

ALL ABOARD!



TRIPLE A TRAIN

Your Education Resource Center

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We welcome you to this leg of your journey to wellness.

Choose to learn and be well!

Your Engineer for Today



- **Teresa Irene Smith**
 - Wife, daughter, sister, friend
 - Published Author
 - 20 years teaching experience
 - 7 years experience in natural health after recovering from serious health issues
 - President of 3 Thirds, Inc.

Burp, Fart, Burn

The Wonders of Your
Gastrointestinal Tract



Disclaimer

- The information contained herein and presented is derived from multiple sources over many years and is provided for educational purposes only. This information is not intended to treat, cure, prevent, or diagnose disease or medical conditions, nor is it intended to prescribe forms of medical treatment. The authors and instructors do not distribute medical advice and are not responsible for use or application of the information contained herein. Issues concerning health should be referred to qualified health professionals.

They Make You Laugh



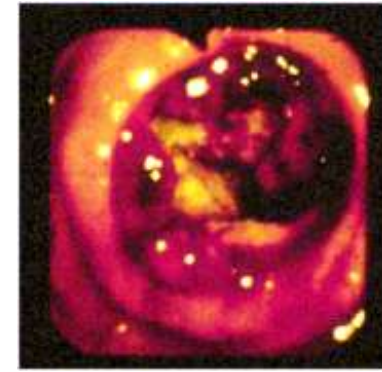
They Can Make You Cry



What Causes esophageal cancer?

People who have Barrett's esophagus, an abnormal lining of the bottom part of the esophagus that is related to acid reflux problems, are at increased risk, as are people who have **longstanding acid reflux problems** alone.

<http://www.emedicine.com/med/topic741.htm>



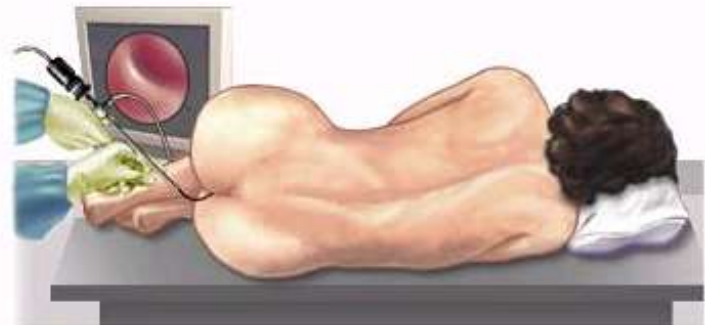
Colorectal cancer, also called colon cancer or bowel cancer, includes cancerous growths in the colon, rectum and appendix. It is the third most common form of cancer and the second leading cause of death among cancers in the Western world. Many colorectal cancers are thought to arise from polyps in the colon.

http://en.wikipedia.org/wiki/Colorectal_cancer

What We Will Learn Today

- Physiology of the Gastrointestinal Tract
 - Components of the GI Tract
 - The Original Functional Design
- Pathology (Symptoms of Malfunction)
- Prevention
 - Maintaining Health in the GI Tract

How NOT to be this person...



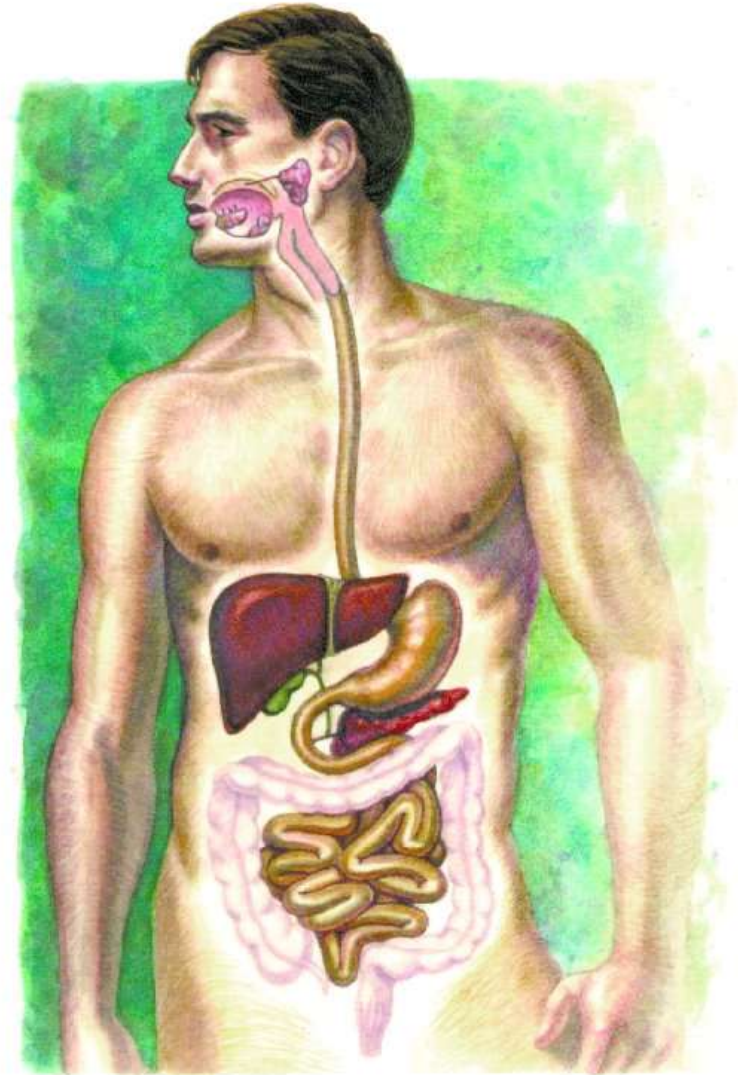
PHYSIOLOGY

Gastrointestinal Tract
(GI Tract)



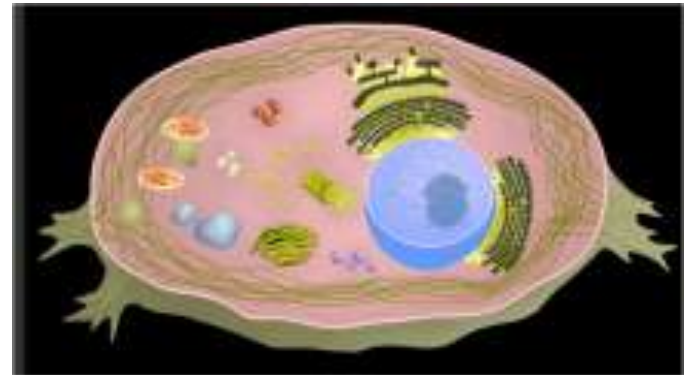
GI Tract Features

- 30-foot tube
- Begins in the mouth
- Ends at the anus
- Includes teeth, glands, muscles, organs
- Specialized tissues perform specific processes
- Nutrition and hydration source for entire body



Main Functions of GI Tract

- Reduce food to microscopic particles
 - Cells are microscopic
 - Cells cannot access nutrition that is bigger than they are
- Extract nutrients and water for distribution to other parts of the body



The cell survives in order to fulfill its DNA instructions. When it is done, it replicates itself and then dies. A cell that is not sufficiently sustained will die without replicating.

