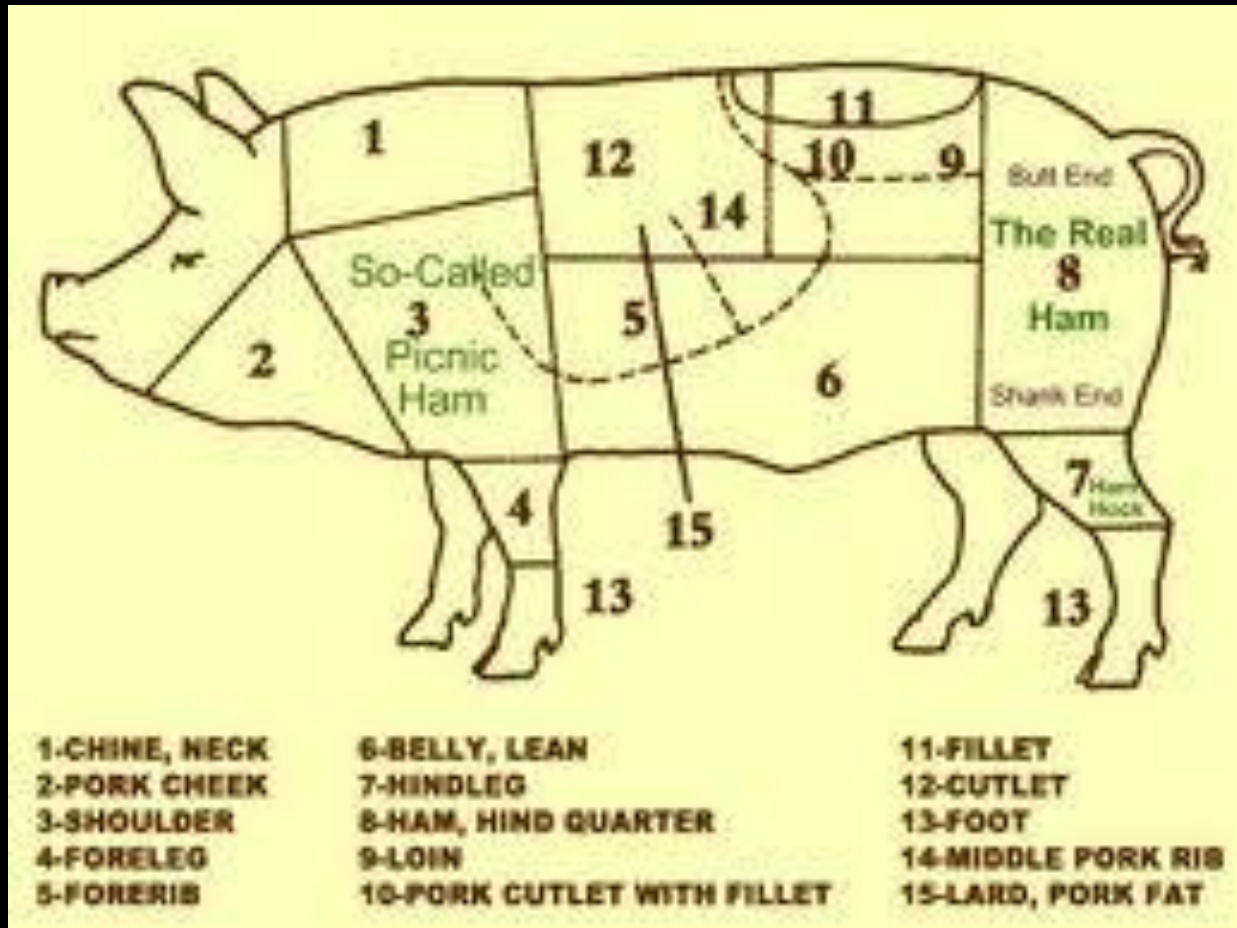


# Pork Trivia

1. Which country is the #1 consumer and producer of fresh pork?
  - A. India
  - B. United States
  - ☒ C. China
  - d. Russia

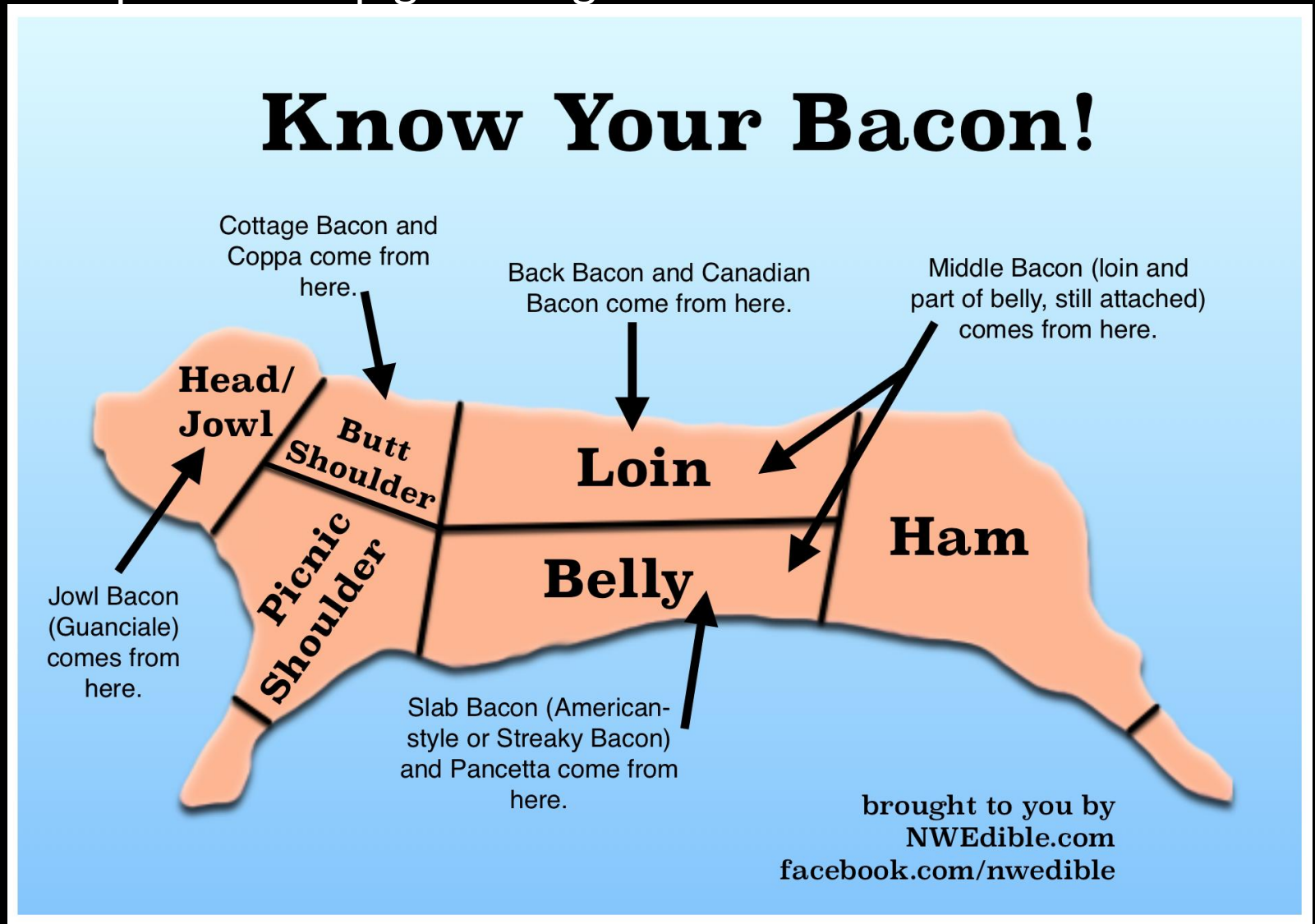
# Pork Trivia

2. Which part of the pig do we get bacon from?



# Pork Trivia

2. Which part of the pig do we get bacon from?



# Pork Trivia



# Pork Trivia

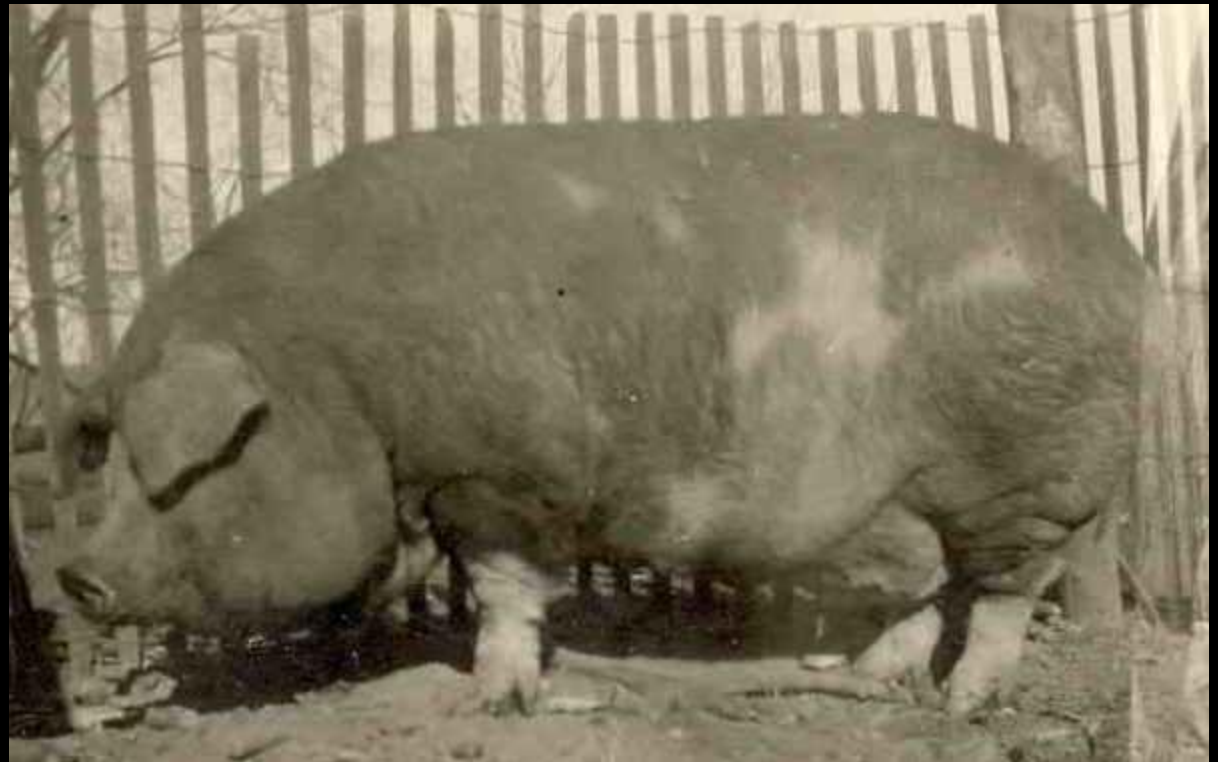
3. What is the weight of the heaviest hog ever recorded?

A. 975 lbs

B. 1,247 lbs

C. 1,588 lbs

☒ d. 2,552 lbs





# Pork Trivia

3. What is the weight of the heaviest wild boar ever recorded?



# Pork Trivia

3. What is the weight of the heaviest hog ever recorded?

A. 975 lbs

B. 1,247 lbs

C. 1,588 lbs

**d. 2,552 lbs**

**What is the difference between swine flu and bird flu?**

For swine flu you need oinkment, and for bird flu you need tweetment!

Read more at [http://www.top10-best.com/p/top\\_10\\_best\\_pig\\_jokes.html#dHw46LTEHtHIWB02.99](http://www.top10-best.com/p/top_10_best_pig_jokes.html#dHw46LTEHtHIWB02.99)



# Pork Trivia

4. What is the difference between swine flu and bird flu?

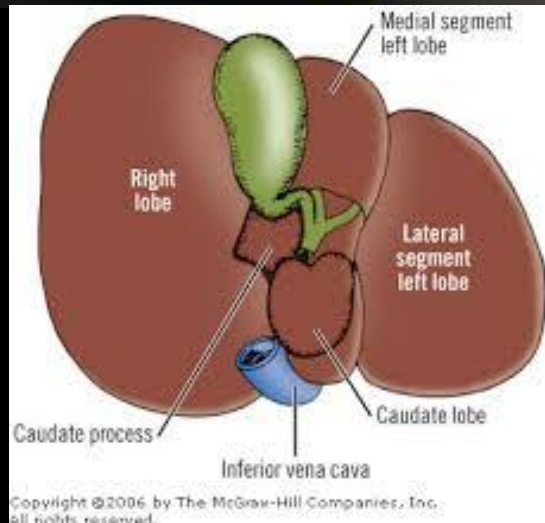
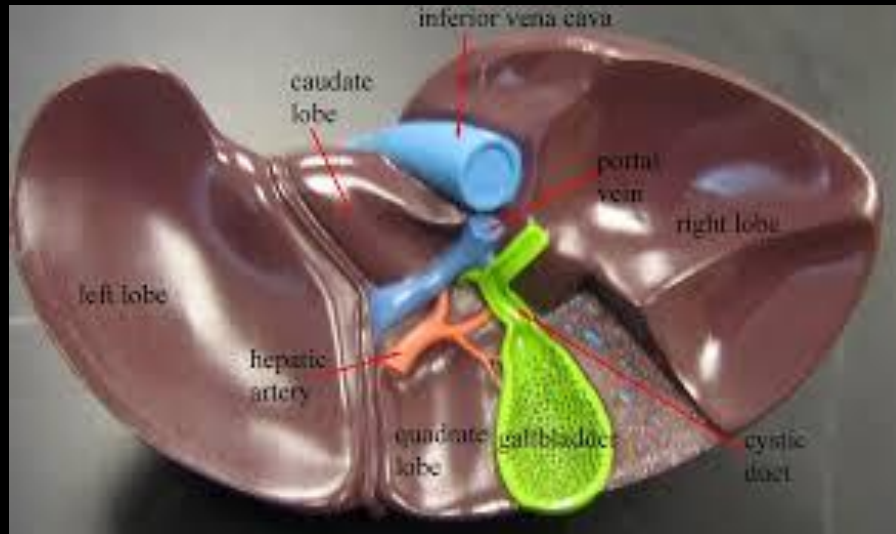
For swine flu you need oinkment, and for bird flu you need tweetment!

What name do you call a crafty pig?

CunningHam.

