ALIMENTARY CANAL

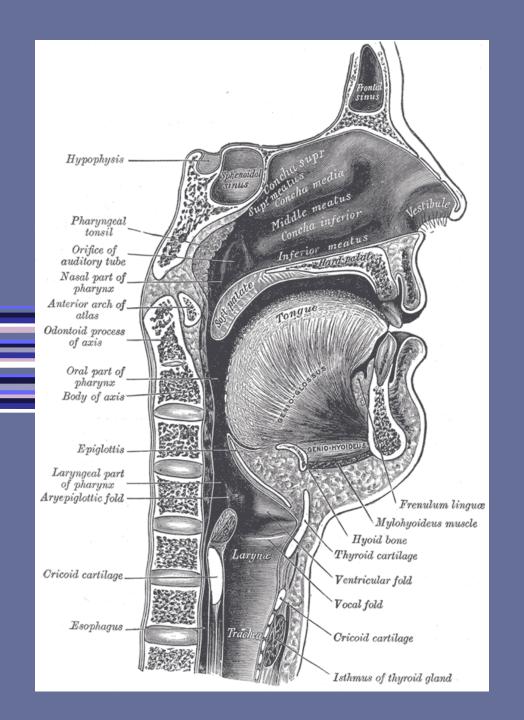
- n LONG MUSCULAR TUBE
- BEGINS AT THE MOUTH AND
- INCLUDES THE PHARYNX,
 - ESOPHAGUS, STOMACH, SMALL
 - INTESTINES AND LARGE
 - INTESTINES

ACCESSORY ORGANS

n INCLUDE THE SALIVARY GLANDS, TONGUE, TEETH, LIVER, GALLBLADDER, AND PANCREAS

•MOUTH OR ORAL CAVITY

- n RECEIVES FOOD AS IT ENTERS
 THE BODY
- ACTIONS IN THE MOUTH
 - FOOD IS TASTED
 - BROKEN DOWN PHYSICALLY BY CHEWING
 - LUBRICATED AND PARTIALLY
 DIGESTED BY SALIVA
 - SWALLOWED



