

# Petunia

Petunia was a full term fetal pig.

This was determined by measuring her. From snout to tail, she is 40.5 centimeters long.

Petunia is a female. She has a urogenital papilla near her anus.

Petunia is special because of her immense size. She's a big girl, one of the biggest in the class.



# The Esophagus

The esophagus is a thin, muscular tube that is about 8 inches long.

Esophagus is derived from the Greek word Oesophagus, which means gullet.

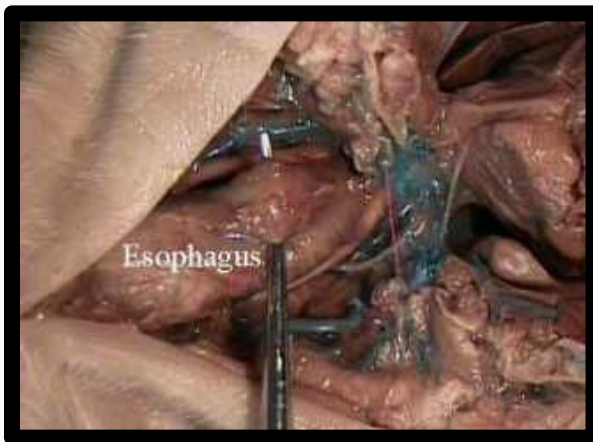
The esophagus is lined with pink tissue called "mucosa" which is a thick protective layer of membrane.



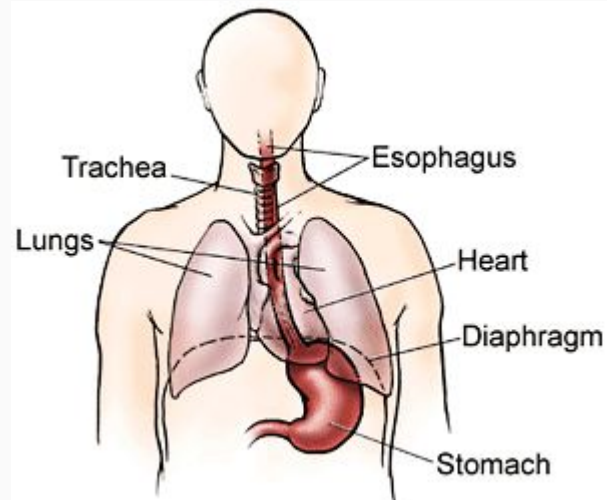
## FUNCTION:

The esophagus is an important part of the digestive system that brings food and water from the mouth to the stomach for further digestion.

The muscles of the esophagus contract in rhythmic waves, known as peristalsis, which push the food through the esophagus and into the stomach to continue digestion.