Components of the GI Tract

- Mouth
- Epiglottis
- Esophagus
- Stomach
- Duodenum
- Gallbladder
- Pancreas
- Small intestine
- Large intestine
 - Appendix
 - Rectum
 - Anus

Can you name the major parts of your gastrointestinal tract?

QUIZ TIME!

Answer the questions
on Quiz One

You won't know most of the answers, but that's okay!

Mouth



- Sight, smell, desire trigger saliva flow from salivary glands in mouth
 - Saliva contains *amylase*, an enzyme that breaks down the starch in carbohydrates
- Teeth chew food to reduce the size of the particles
- Swallowing sends food down the esophagus

Epiglottis



- Thin flap of tissue covered with a mucous membrane, attached to the root of the tongue.
- Normally pointed upward, but when swallowing, solids or liquids stimulate sensors which fold down the epiglottis, and prevent food that should go into the esophagus from passing into the trachea (windpipe).

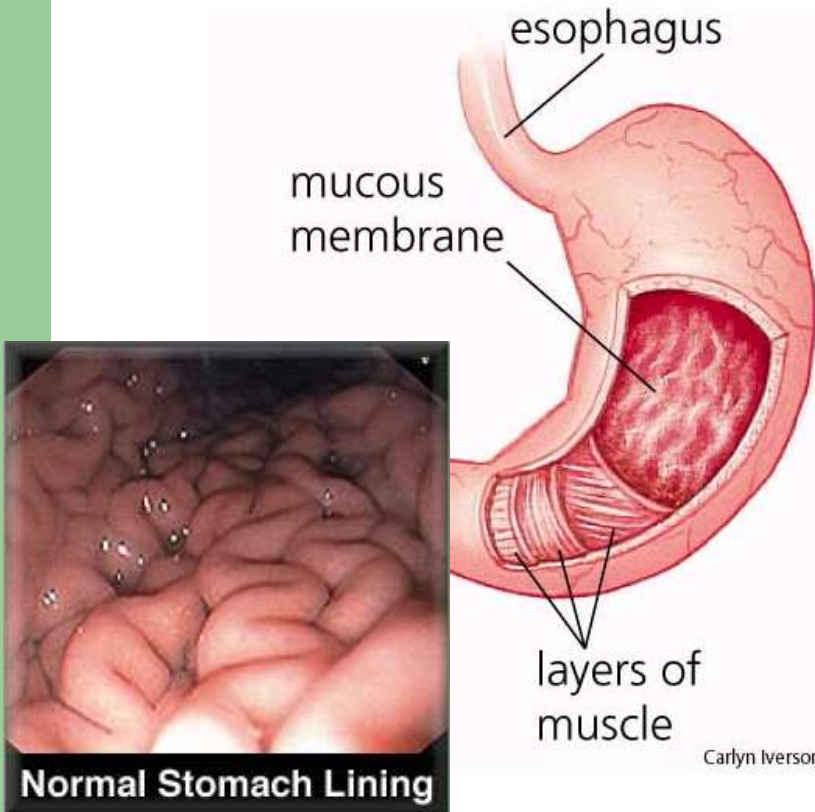
Esophagus



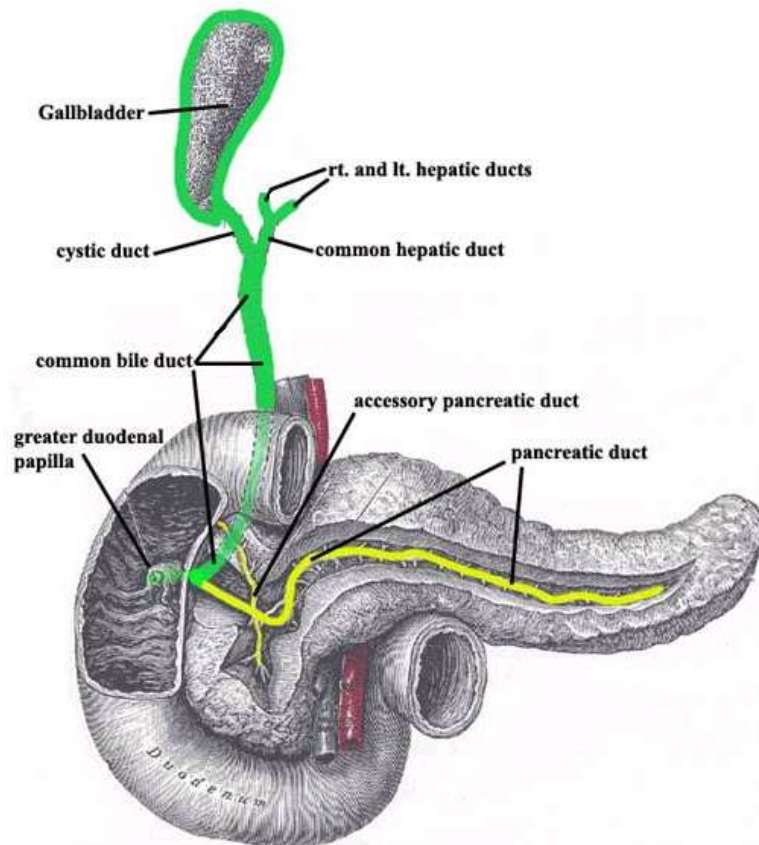
- An organ which consists of a muscular tube through which food passes from the mouth to the stomach
 - Muscles move food down the tube
 - Soft and slippery
 - Diameter of 1.5-2 inches

Stomach

- Produces gastric acid that breaks down large molecules
- Creates *pepsin* necessary for **protein digestion**
- Absorption of vitamin B12 from the small intestine is dependant on parietal cells of the stomach
- Other functions include absorbing water, some ions, and some lipid soluble compounds such as alcohol, aspirin, and caffeine