- n SPECIAL STRUCTURES IN THE MOUTH
- BREAK DOWN FOOD PHYSICALLY
 BY CHEWING AND GRINDING THE
 FOOD, A PROCESS CALLED

 MASTICATION

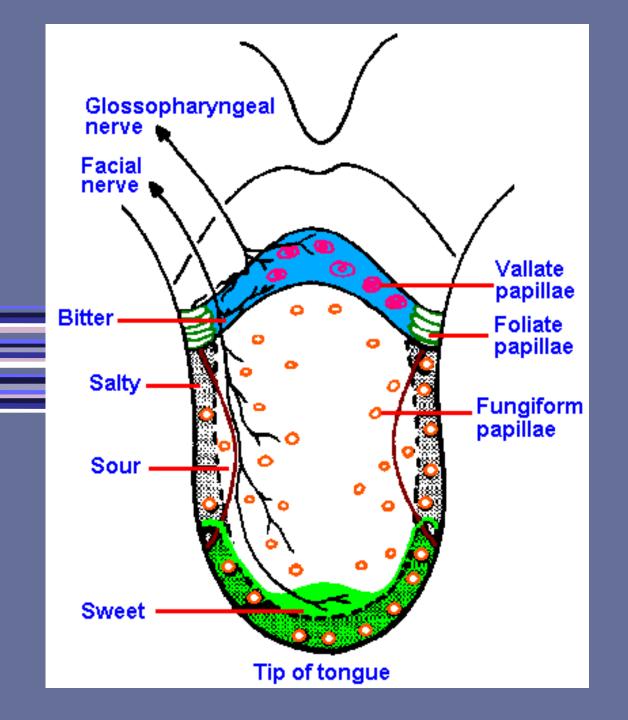
•TONGUE

- n MUSCULAR ORGAN
- CONTAINS SPECIAL RECEPTORS

 CALLED TASTE BUDS THAT ALLOW

 A PERSON TO TASTE SWEET, SALT,

 SOUR AND BITTER SENSATIONS
 - n ALSO AIDS WITH CHEWING AND SWALLOWING OF FOOD



HARD PALATE

- n BONY STRUCTURE THAT FORMS
 THE ROOF OF THE MOUTH
- SEPERATES THE MOUTH FROM THE NASAL CAVITIES

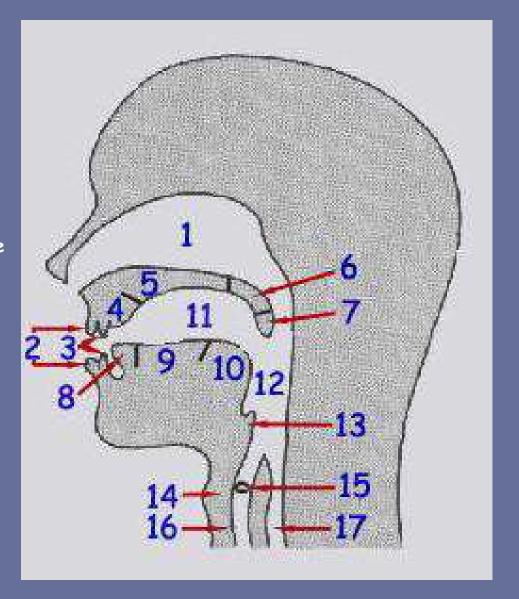
SOFT PALATE

- n LOCATED BEHIND THE HARD PALATE
- SEPARATES THE MOUTH FROM THE NASOPHARYNX



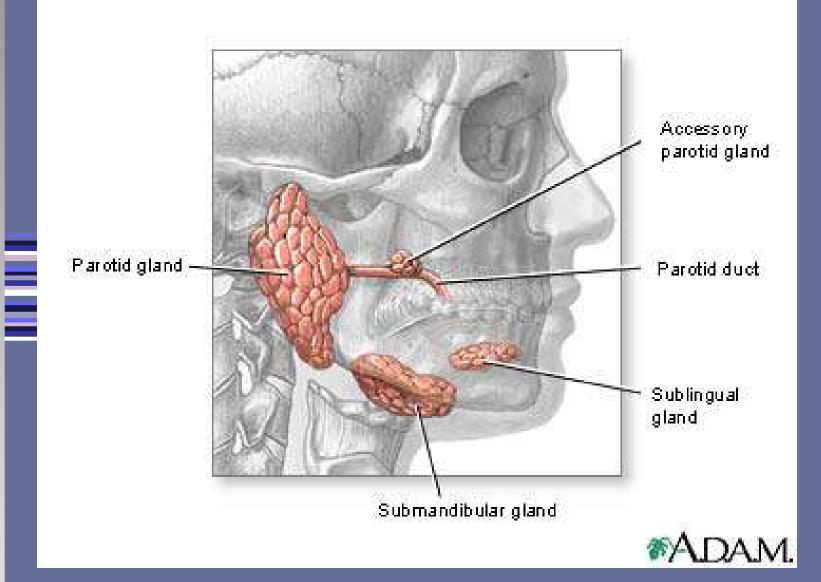
- 2-lips
- 3-teeth
- 4-aveolar ridge
- 5-hard palate
- 6-velum (soft palate)
- 7-uvula
- 8-apex (tip) of tongue
- 9-blade (front) of tongue
- 10-dorsum (back) of tongue
- 12-pharynx

- 16-trachea
- 17-esophagus



SALIVARY GLANDS

- n THREE PAIRS OF GLANDS
- <u>n PAROTID, S</u>UBLINGUAL, AND <u>SUBMANDIBULAR</u>
 - PRODUCE A LIQUID CALLED SALIVA
 - LUBRICATES THE MOUTH DURING
 SPEECH AND CHEWING
 - MOISTENS FOOD SO IT CAN BE SWALLOWED EASILY



SALIVA

- n CONTAINS AN ENZYME CALLED SALIVARY AMYLASE, FORMERLY KNOWN AS PTYALIN
 - SUBSTANCE SPEEDING UP A CHEMICAL REACTION
 - BEGINS THE CHEMICAL BREAKDOWN
 OF CARBOHYDRATES OR STARCHES
 INTO SUGARS THAT CAN BE TAKEN
 INTO THE BODY

PHARYNX OR THROAT

- n AFTER THE FOOD IS CHEWED AND MIXED WITH SALIVA, IT IS CALLED A BOLUS AND IT ENTERS THE PHARYNX OR THROAT
 - n TUBE THAT CARRIES BOTH AIR AND FOOD
 - n CARRIES THE AIR TO THE TRACHEA
 OR WINDPIPE