Petunia's Esophagus



# The Tongue

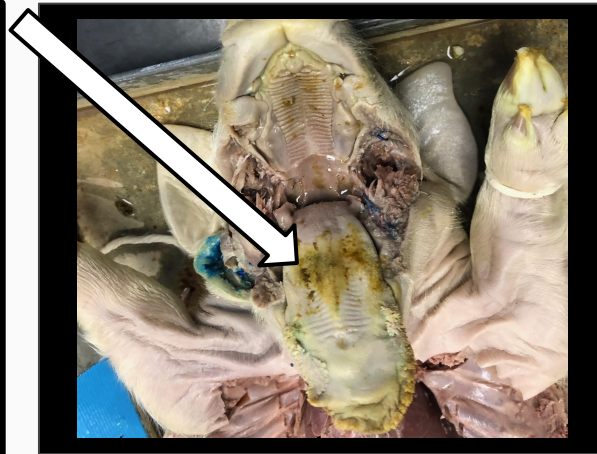


## FUNCTION:

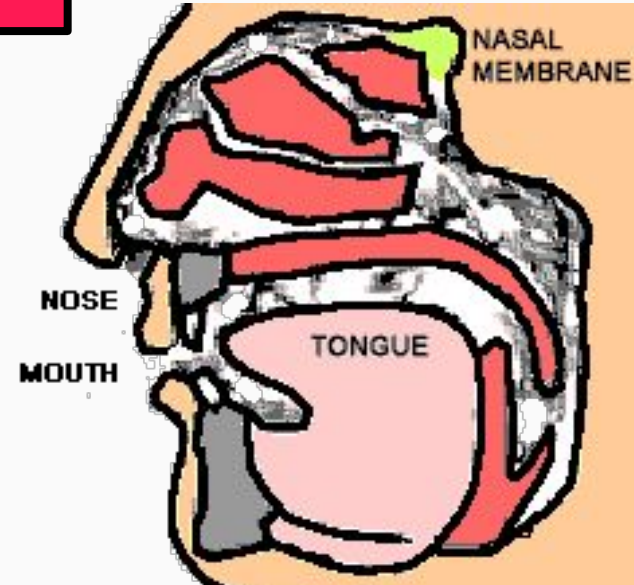
The tongue is used to move food to the teeth to be chopped into smaller pieces and then push the chewed food down the pharynx for further digestion.

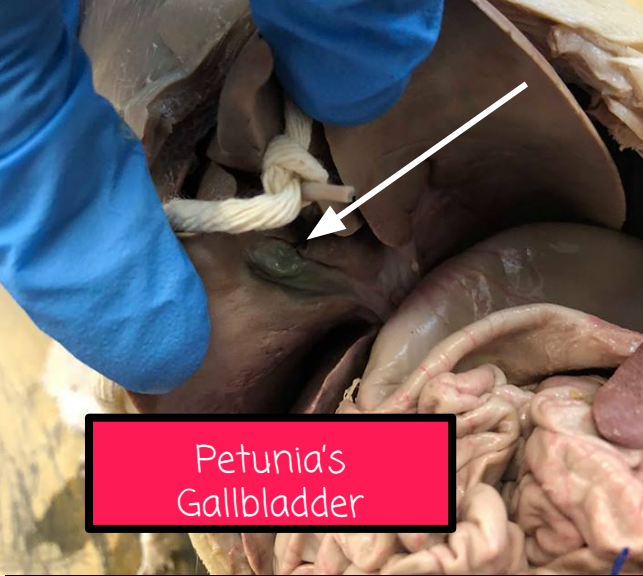
The tongue is not only used in the digestive system, but also used with the teeth to form different sounds for speaking.

- The tongue is a muscular organ located in the mouth.
- It is covered in a protective layer of mucosa, which is a mucus membrane.
- The tongue has a rough texture because it is covered in papillae which are responsible for distinguishing tastes



Petunia's Tongue





Petunia's  
Gallbladder

# The Gallbladder

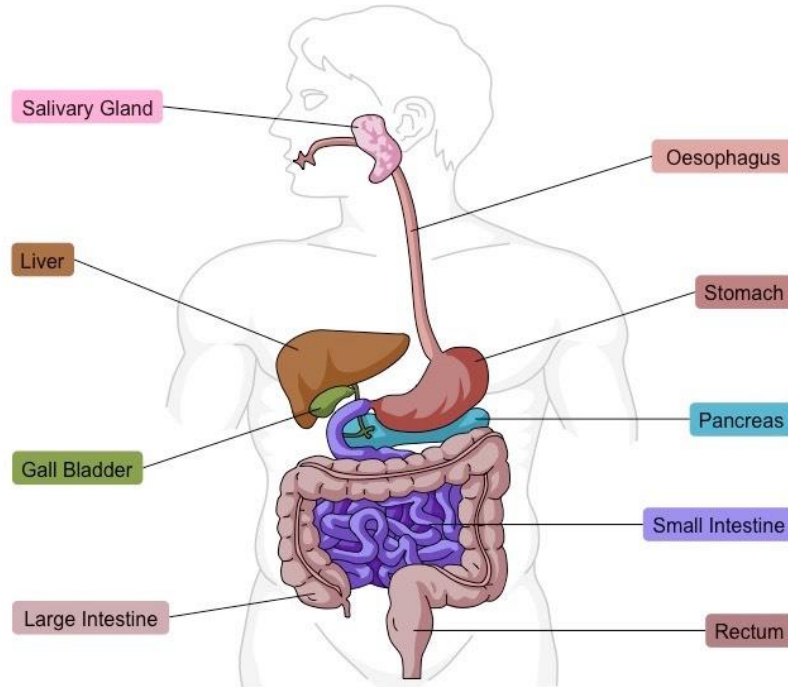
## FUNCTION:

The gallbladder stores bile produced by the liver before it is released into the small intestine to digest fatty foods. It releases it into the duodenum through the common bile

## STRUCTURE:

The gallbladder is a green, small, tear shaped organ that lies beneath the liver. It is also hollow and on the right side of the abdomen.