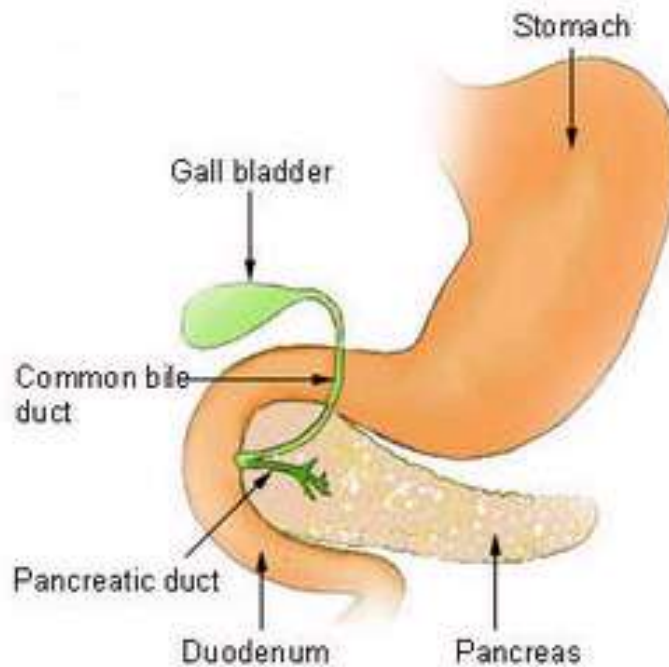


Duodenum



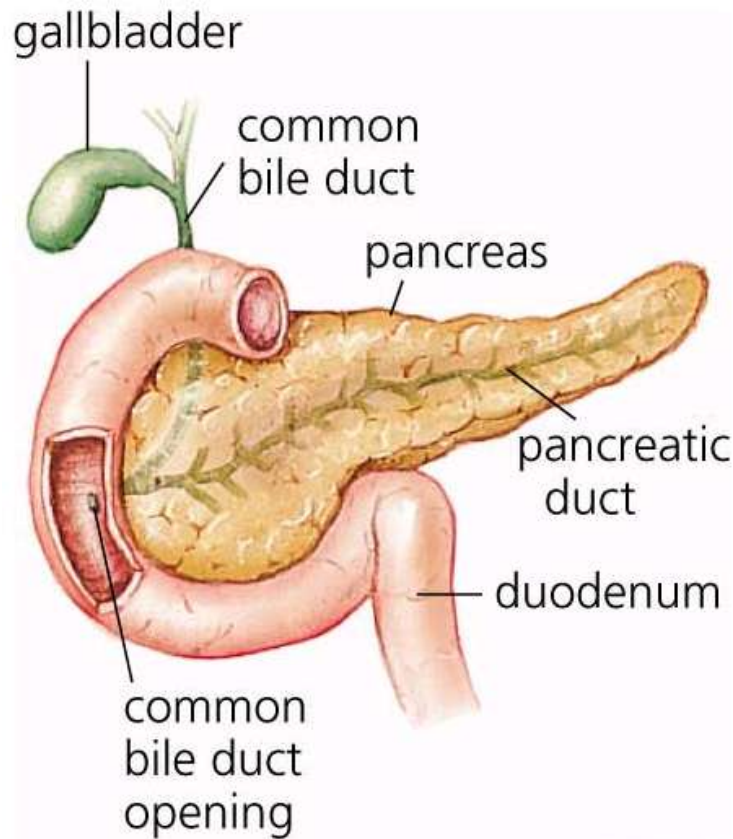
- A hollow jointed tube
- The first and shortest part of the small intestine
- Gallbladder and pancreatic duct excrete into duodenum
- Controls flow of food to small intestine

Gallbladder



- About 7-10 cm long
- Storage pouch for bile salts created by the liver
 - Bile salts emulsify **fats**
- Appears dark green because of its contents
- Connected to the liver and the duodenum by the common bile duct

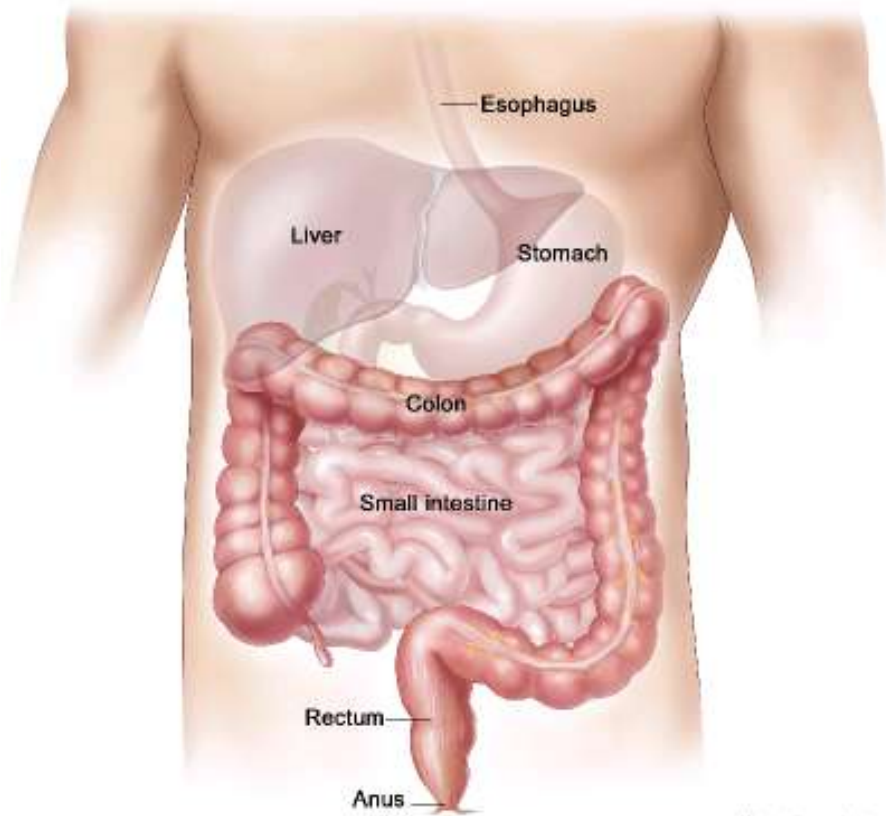
Pancreas



Carlyn Iverson

- A gland in the digestive and endocrine system
- Located behind the stomach
- Secretes pancreatic juice containing digestive enzymes
 - Further breaks down carbohydrates, proteins, and fats
- Secretes endocrine hormones, including insulin
 - Insulin is used to regulate blood sugar levels

