

Department of chemistry of natural compounds and nutraceuticals

LECTURE on NUTRITION

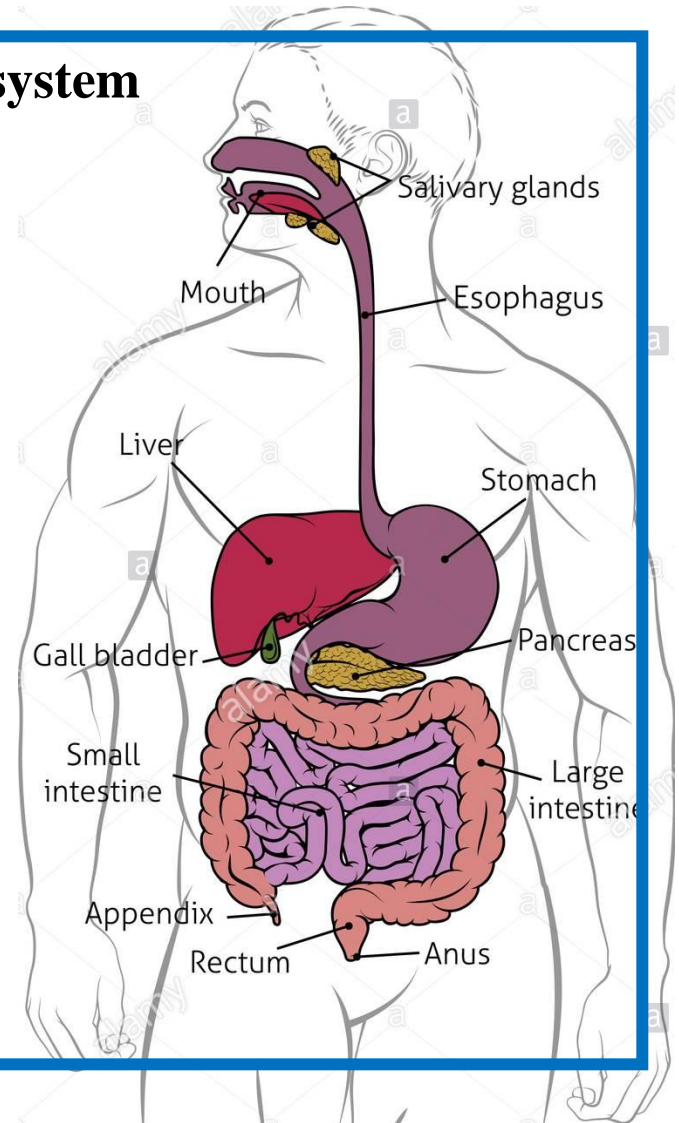


Diet, Dietary supplements for Patients with Gastrointestinal Disorder

Kharkov 2020

Plan

- **The most common diseases of the digestive system**
- **Risk factors for developing GIT disorders**
- **Avoidable factors**
- **Effect of food on gastrointestinal function**
- **Chemical composition of food and diet**
- **Disorders of the Stomach**
- **Diet and other interventions**
- **Disorders of the Intestines**
- **DIET № 1 and 2**
- **Constipation: diet 3, recommendations**
- **Diarrhea: diet 4, recommendations**
- **Pancreatitis: diet 5, recommendations**
- **Hepatitis: diet 5a, recommendations**



The most common diseases of the digestive system

- ❑ **GASTRITIS.** Gastritis suffered 50-80% of the adult population; with age increases the likelihood of disease gastritis.
- ❑ **GASTRIC ULCER.** Observed in 5-10% of the adult population; urban dwellers suffer from peptic ulcer disease are more likely than their rural counterparts.
- ❑ **CHOLELITHIASIS.** Up to 10% of the adult population of our country is suffering from cholelithiasis, and after 70 years it occurs in one in three.
- ❑ **• PANCREATITIS.** The incidence of chronic pancreatitis is an average of 0.05% of the total population.
- ❑ **COLON CANCER.** Mortality from cancer of the large intestine is about 2,500 people per year - 12% of the total number of deaths from cancer.

RISK FACTORS

- Risk factors can be divided into two types according to the efficiency of their elimination: ***inherent and avoidable***.
- ***Fatal risk factors*** - it's a given, something with which to be reckoned with, something that unfortunately can ***not be changed***.
- ***Avoidable risk factors*** - it is, on the contrary, that can be changed by taking appropriate measures or by making adjustments to your lifestyle

FATAL FACTORS

- **AGE.** The risk of **cancer** of the digestive system is elevated in men older than 50 years,
- the risk of **peptic ulcer** disease is elevated in men aged 20-40 years,
- the risk of **gallstone disease** is elevated in women older than 40 years.
- **SEX.** **Stomach cancer** 2 times more frequent in males while **gallstones** developed in 3-5 times more common in women.
- **Heredity.** If parents or other immediate blood relatives was in the past peptic ulcer or cancer of the stomach and the large intestine, the risk of development of the disease increases.

AVOIDABLE FACTORS

- **Overweight.** The most severely overweight affects the development of diseases such as **pancreatitis, cancer of the gallbladder and gallstones.** Tellingly, the risk of digestive diseases increases significantly even with a small excess of normal body mass index.
- **Alcohol abuse.** This addiction is addiction to alcohol, doubles the risk of stomach ulcers and stomach cancer .. In general, alcohol devastating effect on the entire digestive system and is a catalyst for all related diseases.
- **Smoking.** Definitely one of the decisive factors in the development of gastric ulcers. When an existing peptic ulcer treatment does not give significant results, if the person continues to smoke.