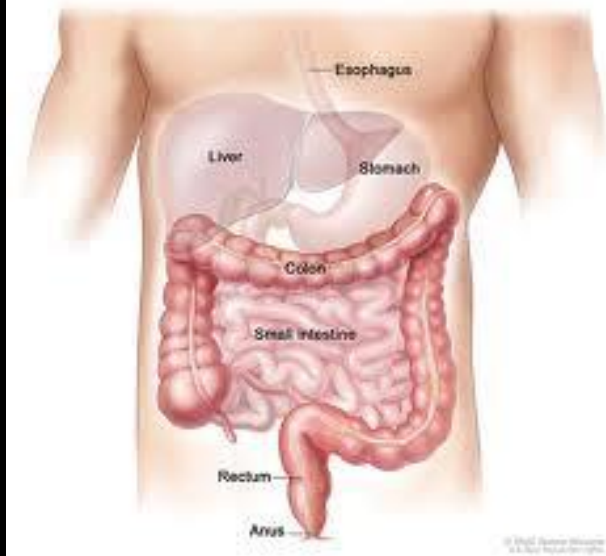


# 4 Differences between Pig & Human Anatomy



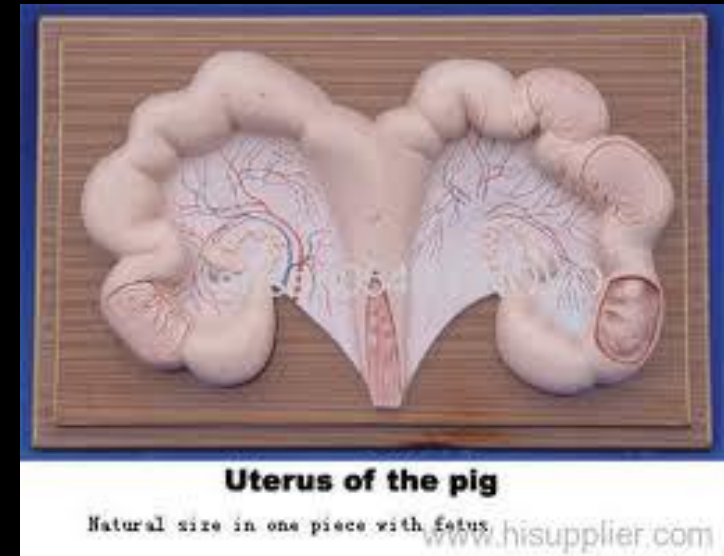
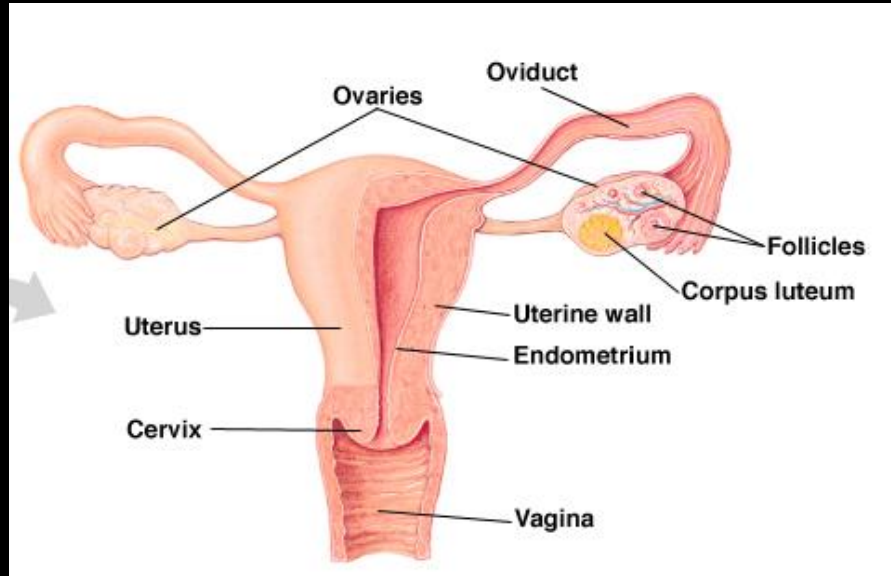
- Human liver has 4 lobes vs pig liver has 5 lobes

# 4 Differences between Pig & Human Anatomy



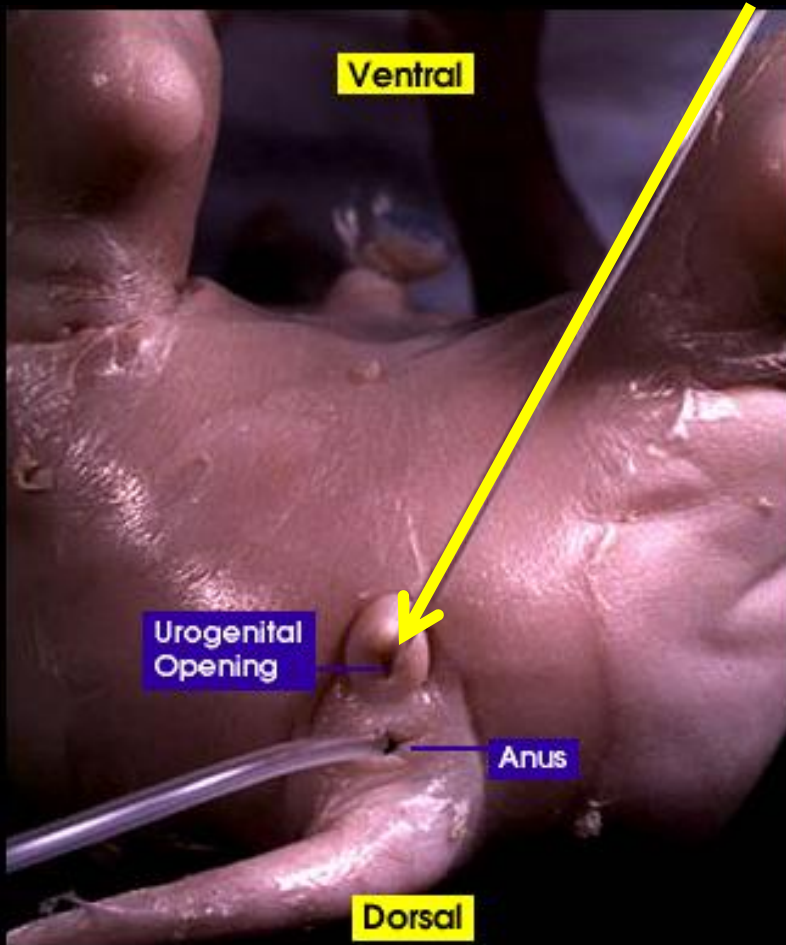
- Human colon vs pig colon (spiral)

# 4 Differences between Pig & Human Anatomy



- Human uterus vs pig uterus

# 4 Differences between Pig & Human Anatomy



- Pigs have ONE Urogenital opening vs Humans have separate urinary and reproductive openings

# Classification Review

## PIGS

## HUMANS

Kingdom	Animalia	Animalia
Phylum	Chordata	Chordata
Class	Mammalia	Mammalia
Order	Artiodactyla	Primate
Family	Suidae	Hominidae
Genus	<i>Sus</i>	<i>Homo</i>
Species	<i>scrofa</i>	<i>sapiens</i>



# Fetal Pig Dissection



What's pink on the inside and transparent on the outside?

