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Is faulty digestion at the root of most every disease?

Cause and cure

Special Report By

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Incomplete Digestion, Hidden Symptoms

Emaciation

Obesity

Anemia

Malaise

Apprehension

Asthma

Headaches

Skin Problems

Acid indigestion

Hernias

Flatulence

Halitosis

Autonomic unbalance

Ulcers

Disorientation

Liver - Gallbladder imbalance

Alimentary Tract Flora Imbalance

Candida

Allergies

Aches and Pains

And poor digestion contributes to many major illnesses such as;

Cancer

Multiple Sclerosis

Chronic Fatigue

Epstein-Barr

And many more

In vital health (usually when you are young) you can eat just about anything and thrive. Time passes and something happens; eating cooked foods, chemical exposure, injury,

stress or aging. Your digestive resources are depleted and you develop "symptoms" (listed above). When your system is working properly the stomach issues acids that reduce the size of the particles to about the size of corn meal before exiting into the small intestine. Once these small pieces are delivered to the small intestine your pancreas issues pancreatic enzymes to break down the food further allowing your body to make use of the energy, nutrients and building blocks stored in the food.

When your system is in some way deficient the following can occur:

Chyme: The food squeezed into the upper portion of the stomach is ground and mixed thoroughly with digestive chemicals into a thick liquid called chyme. Chyme bears no resemblance to the original food because the starches have been partially split, the proteins have been uncoiled and clipped, and fat has been separated from the mass. The chyme is squirted forcefully into the top of the small intestine. The carbohydrate and protein-rich portions leave the stomach first; the fat leaves the stomach later.

What not to do about digestion problems.

Anti-acids are not advised, think about it, if you do not have enough acids the foods are not broken down properly, carbohydrates ferment, proteins rot and putrefy. Less acid just does not make any sense.

If you ignore the problem and just eliminate foods that are the most difficult for you to digest you will get some relief but… Every day you consume food that does not digest properly you are stressing your body unnecessarily. The liver cleaning the blood must handle the little pieces of food that are not digested properly. Large pieces provide a wonderful fuel for candida and a host of unfriendly fungi and bacteria. I have read about colons autopsied that weighed over 75 pounds and commonly ten to twenty five pounds (all undigested food stuck in your colon).

What you can do about digestion problems.

- If you are critical you can begin by masticating foods with your blender and then eating the baby food.
- Eat smaller meals.
- Introduce additional acid into the stomach, everyone is different and you will have to discover the correct amount for you (JD60023 Beta-Z Betaine HCL 250 mg 200 tablets) start with one cap with each meal and increase 1 tablet per meal every day every three days until symptoms are controlled. (Note - a chronic need for HCL products may be an indication of need for zinc and vitamin B for production of HCL)
- Test for the correct amount by taking an increasing amount with each meal until you

notice a burning in your butt when you poop. (JD60106 Panteric Extra 2730 mg Pancreatic Enzymes, 250 caps) Cancer patients may select Dr. Kelley's Current Formulas (Ca+, MG, E) with over 5000 mg in each capsule. Check the mg. on any enzymes you may have on hand. Start with 1 each meal, Then 2 each meal Then 3 each meal, Then 4 each meal and continue until you discover the correct amount.

- You may be able to reduce the required amount of the enzymes by taking Okra-Pepsin E-3 to help heal and remove the mucus that has built up in your small intestine. Take 1 with each meal for three months each year. When you finish the 150 cap bottle (3 months) if you notice you felt better when you were taking the Okra-Pepsin E-3 (SP6085), you may continue taking it. A person with stomach ulcers lacks hydrochloric acid and pepsin, so he does not digest his food. Instead of being digested, his food rots, creating gas and organic acid that start to erode his stomach. Most people talk about the ulcer patient having too much acid. The acid that he has too much of is the acid produced by this rotting food. If it is protein that is rotting, the process is called putrefaction. If carbohydrate is rotting, the process is called fermentation. If the patient had hydrochloric acid and pepsin in his stomach he would not have this acid of fermentation or putrefaction. In other words, if he digested his food, it wouldn't rot. The usual approach if a person has this acid of putrefaction or fermentation in his stomach, is to take an antacid. This gives temporary relief, but makes the situation worse than before. Not only does the antacid neutralize the acid of putrefaction, it also neutralizes the person's digestive acid. So the next time he eats he has even less digestive acid than before, and the problem becomes worse. It's a vicious circle that often leads to stomach ulcers.