AVOIDABLE FACTORS

- **Improper diet.** Abundance in the diet of fatty and fried food, red meat, fast food, an overabundance of carbohydrates (particularly simple), smoked and salted meat and fish, pickles, preservatives - all this greatly increases the risk of stomach cancer and other diseases of the digestive system.
- **Eating disorders.** Refusal of breakfast, long breaks in the diet (more than 4-5 hours), delicious bedtime, use gas water on an empty stomach, and other eating disorders contribute to the development of all types of digestive diseases - from the relatively harmless gastritis to gastric cancer

AVOIDABLE FACTORS

- **Stress.** In the body is under stress and nervous stress, there is a spasm of the capillaries. This prevents the release of mucus that protects mucosa. Gastric juice and attacks the mucous tissue of the stomach, which leads to the formation of ulcer - and consequently to the development of peptic ulcer disease. In addition, stress causes an imbalance of the intestinal microflora, and thus, goiter .
- **Diabetes.** In 50% of diabetic patients develop a variety of diseases of the digestive system. Most characteristic of diabetic diseases such as chronic gastritis, gastro, colitis, hypersecretion with high acidity, Akhil, goiter. Specific for diabetic patients are diabetic enteropathy, diabetic hepatopathy and diabetic neuropathic gall bladder.
- **Abuse of coffee and carbonated beverages.** In coffee contains chlorogenic acid, which can cause heartburn, irritation of the stomach. Regarding abuse of carbonated beverages (dose excess consumption is considered over 1 liter of beverage a day), then there is a negative effect is irritative effect of carbon dioxide on the gastric wall, which in turn leads to the development of gastritis, ulcer, etc.

AVOIDABLE FACTORS

- **Low physical activity.** Lack of exercise and, hence, the tone and the absence of complicating the task of the body to combat negative factors. This also applies to questions of general form of immunity and specific problems - for example, weakness of the muscles of the abdominal wall.
- **Overeating.** By drinking too much food the stomach can not produce enough of the gastric juice, so the food is processed and digested defective. This leads to problems, and then the digestive system.

Prophylaxis. Diet

- **Diet:** often, but in smaller portions, compulsory breakfast, without skipping meals.
- **Proper nutrition.** Reduced consumption of fat, smoked, fried, salty food, smoking, carbonated beverages. Conversely, an increase in the proportion of dietary fiber (oatmeal, bran cereal, vegetables, fruits), fresh salads, coarse fiber foods, the right combination of products.
- **Moderation in eating.** Do not eat to satiety. (Fasting and overeating is a standard piece of not more than 400 ml (300 ml for women) food, if you imagine it in liquid form). Promotes overeating eating cooked and refined foods. It is necessary to have as many food (mainly fruits and vegetables) and raw minimally processed form.
- **It is important to respect for seasonality in the diet.** This means that at certain times of the year should eat certain foods. For example, winter and autumn have to eat more foods rich in protein and fat. These include primarily legumes, whole grains, fresh fruits and vegetables, cabbage, squash, greens. These products, firstly, are a source of minerals and vitamin C. Second, their proteins play an important role in the formation of healthy blood cells.

Effect of food on gastrointestinal function

- ❑ When constructing diets take into account the effect of food on the **secretory and motor functions of the stomach.**
- ❑ All food substances on the effect on the stomach can be divided into **weak and strong activators of secretion.**
- ❑ **Weak activators of gastric secretion:** soups milk cereal or vegetable from potatoes, carrots and beets; well boiled meat and fresh boiled fish; milk and dairy products, eggs boiled, white bread baking yesterday; weak tea, all fats; liquid milk porridge.
- ❑ **Strong activators of secretion** include spices (mustard, cinnamon, horseradish); beverages containing alcohol and carbon dioxide; coffee, all meals (plant and animal), **cooked by frying; canned foods; meat, fish, mushroom meals; all dishes containing extractives (eg, meat broth); strong vegetables meals ; black bread; strong tea.**

Effect of food on gastrointestinal function

- ❑ However, the same product cooked in different ways, is quite different load to the stomach; a piece of roasted meat is a strong activator secretion of stomach and boiled meat causes a slight stimulation of the secretory process.
- ❑ Fat has a biphasic action, it inhibits secretion and then saponification products of fat in the intestine to stimulate it.
- ❑ In effect the secretion of gastric juice and food texture. Meat piece is longer is in the stomach than meat souffle. Liquid and pasty food leaves the stomach faster than solid.

Chemical composition of food and diet

Great importance has **chemical composition** of the food.

**Quickly leave the stomach carbohydrates,
slower - and proteins
longest remain there fat.**

- The longer the time the food is in the stomach, the more irritating it mucosa and increases its secretory function.
- In the diet should not include products, mechanically irritate the mucous membranes:
 - containing crude cell membranes (turnip, radish, radish, asparagus, beans, peas)
 - fruit peel and immature,
 - rough-skinned berries (gooseberries, currants, grapes, dates)
 - bread made from wheat flour,
 - products containing coarse connective tissue (cartilage, skin of poultry and fish, stringy meat).

When building a light diet prescribed nutrients:

weakly stimulating secretion,
quickly leaves the stomach and
little irritating the intestinal mucosa.

Under the influence of light diet, **disappear all the clinical manifestations of the disease.**

Chemical composition of food and diet

By changing the chemical composition of the diet can influence the disturbed metabolism, stimulate the healing process of the ulcer, affect the regulatory function of the nervous system.

Anti-ulcer diet should be complete, balanced in terms of protein, fat, carbohydrates, mineral salts and vitamins. Proteins included in the diet should contain all the necessary amino acids.

Antiulcer diets are enriched with vegetable oils by reducing animal fat. Vegetable oils are added to cereals, soups and fish products. This normalizes disturbed metabolic processes in patients with peptic ulcer disease and promotes the healing of ulcers.

The diet includes vegetables, mashed beets, carrots, pumpkins. They are added to mucous soups, mashed cereals. The use of vegetable purees can significantly improve the appearance of food, increase the taste and nutritional value of dishes.