*Answer: A pig in a sandwich bag.*



# Piggy Regions

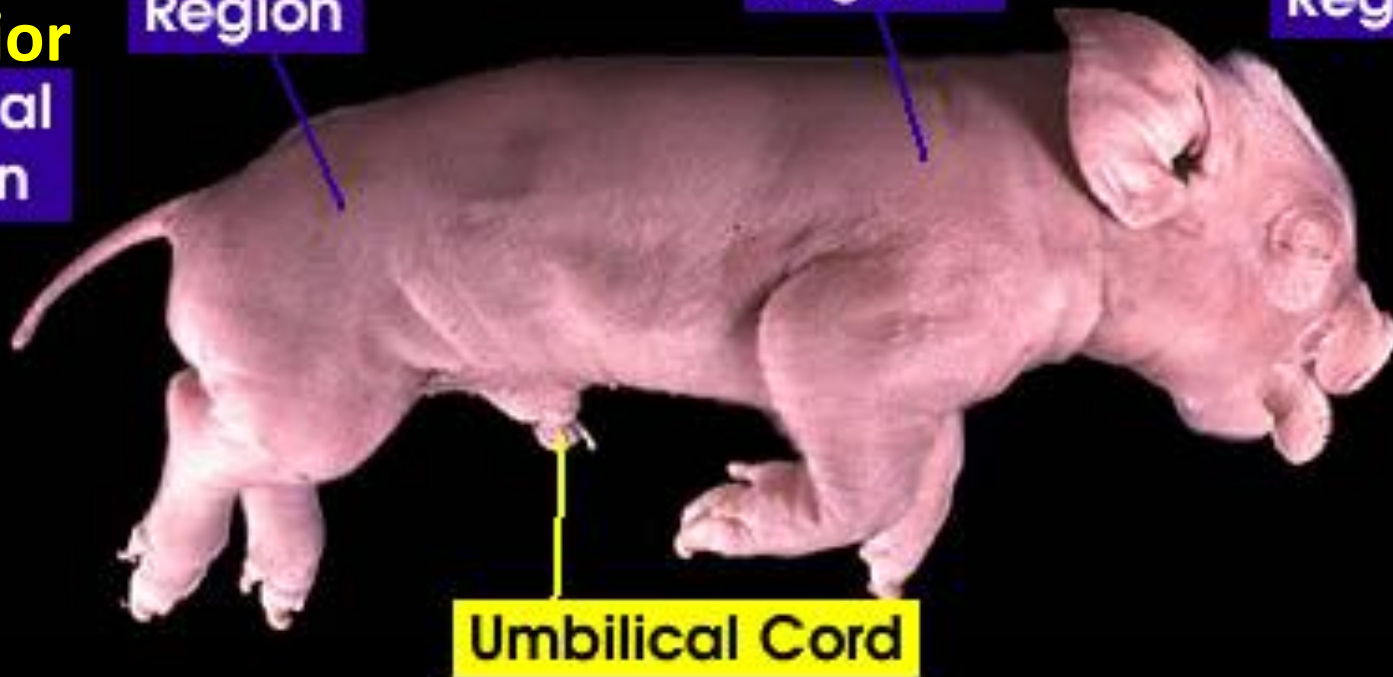
**Anterior**

**Cranial  
Region**

**Pectoral  
Region**

**Pelvic  
Region**

**Posterior**  
**Caudal  
Region**



**Umbilical Cord**

**Anterior**

- **Front end of pig**

**Posterior**

- **Rear end of pig**

**Dorsal**

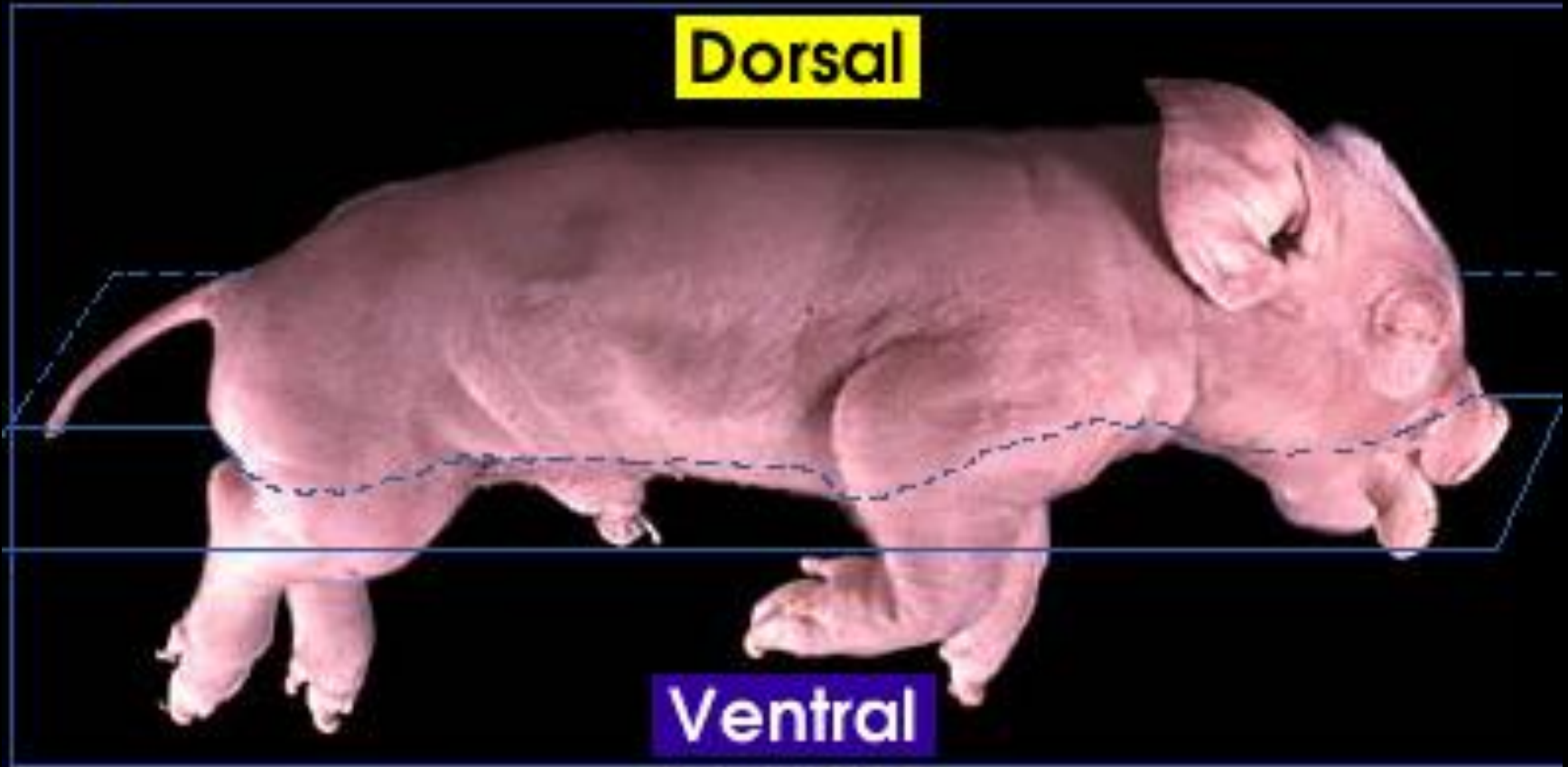
• **Back surface of pig**

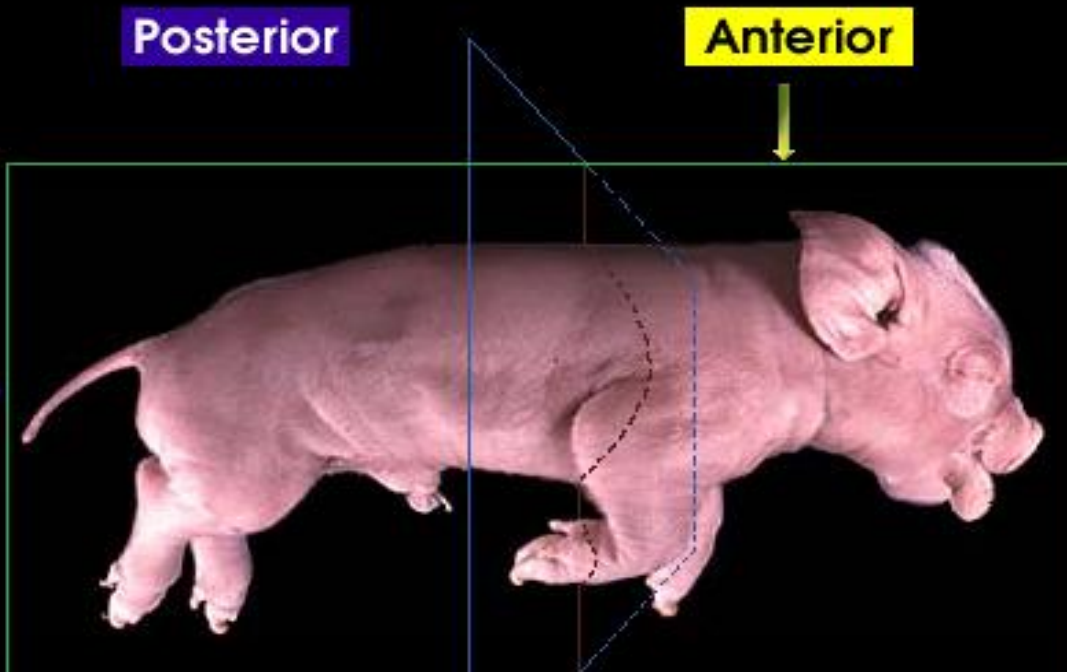
**Dorsal**

**Ventral**

**Ventral**

• **Belly surface of pig**





**Proximal:** Move closer

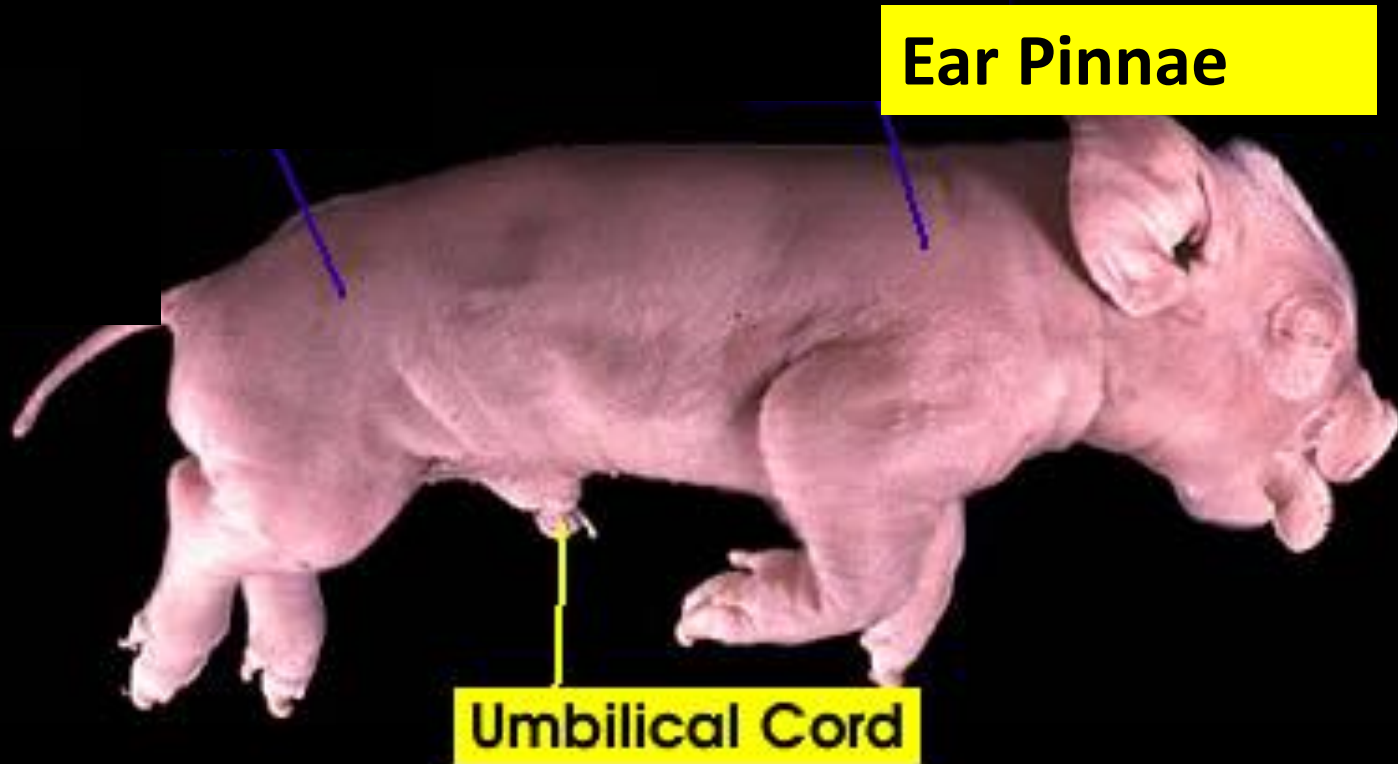
**Distal:** Move further away

**Medial:** located closer to the body center

**Lateral:** located closer to the sides of the body

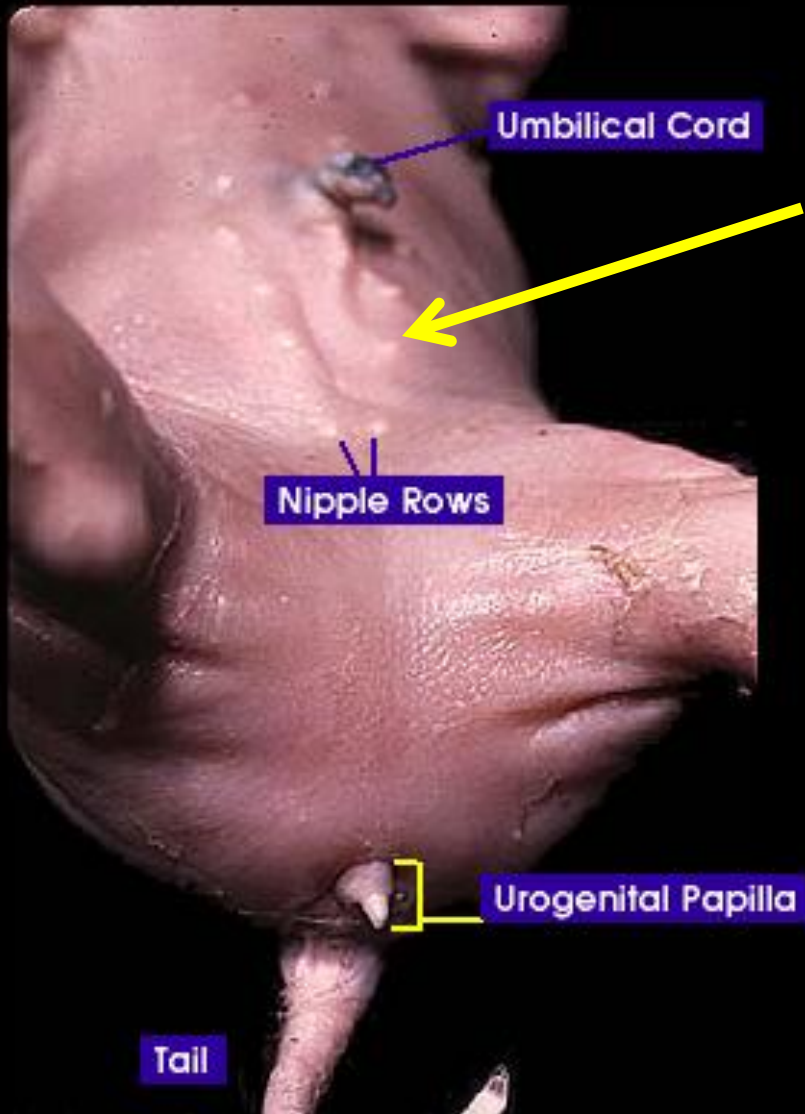
# Piggy Anatomy

- Cartilage flap that funnels sound waves to the inner ear



- Tube that connects the fetus with the placenta

# Boy or Girl Piggy?



Umbilical Cord

Nipple Rows

Urogenital Papilla

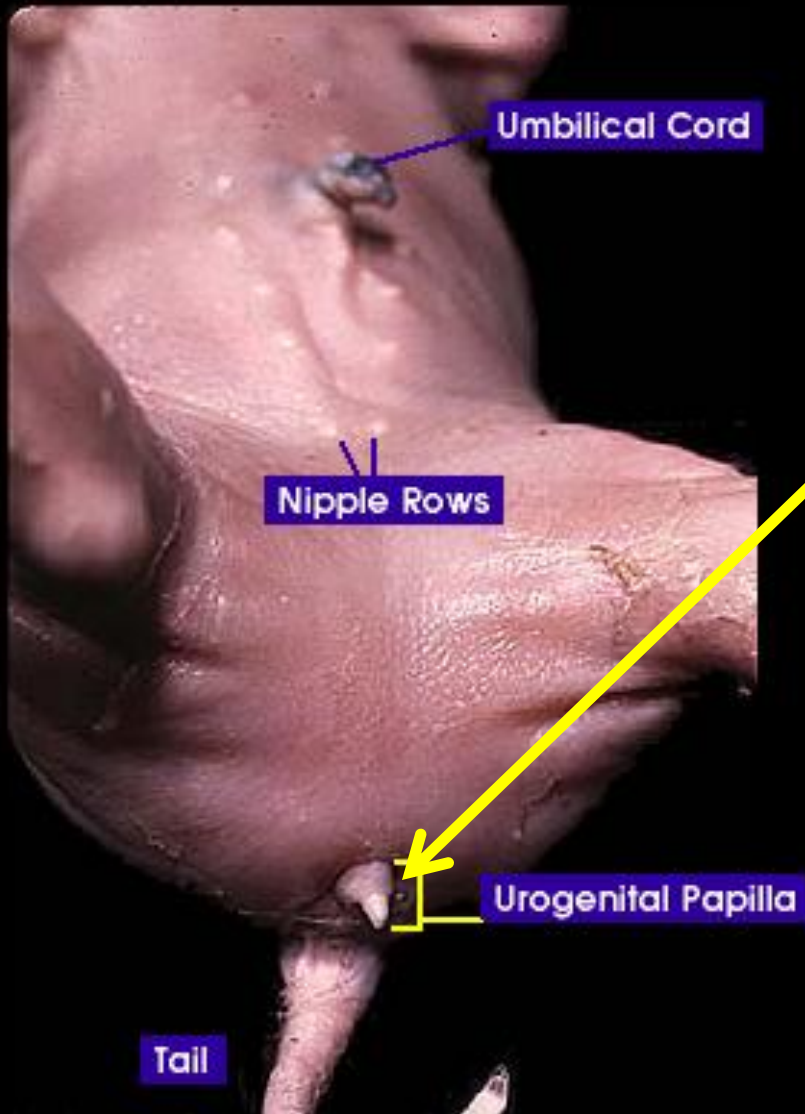
Tail

## Mammary Papillae

- Nipple buds used by females to nurse piglets with milk



# Boy or Girl Piggy?



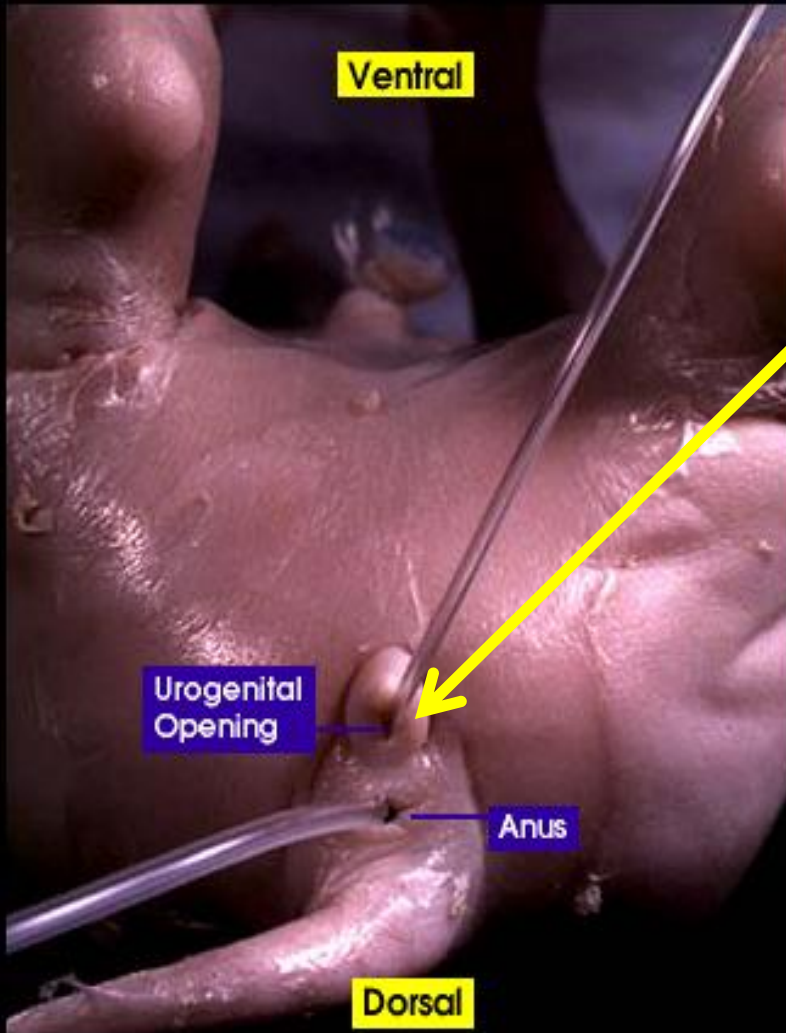
- Only the female has Urogenital Papilla beneath the tail

## Urogenital Papillae

- Tissue bud under the tail of ONLY females



# Boy or Girl Piggy?



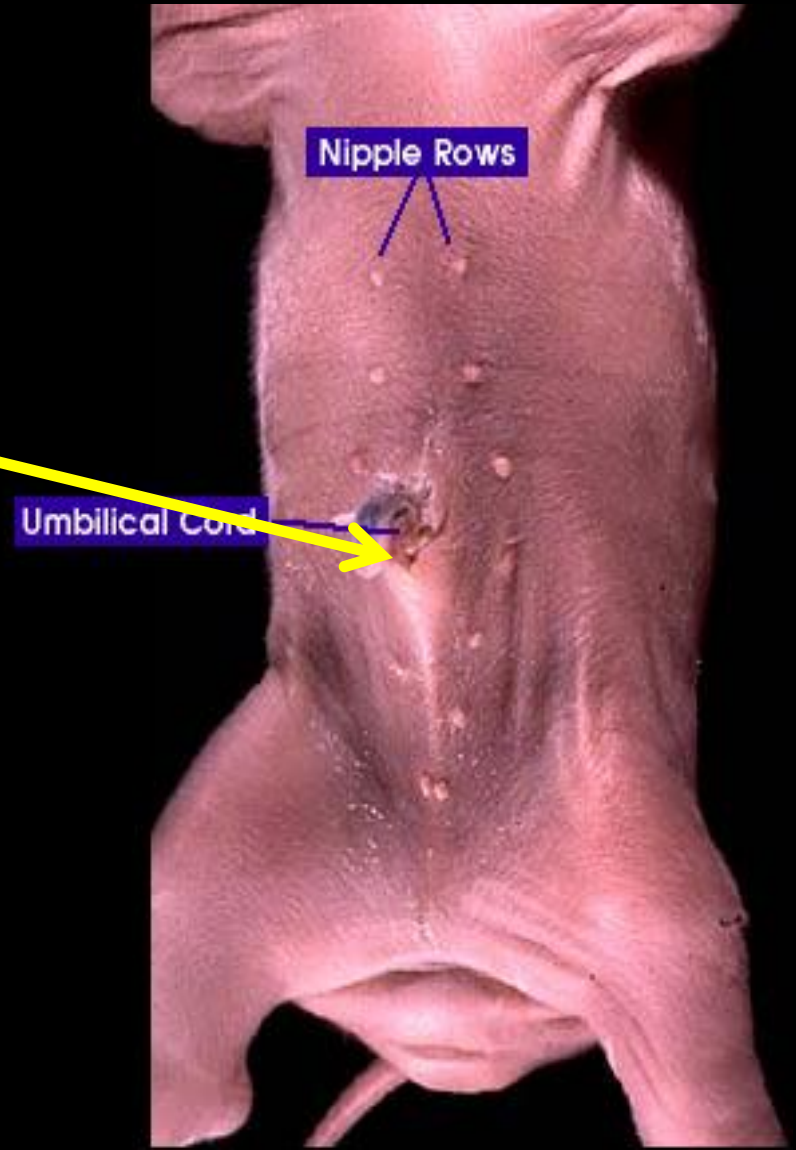
- Only the female has Urogenital Opening beneath the tail

## Urogenital Opening

- Exit for both the Urinary and the Reproductive systems in the female
- Only the female has 2 openings under the tail : Both the urogenital tract and the digestive tract exit in the anal region

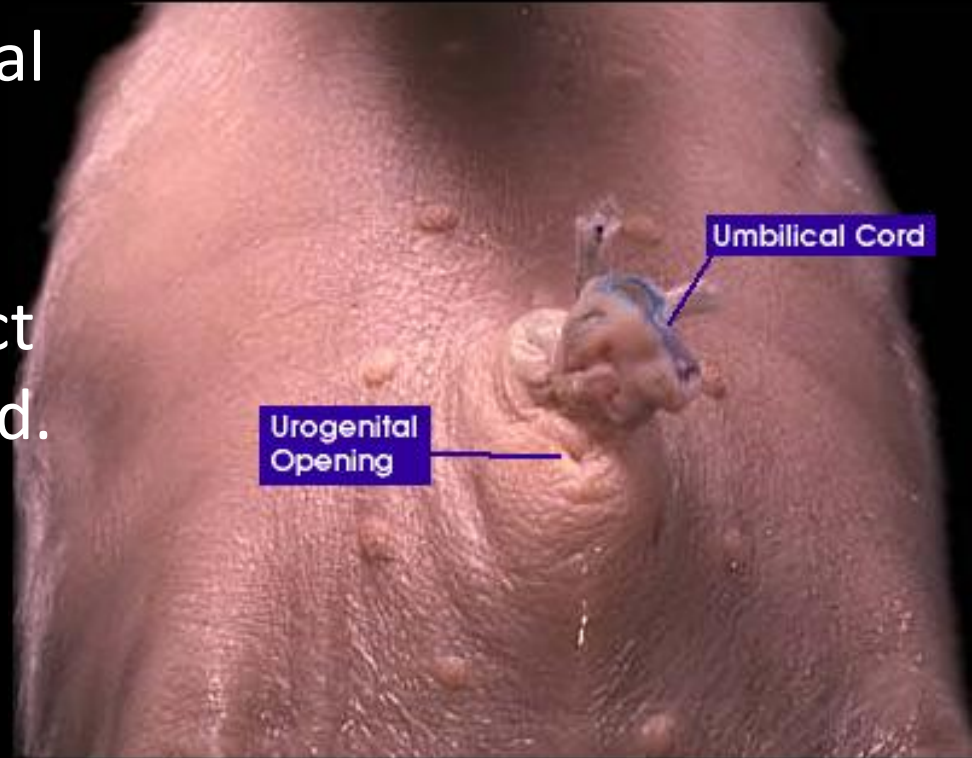
# Boy or Girl Piggy?

- Males do not have urogenital papilla.
- In males, the urogenital opening is near the umbilical cord.