Synergistic Products (optional)

- Prices mentioned below may vary.
- Cyro-Yeast Wafer (SP3200, 100 wafers, $22.00) a multiple vitamin and trace mineral plus Lactic Acid Yeast, one with each meal (may substitute Catalyn (SP2160 360 Tabs $32.00) if you prefer a pill)
- A-F Betafood (SP0825, 360 tablets, $40.00) 3-9 per day, It thins the bile and gets the bile moving. The bile has several functions in the body. One is to break down the fat in food. It is an emulsifier that promotes the digestion of fat. Bile also helps eliminate toxins from the body. The liver is like the oil filter in a car. It removes toxins from the blood and dumps them out thorough the bile. It puts them in the bile, which takes them to the intestines for elimination. So bile assists in the elimination of toxins. If the bile gets thick like cream and does not flow smoothly, this indicates that the person's fat metabolism is deficient. If a person cannot digest fat and eats a meal that contains fat, he will start to burp immediately. This is a symptom of gallbladder trouble. So we must thin the bile. So the product has a detoxifying action. It's very specific in gallbladder cases. There is a Dr. Evers down in New Orleans. He says even though he is a surgeon, he does one-tenth of the gallbladder surgery that he did

before learning about A-F Betafood. That's a pretty good record coming from a surgeon!

- Cataplex G, (SP45503, 360 Tabs, $32.00) 3 per day, contains the B complex factors, which are not soluble in absolute alcohol. G contains the lipotropic factors. What does that mean? It means the factors that metabolize fat. G is a vasodilator; it opens up the blood vessels by relaxing the nerves in the vessels. So G is for a person with high blood pressure, the tense, coronary type person.
- Pituitrophin PMG (SP6850, 90 tablets, $10.00) 3 per day, gastric hyperacidity
- Chlorophyll Capsules (SP2275 60 Perles, $16.00), 1 per day, This is our fat-soluble chlorophyll product, for internal use. It's made from alfalfa, buckwheat, pea vines, tillandsia and soybean plants. It's an outstanding product *with* many uses, the only natural source of Vitamin K that I know of. Because of its vitamin K content, Chlorophyll Perles are very helpful to people whose blood doesn't clot fast enough. The K is involved in the production of fibrin, important in the cloning mechanism. The K also supports capillary integrity. In addition to vitamin K, Chlorophyll Perles contains all the other known fat-soluble vitamins. This includes *the* vitamin E sex hormone precursors, making the product valuable in treating women with hormone balance problems. The fat-soluble vitamins are involved in the support of the gastrointestinal mucous membrane, so the product is important in the care of the ulcer and colitis patients.
  Chlorophyll Complex is helpful in the formation of hemoglobin. The structure of the chlorophyll molecule is very close to the structure of the hemoglobin molecule. While magnesium is primary in the chlorophyll molecule, iron is primary in the hemoglobin molecule. Other than that, the chlorophyll molecule and the hemoglobin molecule are almost identical.
  Finally, Chlorophyll Perles have a mild detoxifying effect in the gastrointestinal tract, particularly in cases of arthritis, arteriosclerosis, etc. Chlorophyll has a neutralizing effect on guanidine, which you recall is the toxin of constipation. If a doctor gives this product to a patient and there doesn't seem to be any improvement, it may be the patient isn't able to metabolize the fat-soluble factors in the chlorophyll. Giving Cholacol along with the Chlorophyll solves that problem. Cholacol is bile salts for aiding the digestion of fat-soluble factors.
- Zypan (SP8500, 330 tablets, $35.00), 2-6 per day, contains everything that's in Betaine Hydrochloride *plus* pancreas extracts. It provides the proteolytic enzymes as well as the acidifying factors. It helps in the digestion of fats and carbohydrates as well as protein.
  Suppose we remove the betaine hydrochloride from Zypan but keep the pancreas extracts, and add to that some other proteolytic-enzymes -- in this particular case, almond bran enzyme and fig enzyme. That gives us MULTIZYME There is an enzyme in the almond bran. The bran is the little skin around the almond that keeps bugs from eating the almond. When the bug eats the bran, the enzyme digests him. This is nature's way of protecting the almond. We remove the enzyme from the almond bran and use it in Multizyme. Figs are loaded with protein-digesting