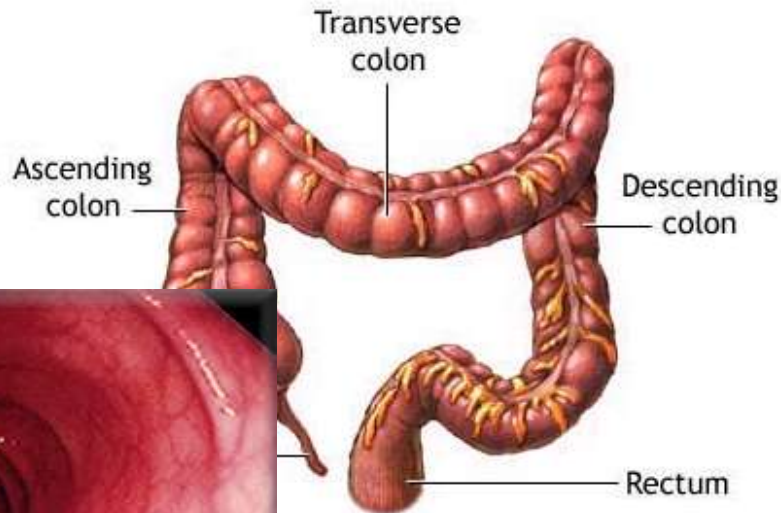
Small Intestine



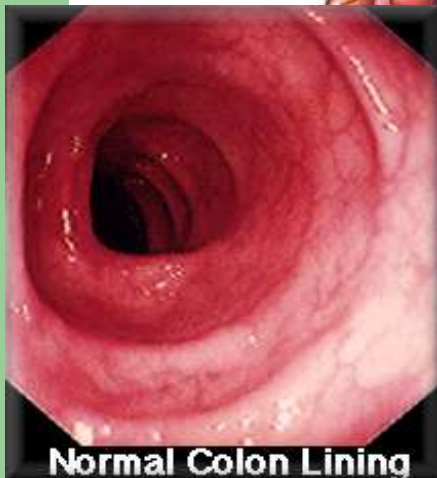
National Cancer Institute

- Located behind your belly button
- Absorbs nutrients through finger-like projections called **villi**
 - The villi are covered with microvilli to increase surface area for increased absorption
- Nutrients are sent to lymphatic and circulatory systems for distribution to tissues and cells

Large Intestine (Colon)



ADAM.



- Muscular tube
- Absorbs water
- Stores unusable food (waste)
- Eliminates waste
- Seven parts
 - *Appendix* lubricates fecal matter for travel upward in the *ascending colon*
 - *Transverse colon*
 - *Descending colon*
 - *Sigmoid colon*
 - *Rectum* holds fecal matter until it can be evacuated
 - *Anus* (exit sphincter)

Rest Stop



Stand up

Drink water

Eat snacks

Test your urinary system

Original Functional Design



- The body signals that it needs sustenance
- The mind chooses a quality food source
- The salivary glands in the mouth secrete saliva
- Food is placed in the mouth
- Saliva output increases
- Teeth chew the food into smaller particles (mastication)
- The food is swallowed

How It Works

- The epiglottis closes off the trachea, allowing the food to go down the esophagus
- The muscles of the esophagus transport food to the stomach
- The sphincter at the top of the stomach opens to allow food to enter and then closes to keep acid from escaping
- The sphincter at the bottom of the stomach closes
- Parietal cells in the stomach excrete hydrochloric acid while the muscles of the stomach move the food around (burn and churn)
- The sphincter at the bottom of the stomach opens to release food into the duodenum
- As food passes by the (gallbladder opening), the gallbladder releases bile salts onto the food to emulsify fats

How It Works

- As the food continues through the duodenum, the pancreas excretes digestive juices to further break down protein, carbohydrates and fats.
- The duodenum coordinates the flow of food from the stomach to the small intestine
- The sphincter at the end of the duodenum opens, releasing the liquefied, microscopic food particles into the small intestine
- The small intestine uses peristaltic action to move the food through its length

How It Works

- The microvilli sift through the food for nutrients that will be transported to the lymphatic and circulatory systems for purification and distribution
- The sphincter at the end of the small intestine opens and releases unusable food particles into the large intestine
- The large intestine absorbs water from the unused food and compacts the food into fecal matter (waste)
- Peristalsis moves the waste through the colon
- The appendix lubricates fecal matter for travel up the ascending colon

How It Works

- Waste is stored in the rectum until it can be released
- When the brain signals for release, the anal sphincter opens and releases the waste
- ***Transit time*** from mouth to anus should be 4-6 hours.
- The next time you eat, the whole process starts over again!



QUIZ TIME!