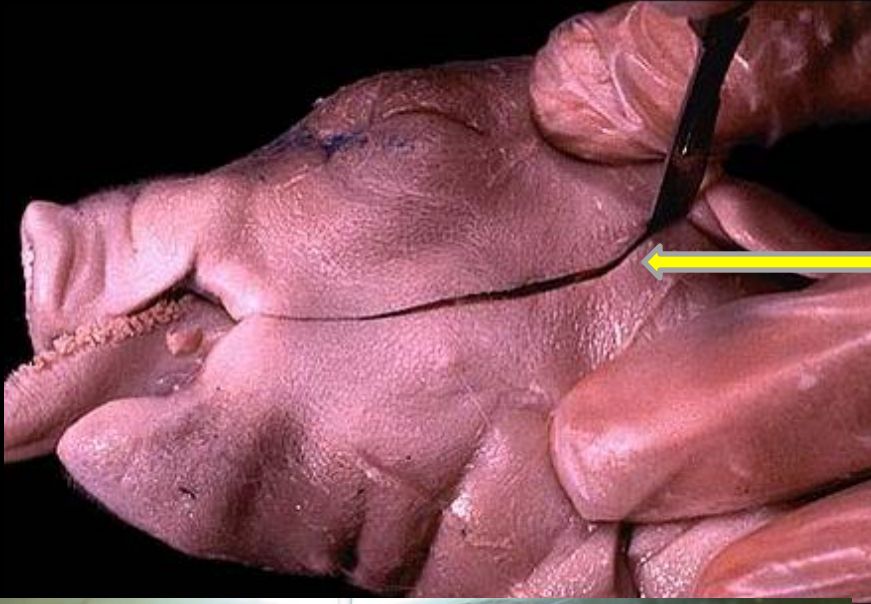


# Boy or Girl Piggy?

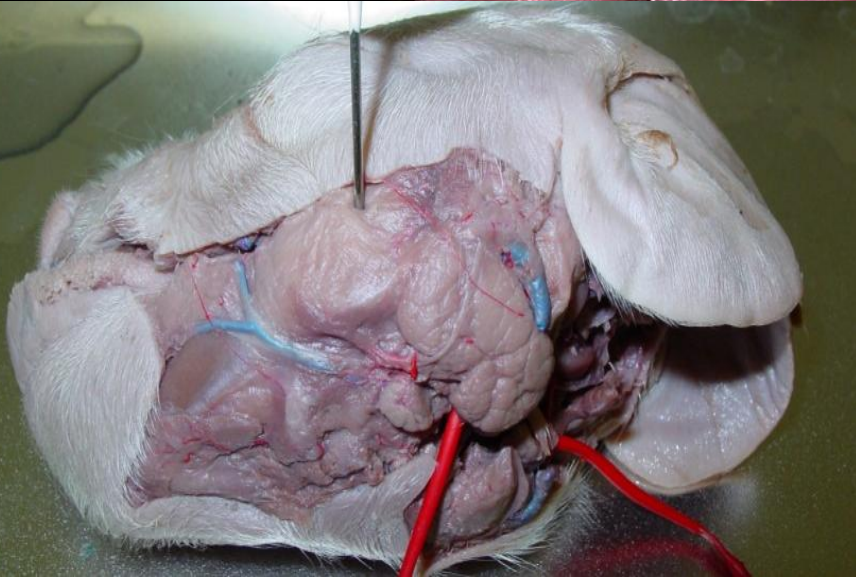
- Males do not have urogenital papilla.
- In males, the urogenital tract opens near the umbilical cord.



# Mouth Area



First cut .....Don't cut too deep!

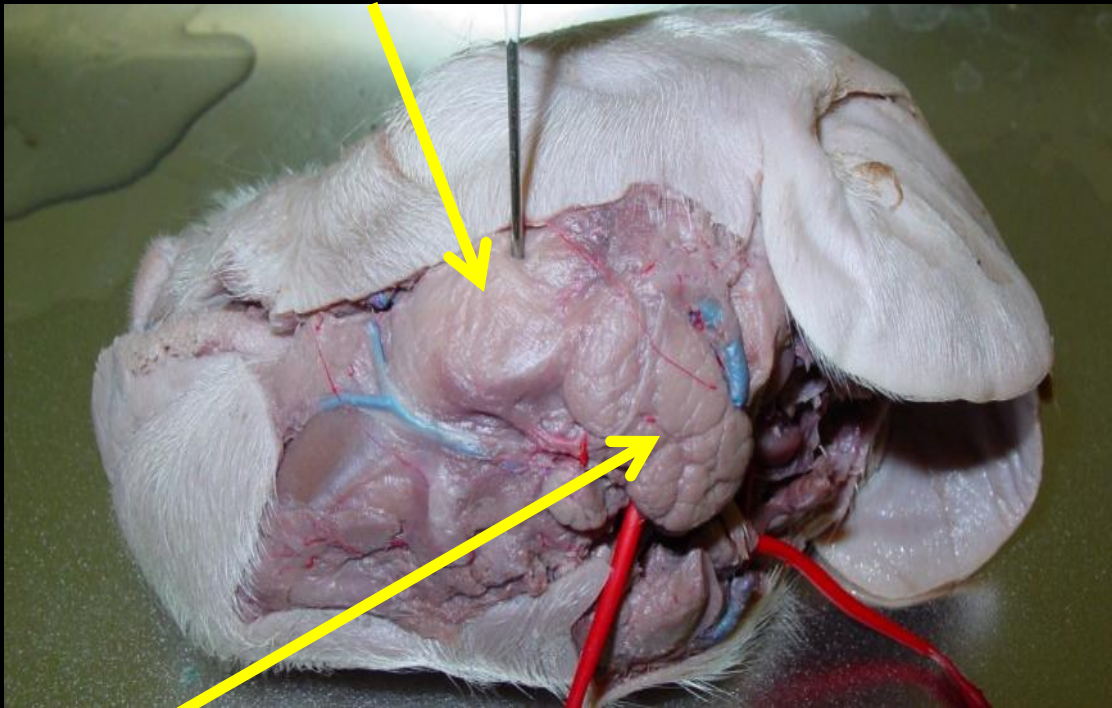




# Mouth Area

- Major muscle used in chewing

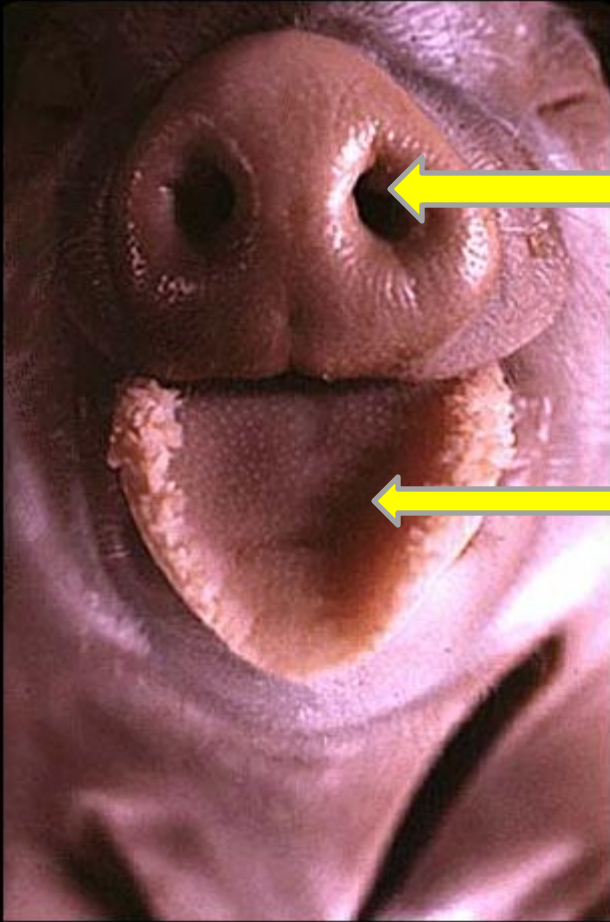
## Masseter Muscle



## Parotid Gland (Salivary)

Produces saliva to start digestion of starch carbohydrates

# Mouth Area



Nares: Allow smells to enter the nasal cavity for chemical detection

**Tongue**

- Contains the taste buds
- Helps push food to pharynx



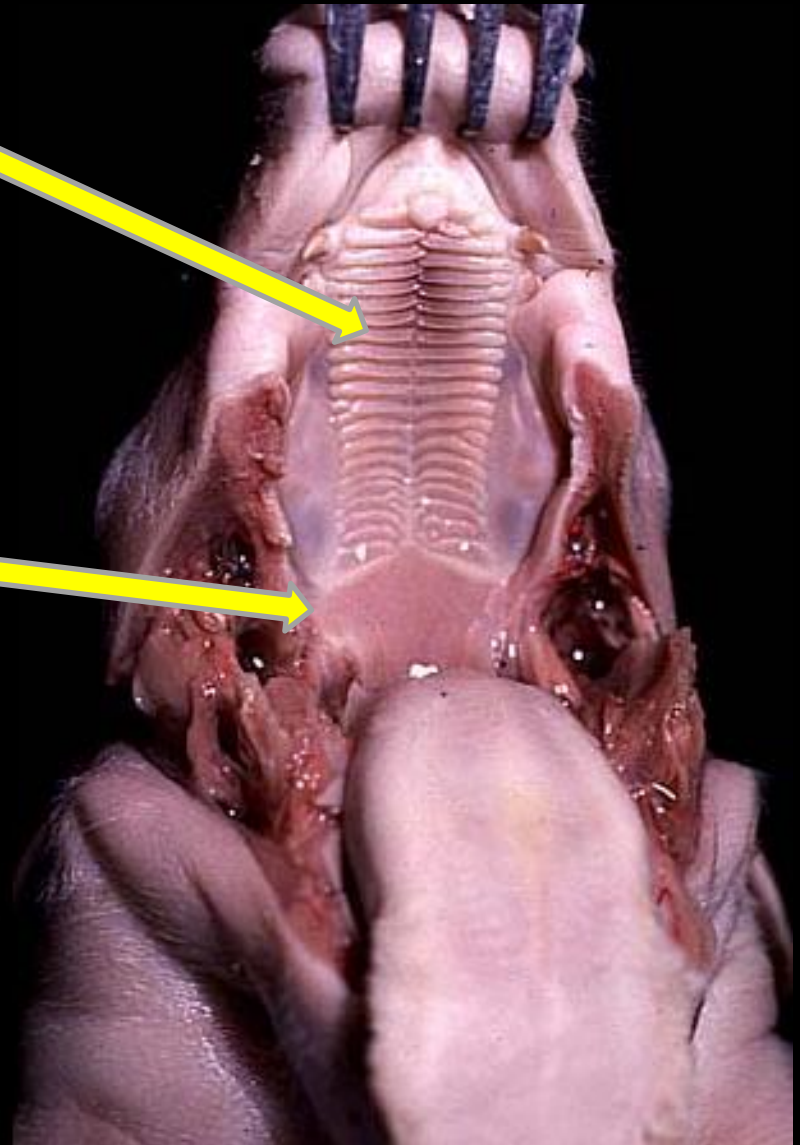
# Mouth Area

## Hard Palate

- Anterior ridges between the mouth and the nasal cavity that assist swallowing.

## Soft Palate

- Posterior tissue that separates nasal cavity from the mouth cavity



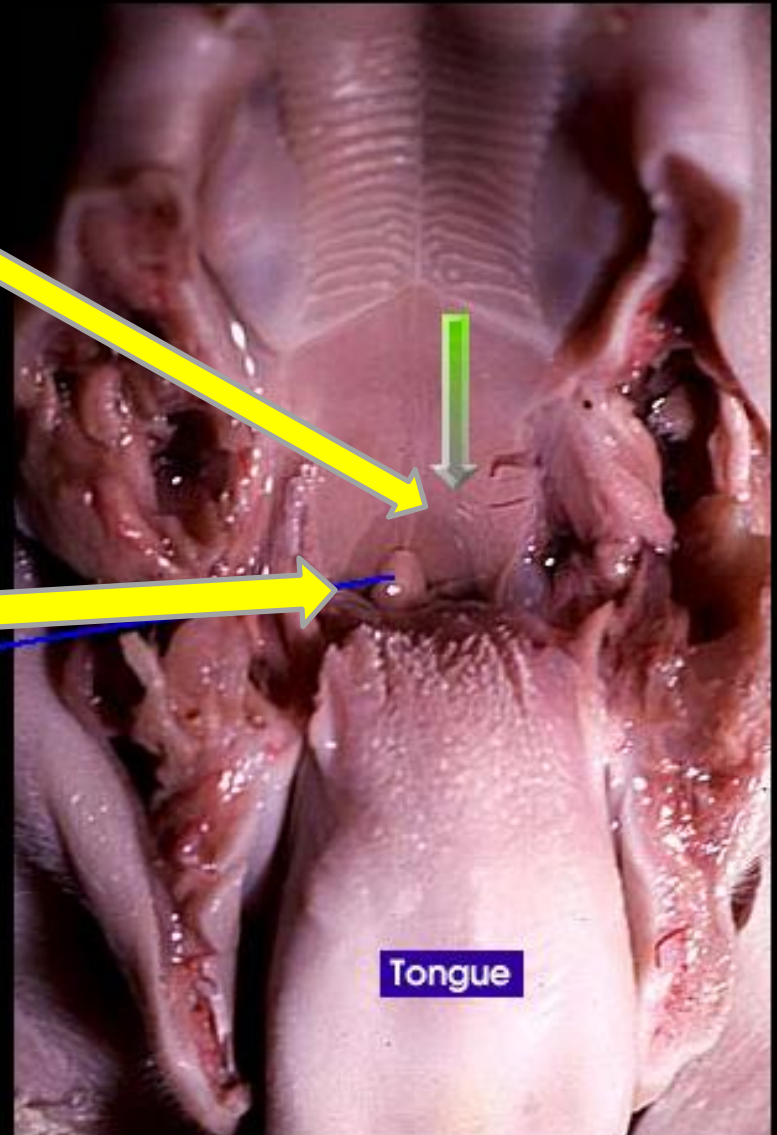
# Mouth Area

## Pharynx

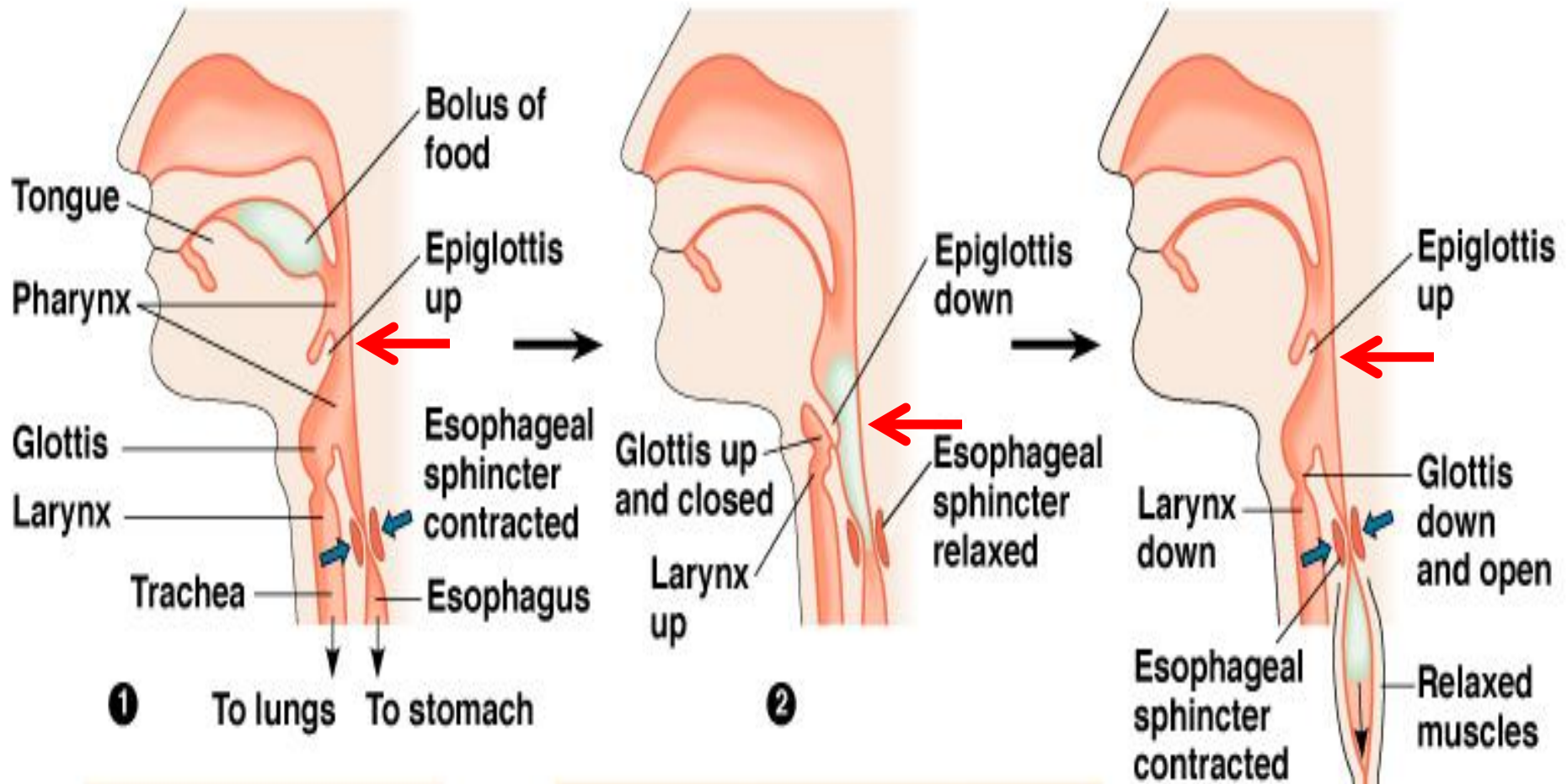
cavity at back of throat where the openings from the sinus, mouth, esophagus (food) and the trachea (air) meet