enzymes. This is nature's way of protecting figs from bugs. Every fig contains a digested bug – did you know that? When a fig tree blossoms, a bug attaches itself to each blossom. The fig forms around the blossom and the enzymes digest the bug.
So Multizyme is for people who have protein digestion problems, but who can't tolerate hydrochloric acid due to irritation in the stomach, such as an ulcer. A person who takes hydrochloric acid and develops a burning sensation in his stomach probably has an ulcer. He needs Okra-Pepsin, E-3 and Chlorophyll Complex Perles as well as Multizyme. Multizyme is also for the person with excessive lower bowel gas several hours after eating. Perhaps he's already taken Zypan and still has the problem. This is an indication of a real lack of the proteolytic enzymes that are normally active in the small intestine. He needs the concentration of these enzymes as found in Multizyme.

- Ostarplex (SP6350, 40 Capsules, $10.00), 3 per day. This is for the patient who has osteoarthritis, the type of arthritis characterized by stiffness and swelling of the joints. Betacol, containing the anti-stiffness factor we talked about earlier, is one of the components of Ostarplex.
- Betacol (SP1375, 40 Capsules, $9.00), 1-3 per day, is a liver detoxifier, specifically for the type of liver that arthritics have. Arthritics have sluggish livers. They have a lot of toxins in their bodies, especially guanidine. Guanidine is the most alkaline substance known. It is the toxin caused by constipation. So most arthritics are constipated. Their livers are loaded with guanidine, which then gets into their blood stream, causing the blood to turn alkaline. This causes calcium to precipitate out of the body fluid. That is where their arthritic calcifications come from. So you see the problem we have. First, we have to get over the alkalosis by neutralizing the guanidine. Second, we have to detoxify the liver. Third, we have to get rid of the constipation so more guanidine is not formed.
  Betacol's primary function is to detoxify the liver. In addition to that, Betacol contains the "anti-stiffness factor". There is a Dr. Wulzen at the University of Oregon, who Wulzen factor and it makes them more flexible. Here again, the FDA would not accept the premise, so this is not an acceptable term even though it appears in the literature about Dr. Wulzen and the anti-stiffness factor. Betacol is loaded with this anti-stiffness factor. It is found primarily in sugar cane juice and in raw cream. Pasteurization destroys the anti-stiffness factor in cream. We originally found the anti-stiffness factor in sugar cane juice. The person who uses Betacol is not only detoxifying his liver, he is getting the benefits of this anti-stiffness factor as well.
  Betacol is quite potent. I know of people who couldn't take a whole capsule in one day. Betacol flushes the toxins out of the liver very quickly. These reactions can be avoided by always using A-F Betafood to manage the increased liver activity brought about by the use of Betacol.
  Betacol is especially important in osteoarthritis. It's specific for the reduction of stiffness and swelling in the joints. Some patients need as many as six daily to reduce acute stiffness and swelling.
- Organic Minerals (SP6215, 90 tablets, $7.00), 2 per day, It contains protein-bound

iodine in a much heavier concentration than is found in Iodomere. One tablet contains three milligrams of iodine, or 300% of the adult minimum daily requirement.

Basically, Organic Iodine is used to restore iodine levels to normal, while lodomere is used to maintain iodine at proper levels once it's already there.