Label the major parts
of the GI Tract on
Quiz Two



PATHOLOGY

Causes and
Symptoms of
Malfunction

*Warning: Some of these pictures
are disturbing.*

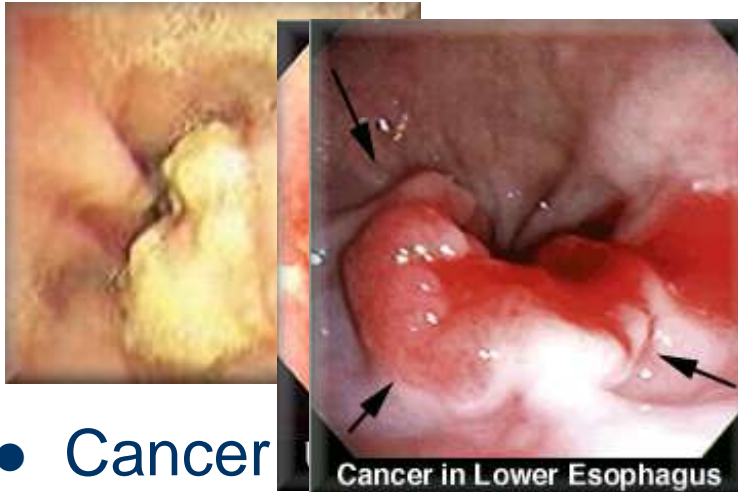
Mouth: Problems and Causes



<http://quitsmoking.about.com>

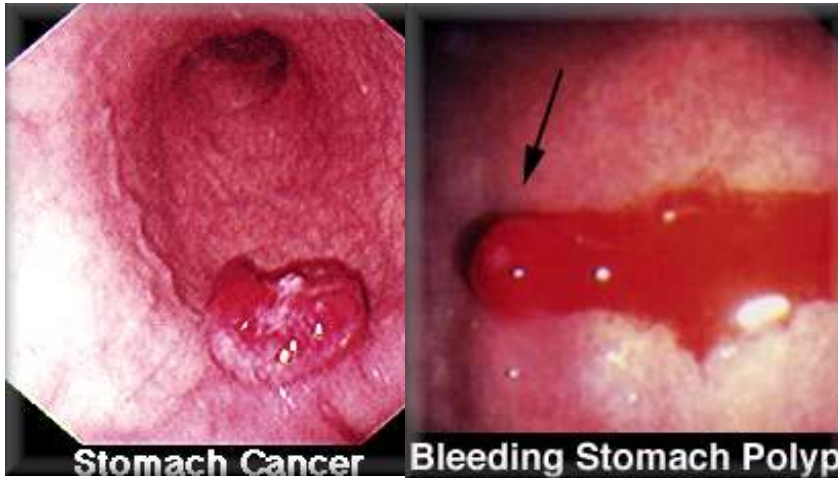
- Cancer
 - Bacterial infection
 - Viral infection
 - Glandular malfunction
- Genetics
 - Poor dental hygiene
 - Smoking or chewing tobacco products
 - Low immune function
 - Overweight or Obesity
 - Soft tissue collapse causing sleep apnea

Esophagus: Problems and Causes



- Cancer
- Bacterial infection
- Viral infection
- Diameter reduction
- Obstructions (choking)
- A malfunction in the sphincter at the top of the stomach allows acid to repeatedly splash the esophageal tissue
 - Acid reflux
- Viral infections, allergic reactions, or polyp growths can cause a reduction in the diameter of the esophagus making it difficult to swallow pills or large food particles
- Not chewing food enough

Stomach: Problems and Causes



- Cancer
- H-pylori infection
- Heartburn (acid reflux)
- Ulcers
- Stress
- Low or high output of hydrochloric acid from parietal cells
 - Low output allows proteins to rot, which creates more acid
- H-pylori exposure
- Eating too much food at one time

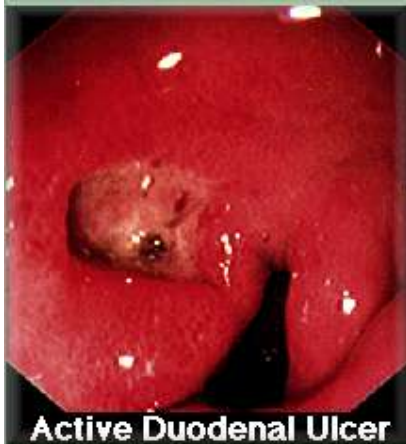
Stomach: Problems and Causes

Let's take a closer look...



- Eating too much food at one time (overeating)
 - The stomach can stretch from .5 ml to 6 liters
 - When it can hold no more, it will release food into the duodenum undigested
 - Causes additional stress on pancreas to finish digestion
 - Chunks of dense protein get stuck in the intestines where they rot and give off acids that destroy intestinal tissues

Duodenum: Problems and Causes



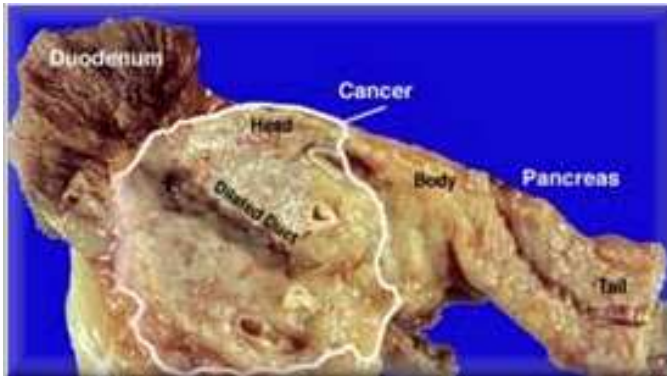
- Duodenal Ulcer
 - Most of these ulcers are caused by H-pylori bacteria.
 - Ulcers such as these can cause pain. If deep enough, they can rupture through a blood vessel and cause internal bleeding.
- Gallstones block biliary ducts causing jaundice
- Cancer in the duodenal wall

Gallbladder: Problems and Causes



- Gallstones
- Reduction in bile production from liver
- Cause of gallstones
 - Too much insulin in the blood
 - Eating more than 400 calories a day in refined sugar increases risk
- Symptoms
 - Pain under right ribcage or in the shoulder blades
 - Nausea or gas after eating
 - Chalk-colored stools

Pancreas: Problems and Causes



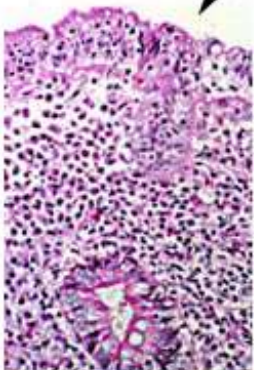
- Pancreatitis
- Cancer
- Exhaustion
- Over-production of insulin
- Malfunction in other digestive organs
- Poor nutrition, particularly the over-consumption of simple carbohydrates
- Obesity
- Genetics