## Epiglottis

fold of skin that helps close the trachea before swallowing to prevent food from entering the lungs



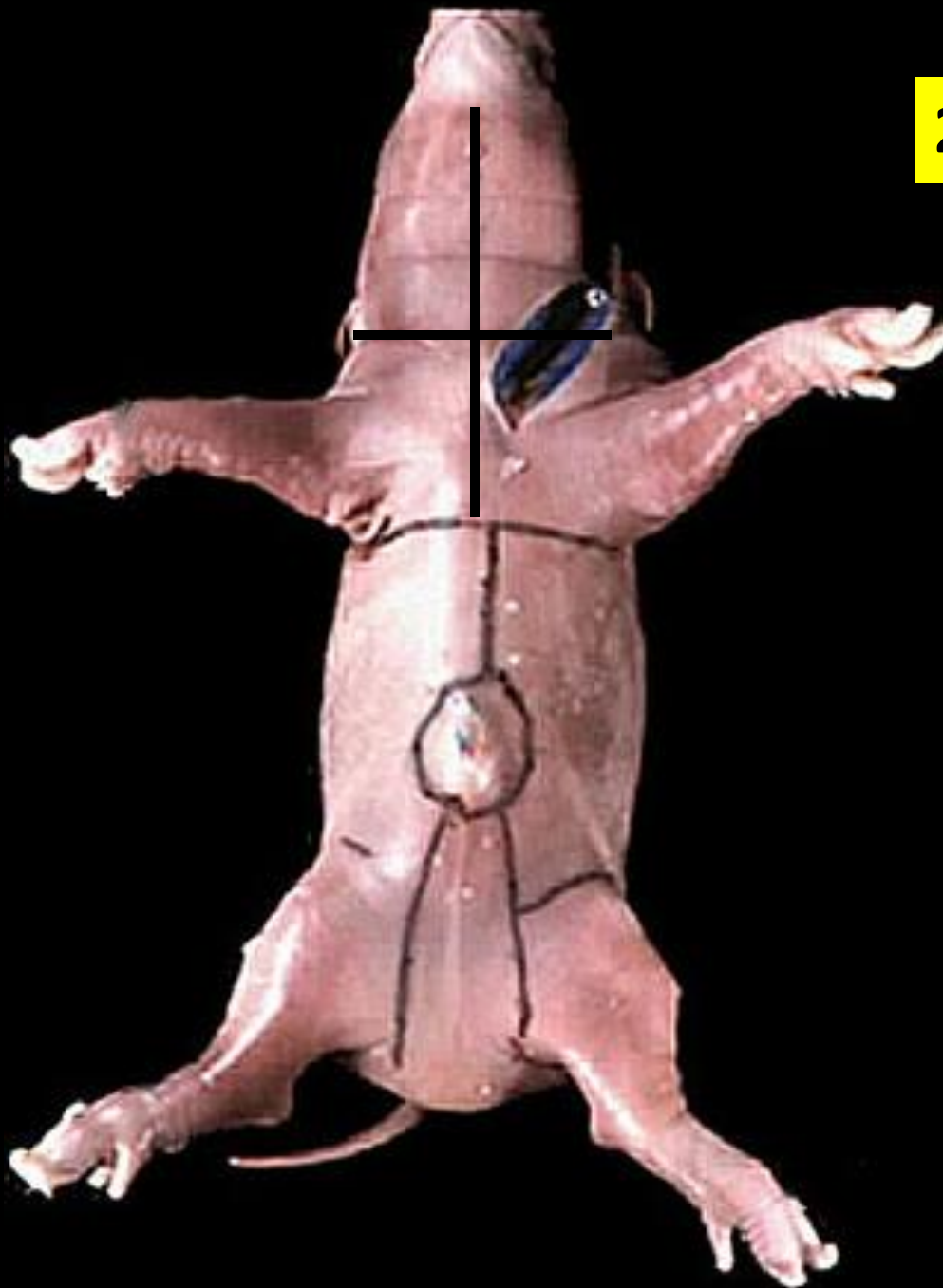
# In the human....