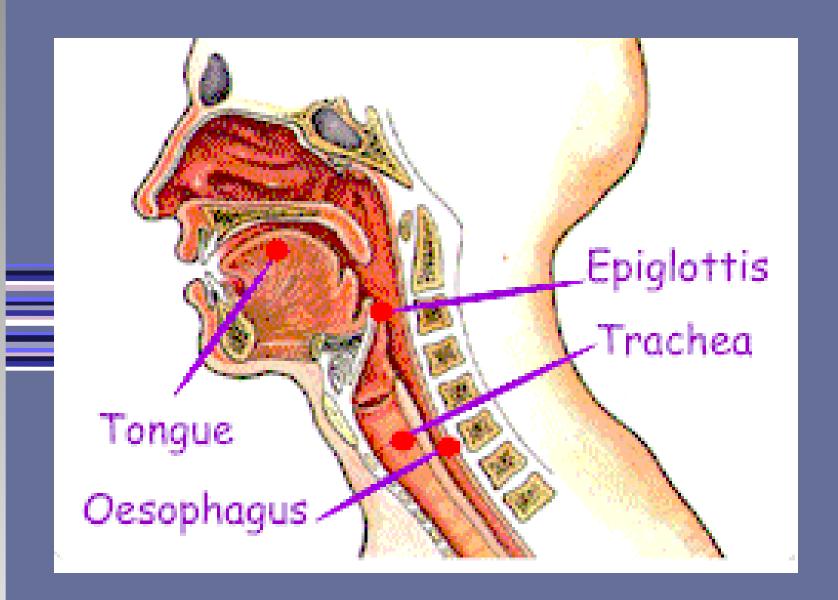
PHARYNX CARRIES FOOD TO THE ESOPHAGUS

MHEN BOLUS IS SWALLOWED

MUSCLE ACTION CAUSES THE

EPIGLOTTIS TO CLOSE OVER THE

n PREVENTS BOLUS FROM ENTERING RESPIRATORY TRACT

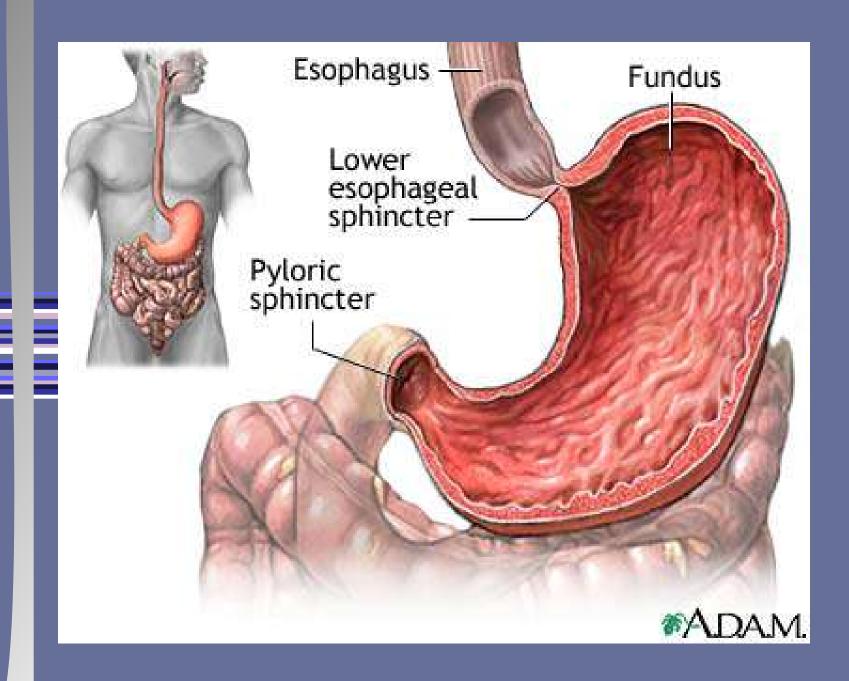


ESOPHAGUS

- n MUSCULAR TUBE DORSAL TO THE TRACHEA OR WINDPIPE
- n RECEIVES BOLUS FROM THE
 PHARYNX AND CARRIES IT TO THE
 STOMACH
- INVOLUNTARY MOVEMENT OF ITS MUSCLES, CALLED *PERISTALSIS*, TO MOVE THE FOOD IN A FORWARD DIRECTION

STOMACH

- n ENLARGED PART OF THE ALIMENTARY CANAL
- RECEIVES THE FOOD FROM THE ESOPHAGUS
- n MUCOUS MEMBRANE LINING
 CONTAINS FOLDS CALLED *RUGAE*,
 WHICH DISAPPEAR AS THE
 STOMACH FILLS WITH AND
 EXPANDS



CARDIAC SPHINCTER

- n CIRCULAR MUSCLE BETWEEN THE ESOPHAGUS AND STOMACH
- STOMACH STOMACH
- n PREVENTS FOOD FROM GOING BACK UP INTO THE ESOPHAGUS



PYLORIC SPHINCTER

- n CIRCULAR MUSCLE BETWEEN THE STOMACH AND SMALL INTESTINE
- WEEPS FOOD IN THE STOMACH
 UNTIL IT IS READY TO ENTER THE
 SMALL INTESTINE
- FOOD USUALLY REMAINS IN THE STOMACH FOR ABOUT ONE TO FOUR HOURS

GASTRIC JUICES

- n PRODUCED BY GLANDS IN THE STOMACH
- CONVERTEOOD INTO SEMIFLUID

 MATERIAL CALLED CHYME
- n JUICES CONTAIN HYDROCHLORIC ACID
 - KILLS BACTERIA
 - HELPS IN THE ABSORPTION OF IRON
 - ACTIVATES THE ENZYME PEPSIN

Gastric Juice...does a body good

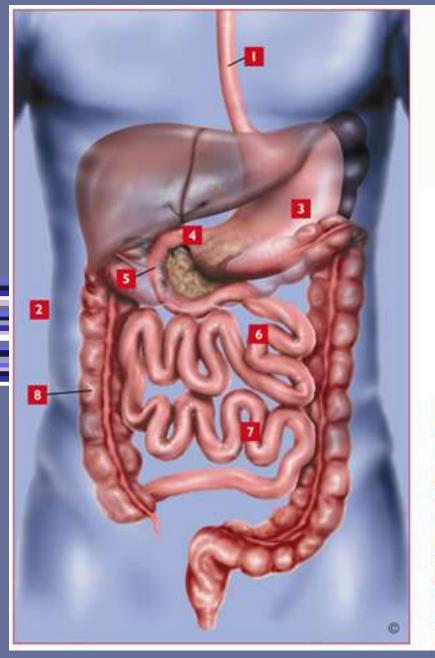


JUICES ALSO CONTAIN ENZYMES

- n LIPASE, WHICH BEGINS THE CHEMICAL BREAKDOWN OF FATS
- PEPSIN, WHICH STARTS PROTEIN
 DIGESTION
- n IN AN INFANT, ENZYME RENNIN IS EXCRETED
 - AIDS IN THE DIGESTION OF MILK
 - NOT PRESENT IN ADULTS