Small Intestine: Problems and Causes

Intestinal mucosa
magnified 1000x

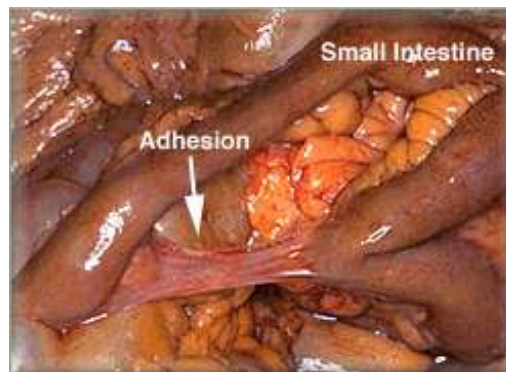


Normal Villi



Loss of Villi

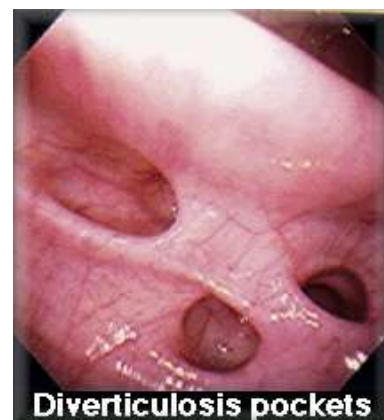
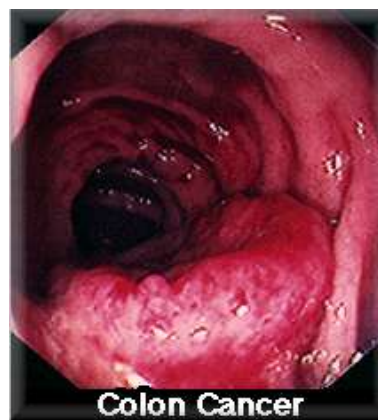
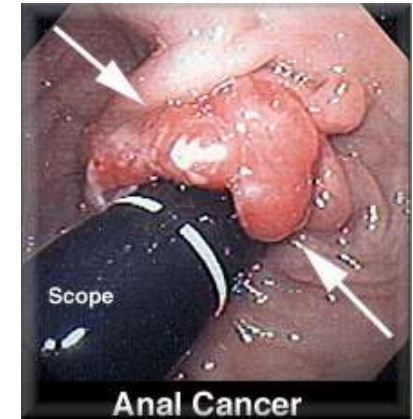
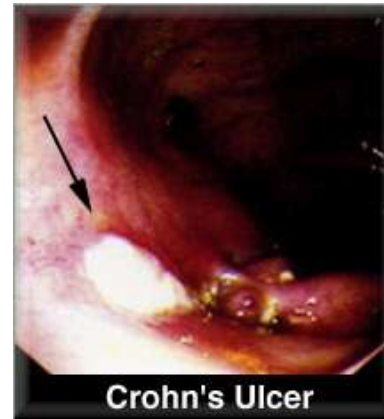
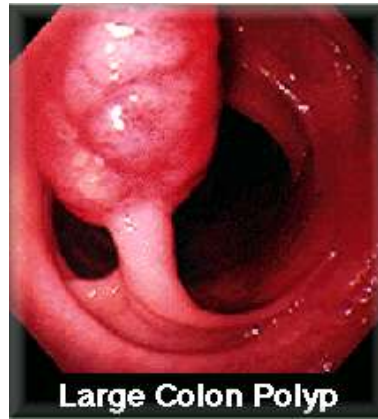
- Cancer
- Low nutrient absorption
- Celiac disease
- Adhesions
- Poor digestion makes food particles larger than can be absorbed by the microvilli
- Food particles clog the lining and cover microvilli
- Tannins in coffee and tea leatherize the villi, reducing absorption
- Rotting food creates acid that may harm intestinal tissue
- Adhesions from injury or surgery



Large Intestine: Problems and Causes

- Cancer
- Leaky gut syndrome
- Celiac
- Irritable Bowel Syndrome
- Appendicitis
- Crone's Disease
- Hemorrhoids
- Uneliminated waste
- Poor muscular tone
- Slow transit time
- Toxicity
- Bacterial pathogens
- Food allergies
- Immune system disorders
- Vascular weakness
- Straining to eliminate (constipation issues)

Large Intestine: Problems and Causes



Rest Stop



Stand up

Drink water

Eat snacks

Test your urinary system

PREVENTION

Maintaining Health in
the GI Tract



Mouth/Throat Health

Consider...

- For Cancer
 - Stop using tobacco products
 - Remove amalgam fillings
- For Bacterial infection
 - Employ good dental hygiene practices
 - Use natural toothpaste (fluoride is a poison)
- For Viral infection
 - Boost the immune system
- For Glandular malfunction
 - Employ direct aid tactics
 - See a physician
- For Sleep Apnea
 - Lose weight
 - Tone throat tissues with direct aid herbs
 - Reduce/eliminate intake of
 - Carbonated beverages
 - Coffee and cocoa beans
 - Red meat
 - Increase exercise for enhanced oxygen intake
 - Reduce stress

Esophagus Health

Consider...

- For Cancer
 - Alleviate acid reflux by enhancing stomach function
 - Aloe Vera juice
- For Bacterial and viral infections
 - Boost the immune system
 - Apply direct aid for particular bacteria or virus
- For Diameter reduction
 - Balloon expansion
 - Other medical procedures
- For Obstructions/ Choking
 - Chew your food until it is liquid
 - Only put food in your mouth

Stomach Health

Consider...

- For Cancer
 - Enhance stomach function
 - Add digestive enzymes
 - Improve nutrition sources
 - Eat highest digestible protein for your body
 - Address malfunction early
 - Reduce Stress
 - Seek medical help
- For Ulcers
 - Enhance stomach function with direct aid
 - Reduce stress
- H-pylori infection
 - Kill bacteria with frequency, herbs, probiotics, or medication
- Stress
 - Change! Lower your stress.
- Consistently eating highly acidic foods
 - Eat more alkalizing foods

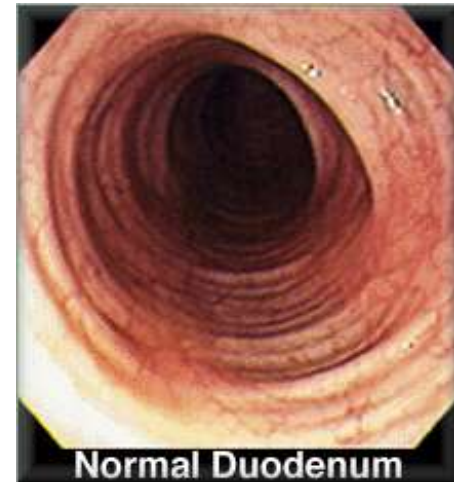
Stomach Health

Consider...

- For Heartburn
 - Often caused by a lack of sufficient hydrochloric acid output by parietal cells
 - Enhance output of hydrochloric acid by adding digestive enzymes
 - Reducing the acid relieves symptoms, but send undigested proteins into the rest of the GI tract
- For Overeating
 - Eat when you are hungry
 - Waiting too long can lead to binge eating
 - Eating when you are not hungry is emotion driven
 - Eat slowly
 - Frequently tune in to see if you really need more food
 - Stop eating when full or just before

Duodenum Health

- Enhance digestive processes
- Enhance gallbladder health
- Avoid overeating
- Enhance pancreatic health
- Avoid gastric bypass surgery
 - They remove the duodenum!



Gallbladder Health

Consider...