It consists of the fundus, body, and neck.



## FACTS:

A low-cholesterol/  
low-fat diet is best for  
a healthy gallbladder.

Around 12% of the  
population have  
gallstones.

Around 80% of people  
that have gallstones  
can go up to twenty  
years without  
experiencing symptoms.

## FUNCTION

There are four different types of teeth - each has a different function.

**Incisors** - The first 8 teeth in the front of your mouth. They are used to bite into food.

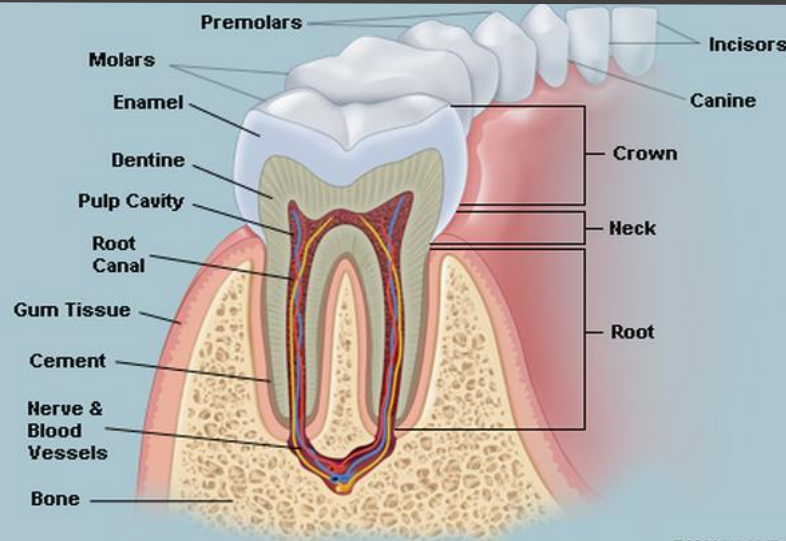
**Canines** - The four "pointy" teeth in your mouth. They are used for tearing apart food.

**Premolars** - The first set of molars with a flat surface for biting. Used to tear apart and crush food.

**Molars** - The largest teeth, flat surface. Tear apart and crush food.

## Teeth

STRUCTURE - There are five different parts to teeth: enamel - the hard, white outer layer, dentin - hard tissue with microscopic tubes, pulp - soft, inner living structure containing blood vessels, cementum - connective tissue binding gums and jawbone, and periodontal ligament - tissue that connects the tooth tightly to the jaw.



## FACTS

Like fingerprints, teeth have unique individual patterns as well.

78% of Americans will have had a cavity by age 17.

Pigs have 44 teeth

## STRUCTURE:

The outside of the kidney consists of the renal cortex.

Inside that is the renal medulla.

Coming in and out of the organ is the renal vein, renal artery, and the ureter, which moves waste to the bladder.

The kidney's also have a nephron, which produces urine.

# The Kidney



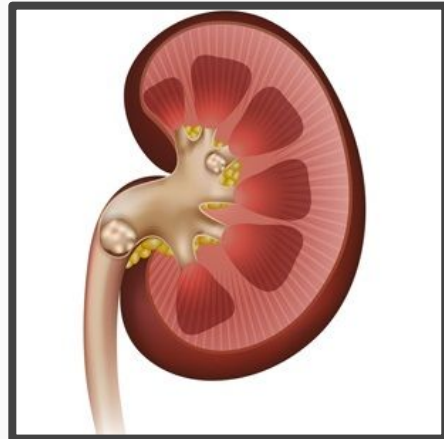
Petunia's Kidney

## FUNCTION:

The kidneys extract waste from the bloodstream through the process of filtration.