LAB

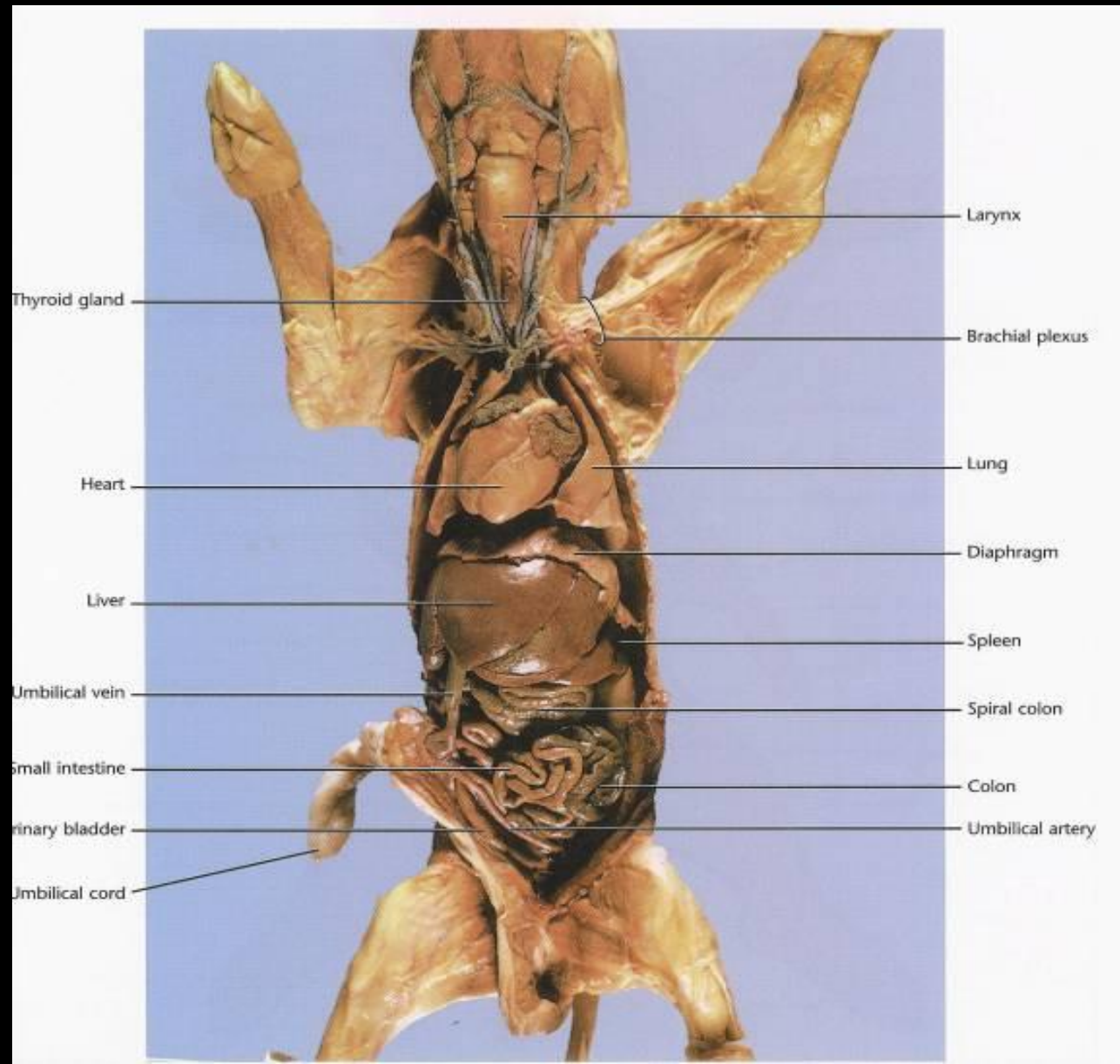
Day 2

**2<sup>nd</sup> Cut**



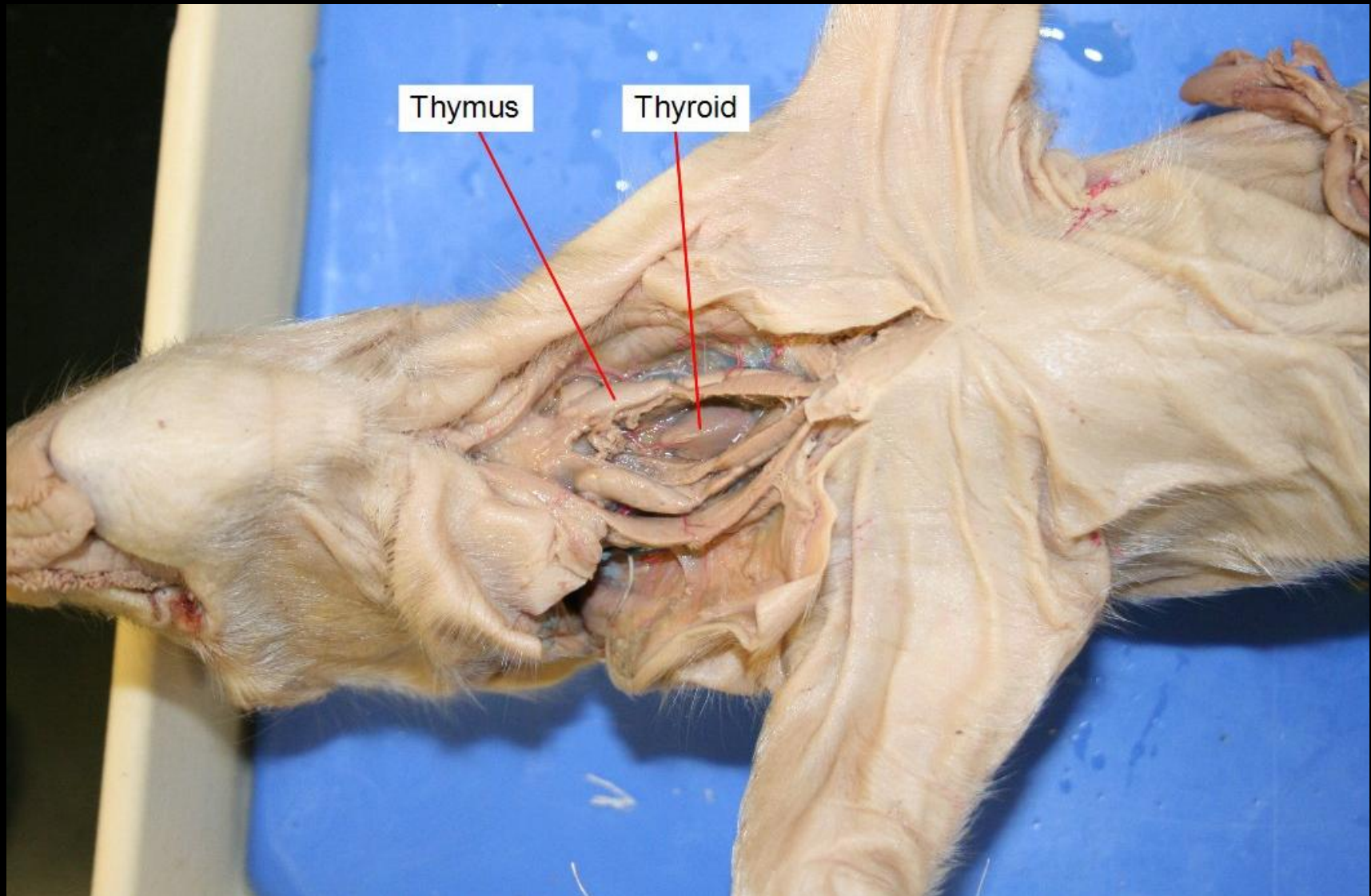


# Neck n Thoracic n Abdominal





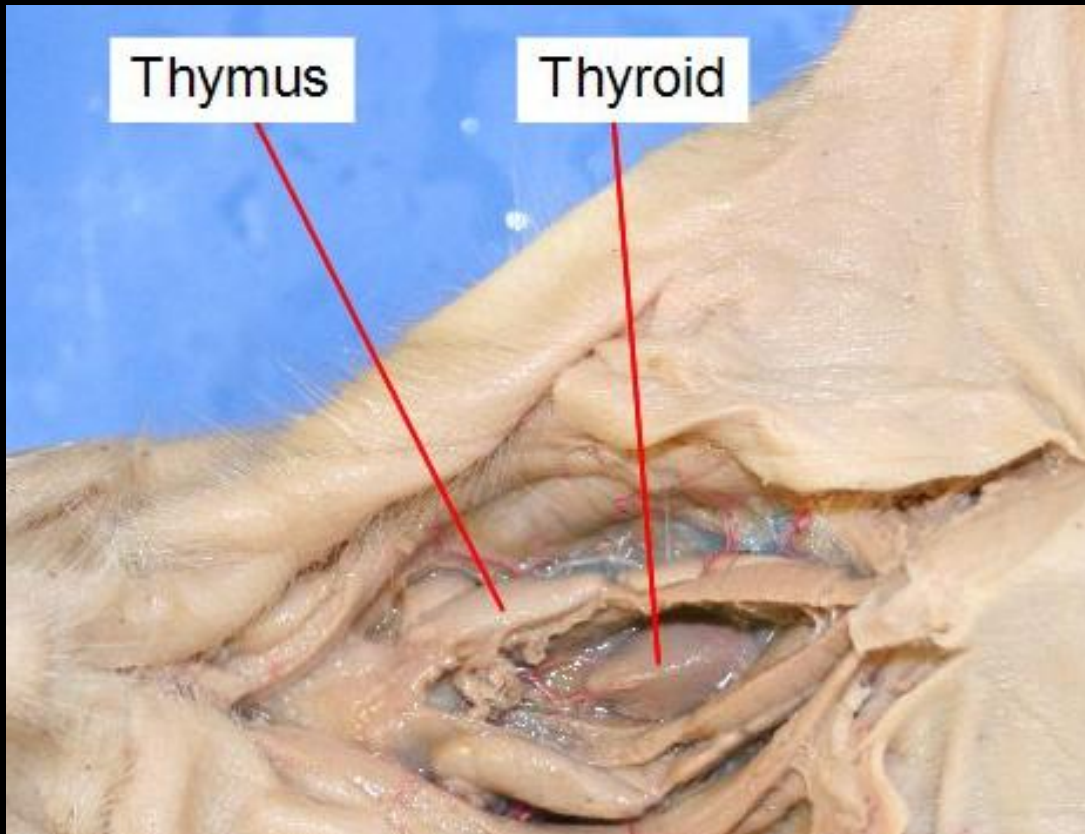
# Neck Area



# Neck Area

## Thymus Gland

- Helps build the Immune System

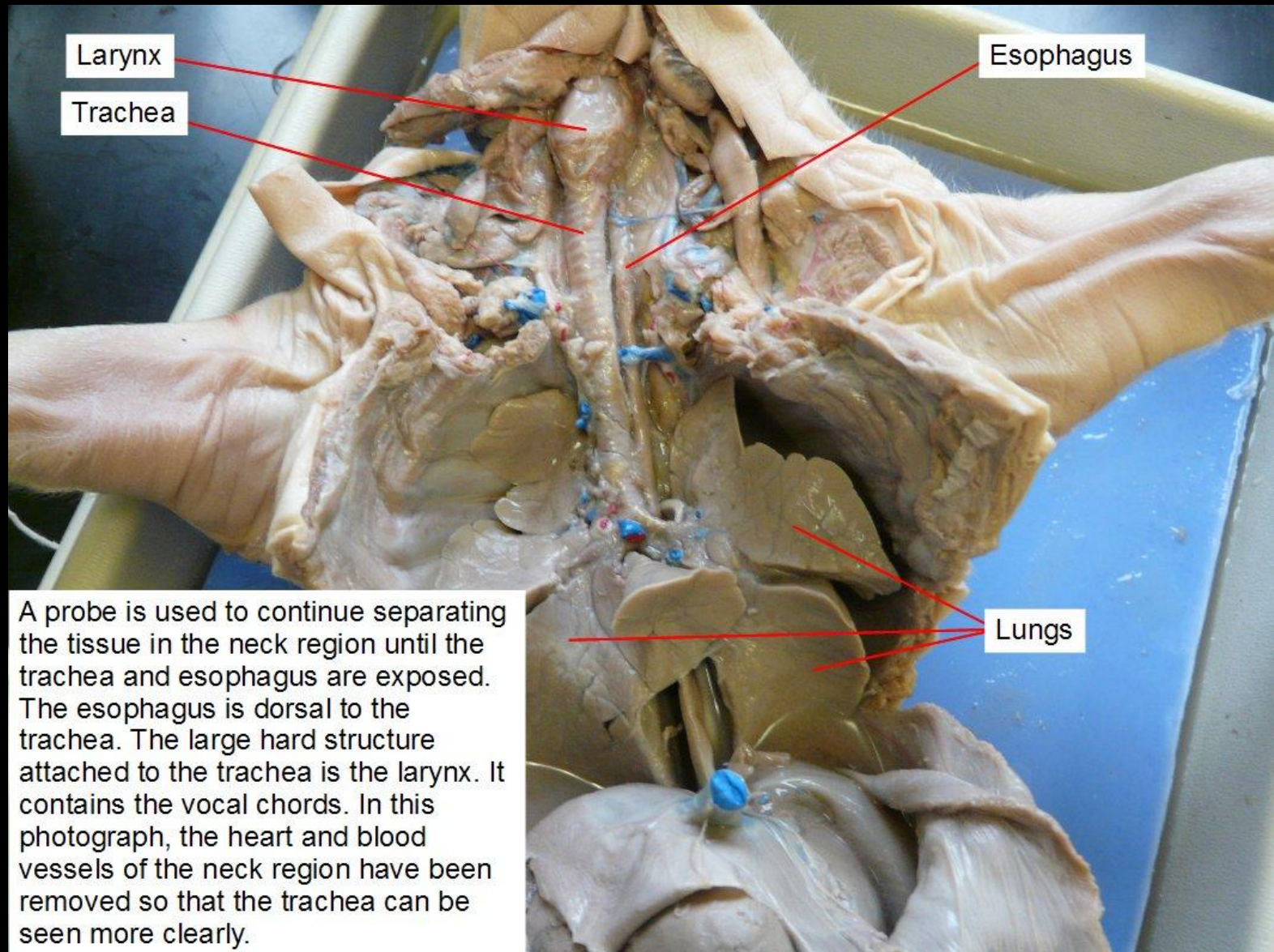


## Thyroid Gland

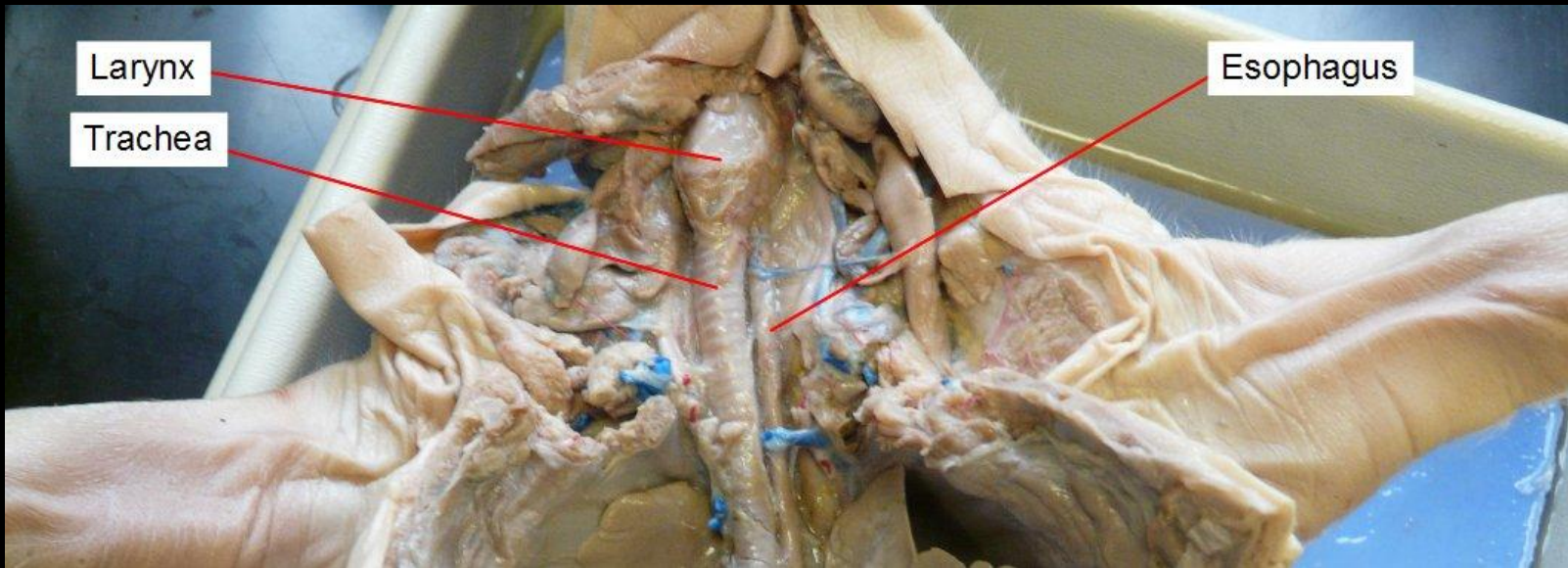
- Regulates development and metabolism



# Neck n Thoracic



# Neck n Thoracic



Hog calling

**Larynx**

- Voice box produces grunts & oinks

**Trachea**

- Air tube from pharynx to lungs

**Esophagus**

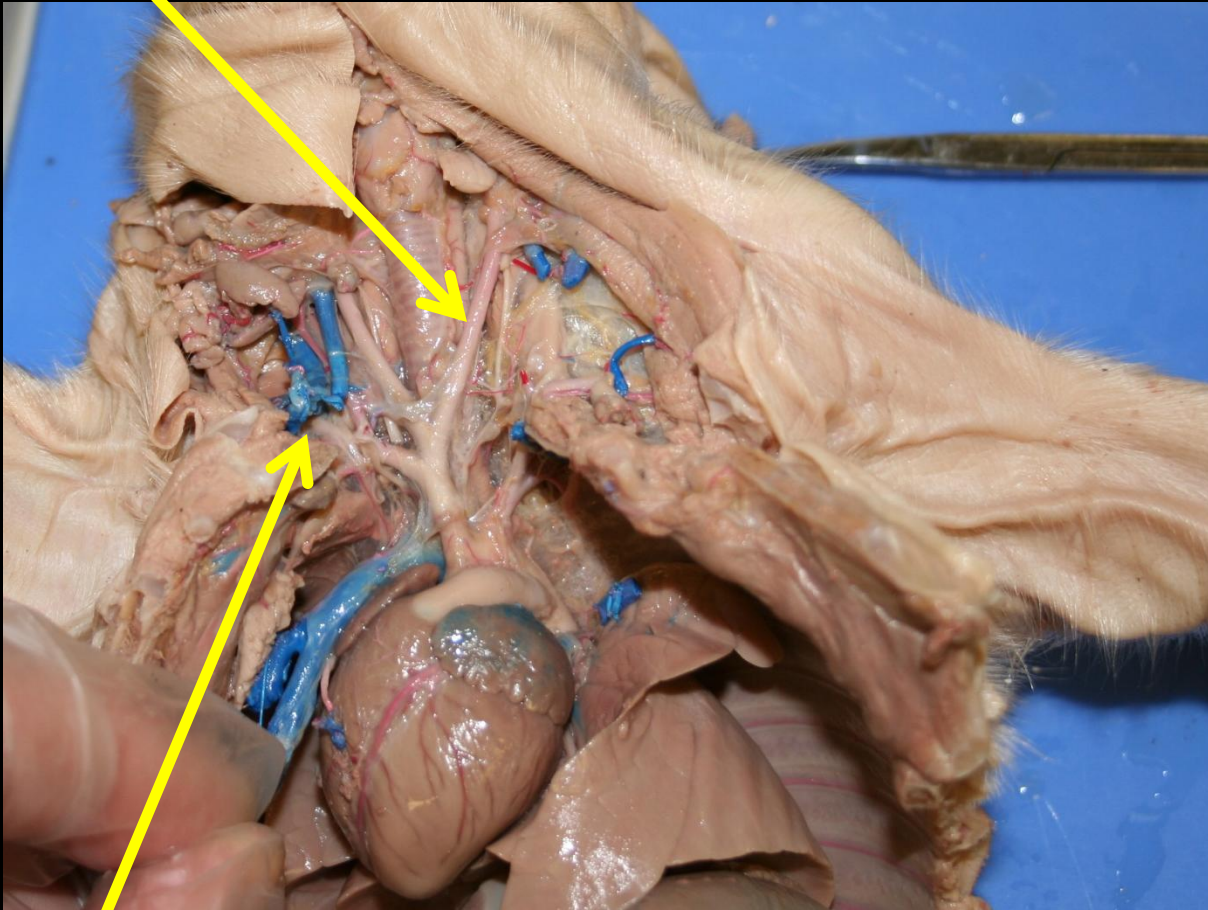
- Food tube from pharynx to stomach



