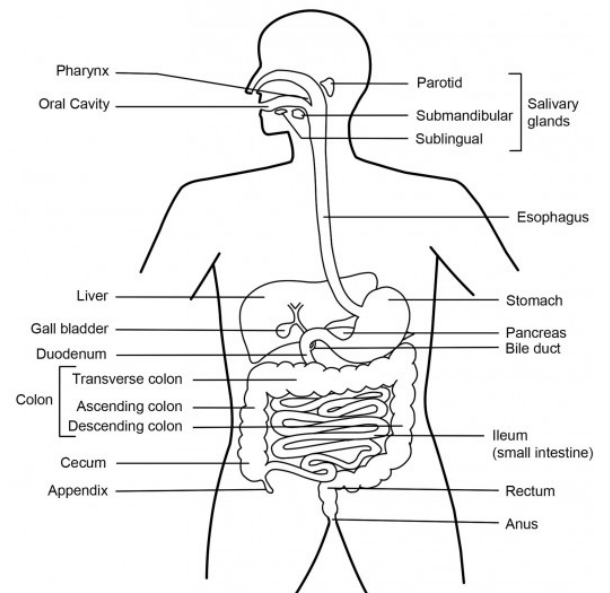


The Digestive System - Part 1

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What Does the Digestive System Consist of?

- Mouth
- Pharynx
- Esophagus
- Stomach
- Small and large intestines
- Rectum
- Anus
- Accessory organs:
 - Salivary glands
 - Teeth
 - Liver
 - Gallbladder
 - Pancreas



What is the Function of the Digestive System?

There are 4 activities in the digestive system: ingestion, digestion, absorption and elimination.

The *mouth*, aided by salivary glands and teeth, break down the food and prepare it for digestion. The salivary glands (there are 3 pairs of them) produce saliva, which encourages parasympathetic action in your nervous system, is the key to stimulating digestive activity.

The *pharynx* and *esophagus* move the broken down foods through peristalsis to the stomach at a rate of about 1 second per inch. The esophagus can handle a bit of rough treatment and is lined with compound epithelium and a thick layer of mucus.

The *stomach* is a reservoir and holding tank. Gastric juices, containing hydrochloric acid, pepsinogen, mucus, water, intrinsic factor and gastric lipase (gastrin), begin to perform protein digestion, churning the food into chyme before the stomach moves the food on to the small intestine. The stomach moves carbohydrate meals sooner than protein and fat meals, at a rate of 1 - 6 hours, which is controlled by nerves and hormones.

The *small intestine* consists of 3 parts: duodenum, jejunum, and ileum and is about 20 feet in length and 1 inch thick. The muscularis (muscle layer) moves in segmentation and peristalsis, completing digestion. Most of the absorption of nutrients occurs in the small intestine as well. In the jejunum and ileum, pancreatic juice and bile enter to help digest starch, protein and fat. Bile is useful for emulsifying fats. Nutrients are absorbed into the blood capillaries and the lymph duct.

The *large intestine*, also known as the colon, is the next stop for the chyme. It begins at the lower right abdomen with the caecum (cecum), then goes up and around the belly, in sections known as the ascending, transverse, descending and sigmoid colons. Water and any leftover nutrients are absorbed from the digestive waste, making it more solid. This solid waste becomes feces. Fiber is required in the colon for it to work properly. Fiber is fermented by bacteria to produce gases and short-chain fatty acids. Most bowels produce about 1/2 liter of gas a day. This is also where we should have plenty of good bacteria.

The *rectum* serves as the holding cell for feces, triggering the defecation reflex. If circumstances allow, the feces will be released through the *anus*. Regular suppression of the reflex can lead to constipation.

Common Acute and Chronic Problems for Digestive System:

Stomachache	Leaky gut syndrome
Malabsorption	Celiac disease
Diverticulitis	Crohn's disease
Diverticulosis	Irritable bowel syndrome
Candida	Spastic colon
Food poisoning	Nausea
Headache	Constipation
Cancer	Diarrhea
Acid reflux	Indigestion
Hemorrhoids	Swollen/clogged salivary glands
Peptic ulcers	Loss of appetite
Tooth decay	Mouth ulcers
Halitosis	Gingivitis

Herbal Applications for the Digestive System:

Extracts	Food
Infusions	Teas
Compresses	Pastes

What is the Function of the Liver?

One of the main functions of the liver is to secrete bile. The liver also creates bile pigments, made from breaking down the hemoglobin from old red blood cells, giving urine and feces their color. If there is a problem in the liver blocking bile from entering the gut, the bile pigments will build up in the blood, causing jaundice to occur.

The liver is also responsible for making plasma proteins which provide the osmotic pressure of the blood, assists in clotting and helps build a good immune system. The liver assists in making urea, detoxifies hormones, drugs and alcohol, processes digestive products, stores iron and vitamins A, D, E and K, stores glucose, and makes heat which is transported throughout the body through the blood.