- Cataplex F (SP4200, 360 tablets, $32.00), 3 per day, CATAPLEX D & CATAPLEX F

  The ultraviolet rays from the sun convert skin oil to vitamin D. Too much D is called hypervitaminosis D. Actually, it is not too much D but a deficiency of F, vitamin D's antagonist. D picks up calcium from the stomach and puts it into the blood. F, the essential fatty acids, takes it from the blood and puts it into the tissues. Suppose you get 0 and no F. Your blood calcium level will increase at the expense of the tissue calcium level, because D not only picks up calcium from the stomach, in a deficiency of F, it brings calcium from the tissues back into the blood. That's why farmers and other people who are in the sun a lot get thick skin if they don't eat enough F, which is primarily in oils. They get hives. They get sunstroke. Sunstroke involves high blood calcium levels with low tissue calcium levels. As I say, it is not so much a matter of too much D as a lack of F.

  Excess D from extreme exposure to the sun is known to cause cancer. For example, farmers who are out in the sun all day long, every day, have a much higher incidence of skin cancer than people who aren't in the sun as much. You might have read articles that say you should stay out of the sun, that sunshine is hazardous to health. Well, it's only dangerous to people who are F deficient We are the only company that calls this factor vitamin F. There may be some people who have recently started talking about it, but Dr. Lee named it. In scientific textbooks vitamin F is referred to as the essential fatty acids. Our F product is called Cataplex F, Cataplex F tablets in the dry form, Cataplex F Perles in the oil form.

  Let's get back to vitamin D. The most frequent use for it is for people with low blood pressure. There seems to be a correlation between blood pressure and blood calcium levels. People who have low blood pressure are apt to have low blood calcium levels. (Weak adrenals could be another cause of low blood pressure.) So that is the most common use of Cataplex D.

  As I said earlier, Cataplex F delivers calcium into the tissues from the blood. Without this mechanism working properly, there's tissue calcium starvation with resulting itching of the skin. Anybody whose skin itches, look out. They need Cataplex F and Calcium Lactate. Give them Calcium Lactate to be sure they have enough calcium, and F to deliver the calcium into the tissues. This can go to any degree. Hives that people get from being out in the sun a lot -- the big welts that form around the tender parts of the body -- this is a symptom of tissue calcium deficiency. If you give these people F, the calcium that's already in their body is delivered into the tissues and the welts clear up.

  Canker sores that develop on the inside of the mouth are also related to tissue calcium starvation. A virus causes canker sores. Once you have the virus, you will for the rest of your life. But if your tissue calcium stays sufficiently high, the virus

never forms the canker stores. It’s not such a bad thing to have them because they reveal your tissue calcium level. As soon as your tissue calcium level goes down, they pop out and you know you need Calcium Lactate. So much for that.

- Phosfood (SP6800, 2 oz liquid, $11.00) Or Superphos (JD60044, 4 oz liquid, $20.00) 10-30 drops — Calcium and phosphorous must be in a certain balance in the body. Doctors Page and Hawkins, both dentists, wrote books on the subject and after a lot of investigation, they agreed that the normal blood ratio is four parts phosphorous to ten parts calcium. That's what we strive for Suppose this ratio is disturbed, three parts phosphorous to ten parts calcium. There's not enough phosphorous to hold the calcium in solution and the extra calcium starts precipitating out of the body fluids. If it precipitates into your kidneys, it forms kidney stones. If onto your teeth, it is called tartar if it's in your bones, its called arthritis. Also cataracts if it deposits in the eyes. All of these things are symptoms of phosphorous deficiency. We need the phosphorous product that does not contain calcium, so we can raise the phosphorous level if it's low. That's Phosfood.

  Let's look at the other side of the picture. Suppose the ratio is four parts phosphorous to nine parts calcium, that's a calcium deficiency. This would lead to erosion of the teeth, etc. Looking at it from the dentist's standpoint, this is the systemic cause of dental caries: high phosphorous, low calcium. This does not mean that we have too much phosphorous. It just means we don't have enough calcium to buckle the phosphorous. Sometimes, looking at animals gives you a clue about people. For example, take pigs fattened on grain. Grain is high in phosphorous. When pigs are young — usually about six months old -- their teeth start to erode away because they are getting too much phosphorous and too little potassium and calcium.