# Neck n Thoracic

**Carotid Artery**

- Supplies the head with oxygenated blood



**Jugular Vein**

- Returns deoxygenated blood head → heart



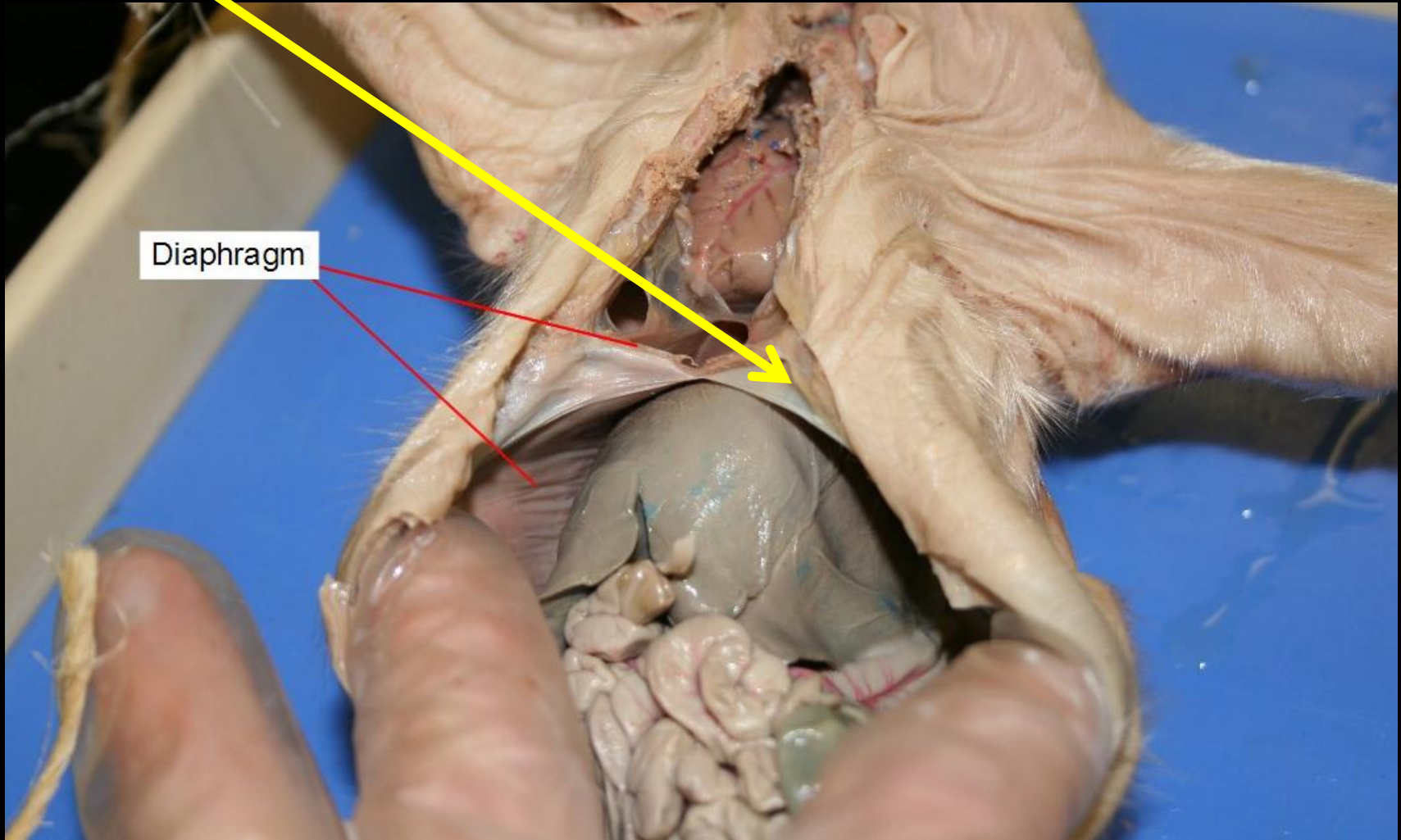
LAB

Day 3

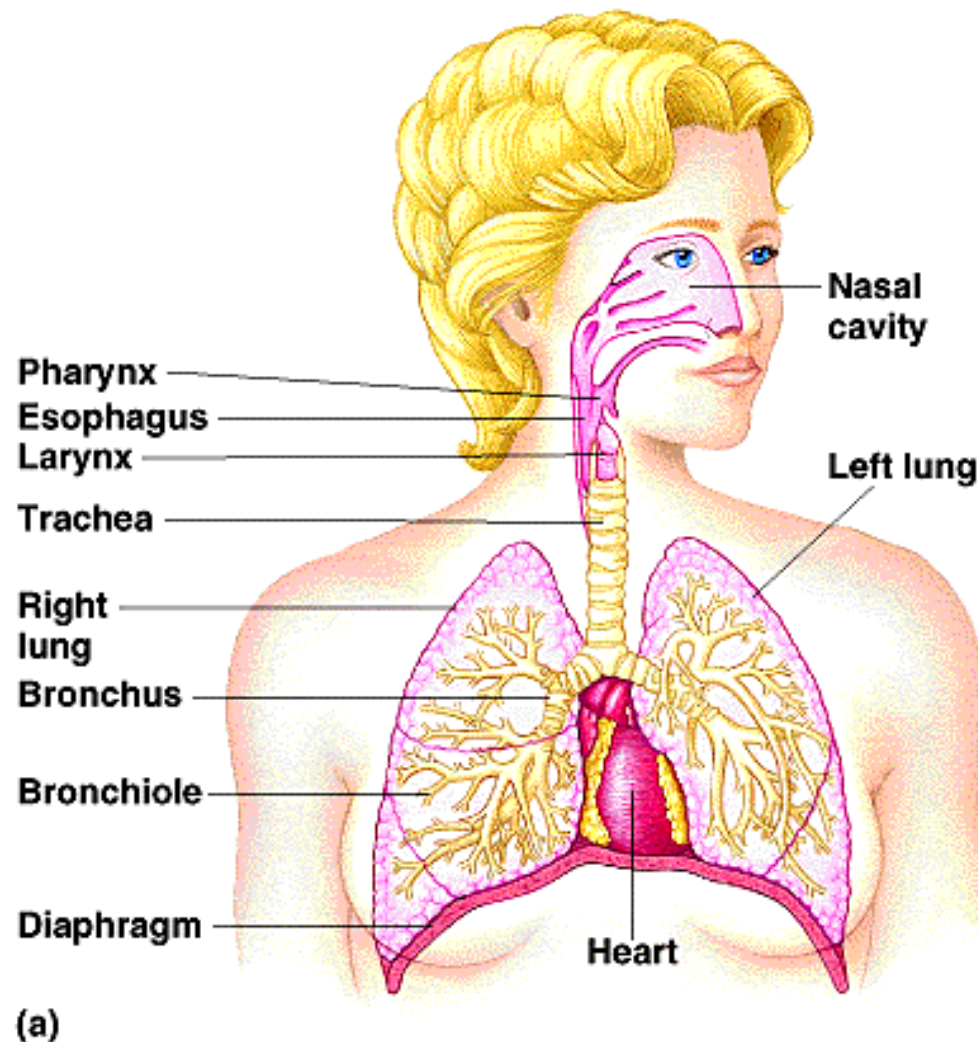
# Thoracic Cavity/Abdominal Cavity

## Diaphragm

- Muscle separating Thoracic & Abdominal cavities



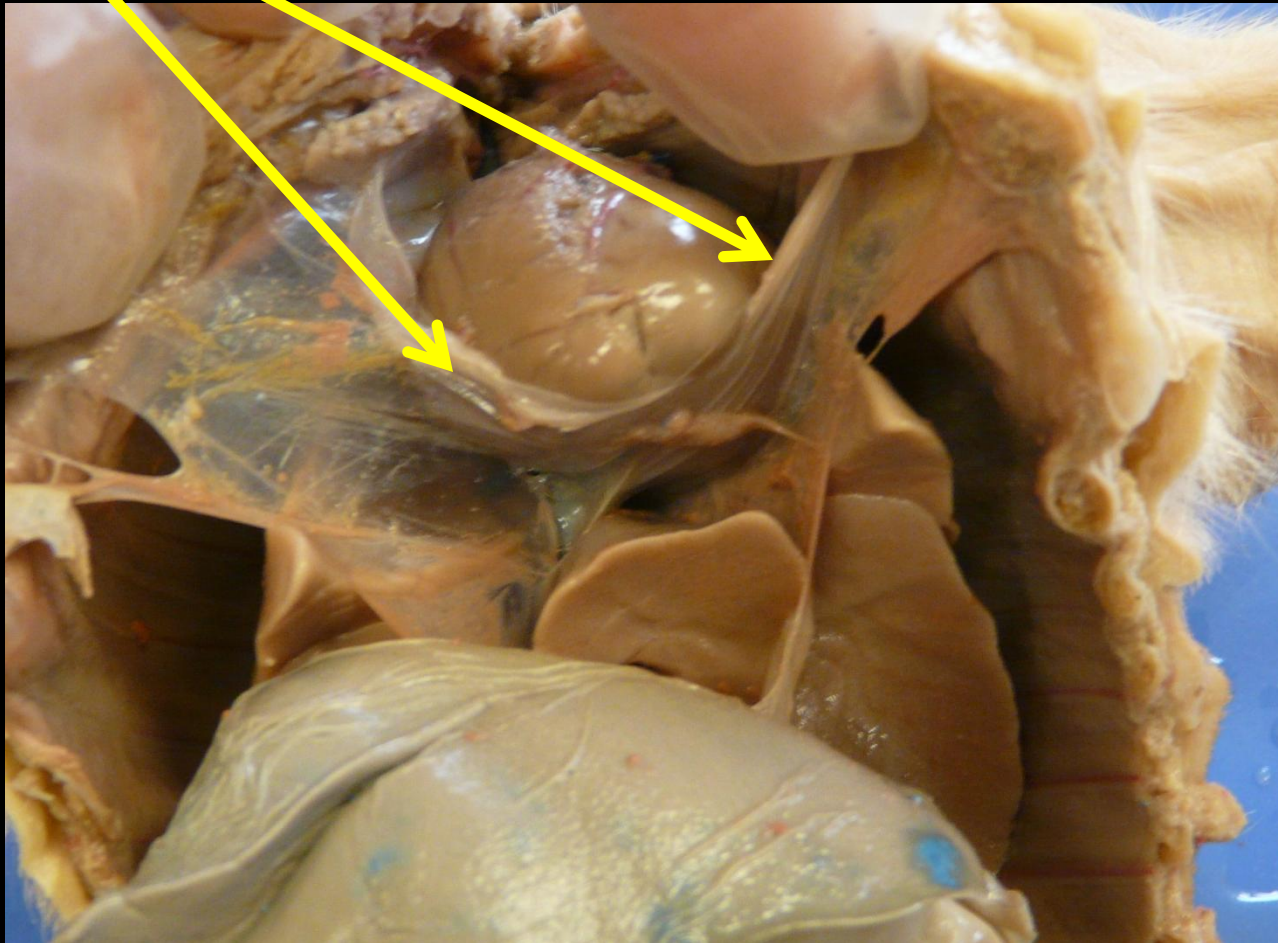
# Respiratory System in Humans...



# Thoracic Cavity

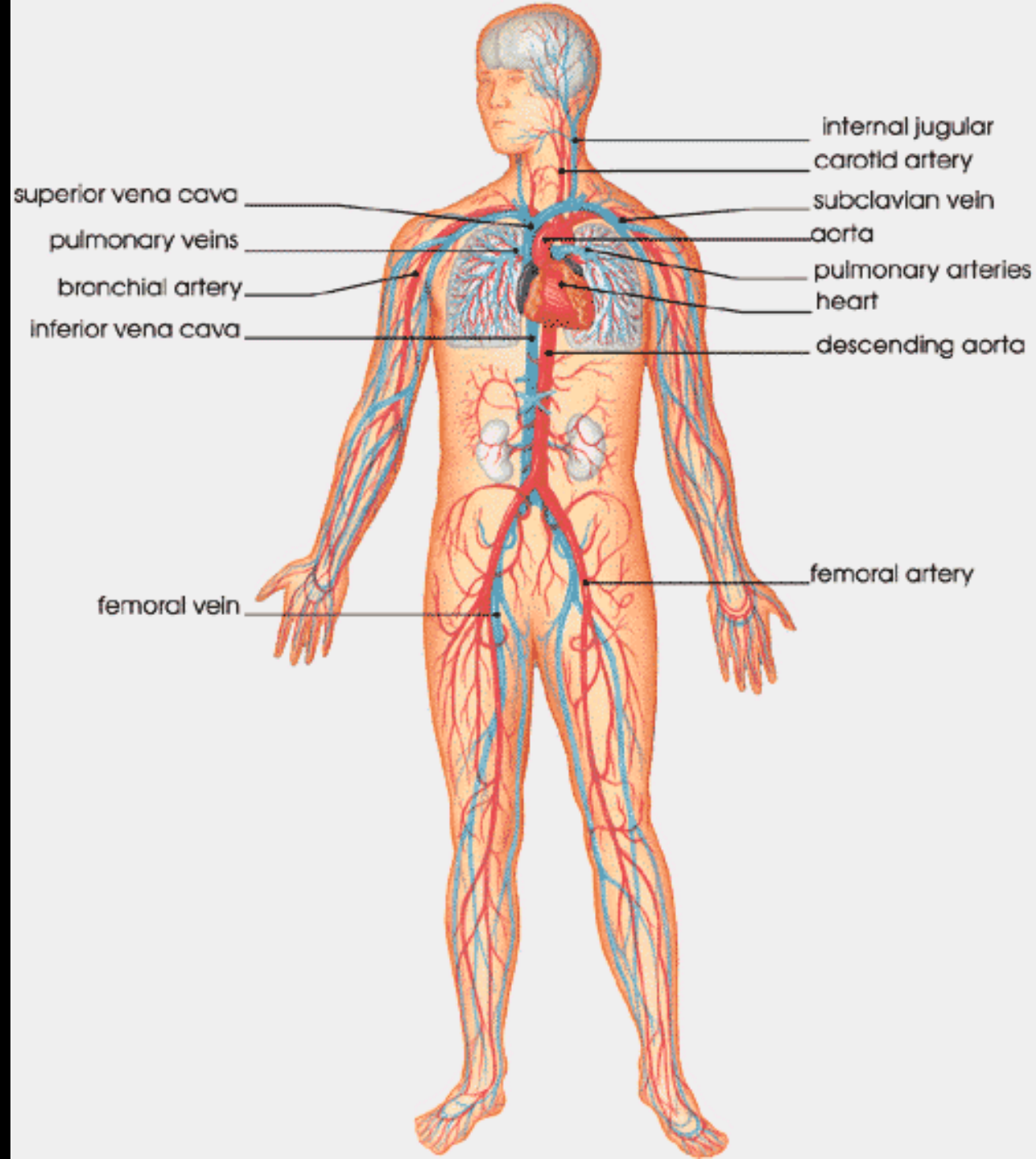
## Pericardium

- “Slippery sac” that reduces friction around the beating heart

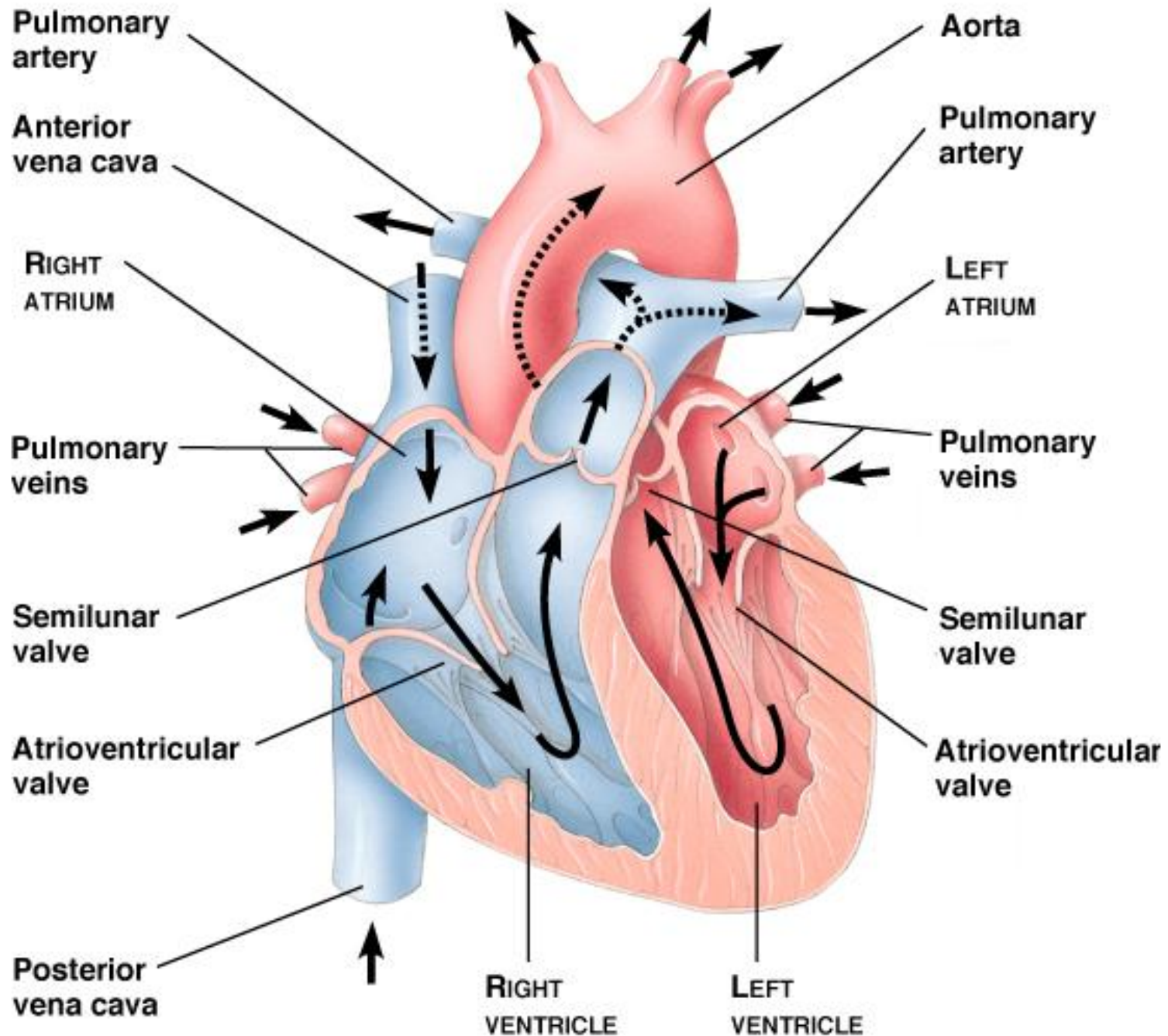




# Circulation In Humans...







# The Fetal Heart

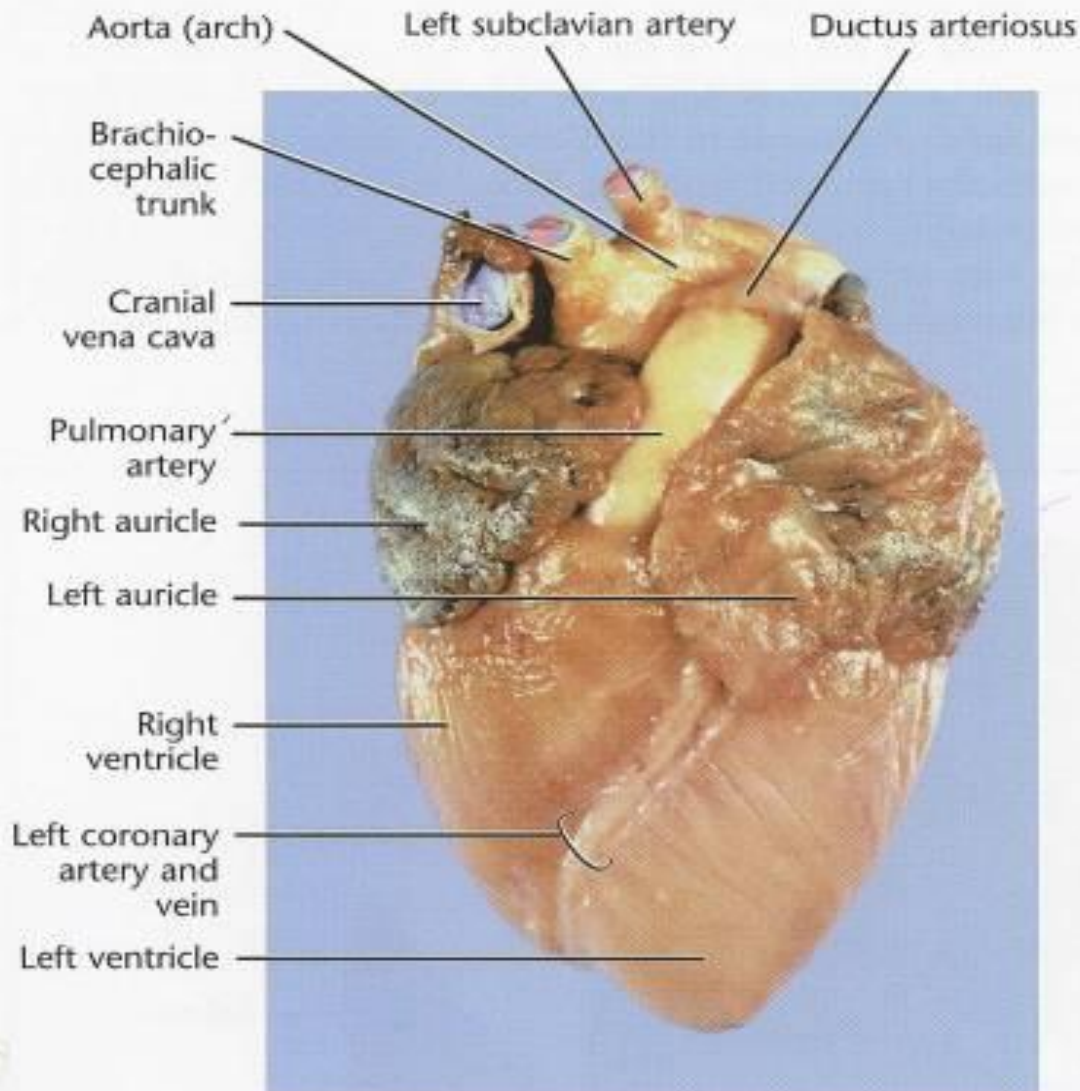
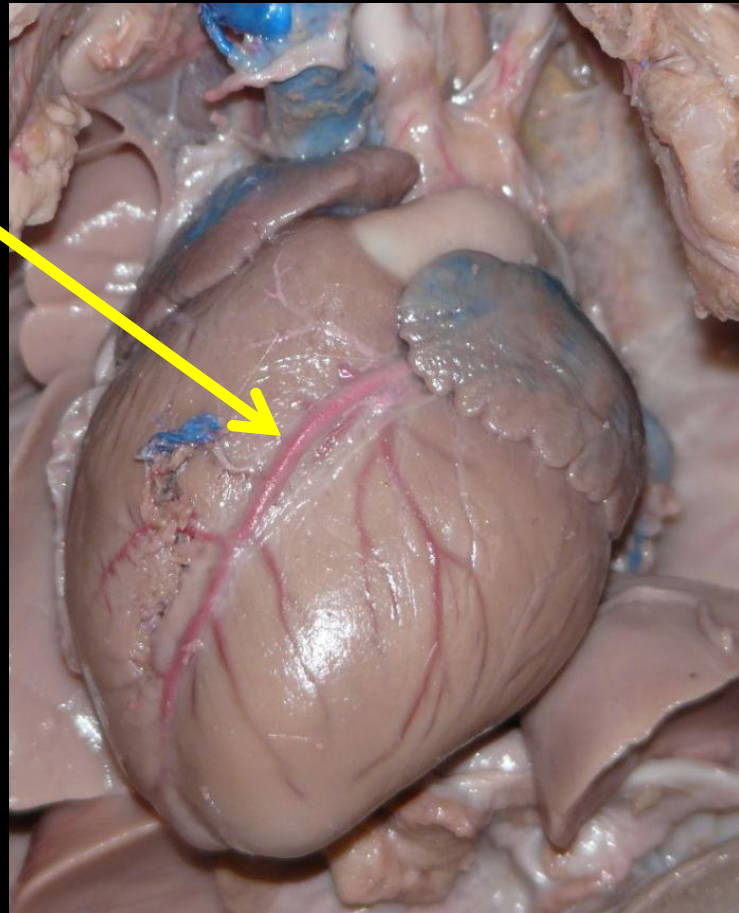