Common Acute and Chronic Problems for the Liver:

Hepatitis	Jaundice
Cirrhosis	Liver failure
Hemochromatosis	

Herbal Applications for the Liver:

Extracts	Food
Infusions	Teas
Compresses	Bitters

Herbs for the Digestive System and Liver (those marked with * indicate Liver specific):*Anti-inflammatory Herbs*

Bergamot (*Monarda spp.*)
 Burdock (*Arctium lappa*)*
 Dandelion (*Taraxacum officinale*)*
 Plantain (*Plantago spp.*)
 Reishi (*Ganoderma lucidum*)*
 Turmeric (*Curcuma longa*)*
 Wild Yam (*Dioscorea villosa*)
 Yarrow (*Achillea millefolium*)

Antiseptic Herbs

Bergamot (*Monarda spp.*)
 Blueberry (*Vaccinium spp.*)
 Cranberry (*Vaccinium spp.*)
 Juniper (*Juniperus spp.*)

Antispasmodic Herbs

Chamomile (*Chamomila matricaria*)
 Crampbark (*Viburnum opulus*)
 Dill (*Anethum graveolens*)
 Fennel (*Foeniculum vulgare*)
 Hop (*Humulus lupulus*)
 Peppermint (*Mentha x piperita*)
 Sage (*Salvia officinalis*)
 Thyme (*Thymus vulgaris*)
 Wild Yam (*Dioscorea villosa*)
 Valerian (*Valerian officinalis*)

Carminative Herbs

Angelica (*Angelica archangelica*)
 Aniseed (*Pimpinella anisum*)
 Caraway (*Carum carvi*)
 Chamomile (*Chamomila matricaria*)
 Dill (*Anethum graveolens*)
 Fennel (*Foeniculum vulgare*)
 Ginger (*Zingibar officinale*)
 Hop (*Humulus lupulus*)
 Lemon Balm (*Melissa officinalis*)
 Motherwort (*Leonurus cardiaca*)
 Peppermint (*Mentha x piperita*)
 Sage (*Salvia officinalis*)
 Thyme (*Thymus vulgaris*)
 Valerian (*Valerian officinalis*)

Cholagogue Herbs

Burdock (*Arctium lappa*)
 Dandelion (*Taraxacum officinale*)
 Gentian (*Gentiana spp.*)
 Turmeric (*Curcuma longa*)*

Demulcent Herbs

Marshmallow (*Althea officinalis*)
 Slippery Elm (*Ulmus rubra*)

Hepatoprotective Herbs

Milk Thistle (*Silybum marianum*)*

Herbs for the Digestive System and Liver Continued (those marked with * indicate Liver specific):

Astringent Herbs

Calendula (*Calendula officinalis*)
Plantain (*Plantago spp.*)
Yarrow (*Achillea millefolium*)

Bitters Herbs

Burdock (*Arctium lappa*)
Chamomile (*Chamomila matricaria*)
Dandelion (*Taraxacum officinale*)
Gentian (*Gentiana spp.*)
Hop (*Humulus lupulus*)
Mugwort (*Artemisia vulgaris*)
Wormwood (*Artemisia absinthium*)

Hepatoregenerator Herbs

Milk Thistle (*Silybum marianum*)*
Reishi (*Ganoderma lucidum*)*

Hepatotonic Herbs

Dandelion (*Taraxacum officinale*)*
Milk Thistle (*Silybum marianum*)*

Nervine Herbs

Bergamot (*Monarda spp.*)
Chamomile (*Chamomila matricaria*)
Crampbark (*Viburnum opulus*)
Hop (*Humulus lupulus*)
Lemon Balm (*Melissa officinalis*)
Mugwort (*Artemisia vulgaris*)
Oatstraw (*Avena sativa*)
St. John's Wort (*Hypericum perforatum*)
Skullcap (*Sculletaria baicalensis*)*
Valerian (*Valerian officinalis*)

Ways to Maintain Digestive System Health:

- ~ Drink plenty of water, especially if your stools are hard.
- ~ Enjoy prebiotics and probiotics in food form.
- ~ Test for food intolerances through an elimination diet. Add suspected foods back one at a time over a period of days and observe your reactions.
- ~ Include lots of fiber in your diet
- ~ Squat to have a bowel movement

Recommended Herbal Books (*indicates available through library loan system):

General Body System Information

- ~ The Gift of Healing Herbs : Plant Medicines and Home Remedies for a Vibrantly Healthy Life by Robin Rose Bennett*
- ~ The Herbal Handbook: A User's Guide to Medical Herbalism by David Hoffmann
- ~ Herbal Medicine From the Heart of the Earth by Sharon Tilgner, N.D.
- ~ The Authentic Herbal Healer by Holly Bellebuono
- ~ Holistic Anatomy by Pip Waller

Digestive System

- ~ Healthy Digestion by David Hoffmann*

Liver

~ Herbs for Hepatitis C and then Liver by Stephen Harrod Buhner*

Dental

~ Dental Herbalism: Natural Therapies for the Mouth by Leslie Alexander & Linda Straub-Bruce*

~ Cure Tooth Decay by Ramiel Nagel*

Diet and Nutrition

Food as Medicine by Todd Caldecott

Food and Healing by AnneMarie Colbin*

The Fourfold Path to Healing by Thomas S. Cowan, MD*

Nourishing Traditions by Sally Fallon*

Staying Healthy with the Seasons by Elson M. Haas MD*

The 21 Day Sugar Detox by Dianne Sanfilippo*

Online Resources

Larken Bunce on Herbs for the Digestive System: <http://www.vtherbcenter.org/wp-content/uploads/2012/04/Herbs-for-Digestive-Health.pdf>

Jim McDonald's article on Bitters: <http://www.herbcraft.org/bitters.pdf>

Rosalee de la Foret: <http://www.herbalremediesadvice.org/human-digestive-system.html>

Rosalee on ulcers: <http://www.herbalremediesadvice.org/peptic-ulcer.html>

Rosalee on IBS: <http://www.herbalremediesadvice.org/irritable-bowel-syndrome.html>

David Hoffmann on the Liver: http://www.healthy.net/Health/Article/The_Liver/1319

David Hoffmann on Diverticulitis: <http://www.healthy.net/scr/article.aspx?Id=1716>

The benefits of squatting to poo: <http://wellnessmama.com/7013/squatty-potty-review/>

The squatty potty: <http://squattypotty.com/5-problems-with-sitting-on-your-toilet/>

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