  We have complete products like Calcifood Powder. This is calcium and phosphorous as provided by nature. It's made out of bone, so if you want to build bone, this is what you use. For building bones and teeth, Calcifood Powder is ideal, calcium and phosphorous in the correct proportion. But if you want to correct a phosphorous or a calcium deficiency, you can't do it with Calcifood Powder because it has both calcium and phosphorous.

  For the person with a phosphorous deficiency and osteoarthritis, kidney stones or tartar on the teeth, use Phosfood. On the other hand, if he has a calcium deficiency and starts getting dental caries and his bones start to deteriorate -- the rheumatoid type of arthritis -- he needs Calcium Lactate. When you have the calcium and phosphorous levels back into balance then you can start to build with Calcifood Powder. So that's how you use Calcium Lactate and Phosfood.

  In a calcium deficiency, people get infections easily, also colds. That's why a handful of Calcium Lactate tablets will often prevent a cold from really taking hold If the cold persists, it might be that you need C as well, or that you are too alkaline. Phosphorous is important in the energy cycle. I will give you an example. The soil around Wisconsin is high in calcium, low in phosphorous. We get phosphate rock from the South and put it into the soil to balance the calcium that's already present. The cattle raised in Wisconsin are big, easy going, and relaxed. They eat grass all the time. They are getting the alkaline ash minerals, lots of potassium and calcium.

Down in Kentucky, where there are high phosphorous and low calcium levels in the soil, breeders raise not contented cattle but racehorses, nervous, jumpy race horses. They have high phosphorous levels and they are loaded with energy. But they are nervous. They can't relax. Well, this is what you want in a racehorse. Breeders did not know why, but they found they could raise nervous, jumpy horses in Kentucky. If they brought that same horse up to Wisconsin, he would quiet down. He wouldn't be much of a racehorse. So that's the effect of calcium and phosphorous levels in animals. The same thing applies to people. If people are nervous and jumpy they need calcium. If they have no energy, just fatigued and worn-out all the time, lack of phosphorous could be the cause.

- Zymex (SP8425, 150 Capsules, $25.00 or SP8375, 100 Wafers, $22.00) 3-9 per day. Zymex is actually made from a culture that we grow. We take red beets, beet leaves and wheat germ, make a bed out of the mixture, sterilize it and seed it with a certain culture. Then we put the culture under ideal moisture and temperature conditions and let it grow. After about three nights and two days, a-beautiful gray mold has grown. It looks just like velvet we dry the mold in a sigmoid dryer and make wafers out of it –that is Zymex.
  Zymex is similar to Lactic Acid Yeast in that it breaks down carbohydrate in the gastrointestinal tract to produce lactic acid, thereby acidifying the gastrointestinal tract.
  It's also very effective in detoxifying the colon. Zymex combines the functions of Lactic Acid Yeast and Cholacol II.
  If instead of going through these steps we were to centrifuge the juice off the mold then vacuum dry the juice, we could create Arginex. Arginex detoxifies the kidneys; Zymex detoxifies the bowel.

The process of digestion

Objectives: compare mechanical and chemical digestion. Identify the organs of the digestion system and explain their functions.

1. Digestion is the breakdown of food into simpler molecules that can be absorbed by the body.
2. The digestion system is actually a long, hollow tube called the gastrointestinal tract or GI tract.
3. The digestion system includes the mouth, pharynx, esophagus, stomach, small intestine, and large intestine.
4. Several major glands, including the salivary glands, the pancreas, and the liver, add their secretions to the digestion system.
5. Three activities are involved in the digestive process: mechanical digestion, chemical digestion, and absorption.
6. The first step of the digestion system is to break down food into a fine pulp

(mechanical), to increase it's surface area and expose more food molecules to the actions of digestive chemicals.
7. The process of mechanical digestion breaks food into tiny pieces without changing the chemical structure of the food.
8. The second task of the digestion system is to chemically act on food, breaking it down into smaller and smaller particles. The molecules must be small enough and chemically simple enough to be absorbed into the bloodstream. Examples: starches to simple sugars, proteins to amino acids.
9. The last task of the digestion system is to absorb the small molecules and pass them to the bloodstream for distribution to the rest of the body.
10. Humans are omnivores who eat both plants and animals for energy and our digestive system is adapted to process both vegetable and animal materials.