Chemical composition of food and diet

- Considerable importance is enough content in the diets of **mineral salts and vitamins**.
- **Most vitamin C** contained in the hips (dogrose), it is desirable that the patient received hips juices.
- **Vitamin C** enhances the redox and regenerative processes, has desensitizing properties and inhibits the secretion and motility of the stomach in patients with peptic ulcer disease.
- Liquid porridge made of buckwheat, oats, barley groats, and mucous soups from wheat bran contain large amounts of **vitamin B1**, which has a positive effect on the nervous system and reduces the acidity of gastric juice.
- A significant amount of **carotene provitamin A** contains carrots.
- Under the influence of a diet rich in carbohydrates increases the excitability of the autonomic nervous system, enhanced clinical system "irritable stomach". To restore processes proceeded actively, food ulcer patients should be full and varied.

Disorders of the Stomach

- Acute gastritis
 - Etiology/pathophysiology
 - Inflammation of the lining of the stomach
 - May be associated with **alcoholism, smoking, and stressful physical problems**
 - Clinical manifestations/assessment
 - Fever; headache
 - Epigastric pain; nausea and vomiting
 - Coating of the tongue
 - Loss of appetite

Disorders of the Stomach

- Acute gastritis (*continued*)
 - Diagnostic tests
 - Stool for occult blood; WBC; electrolytes
 - Medical management/nursing interventions
 - Antiemetics
 - Antacids
 - Antibiotics
 - IV fluids
 - NG tube and administration of blood, if bleeding
 - NPO until signs and symptoms subside

Disorders of the Stomach

- **Gastric ulcers and duodenal ulcers**
 - **Ulcerations of the mucous membrane or deeper structures of the GI tract**
 - **Most commonly occur in the stomach and duodenum**
 - **Result of acid and pepsin imbalances**
 - ***H. pylori***
 - **Bacterium found in 70% of patients with gastric ulcers and 95% of patients with duodenal ulcers**

Disorders of the Stomach

- **Gastric ulcers (*continued*)**
 - **Etiology/pathophysiology**
 - **Gastric mucosa are damaged, acid is secreted, mucosa erosion occurs, and an ulcer develops**
- **Duodenal ulcers (*continued*)**
 - **Etiology/pathophysiology**
 - **Excessive production or release of gastrin, increased sensitivity to gastrin, or decreased ability to buffer the acid secretions**

Disorders of the Stomach

- **Gastric and duodenal ulcers**
(continued)
 - **Clinical manifestations/assessment**
 - **Pain: Dull, burning, boring, or gnawing, epigastric**
 - **Dyspepsia**
 - **Hematemesis**
 - **Melena**
 - **Diagnostic tests**
 - **Esophagogastroduodenoscopy (EGD)**
 - **Breath test for *H. pylori***

Diet and other interventions:

1. Quit smoking
2. Small frequent meals
3. Avoid high fiber foods
4. Avoid foods rich in sugar, salt and milk
5. Eat slowly and chew food well
6. Avoid caffeine, alcohol, aspirin or any NSAID
7. High in fat and carbohydrates; low in protein and milk products.
8. Bland diet

Cancer of the stomach

- Etiology/pathophysiology**
 - Most commonly adenocarcinoma**
 - Primary location is the pyloric area**
 - Risk factors:**
 - History of polyps**
 - Pernicious anemia**
 - Hypochlorhydria**
 - Gastrectomy; chronic gastritis; gastric ulcer**
 - Diet high in salt, preservatives (nitrites, nitrates), and carbohydrates**
 - Diet low in fresh fruits and vegetables**

Disorders of the Intestines

- **Irritable bowel syndrome (IBS)**
 - **Etiology/pathophysiology**
 - **Episodes of alteration in bowel function**
 - **Spastic and uncoordinated muscle contractions of the colon**
 - **Clinical manifestations/assessment**
 - **Abdominal pain**
 - **Frequent bowel movements**
 - **Sense of incomplete evacuation**
 - **Flatulence, constipation, and/or diarrhea**

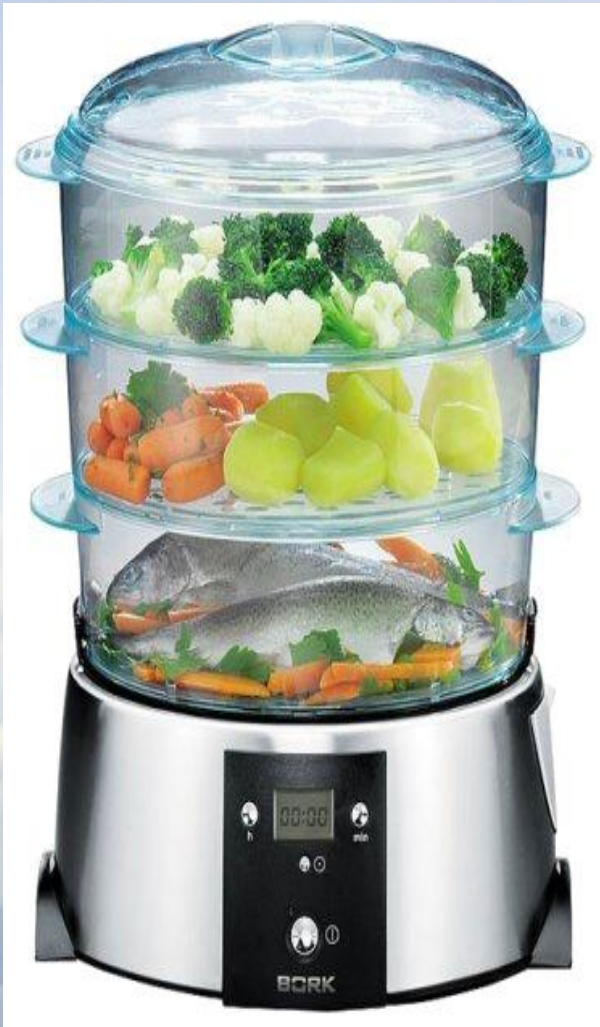
Diet 1

- *Indications*: peptic ulcer of the stomach and duodenum in the acute stage and unstable remission;
- acute gastritis;
- chronic gastritis with normal and high acidity in the stage of mild exacerbation;
- gastroesophageal reflux disease.
- *Diet*: 4-5 times a day
- *Duration* of appointment: at least 2-3 months