SMALL INTESTINE

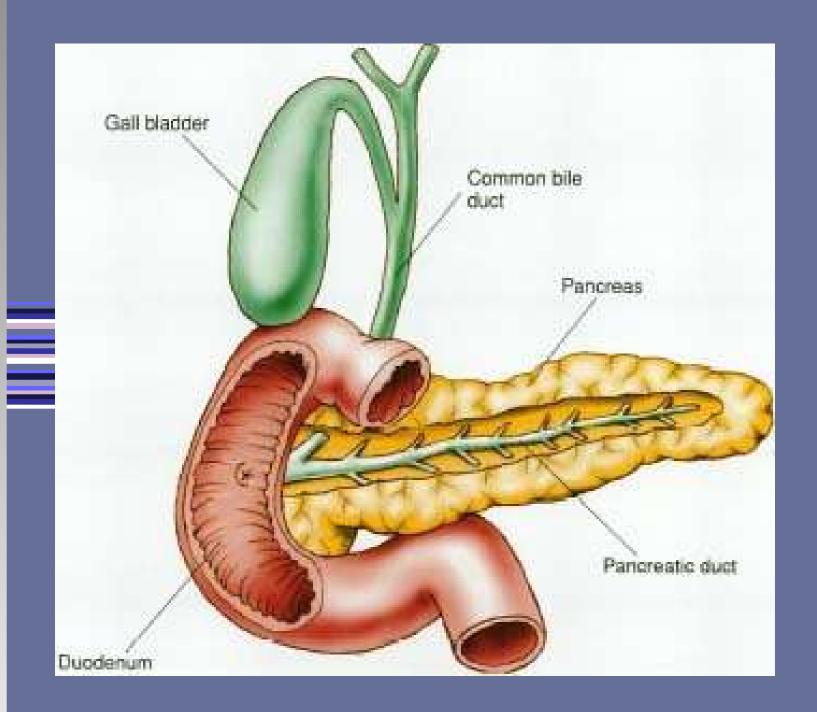
- n COILED SECTION OF THE
 ALIMENTARY CANAL ABOUT
 TWENTY FEET LONG AND ONE INCH
 - IN DIAMETER
- RECEIVES FOOD, IN FORM OF CHYME, FROM STOMACH
- n THREE SECTIONS
 - DUODENUM
 - JEJUNUM
 - ILEUM



- THE ESOPHAGUS
- 2 THE ABDOMEN
- THE STOMACH
- THE PYLORUS
- THE DUODENUM
- 6 THE JEJUNUM
- 7 THE ILEUM
- THE LARGE INTESTINE

DUODENUM

- n FIRST NINE TO TEN INCHES
- BILE FROM THE GALLBLADDER AND
 - LIVER AND PANCREATIC JUICE
 - FROM THE PANCREAS ENTER THIS
 - SECTION THROUGH DUCTS OR
 - **TUBES**



JEJUNUM

- n ABOUT EIGHT FEET LONG
- FORMS THE MIDDLE SECTION OF
 - THE SMALL INTESTINE

ILEUM

- n FINAL TWELVE FEET
- NONNECTS WITH THE LARGE INTESTINE AT THE CECUM
- ILEOCECAL VALVE SEPARATES THE ILEUM AND CECUM AND PREVENTS FROM RETURNING TO THE ILEUM

FUNCTIONS OF THE SMALL INTESTINE

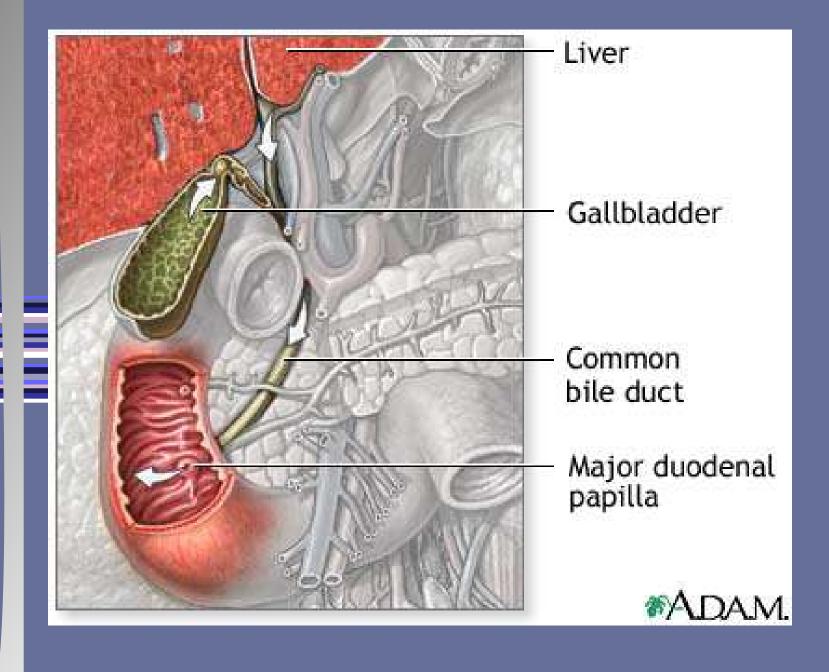
- n COMPLETES THE PROCESS OF DIGESTION
- DIGESTION INTO THE BLOOD
 STREAM FOR USE BY BODY CELLS

INTESTINAL JUICES

- n PRODUCED BY THE SMALL INTESTINE
- CONTAIN THE ENZYMES MALTASE, SUCRASE, AND LACTASE, WHICH BREAK DOWN SUGARS INTO SIMPLE FORMS
- n ALSO CONTAIN ENZYMES KNOWN AS PEPTIDASES, WHICH COMPLETE THE DIGESTION OF PROTEINS

BILE

- n LIQUID THAT ENTERS SMALL INTESTINE FROM LIVER AND
- GALLBLADDER
- BREAKS DOWN FATS



PANCREATIC JUICE

- n LIQUID THAT ENTERS SMALL INTESTINE FROM PANCREAS
- n CONTAINS ENZYMES THAT

 COMPLETE THE PROCESS OF

DICESTION

- PANCREATIC AMYLASE, WHICH ACTS
 ON SUGARS
- TRYPSIN AND CHYMOTRYPSIN, WHICH ACT ON PROTEINS
- LIPASE, WHICH ACTS ON FATS

VILLI

- n FINGERLIKE PROJECTONS THAT LINE WALL OF SMALL INTESTINE
- TAKEN INTO BLOOD STREAM
- n CONTAINS BLOOD CAPILLARIES
 AND LACTEALS



VILLI CONTINUED

n BLOOD CAPILLARIES ABSORB OR PICK UP THE DIGESTED NUTRIENTS AND CARRY THEM TO THE LIVER WHERE THEY ARE STORED OR RELEASED INTO GENERAL