The mouth

1. Mechanical and chemical digestions both begin in the mouth.
2. Chewing is the first step in mechanical digestion.
3. During chewing, salivary glands produce saliva, which mixes with the chewed food. Enzymes in the saliva kill bacteria and begin the process of chemical digestion by breaking down starches to sugars.
4. Human teeth are well adapted for chewing many kinds of food. The 32 teeth of the normal adult have three basic shapes, each with a different function:

A. **Incisors** - sharp front teeth used for biting into and tearing pieces of food.
B. **Canines** - pointed teeth (vampire) next to incisors, used to tear or shred food.
C. **Molars** - teeth at the back of the mouth, have large flat surfaces that crush and grind food.

1. Every tooth has two main parts: the crown and the root.
2. A tooth is made of four layers of tissue: enamel, dentin, cementum, and periodontal membrane (ligament).
3. The crown is covered by enamel, a calcium-containing material that is the hardest substance in the body.
4. Dentine a bone like tissue makes up most if the inside of a tooth.
5. Cementum in a tiny layer covers the dentine of the root.
6. The periodontal ligament holds the tooth in its socket.
7. Once the teeth and salivary glands have completed the initial processing, the food is ready to be swallowed.
8. Gathering the food together in a ball called a bolus; the tongue pushes it toward the back of the mouth and the pharynx.
9. The pharynx is an area at the back of the throat that connects the nose and mouth to the GI track and respiratory tracts.

10. In the pharynx, the GI track and the respiratory system cross each other.
11. As the tongue moves food into the pharynx, it presses down on a small flap of cartilage called the epiglottis. When the epiglottis is depressed, it closes the entrance to the respiratory track and guides the food down the GI track.

The esophagus

1. Food moves from the pharynx to the esophagus, a passage that leads to the stomach.
2. Once the bolus enters the esophagus, muscles in the esophagus wall move food toward the stomach.
3. Waves of muscular contractions called peristalsis (payr-ih-stol-sis) move food through the digestive track.
4. Contractions of the muscles move the bolus to a valve called the sphincter where the esophagus joins the stomach. The sphincter allows food to pass into the stomach but usually not letting it move back up into the esophagus.

The stomach

1. The partially digested food is now in the stomach.
2. The stomach is a muscular sac with thick, expandable walls.
3. The stomach walls are made of layers of muscles that contract in opposite directions.
4. Mechanical digestion occurs when the stomach walls contract strongly, mixing and churning the food. These contractions are responsible for the "growling" noises our stomach makes, they are the loudest when we have an empty stomach.
5. Chemical digestion in the stomach begins with the actions of hydrochloric acid and an enzyme called pepsin. Glands in the stomach secrete both substances.
6. Pepsin breaks down protein, and works best in an acidic environment, which is provided by the hydrochloric acid.
7. Another fluid secreted by glands in the stomach is mucus. Mucus lubricates food so that it can travel through the digestive tract more easily.
8. Mucus also coats the walls of the stomach, protecting the muscle tissue from being broken down by other digestive fluids.
9. The lives of stomach wall cells are short; they are replaced about every three days.
10. After about three hours (2-3 hours) of mechanical and chemical treatment in the stomach, food is reduced to a soft pulp called chyme (kym).
11. Chyme is a thick liquid made up of partially digested proteins, starches, and acids, and undigested sugars and fats.
12. At this point, the pyloric valve between the stomach and small intestine opens, allowing small amounts of chyme to pass into the small intestine.

13. By the time chyme has left the stomach, most proteins have been broken down into smaller polypeptides. Sugars and fats have not yet been chemically altered. Some starch molecules have been broken down into disaccharides.