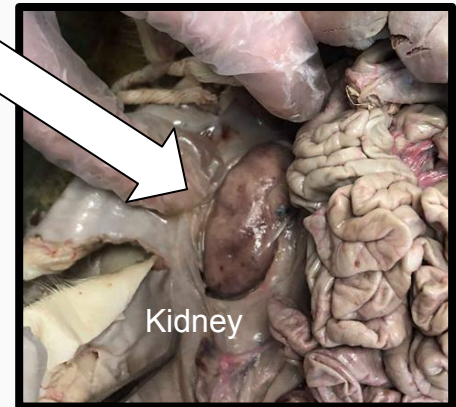
The kidneys are responsible for the body's balance of fluids.

The organ also creates hormones that promote the production of red blood cells, improve bone health, and regulate the body's blood pressure.



## DISEASES:

Conditions that the kidney may suffer from can include chronic kidney disease, kidney failure, urinary tract infections, kidney stones, cysts, and Hematuria.



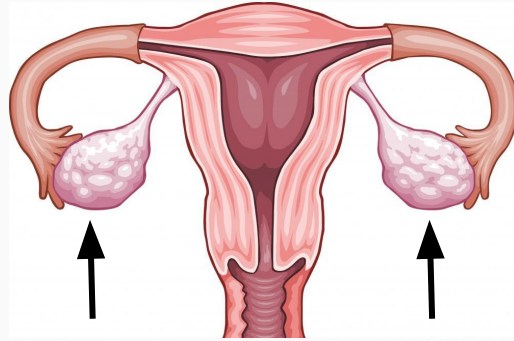
## STRUCTURE

The ovaries are two oval shaped organs on either side of a woman's pelvic region. They are connected to the uterus by the fallopian tubes.

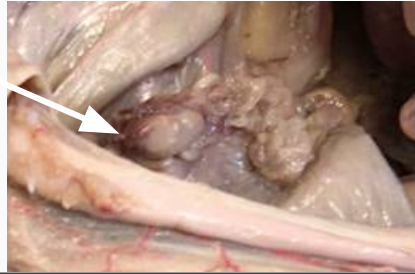
The ovaries are about one and a half inches in length. They have a bumpy surface, and are a pink-gray color.

Inside both ovaries are Graafian follicles, or tubes that contain eggs. Every month, a follicle will travel and burst, which releases the egg into the fallopian tube so it can start on its journey towards either fertilization or menstruation.

## The Ovaries



Petunia's Ovary



## FUNCTION

The ovaries are equivalent to the testes in men. They produce the ova, or eggs, in a woman's body, and hold them until one is released from either ovary each month.

The ovaries also produce two female sex hormones: estrogen and progesterone.

Estrogen is responsible for the development of secondary sex characteristics, including breasts and a regular menstrual cycle. Progesterone regulates the inner lining, or endometrium, of the uterus.

## FACTS

- Babies are born with all the eggs they will ever have.
- Only about 300-400 eggs will ever mature and be released.
- Ovaries are the shape and size of an almond.