CIRCULATION FOR USE BY BODY

CELLS

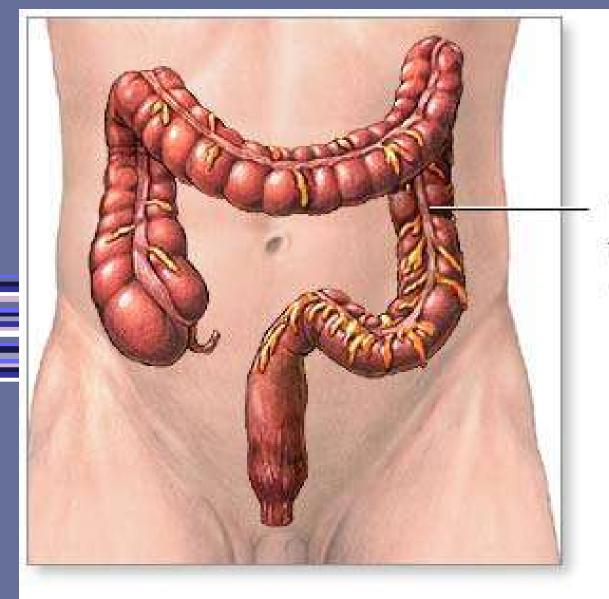
n LACTEALS PICK UP MOST OF THE DIGESTED FATS AND CARRY THEM TO THE LYMPATHIC SYSTEM, WHICH RELEASES THEM INTO THE CIRCULATORY SYSTEM

SMALL INTESTINE OVERVIEW

NHEN FOOD HAS COMPLETED ITS
PASSAGE THROUGH THE SMALL
INTESTINE ONLY WASTES,
INDIGESTIBLE MATERIALS AND
EXCESS WATER REMAIN

LARGE INTESTINE

- n FINAL SECTION OF THE ALIMENTARY CANAL
- ABOUT TWO INCHES IN DIAMETER



Large intestine (colon)



FUNCTIONS

- n ABSORPTION OF WATER AND ANY REMAINING NUTRIENTS
- n STORAGE OF INDIGESTIBLE
 MATERIALS BEFORE THEY ARE
 ELIMINATED FROM THE BODY

FUNCTIONS



- n SYNTHESIS (FORMATION) AND
 ABSORPTION OF SOME BCOMPLEX VITAMINS AND VITAMIN K
 BY BACTERIA PRESENT IN
 INTESTINE
- n TRANSPORTATION OF THE WASTE PRODUCTS OUT OF THE ALIMENTARY CANAL

SECTIONS OF LARGE INTESTINE

- n CECUM
 - FIRST SECTION
 - CONNECTS WITH THE ILEUM OF THE SMALL INTESTINE
 - CONTAINS A SMALL PROJECTION
 CALLED THE VERMIFORM APPENDIX

COLON

- ON THE CECUM TO THE LOWER

 PART OF THE LIVER
 - n TRANSVERSE COLON EXTENDS
 ACROSS THE ABDOMEN, BELOW
 THE LIVER AND STOMACH, BUT
 ABOVE THE SMALL INTESTINE

COLON CONTINUED

- n DESCENDING COLON EXTENDS

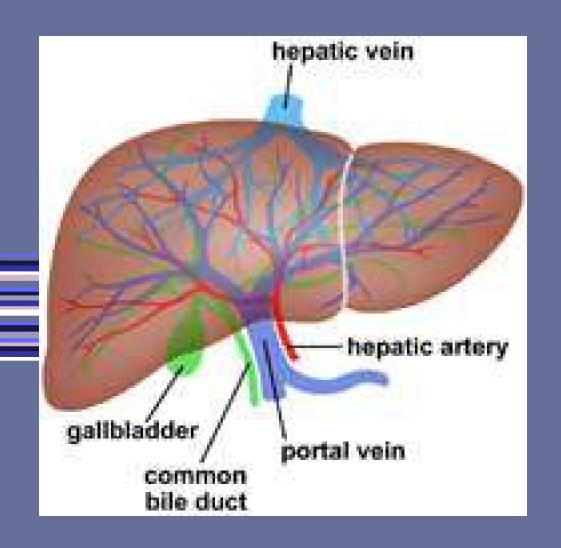
 DOWN THE LEFT SIDE OF THE BODY
- SIGMOID COLON
 - **CONNECTS** WITH DESCENDING COLON
 - "S" SHAPED SECTION THAT JOINS
 WITH THE RECTUM

RECTUM

- n FINAL SIX TO EIGHT INCHES
- n STORAGE AREA FOR THE INDIGESTIBLES OR WASTES
- N HAS A NARROW CANAL CALLED THE ANAL CANAL, WHICH OPENS AT A HOLE CALLED THE ANUS
 - FECAL MATERIAL OR STOOL, THE FINAL WASTE PRODUCT OF THE DIGESTIVE PROCESS, IS EXPELLED THROUGH THIS OPENING

LIVER

- n LARGEST GLAND IN THE BODY
- <u>n ACCESSOR</u>Y ORGAN FOR THE DIGESTIVE TRACT
 - REDITION OF THE DIAPHRAGM OF THE ABDOMEN



FUNCTIONS

- n SECRETES BILE
 - USED TO EMULSIFY OR PHYSICALLY BREAK UP FATS
 - ALSO MAKES FATS WATER SOLUBLE, WHICH IS NECESSARY FOR ABSORPTION
- n STORES SUGAR IN THE FORM OF GLYCOGEN
 - GLYCOGEN IS CONVERTED TO GLUCOSE