- For Gallstones
 - Gallbladder cleanse
 - Hydrangea herb
 - Laser surgery
 - Increase organic sodium
 - More fruits and veggies
 - Less grains and meats
- For reduction in bile production from liver
 - Liver cleanse
 - Cascara Sagrada herb
- Avoid gallbladder removal
 - Bile is no longer stored in sufficient quantities
 - Bile only drips into the duodenum from the duct
 - Fats are insufficiently emulsified (digested)
 - If removed or struggling, add digestive enzymes, particularly **lipase** which is the main enzyme that breaks down fats

Pancreas Health

Consider...

- For Cancer
 - Address malfunction early
 - Apply direct aid
 - Seek medical help
- For Gland Exhaustion
 - Rest the pancreas
 - Reduce sugar input
 - Enhance nutrition
- For over or under-production of insulin
 - Directly manage insulin levels until pancreas is normalized
- For duct blockage
 - Apply frequency, direct aid, or surgery
- For malfunction in other digestive organs
 - Enhance their function
- For poor nutrition
 - Reduce consumption of simple carbohydrates
 - Make better food choices
- For obesity
 - All of the above

Small Intestine Health

Consider...

- For Cancer
 - Balance pH
 - Apply direct aid
 - Seek medical help
- For low nutrient absorption and clogging
 - Cleanse the intestinal tract
 - Enhance preceding organ and gland function
 - Increase intake of **pepsin**, an enzyme that digests proteins
- For tannins in coffee and tea leatherizing the villi
 - Reduce consumption of coffee and black tea
 - Add chlorophyll to regenerate villi
- For rotting food creating acid that may harm intestinal tissue
 - All of the above
 - Apply direct aid to feed intestinal tissues
 - Drink more water

Large Intestine Health

Consider...

- For Cancer
 - Balance pH
 - Enhance digestion
 - Increase nutrition
 - Apply direct aid
 - Probiotics
 - Tissue soothers
 - Mucilants like slippery elm
 - Toxicity reducers
 - Hydrated bentonite
 - Activated charcoal
 - Do not allow constipation
 - Seek medical help
- For leaky gut syndrome
 - Same as above
- For Celiac
 - Eliminate wheat and gluten products from diet
 - Enhance bowel health
 - Reduce sugar intake
- For Irritable Bowel Syndrome
 - Same as for cancer
 - Use a very gentle fiber

Large Intestine Health

Consider...

- For Appendicitis
 - Prevent toxicity by promoting bowel health
 - Seek medical help – fast!
- For Crone's Disease
 - Same as for cancer
 - Address immune disorders
- For Hemorrhoids
 - Enhance vascular health
 - Apply direct aid
 - Butcher's broom
 - Horse Chestnut
 - Topical creams
- For uneliminated waste
 - Apply direct aid
 - Probiotics
 - Digestive enzymes
 - Colon cleansing
 - Nutritional
 - Herbal
 - Colonics (procedure)
- For poor muscular tone
 - Cleanse the colon
 - Intake sufficient fiber
 - Never delay a bowel movement
 - Promote regular bowel movements
 - Reduce stress
 - Increase exercise (esp. walking)

Large Intestine Health

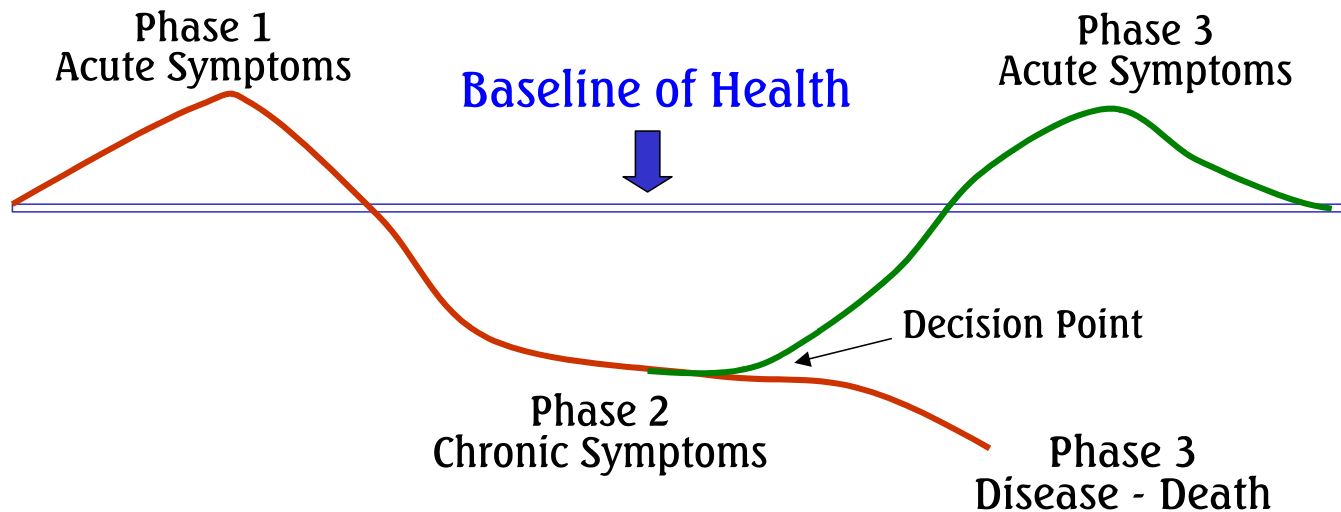
Consider...

- For slow transit time
 - Increase nutrition to reduce waste production
 - Eat less until transit time increases
 - Intake sufficient fiber
 - Cleanse the colon
- For Toxicity
 - Colon cleansing
 - Apply direct aid for detoxification
 - IonCleanse
- For bacterial pathogens
 - Apply direct aid
 - Probiotics
 - Colon cleansing
 - Increase nutrition for good bacteria
 - Enhance immune system
- For food allergies
 - Avoid agitating foods
 - Enhance immune system
 - Frequency therapy

Prevention of Colorectal Cancer

- Exercise
- Low-fat diet rich in fruits and vegetables
- Fiber
- Calcium
- Estrogen
- Folate
- Selenium

Healing Crisis



- Phase 1 – Acute
- Phase 2 – Chronic
- Phase 3 – Disease or return to Acute

QUIZ TIME!

Retake Quiz One



If YOU Burp, Fart, or Burn...

- **Burp**

- You swallowed air
 - Eat slower
 - Avoid straws
 - Avoid carbonated drinks
- You are not digesting your food
 - Take digestive enzymes
 - Make better food choices for your particular body
 - Reduce liquid intake during meals

- **Fart**

- You ate beans or cruciferous vegetables
 - Take digestive enzymes
- Food is rotting in your intestines
 - Take digestive enzymes
 - Cleanse the colon

- **Burn**

- Take digestive enzymes
- Balance your pH
- Make better food choices

If you see other people doing these things, you know what's happening...