# The Testes

## FUNCTION:

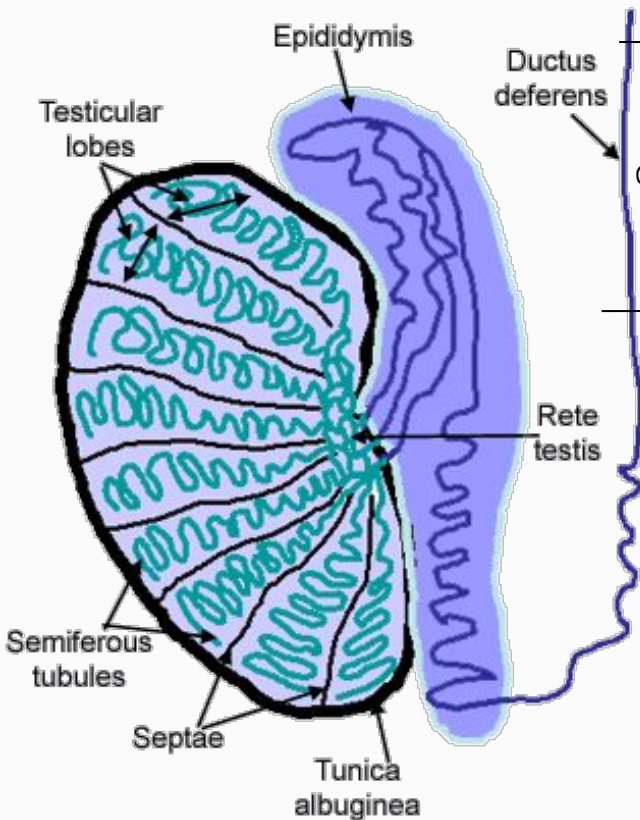
The two main functions of the testes are to produce sperm for reproduction and the hormone testosterone, which is used to stimulate male secondary sexual characteristics.

## DISEASE:

A male can develop testicular cancer in the testes. This cancer occurs when there are abnormal cells in the testes that grow uncontrollably. Usually the male will develop a lump on the testes or have a feeling of heaviness in the scrotum

## LOCATION:

The testes are two oval shaped organs that are around the size of a large olive. The testes are located inside the scrotum, which is the loose sac of skin that hangs behind the penis.



Male Pig Teste



# Lungs

## Structure

At the end of the trachea, it splits into two bronchi, one in to each lung. Rings of cartilage keeps these intersections from closing.

Inside the lungs, the bronchi split into smaller bronchiole. These continue to branch off into air sacs, or alveoli.

The air sacs are lined the mucus and surrounded by blood capillaries.

## Conditions

*COPD* - Damage to lungs, difficulty blowing out, shortness of breath.

*Emphysema* - Walls between alveoli are damaged, air is trapped in lungs

*Bronchitis* - Difficulty breathing, coughing

## Function

The main function of each lung is to create a gas exchange. This is called respiration.

In respiration, oxygen from inhaled air enters the bloodstream, and carbon dioxide from the body's tissues leaves through exhalation. The carbon dioxide is the result of metabolic waste. Another word for this process is breathing.



Petunia's Lungs

# Larynx

## Function

The larynx is where sound is generated in the body. It is also where the pitch and volume of the sound is determined.

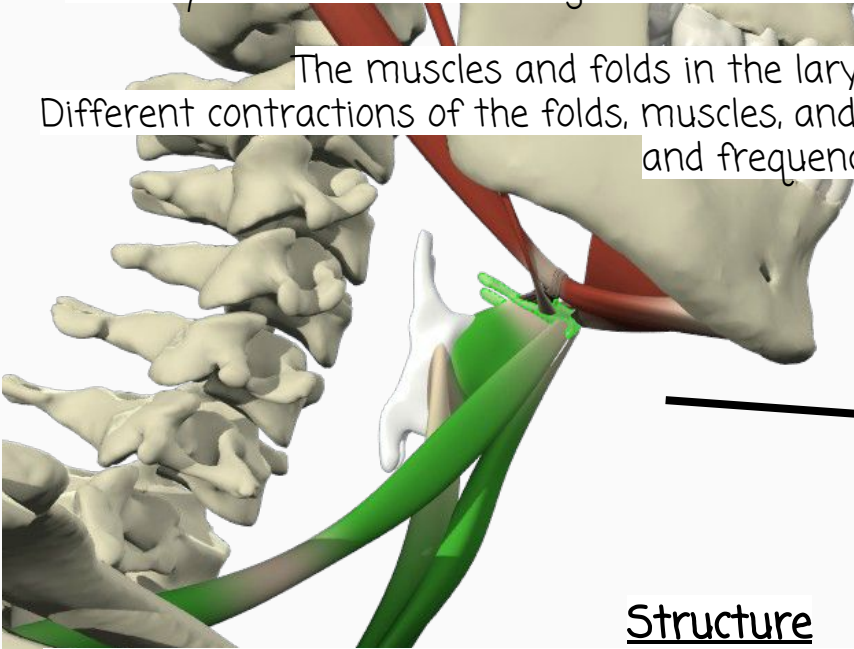
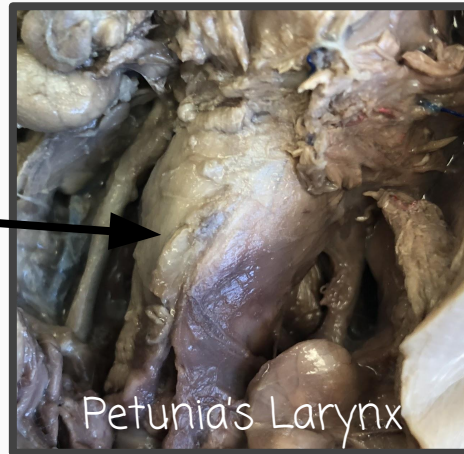
The muscles and folds in the larynx spread apart to let air in during breathing. Different contractions of the folds, muscles, and cartilage in the larynx produce the different sounds, pitches, and frequencies that the body makes.