FUNCTIONS CONTINUED

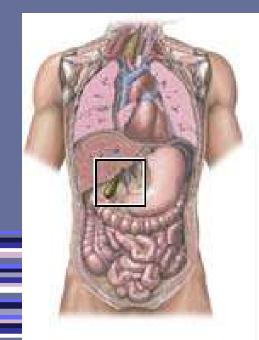
- n STORES IRON AND CERTAIN VITAMINS
- THAT PREVENTS CLOTTING OF THE BLOOD
- PRODUCES BLOOD PROTEINS
 SUCH AS FIBRINOGEN AND
 PROTHROMBIN, WHICH AID IN
 CLOTTING OF THE BLOOD

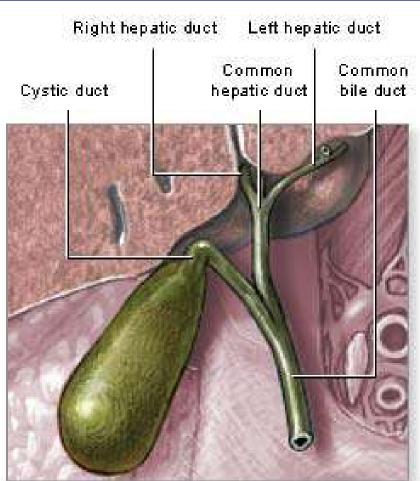
FUNCTIONS CONTINUED

- n PRODUCES CHOLESTEROL
- DETOXIFIES (RENDERS LESS)
 - HARMEUL) SUBSTANCES SUCH AS
 - ALCOHOL AND PESTICIDES, AND
 - DESTROYS BACTERIA THAT HAVE
 - BEEN TAKEN INTO THE BLOOD
 - FROM THE INTESTINE

GALLBLADDER

- n SMALL MUSCULAR SAC
- ATTACHED TO IT BY CONNECTIVE
 TISSUE
 - n STORES AND CONCENTRATES BILE, WHICH IT RECEIVES FROM THE LIVER







GALLBLADDER CONTINUE

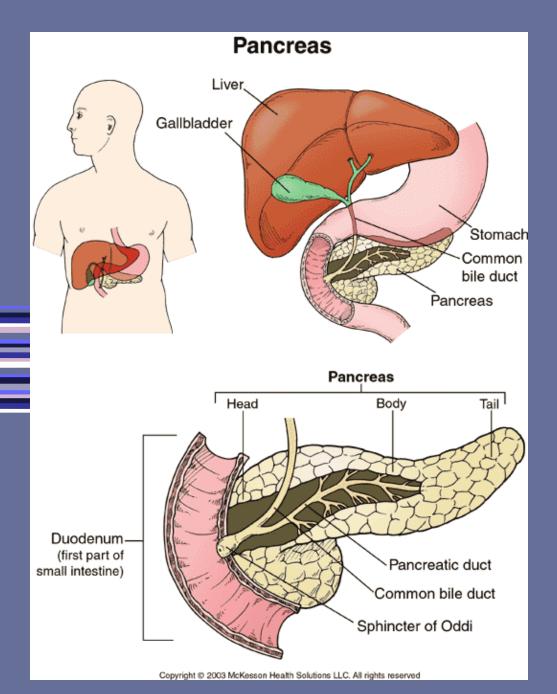
n WHEN THE BILE IS NEEDED IN THE DIGESTIVE TRACT TO EMULSIFY

FATS, IT CONTRACTS AND PUSHES

THE BILE THROUGH THE COMMON BILE DUCT INTO THE DUODENUM

PANCREAS

- n FISH-SHAPED ORGAN LOCATED BEHIND THE STOMACH
- PRODUCES PANCREATIC JUICES
 - JUICES ENTER DUODENUM THROUGH
 PANCREATIC DUCT
 - FOOOD
 - PANCREATIC AMYLASE TO BREAK DOWN FOOD SUGARS
 - TRYPSIN AND CHYMOTRYPSINTO BREAK



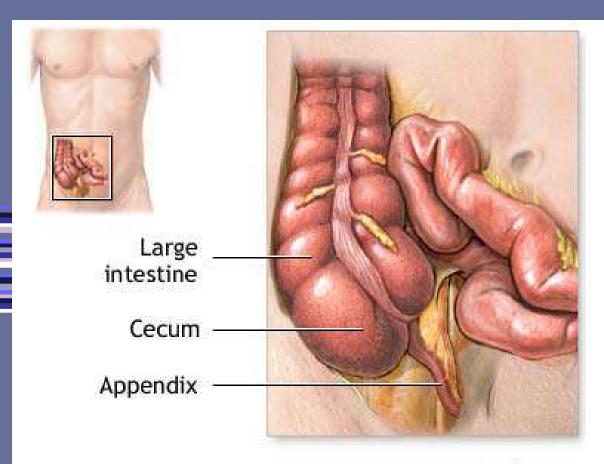
PANCREAS CONTINUED

- n PRODUCES INSULIN
 - SECRETED INTO THE BLOOD STREAM
 - REGULATES THE METABOLISM OR
 - BURNING OF CARBOHYDRATES TO
 - CONVERT GLUCOSE (BLOOD SUGAR)
 - TO ENERGY

DISEASES OF THE DIGESTIVE SYSTEM

APPENDICITIS

n ACUTE INFLAMMATION OF THE APPENDIX USUALLY DUE TO AN OBSTRUCTION AND INFECTION





SYMPTOMS

- n GENERALIZED ABDOMINAL PAIN THAT LATER LOCALIZES AT THE LOWER RIGHT QUADRANT
- N&V
- n MILD FEVER
- n ELEVATED WBC

THE APPENDIX RUPTURES?