The small intestines

1. As chyme is pushed through the pyloric valve, it enters the duodenum, the first part of the small intestine.
2. The small intestine performs three major functions on chyme that enters from the stomach.
3. The small intestine digests carbohydrates and fats, completes the digestion of proteins, and absorbs digested nutrients.
4. The small intestine is long (7m), but its diameter (2.5cm) is smaller than the large intestine.
5. Some of the digestive fluids that contain enzyme activators and enzymes that digest food in the small intestine come from glands located in the small intestine.
6. These glands produce enzymes that digest proteins and carbohydrates.
7. The pancreas, an organ located behind the stomach, secretes pancreatic fluid into the small intestine.
8. Pancreatic fluid contains enzymes that digest proteins, fats, and carbohydrates.
9. Pancreatic fluid also contains sodium bicarbonate, which neutralizes the hydrochloric acid in chyme, protecting the small intestine.
10. The liver is a large brownish organ that lies above the stomach in the abdomen. One of the functions of the liver is to secrete a yellow-brown liquid called bile.
11. Bile is stored in a small sac called the gallbladder. The entrance of food into the small intestine stimulates the release of bile to the small intestine through a duct.
12. Bile is produced by the liver and stored in the gallbladder until needed.
13. Fats in the small intestine are broken down into smaller droplets by bile.
14. One of the main functions of bile is to dissolve cholesterol. Bile is a salt containing detergent and if the amount of salt in the bile is insufficient, sharp, painful crystals can form, known as gallstones.
15. Most nutrients are absorbed into the bloodstream through the cells that line the small intestine.
16. The internal surface of the intestine is lined with fingerlike projections called villi.
17. Villi increase the surface area of the lining of the small intestine, making absorption more efficient.
18. Nutrients are absorbed through blood vessels and lymph vessels in the villi.
19. Blood vessels absorb carbohydrates (sugars) and proteins (amino acids).
20. Lymph vessels called lacteals absorb fats and fatty acids.
21. Most of the nutrients used by the body are absorbed through the lining of the small intestine.
22. Undigested material leaves the small intestine through a valve and enters the large

intestine or colon.

23. An organ called the appendix is located near the junction of the small and large intestine. The appendix is a finger-shaped pouch, which does not serve any known function. If the appendix becomes infected with bacteria, resulting in appendicitis, the appendix must be removed.

Large intestine or colon

1. The large intestine, also called the colon, is about 6 cm wide and 1.5 m long.
2. The large intestine absorbs water from the material remaining in the digestive tract.
3. Water-soluble vitamins are absorbed along with the water.
4. When most of the water has been removed from the undigested material, a solid waste matter called feces remains.
5. Peristalsis propels the feces through the large intestine and into the rectum, the last few inches of the large intestine. Feces collected in the rectum are eliminated through the anus.
6. Sometimes a disease or disorder prevents the large intestine from absorbing enough water - the result is diarrhea, or watery feces. Severe diarrhea can result in a loss of water, or dehydration, that can be fatal.

Some words that may be unfamiliar to you:

lacteal

Small vessel responsible for absorbing fat in the small intestine. Occurring in the fingerlike villi of the, lacteals have a milky appearance and drain into the lymphatic system. Before fat can pass into the lacteal, bile from the liver causes its emulsification into droplets small enough for attack by the enzyme lipase. The products of this digestion form into even smaller droplets, which diffuse into the villi. Large droplets re-form before entering the lacteal and this causes the milky appearance.

ileum

Part of the small intestine of the, between the duodenum and the colon, that absorbs digested food. Its wall is muscular so that waves of contraction (peristalsis) can mix the food and push it forward. Numerous fingerlike projections, or villi, point inwards from the wall, increasing the surface area available for absorption. The ileum has an excellent blood supply, which receives the food molecules passing through the wall and transports them to the liver via the hepatic portal vein.

Guanidine hydrochloride

This compound is a by-product of protein metabolism and is found inurine, the hydrochloride version is used to denature and dissolve proteins. Synonyms: Aminomethanamidine; guanidine monohydrochloride; guanidine chloride; iminourea hydrochloride; carbamidine hydrochloride.

Epstein-Barr virus

Species of Herpetoviridae that is responsible for infectious mononucleosis (glandular fever). Discovered in 1964, this virus has been associated with Burkitt's lymphoma in South African children and with nasopharyngeal carcinoma in Asian populations.

In the event you have additional questions Support : www.roadtohelp.com

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