HANDOUTS

Flatulence – read
later

Survey of Digestive
Issues – do now



Helpful NSP Products

Food Enzymes



\$22.85 Retail
\$20.00 3 Thirds

Digestive Enzymes

Benefits:

- Supplements the body's production of important enzymes.
- Provides a blend of enzymes to digest proteins, carbohydrates and fats.
- Provides hydrochloric acid and bile salts to help digest proteins and fats.
- Helps prevent or relieve occasional indigestion.
- 120 capsules, take 1-2 with each meal or when indigestion occurs

Bifidophilus



\$25.50 Retail
\$23.00 3 Thirds

Probiotics

Benefits:

- Improves immune system function.
- Helps maintain female vaginal and urinary tract health .
- Helps promote intestinal health in children.
- Helps promote respiratory health in children.
- Helps synthesize B vitamins.
- 90 capsules, 1 per day

Helpful NSP Products

Intestinal Sooth and Build



Intestinal Repair and Support

Benefits:

- Provides nutrients that support the lower bowel.
- Help relieve occasional bloating pressure
- Soothes the intestinal tract.
- 100 capsules, 1-2 twice a day

\$13.10 Retail

\$11.00 3 Thirds

Bowel Detox



Colon Support

Benefits:

- Cleans and builds the intestinal system.
- Strengthens colon tissue.
- Supports proper digestion and intestinal function.
- 120 capsules, 2-3 twice daily

\$22.85 Retail

\$20.00 3 Thirds

Helpful NSP Products

Liquid Chlorophyll



\$14.95 Retail
\$12.00 3 Thirds

Digestive Support General Wellness

Benefits:

- Helps promote the natural blood-cleansing functions of the body.
- Promotes strong immune response.
- Strengthens cells.
- Deodorizes the body, including the bowel.
- 16 fluid ounces, as desired in water

Clean Start Cleanse



\$67.45 Retail
\$58.00 3 Thirds

14-day Colon Cleanse

Benefits:

- Supports the natural, everyday cleansing of toxic waste from the body.
- Works without posing dangerous side effects.
- Improves energy and promotes a feeling of well-being.
- Helps protect the body from disease.
- 28 drink packets and 28 capsule packets, 2 each per day



3 Thirds, Inc.
Independent Distributor
970-377-8333



Good Deal

Product	Retail	3 Thirds
Food Enzymes	\$ 22.85	\$ 20.00
Probiotics	\$ 25.50	\$ 23.00
Intestinal Soothe & Build	\$ 13.10	\$ 11.00
Bowel Detox	\$ 22.85	\$ 20.00
Liquid Chlorophyll	\$ 14.95	\$ 12.00
TOTAL	\$ 99.25	\$ 86.00

Total Savings \$13.25

Save an additional 10% if you buy
all five products - **\$77.40**

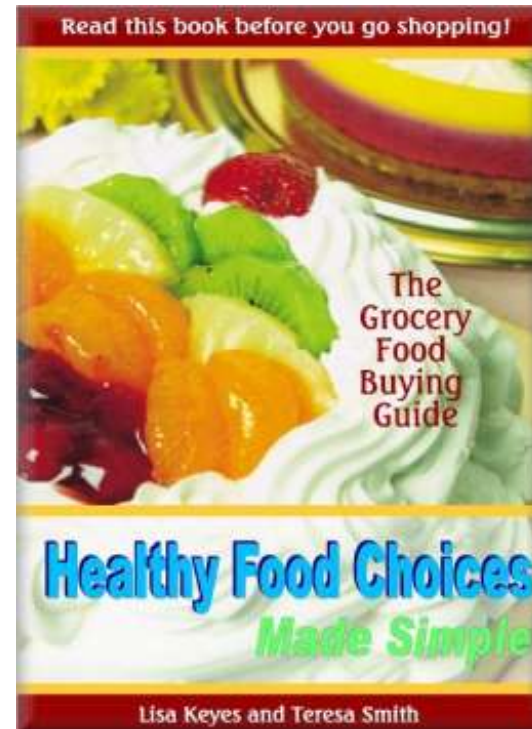
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- <http://www.cancer.gov/cancertopics/pdq/treatment/colon/Patient/page2>
- http://anatomy.med.umich.edu/gastrointestinal_system/duodenum_ans.html
- <http://digestive.niddk.nih.gov/ddiseases/a-z.asp>
- www.mynsp.com/3Thirds

Resources

- ***Healthy Food Choices Made Simple***
 - Helps you make wise decisions in the grocery store
 - Explains the dangers lurking in the aisles
 - Shows you ways to improve your health and live a healthy lifestyle
 - Makes a great gift

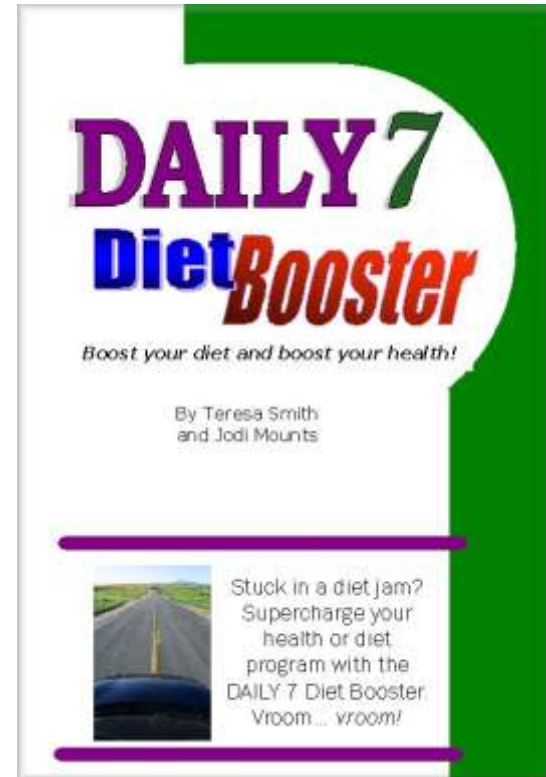
Only \$10.00!



Resources

- ***DAILY 7 Diet Booster***
 - A refresher course on the gastrointestinal tract with a special emphasis on weight loss
 - Easy to read and understand
 - Perfect gift for people you know who are suffering in this area

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