INFECTIOUS MATERIAL SPILLS OUT INTO PERITONEAL CAVITY AND CAUSES PERITONITIS, A SERIOUS CONDITION

TREATMENT

n APPENDECTOMY



CHOLECYSTITIS

- n INFLAMMATION OF THE GALLBLADDER
- FORM FROM CRYSTALIZED
 CHOLESTEROL, BILE SALTS, AND
 BILE PIGMENTS



SYMPTOMS

- n FREQUENTLY OCCUR AFTER EATING FATTY FOODS
- INDIGESTION, N&V
 - PAIN UNDER RIB THAT RADIATES TO THE RIGHT SHOULDER
 - IF GALLSTONE BLOCK BILE
 DUCTS,GALLBLADDER CAN RUPTURE
 AND CAUSE PERITONITIS

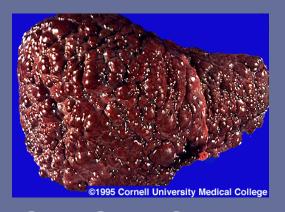
TREATMENT

- n LOW FAT DIETS
- n LITHOTRIPSY: SHOCK WAVES TO SHATTER GALLSTONES
 - REMOVAL OF GALLBLADDER

Lithotripsy



CIRRHOSIS



- CHRONIC DESTRUCTION OF LIVER CELLS ACCOMPANIED BY THE FORMATION OF FIBROUS

 CONNECTIVE AND SCAR TISSUE
- n CAUSES: MALNUTRITION
 ASSOCIATED WITH ALCOLISM,
 HEPATITIS, BILE DUCT DISEASE,
 AND CHEMICAL TOXINS

SYMPTOMS

- n VARY AND BECOME MORE SEVERE AS DISEASE PROGRESSES
- ENLARGEMENT OF THE LIVER
- ANEMIA AND NOSEBLEEDS
- n INDIGESTION, N&V
- n JAUNDICE

SYMPTOMS CONTINUED

n ASCITES OR AN ACCUMULATION OF FLUID IN ABDOMINAL PERITONEAL

CAVITY

DISORIENTATION, HALUCINATIONS, HEPATIC COMA, AND DEATH OCCURS

- n DIRECTED TOWARD PREVENTING FURTHER DAMAGE TO THE LIVER
- AVOIDING ALCOHOL AND
 - PREVENTING INFECTIONS
- n PROPER NUTRITION AND VITAMIN SUPPLEMENTS
- n REST AND APPROPIATE EXERCISE
 ARE ENCOURAGED

CONSTIPATION



- FECAL MATERIAL REMAINS IN THE
 COLON TOO LONG CAUSING
 EXCESSIVE REABSORPTION OF
 WATER
- r FECES OR STOOL BECOME HARD, DRY, AND DIFFICULT TO ELIMINATE

CAUSES

- n POOR BOWEL HABITS
- n CHRONIC USE OF LAXATIVES
- CAUSING A LAZY BOWEL
 - DIETS LOW INFIBER
 - n CERTAIN DIGESTIVE DISEASES

- n USUALLY CORRECTED BY A DIET HIGH IN FIBER, ADEQUATE FLUIDS AND EXERCISE
 - AT TIMES, LAXATIVES USED TO STIMULATE DEFECATION

DIARRHEA

- n CONDITION CHARACTERIZED BY FREQUENT WATERY STOOLS
- EXTREMELY DANGEROUS IN
 INFANTS AND SMALL CHILDREN
 DUE TO THE EXCESSIVE LOSS OF
 FLUIDS

CAUSES

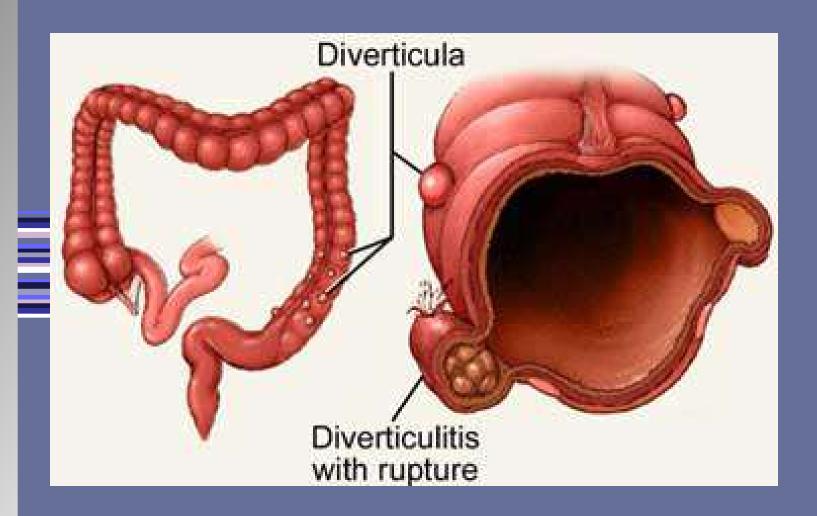
- n INFECTIONS
- n STRESS
- - TRRIATED COLON
- n TOXIC SUBSTANCES



- n ELIMINATE THE CAUSE
- PROVIDE ADEQUATE FLUID INTAKE
 - -- MODIFY THE DIET

DIVERTICULITIS

POUCHES OR SACS THAT FORM IN THE INTEST INE AS THE MUCOSAL LINING PUSHES THROUGH THE SURROUNDING MUSCLE



CAUSES

- n WHEN FECAL MATERIAL AND
 BACTERIA BECOME TRAPPED IN
 DIVERTICULA, INFLAMMATION
 OCCURS
- n CAN CAUSE AN ABSCESS OR RUPTURE LEADING TO PERITONITIS