The food is served in a semi-liquid or jelly-like form warm, meat dishes and potatoes without frying. Limit the content of salt

INDICATION:

Peptic ulcer and 12 duodenal ulcer with hyperacidity.



- *Meal technology:* Food should be cooked on the water or steamed, mashed, with teeth intact fish and meat can be eaten piece.
- Bake individual dishes, but without the crust.
- Eat 4-5 times a day in the same time.
- Avoid very hot and cold dishes.

- **RECOMMENDED MEAL:**

- **Soups.** Soup of mashed cereals, soup of boiled vegetables (except cabbage) on broth from cereals and vegetables allowed , milk soup with small noodles. In soups add milk, cream, egg.
- **Snacks.** Mild cheese, ham and low-fat unsalted, salad of boiled vegetables, meat and fish, milk, diet and doctoral sausage.
- **Vegetables.** Potatoes, carrots, beets, cauliflower, zucchini and pumpkin. Limited - green peas, finely shredded fennel - in soups.
- **Fruits and berries**, sweet dishes and products. Sweet varieties of ripe fruit and berries as compotes, jellies, mousses, gels, when baked, sugar, jam, marshmallows , candy .
- **Juices.** Raw vegetables from approved, sweet berries and fruit decoction of rose hips .
- **Drink.** Weak tea, tea with milk or cream, weak cocoa with milk or cream.

- ***AVOIDED meal:*** Meat, fish and strong vegetable broths and soups, mushrooms, fatty meats and fish, salted, smoked, pickled, canned meat and fish, pastry, cakes, black bread, raw vegetables and fruits non-mashed, ice cream, black coffee, soft drinks, chocolate, all the sauces, except milk-sauces, vegetables - cabbage, turnip, radish, spinach, onions, cucumbers, all canned vegetable snack.
- ***If the patient has acute case,*** the first 7-8 days of treatment with large food restrictions: fully exclude bread, any vegetables , snacks, all meals - just shabby (mashed meal).

From the diet of a patient with this disease **EXCLUDED:**

salted, smoked, pickled, fried foods, canned goods, meat and fish broths, sodas, vegetables-broth;

Spices: pepper, onions and others., cucumbers, cabbage, gooseberries, currants, sinewy meat (that is, foods that contain large amounts of roughage and honey-ately evacuated from the stomach).



DIET №2

Indications:

Chronic gastritis with SECRETORY INSUFFICIENCY, or in its absence, chronic colitis (without exacerbation).

• Technology of cooking:

- Meals can be boiled, fried, baked, fried without the formation of coarse brown (not breaded in bread crumbs and flour), it is desirable to grind food.
- **Recommended:**
- Grain mill products. Wheat bread white and gray yesterday's baking variety of pastries and biscuits, dry biscuit.
- **Milk and dairy products.** Milk or cream tea and other beverages in the composition of different dishes, milk beverages and dishes, yogurt, yogurt, acidophilus milk and other dairy drinks, fresh cheese in kind and in dishes (soufflé, pudding, cheese cakes, dumplings) grated cheese, sour cream and 25 grams per meal.
- **Meat and fish dishes.** Various articles in the form of lean beef cutlets, veal, pork, lamb, poultry, minced fish products, it is possible to fry without breading crumbs, in pieces of meat and fish boil.
- **Cereal and pasta.** Porridge pureed, semi-viscous, baked puddings, cereals chops, fried so as to avoid forming a rough crust, pasta, chopped finely cooked, boiled noodles, porridge prepared with water or with milk.

DIET №2

- **Eggs.** Boiled eggs, scrambled eggs without coarse brown or steamed.
- **Fats.** Butter, melted, refined vegetable, olive better.
- **Soups.** Different soups on loosely skim meat, fish, mushroom broth and vegetable broth with finely chopped or mashed vegetables, mashed cereals (soup, cream soup), borscht, beetroot, cabbage soup from fresh cabbage finely chopped, with finely chopped vegetables.
- **Snacks.** Mild cheese grated, soaked herring, fish, meat and tongue aspic, salads of fresh tomatoes, boiled vegetables with meat, fish, eggs, sausage diet, doctoral and dairy, lean ham, low-fat jelly, liver pate, caviar vegetable, caviar .
- **Sauces.** Rather weak on meat, fish, mushroom and vegetable broth.
- **Vegetables and herbs.** Puree a variety of vegetables, puddings, vegetable patties, boiled, steamed, mashed, baked or slices, potatoes, zucchini, pumpkin, carrots, beets, cauliflower; portability - cabbage, green peas, ripe tomatoes; finely Slaw greens added to the dish.
- **Fruits and berries, sweet dishes and products.** Mature fruits and berries in the form of pureed fruit compotes, purees, jelly, jelly, mousses. Sugar, honey, candy, jam. Apples baked, portability tangerines, oranges, watermelon, grapes without skin.
- **Juices.** Vegetable, berry, diluted with water, broth hips.
- **Drinks.** Lemon tea, coffee and cocoa on the water and milk.
- **Salt to 12-15 g**