## Facts

- Another word for the larynx is the "voicebox".
- Your vocal cords can vibrate hundreds or even thousands of times per second.
- Your vocal cords can be "trained" to improve the control and abilities of your voice.
- Whispering can actually damage your vocal cords, because it minimizes vibrating and dries them out.

## Structure

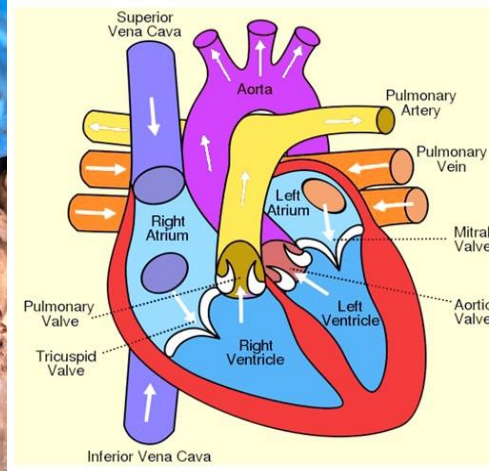
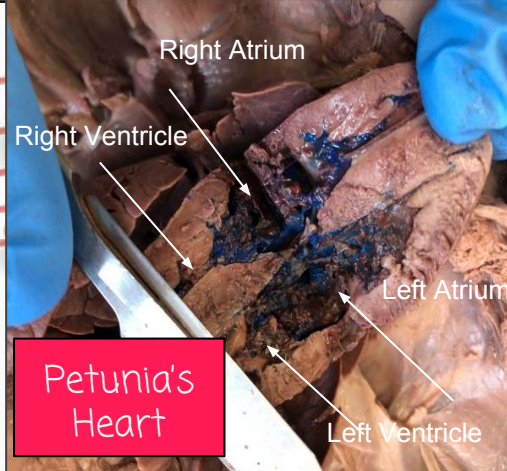
- The larynx is located in front of the fourth-sixth cervical vertebrae.
- The upper entrance is a triangular shape that starts narrow and widens. The lower portion is circular and is bordered by the epiglottis, and cartilages.
- The larynx contains a vestibule first, then ventricle, and then the saccule, which has special cells that keep the vocal folds moist.



# Heart

## STRUCTURE

The heart has four separate chambers: left and right atriums and left and right ventricles. The atriums make up the top chambers and the ventricles make up the bottom, with a septum in the middle. Carrying blood to and from the heart are the superior and inferior vena cava, the pulmonary vein and pulmonary artery, and the aorta, which is the main artery.



## FUNCTION

Arteries carry blood away from the heart, while veins carry blood towards it.

The heart is not only responsible for pumping blood, but it also distributes the oxygen and nutrients that the body's tissue needs to survive.

The heart removes carbon dioxide and other wastes from the body.

## FACTS

The heart pumps about five quarts of blood in one minute.

The beating sounds you hear are the valves opening and closing.

The most common day of the year for heart attacks to occur is Christmas.