- NARY DEPENDING ON THE AMOUNT OF INFLAMMATION
- n ABDOMINAL PAIN
- IRREGULAR BOWEL MOVEMENTS
 AND FLATUS
- n CONSTIPATION OR DIARRHEA
- n ABDOMINAL DISTENTION
- n LOW-GRADE FEVER
- n N&V

- n ANTIBOTICS, STOOL SOFTNENING AND PAIN MEDICATIONS
- SURGERY TO REMOVE THE

 AFFECTED SECTION OF COLON

GASTROENTERITIS

n INFLAMMATION OF MUCOUS

MEMBRANE LINING THE STOMACH

AND INTESTINAL TRACT

CAUSES

- n FOOD POISONING
- INFECTIONS
 - n TOXINS

- n ABDOMINAL CRAMPING
- n N&V
 - n-FEVER
 - n DIARRHEA

- n USUALLY REST AND INCREASED FLUID INTAKE
- FLUIDS, AND MEDICATIONS TO
 SLOW PERISTALSIS MAY BE USED

HEMORRHOIDS

n PAINFUL, DILATED OR VARICOSE VEINS OF RECTUM AND/OR ANUS

CAUSES

- n STRAINING TO DEFECATE OR CONSTIPATION
- PRESSURE DURING PREGNANCY
- THISUFFICIENT FLUID INTAKE
- n ABUSE OF LAXATIVES
- n PROLONGED SITTING OR STANDING

- n PAIN
- n ITCHING
 - n BLEEDING

- n HIGH FIBER DIET AND INCREASED FLUID INTAKE
- STOOLSOETNERS
- **SITZ BATH OR WARM MOIST COMPRESSES
- n HEMORRHOIDECTOMY IN SEVERE CASES

HEPATITIS

- NOT A STATE OF THE LIVER
 NOT A STATE OF THE LIVER
- n TYPE A OR INFECTIOUS HEPATITIS
 - HIGHLY CONTAGIOUS
 - TRANSMITTED IN FOOD OR WATER

 THAT HAS BEEN CONTAMINATED BY

 THE FECES OF AN INFECTED PERSON
- n TYPE B OR SERUM HEPATITIS
 - TRANSMITTED BY BLOOD AND SERUM
 - MORE SERIOUS THAN TYPE A AND CAN LEAD TO CHRONIC HEPATITIS OR CIRRHOSIS OF THE LIVER

- n FEVER, ANOREXIA, AND N&V
- n FATIQUE, DARK COLOR URINE
 - CLAY COLORED STOOL
 - n ENLARGED LIVER
 - n JAUNDICE

- n REST
- DIET HIGH IN PROTEIN AND CALORIES AND LOW IN FAT

HERNIA OR RUPTURE

OCCURS WHEN AN INTERNAL
ORGAN PUSHES THROUGH A
WEAKENED AREA OR NATURAL
OPENING IN A BODY WALL

HIATAL HERNIA

n STOMACH PROTRUDES THROUGH
THE DIAPHRAGM INTO THE CHEST
CAVITY THROUGH THE OPENING
FOR THE ESOPHAGUS

- **n** HEARTBURN
- DISTENTION OF THE STOMACH
 - CHEST PAIN
 - n DIFFICULTY SWALLOWING

- n BLAND DIET
- n SMALL FREQUENT MEALS
 - ---SIT UP AFTER EATING
 - n SURGICAL REPAIR

INGUINAL HERNIA

- n SECTIONOF THE SMALL INTESTINE
 PROTRUDES THROUGH THE
 INGUINAL RINGS OF THE LOWER
 ABDOMINAL WALL
- n IF THE HERNIA CANNOT BE REDUCED, OR PUSHED BACK IN PLACE, A HERNIORRHAPY IS DONE

PERITONITIS

- n INFLAMMATION OF THE ABDOMINAL PERITONEAL CAVITY
- RUPTURE IN THE INTESTINE
 ALLOWS FECAL CONTENTS TO
 ENTER THIS CAVITY
- n RUPTURED APPENDIX OR GALLBLADDER ARE CAUSES

- n ABDOMINAL PAIN AND DISTENTION
- n FEVER

- n ANTIBIOTICS
- n SURGICAL REPAIR

ULCER

- n OPEN SORE ON THE LINING OF THE DIGESTIVE TRACT
- PEPTIC ULCERS INCLUDE

 GAASTRIC AND DUODENAL ULCERS

- **n** BURNING PAIN
- n INDIGESTION
- HEMATEMESIS (BLOODY VOMITUS)
- MELENA (DARK, TARRY STOOL)

- n ANTACIDS AND BLAND DIET
- n DECREASING STRESS
 - AVOID IRRITANTS SUCH AS

 ALCOHOL, FRIED FOOD, TOBACCO,

 AND CAFFEINE

ULCERATIVE COLITIS

- n SEVERE INFLAMMATION OF THE COLON WITH THE FORMATION OF ULCERS AND ABSCESSES
- STRESS, ALLERGIC REACTIONS TO FOOD, OR AN AUTOIMMUNE REACTION

- n DIARRHEA WITH BLOOD, PUS, AND MUCUS
- WEIGHTLOSS, WEAKNESS,

 ABDOMINAL PAIN, ANEMIA AND
 ANOREXIA
- n PERIODS OF REMISSION AND EXACCERBATION ARE COMMON

- n DIRECTED TOWARD CONTROLLING INFLAMMATION
- REDUCE STRESS WITH MILD
 SEDATION
- MAINTAIN PROPER NUTRITION
- n AVOID SUBSTANCES THAT AGGRAVATE THE CONDITION
- n SURGICAL REMOVAL OF AFFECTED COLON IN SOME CASES

THE END!!!!!