DIET №2

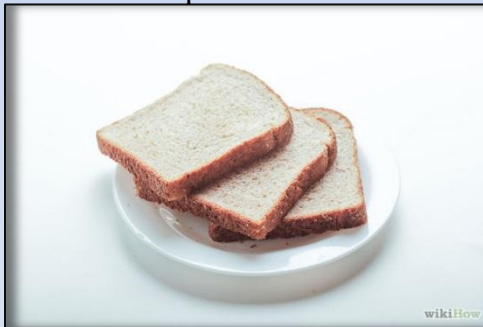
- **Excluded are:** Articles of warm pastry, fried meat and fish, treated by breadcrumbs, fatty meats and fish, pickles, smoked fish, pickles, meat and fish, and others. Snack canned food, cold drinks, ice cream, lard and cooking fats, mustard, horseradish, chocolate, cream products, figs, dates, berries with coarse grains (raspberry, red currant) or rough skin (gooseberry), grape juice, kvass, onion, radish, radishes, cucumbers, turnips, garlic, mushrooms, sweet pepper, beans.
- **Power fivefold in the same hours, mostly in the form of puree.**

Constipation: diet, recommendations

Diet 3



1. Eat a diet high in fiber. Fiber helps provide bulk and also accelerates the movement of food through the GI tract. Both insoluble and soluble fiber will benefit constipation.



2. Select breakfast **cereals** with ideally around 10 grams of fiber per 100 grams. But do watch cereal salt content.



3. Introduce more legumes (beans, lentils**), seeds, nuts and green leafy vegetables into your diet on a daily basis.** They are rich in fiber and nutrients, including magnesium, which is good for constipation.

Swap refined carbohydrates, such as white bread, for whole-meal or whole-grain varieties. This applies to pasta and rice as well. Whole grains have more fiber and more nutrients. They not only help protect against constipation but may also help prevent insulin surges and reduce the risk of diabetes.



- **Drink more fluids.** Dehydration can worsen constipation by leading to hard, dry stools. When food waste passes through the colon, the colon absorbs water from the waste. If you are drinking adequate amounts of fluids, the colon will soak up less water from the food waste, resulting in softer stools.
- Drink at least **8 GLASSES OF WATER EACH DAY.**
- Include additional fluids in your diet if you spend time outside in hot weather.
- Make sure you drink extra water during exercise.



Aim for around 5 portions of fruit or vegetables per day. Vary your choices because different fruits and vegetables provide different kinds of fibers. A variety of fruits and vegetables also enhances the body's ability to fight free radicals by providing a variety of different antioxidants with different roles to play in the body. Remember that those dried and canned count too.



- **Exercise.** Set yourself an achievable goal such as a 30-minute walk each day and stick to it. Being more active will increase general health and should make the gut work more effectively. Studies show that exercise increases nitric oxide levels, which may alleviate constipation. Low nitric oxide levels may explain both constipation and hypertension in pregnant women and the elderly.



Cut down on caffeine and alcohol. Both are diuretics that dehydrate you. Try to switch to decaffeinated coffee.

Do not overeat. Smaller meals are easier to digest and may benefit GI health more than larger meals. You could try eating more than three meals a day and see how you feel. Avoid eating late at night because the body has more trouble digesting food while you are sleeping.





If you are still constipated after trying this general health-improving advice, try natural means to combat **constipation**. Prunes or herbal teas are an option, and are high in fiber.

Add a psyllium powder supplement to your diet. Psyllium powders can provide additional fiber to your diet in a convenient form. You mix most powders with water. Incorporate fruit, vegetable and grain fiber sources into your diet first before using a psyllium supplement.



Foods to Relieve Constipation

- Good fiber sources include:
- Bran and other whole grains found in cereals, breads, and brown rice,
- Vegetables such as Brussels sprouts, carrots, and asparagus,
- Fresh fruits, or dried fruits such as raisins, apricots, and prunes,
- Beans,
- While you're having an issue with constipation, limit foods that are high in fat and low in fiber, like cheese and other dairy products, processed foods, and meat. They can make constipation worse.
- And on the subject of diet, water is important for preventing constipation, too. Try to drink at least 8 glasses of water a day.
- Also exercise regularly. Moving your body will keep your bowels moving too.



Foods to Relieve Constipation: When planning your healthy diet, it helps to include plenty of high-fiber choices to help you stay regular. Try these five foods:

- **1. Prunes:** Prunes were grandma's remedy. They could be yours, too. "Prunes and prune juice have been used for many years to help relieve constipation,"
 - **2. Beans.** Beans have more than 10 grams of fiber per cup serving -- that's more than almost any other fiber source. Beans have a great mixture of soluble and insoluble fiber, which helps the food keep moving through your intestines.
- **3. Kiwi.** The luscious green flesh of the kiwi may be just what the doctor ordered. One medium kiwi has about 2.5 grams of fiber and lots of vitamins and nutrients that are important for good health, including your intestines. A kiwi is a berry. And like most berries, it has edible seeds. You can even eat the peel though most people prefer to eat just the flesh.
- **4. Rye Bread.** Physician advises eating whole grain breads and cereals to ease constipation. Whole grains have lots of fiber, which is good not only for the bowels but also the heart. she says. Arabinoxylan- the main component of dietary fiber in rye, is what keeps food moving through your intestine.
- **5. Pears.** Pears contain some of the most fiber. Be sure to eat the skin to get the most fiber you can. With the skin, an average pear provides 5 to 6 grams of dietary fiber that you need to regulate your digestive system.

Constipation: Foods to avoid

- **1. Dairy Products:** In large quantities, dairy products, such as milk and cheese, can cause many people to become constipated.
- **2. Red Meat:** There are plenty of reasons not to eat a lot of red meat. One is that eating a large portion of red meat can make you constipated.
- **3. Bananas:** Bananas are a conundrum when it comes to constipation foods to avoid. It's a matter of timing: **Unripe bananas can cause constipation; Ripe bananas can help relieve constipation.**
- **4. Caffeine** Like bananas, [caffeine](#) can go either way. Caffeine is a stimulant that can make have more bowel movements. But if you're dehydrated, you may find that the caffeine in coffee, black tea, and chocolate only makes you more constipated.

DIET 3 (for constipation)

Fiber

Increases colonic residue, stimulating peristalsis

- Psyllium (Metamucil-natural fiber)**
- Methyl cellulose (Citrucel-semi synthetic)**
- Polycarbophil (Fibercon-synthetic fiber)**
- Side effects: flatulence, distention, bloating, and unpleasant taste**
- In normal-transit or slow-transit type: fiber intake increased to 20 to 25 g per day over a period of one to two weeks**

Diarrhea: diet, recommendations

Diet 4

Diarrhea, diet, recommendations:

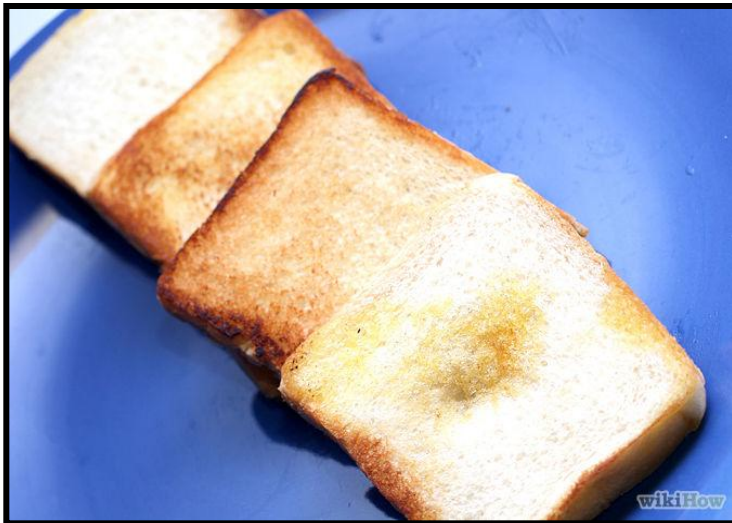
- ➡ Since frequent bowel movements deprive the body of vital elements necessary to restore their balance.
- ➡ Diet therapy. Restriction products, which cause mechanical and chemical irritation of the mucous membranes, strengthens the processes of fermentation and putrefaction - **cabbage, cucumbers, beans, beets, tomatoes, cucumbers.**
- ➡ Excluded **fried, smoked, pickled foods.**
- ➡ Since intestinal infections are often accompanied by secondary lactase deficiency (temporary intolerance to milk protein), in the acute period is **excluded from the diet of whole milk.**
- ➡ Add into nutrition water-based **porridge** include (rice, buckwheat).
- ➡ Allowed **decoctions** of dried and fresh apples, blueberries, wild cherry.
- ➡ Infants should be fed more often, but in small portions: the first day of treatment to reduce the amount of food is not more than 50 % and to increase the multiplicity of feeding 8-10 times a day.
- ➡ Within 4-5 days of age it should be restored ordinary food volume supply.



Drink clear fluids - broth, water and juices - for the first twelve hours of your diarrhea.



After 12 hours of liquids only, follow the **BRAT diet - bananas, rice, applesauce, and toast.**



Plain toast is a good idea as this will further dilute and absorb up the tainted fluids that are stored up in your stomach.



- **Limit insoluble fibers.** Insoluble fibers are called "insoluble" because they do not dissolve in water. Insoluble fibers accelerate the movement of food through the GI tract.
- **Soluble fibers**, such as pectin (found in **applesauce**), slow the movement of food through the GI tract by forming a gel when combined with water. Soluble fibers have a property called viscosity, **and fibers with a higher viscosity are more beneficial for diarrhea.**



Eliminate foods that might be contributing to your diarrhea, such as high-fructose foods, sugar-free foods sweetened with sugar alcohols, and dairy products. Dairy products may worsen diarrhea in people who are not lactose-intolerant because food usually travels through the intestines more quickly during diarrhea, which may reduce the absorption of lactose. The unabsorbed lactose may then draw water into the bowels.

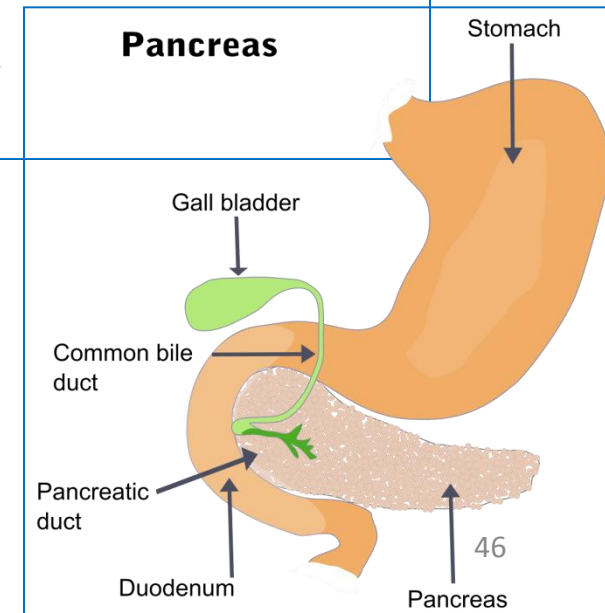
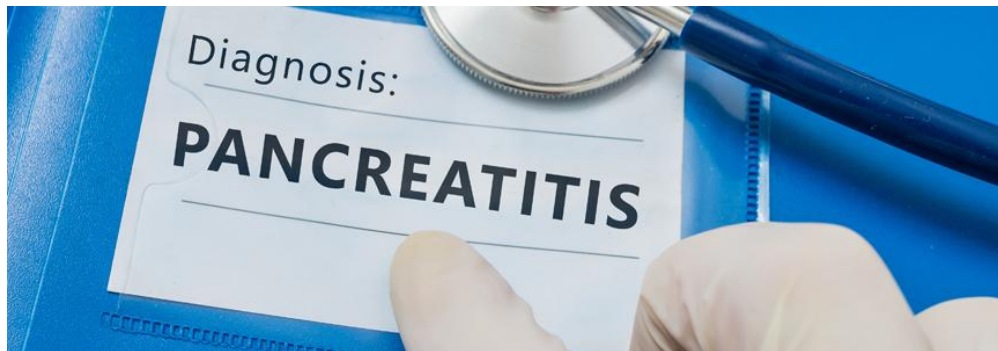
Diarrhea, diet, recommendations:

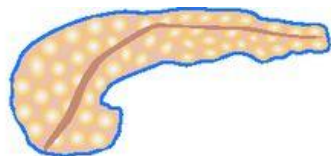


- **After recovery, try some yogurt.** If the diarrhea is not caused by antibiotics, yogurt with live cultures is often helpful to restore the balance in your digestive tract. Often the cause of antibiotic-related diarrhea is an overgrowth of the clostridium bacteria, and "good" bacteria often help keep that in check.

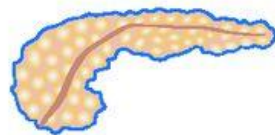
Diet 5 Pancreatitis

- Diet № 5 is one of the methods of complex therapy necessary to eliminate pancreatitis. Its purpose is to protect the pancreas as much as possible from mechanical and chemical irritation. Thanks to this diet, with a chronic illness, you can normalize the condition without the use of pharmaceuticals.

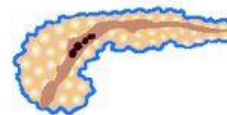




NORMAL PANCREAS



EARLY CHRONIC PANCREATITIS



LATE CHRONIC PANCREATITIS

Clinical features

- Acute relapsing pancreatitis
- Chronic or recurrent pain
- Chronic or recurrent pain
- Chronic or recurrent pain
- Pancreatic exocrine insufficiency (PEI)
- Pancreatogenic diabetes (DM)
- Secondary pancreatic cancer

Diagnostic testing

- US and CT usually non-diagnostic
- Endoscopic ultrasound
- Secretin - MRCP
- Pancreatic function tests
- CT usually diagnostic
- MRI/MRCP usually diagnostic
- Fecal elastase for PEI
- HbA1c for DM

Therapy

- Medical therapy for pain
- Avoid toxins (ETOH and tobacco)
- Analgesics:
 - non narcotic
 - low potency narcotics (tramadol)
- Gabapentoids, SSRIs, or TCAs
- Continued medical therapy for pain
- Endoscopic or surgical therapy for pain
 - if pancreatic duct is dilated
- Pancreatic enzyme replacement therapy
 - Add vitamin D and calcium
 - Nutritional assessment and monitoring
- Therapy for DM

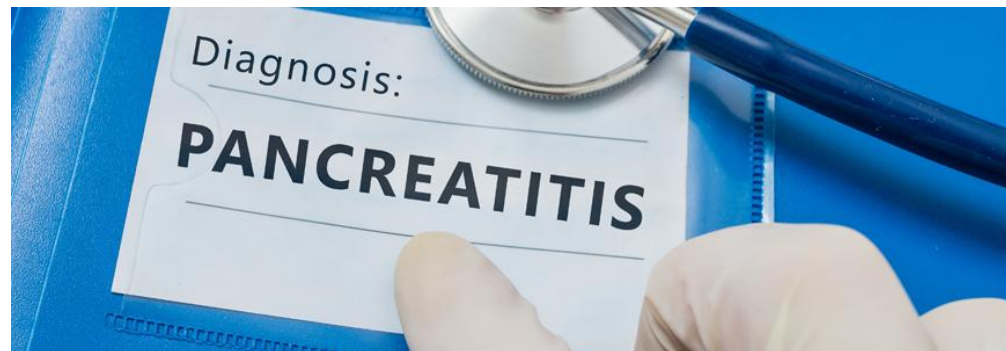
TIME

3-5 YEARS

5-10 YEARS AND BEYOND

Diet 5 Pancreatitis

- With exacerbation of pancreatitis, the basic principle on the basis of which are the daily diet - "**hunger, cold and quiet.**" That is, in case of acute pancreatic pain, patients are advised to completely abandon food intake for 3 days and only then switch to table 5 diet.



Diet 5 Pancreatitis

- Nutrition is a vitally important part of treatment for patients with pancreatitis. The primary goals of nutritional management for chronic pancreatitis are:
- Prevent malnutrition and nutritional deficiencies
- Maintain normal **blood sugar levels** (avoid both hypoglycemia and hyperglycemia)
- Prevent or optimally manage **diabetes**, kidney problems, and other conditions associated with chronic pancreatitis
- Avoid causing an acute episode of pancreatitis
- To best achieve those goals, it is important for pancreatitis patients **to eat high protein, nutrient-dense diets that include fruits, vegetables, whole grains, low fat dairy, and other lean protein sources.**
- Abstinence from alcohol and greasy or fried foods is important in helping to prevent malnutrition and pain.

Diet 5 Pancreatitis

- Risk of diabetes in chronic pancreatitis
- Chronic pancreatitis also causes the pancreas to gradually lose its ability to function properly, and endocrine function will eventually be lost.
- This puts patients at risk for type 1 diabetes.
- Patients should therefore *avoid refined sugars and simple carbohydrates*

Rules for diet number 5:

- The optimum temperature of the dishes should be at the level of **40-55 degrees**. You will have to refuse hot or cold food.
- Reduce the amount of **salt** - no more than 6 grams per day.
- Fractional diet: it is recommended to take food **5-7 times a day, in small portions**.
- Before use, the products should be **crushed**: meat and fish are ground into minced meat, vegetables and fruits are brought to a consistency of **mashed** potatoes.
- Cooking technology: **cooking, steam processing, stewing without fat**; with the expansion of diet number five, it will be possible to bake foods in foil or parchment to prevent the formation of a golden crust.

Diet 5 Pancreatitis

Not recommended food

Foods to limit include:

- red meat
- organ meats
- fried foods
- fries and potato chips
- mayonnaise
- margarine and butter
- full-fat dairy
- pastries and desserts with added sugars
- beverages with added sugars

Recommended food

Bread products. Wheat bread (dried or yesterday's baking) from flours of the 1st and 2nd grades, in the form of crackers, dry unsweetened cookies.

Milk and dairy products. Fresh non-acidic low-fat cheese, cheese pastes, puddings, dairy drinks, milk - when tolerated.

Meat dishes. Low-fat beef, veal, rabbit, chicken, turkey, poultry release from the skin. Boiled or steamed, mashed or chopped (cutlets, buns, mashed potatoes, souffle, beef strogans, a piece of "young" meat).

Fish dishes. Non-greasy varieties in pieces and chopped, boiled or poured after boiling

Grain and pasta, legumes. Oatmeal, buckwheat, semolina, semolina and semolina porridge, cooked on water or in half with milk, cereals souffle, puddings halved with cheese, casseroles. Boiled pasta.

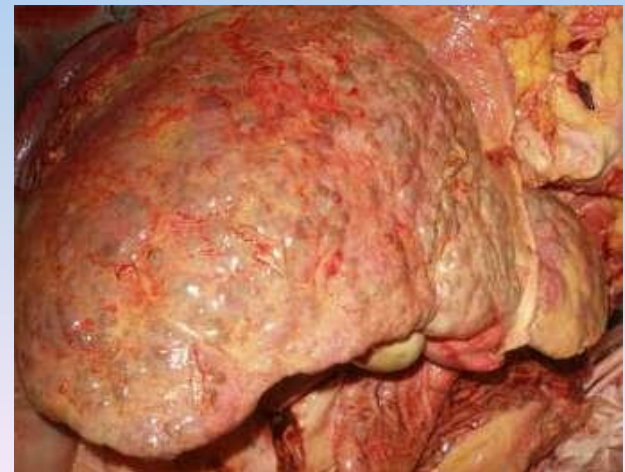
Eggs. Protein omelets, up to 2 eggs a day, egg yolks not more than 1/2 of the dish.

Diet 5 Pancreatitis benefit

- The main benefit of diet number 5 is the **elimination of excessive secretion of enzymes involved in digestion**. Food during the diet is absorbed in full, **destruction of the enzyme organ does not occur**, the inflammatory process can be stopped.
- The secretion of bile is normalized, excessive reproduction of the digestive juice of the stomach is eliminated. The intestine begins to work stably, the development of dysbiosis and violation of the water-electrolyte balance can be prevented. Since diarrhea does not occur, dehydration does not threaten the patient.
- Diet number five has proven to be useful in treating patients with chronic hepatitis, cholecystitis, and cirrhosis of the liver until a pronounced pathology appears.

Hepatitis Diet 5

- ***Hepatitis*** - the general name of acute and chronic diffuse (i.e, unlike focal propagating the entire body) inflammatory liver diseases of different etiologies.
- ***Hepatitis***: infectious, toxic (alcohol, drug, chemical), radiation, and as a consequence of autoimmune diseases.



Hepatitis, diet, recommendations

Diet hepatitis primarily protects the liver, so **alcohol** is completely eliminated, as well as **coffee and other caffeinated drinks**.

It is important to limit to a minimum the consumption of **salt to 2 grams** per day in order to ensure normal exit of fluid from the body.

Excluded **canned, strong broths, fatty meats and fish, eggs, seasonings, spices, meats, pickles, mushrooms, and other junk food**.

Recommended **light food**: vegetarian soups, vegetable oil, boiled or steamed meat low-fat varieties, dairy products, fresh and boiled vegetables , fruit , a variety of cereals .

Hepatitis Diet 5

Also be aware that the power of hepatitis must be fractional, then there is often little as common **symptoms of hepatitis is a lack of appetite, nausea, vomiting.**

To avoid such troubles, there are small "secrets": there is little, to **avoid strong-smelling foods, food put on the table at room temperature.**

For hepatitis patients is important not only diet. Moderate exercise is needed to help maintain a normal body tone and cope with fatigue. Of course, before you drive a new exercise for yourself, you must also consult with your doctor .

Is very important for patients with hepatitis **proper rest and sleep .**

And, of course, impossible to exaggerate the importance for patients with hepatitis warm family relationships, support from family and friends, their understanding of its problems and the desire to help him cope with the disease

Hepatitis, diet 5, recommendation

There should be small portions of **four - five times a day**.

Of great importance is the method of cooking: dishes should stew, steamed or in the oven.

FRIED FOOD IS STRICTLY PROHIBITED.

Have to refrain from **eating spicy greens, beans, sorrel, rich in essential oils** (radish, radish, garlic, onions, etc.).

Have to give up **fatty meat, fish and poultry, as well as rich broth containing large amounts of extractable matters.**

Prohibited confectionery **fats** and baking.

From drinks must abandon sweet carbonated water, strong tea, coffee and any alcohol.

Hepatitis have **to give up alcohol completely.**

From drinks desirable to give preference to **quality drinking water.**

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- OK.. DONE, LET'S GO HOME!!