FIGURE 5.10a

## Coronary Artery

- Supplies oxygenated blood to the heart muscle

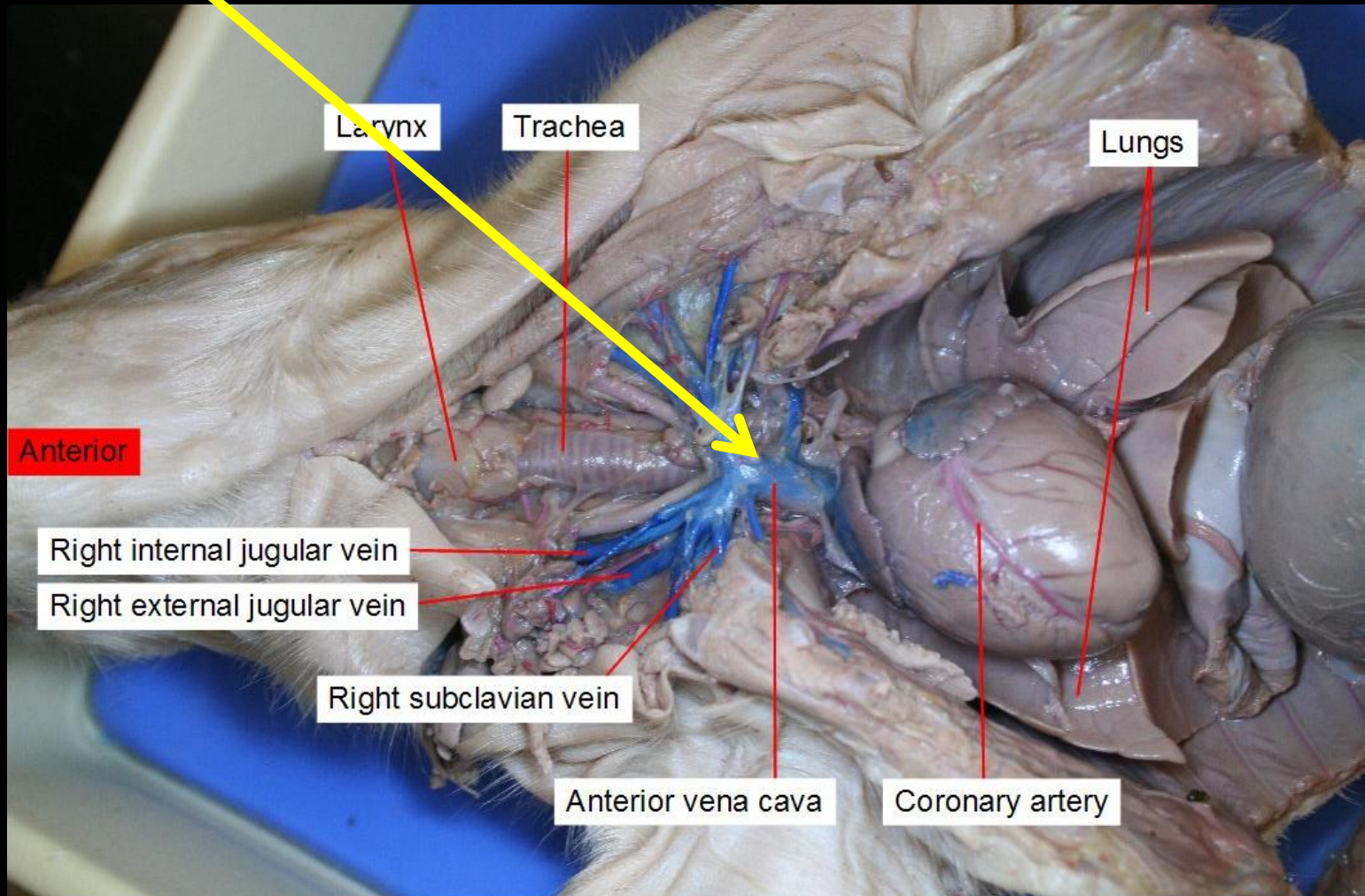




# Thoracic Cavity

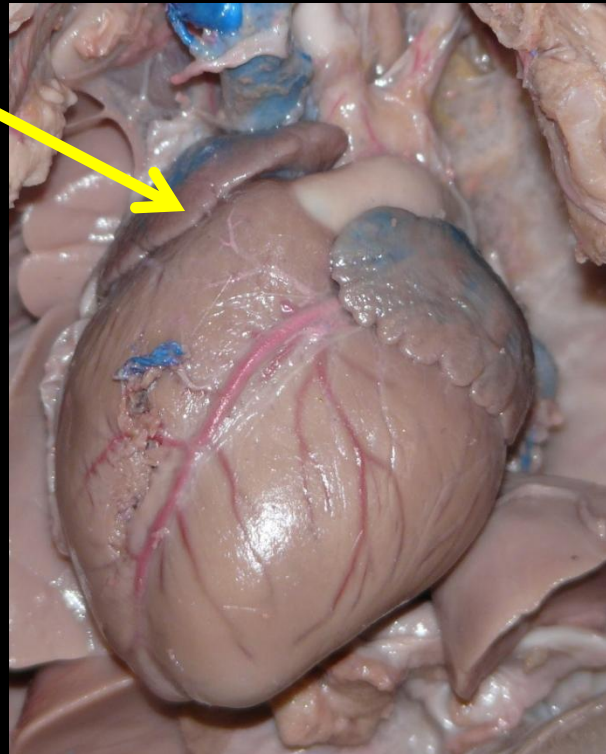
## Vena Cava

- Returns LOW  $O_2$  blood from body → heart



## R. Atrium

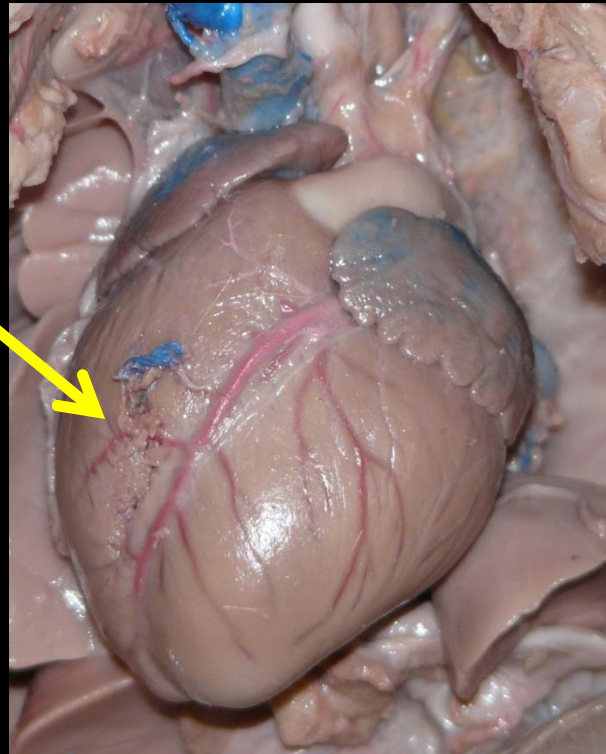
- Receives LOW  $O_2$  blood from body





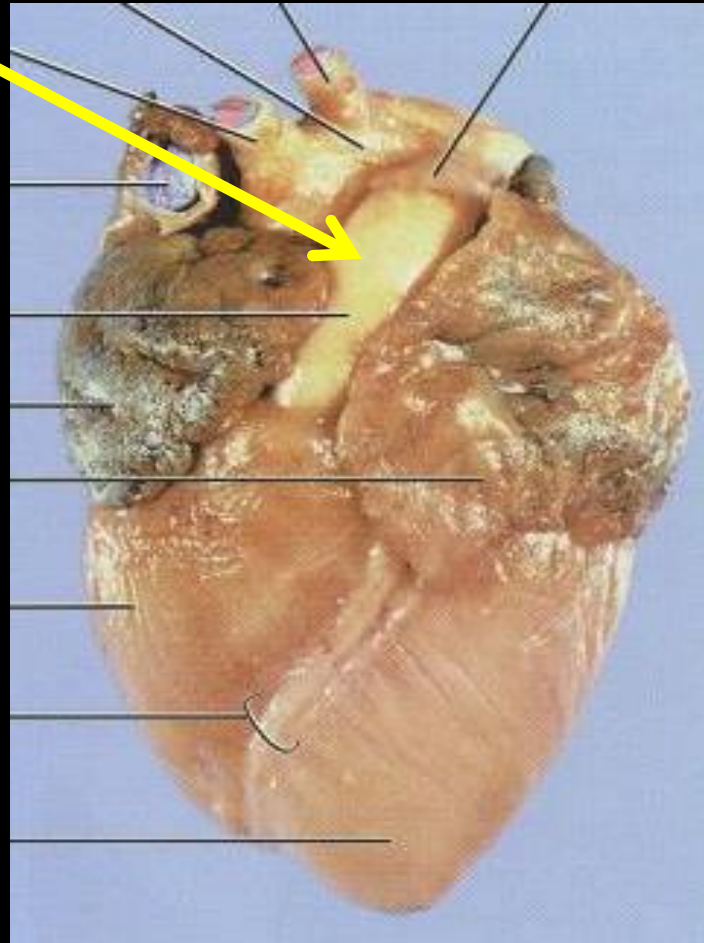
## R. Ventricle

- Pumps LOW  $O_2$  blood to lungs



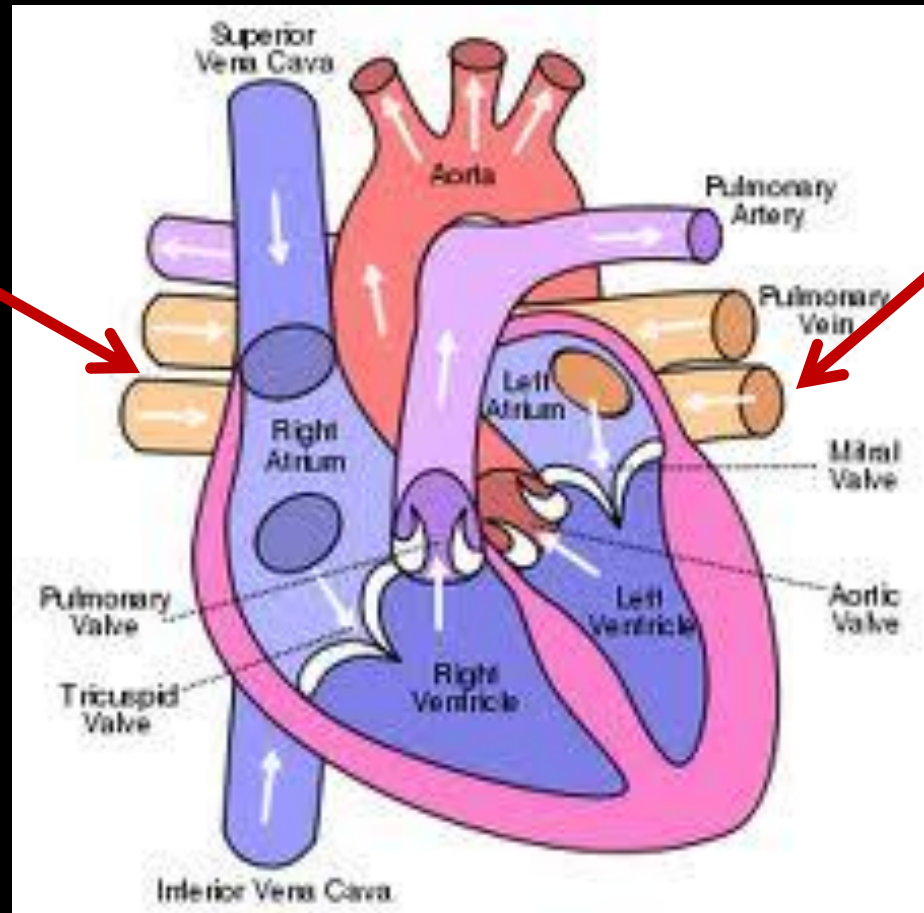
## Pulmonary Artery

- Carries blood to lungs



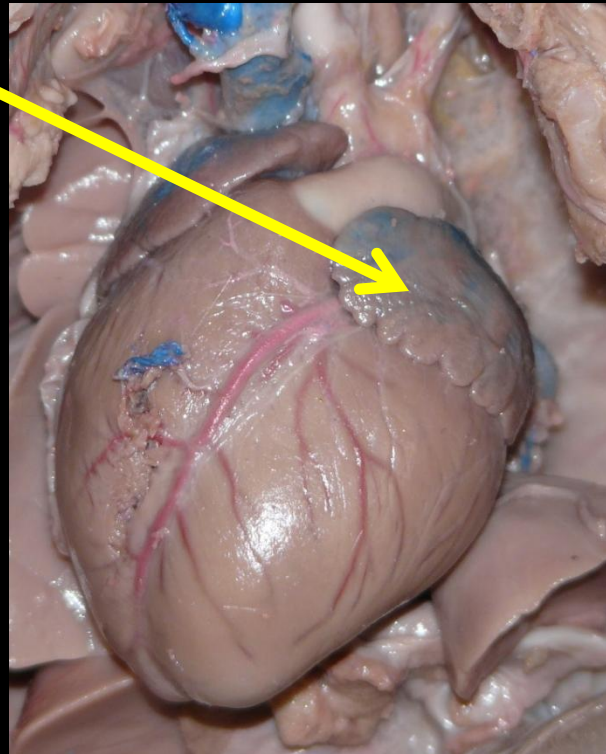
# Pulmonary Vein

- Carries blood from lungs back to heart



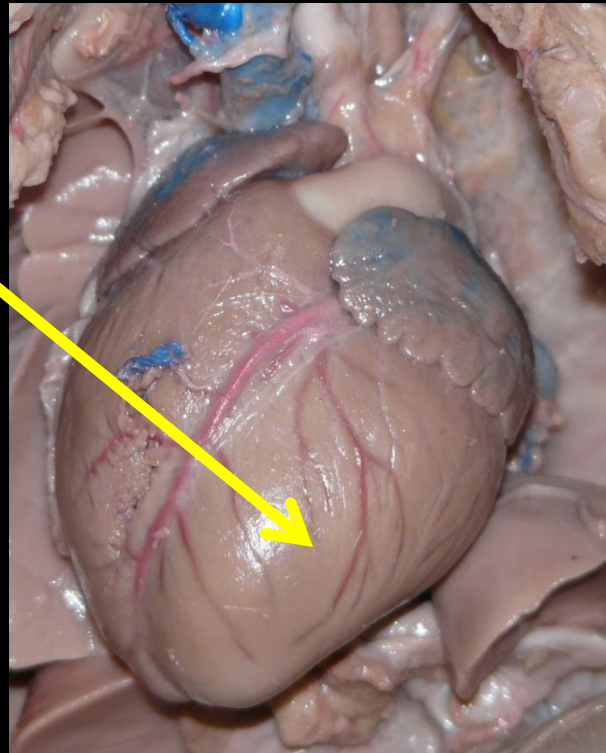
## L. Atrium

- Receives High O<sub>2</sub> blood from lungs



## L. Ventricle

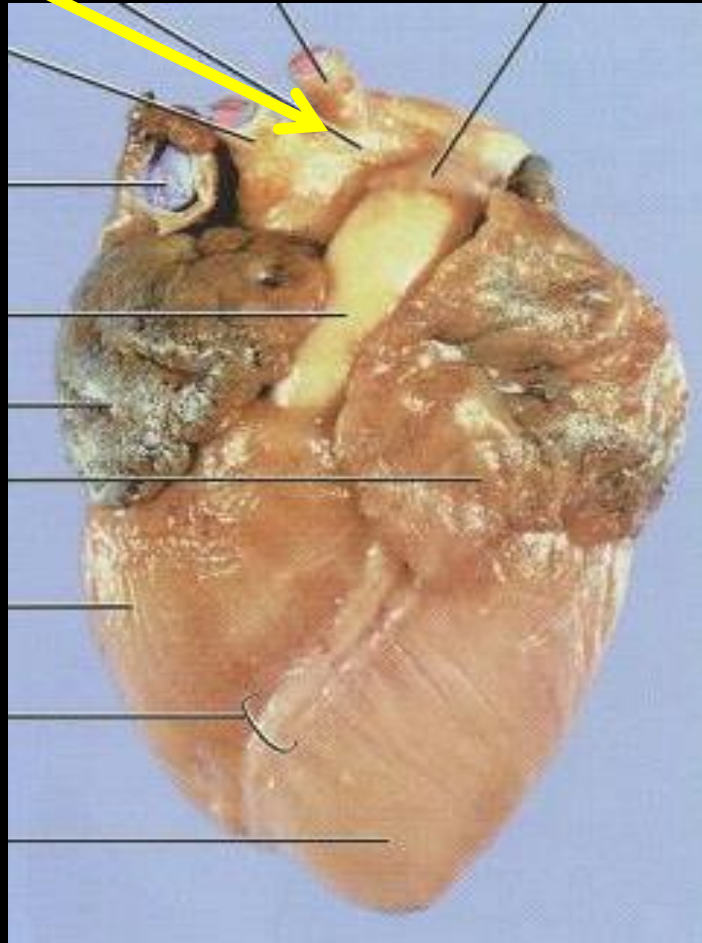
- Pumps HIGH O<sub>2</sub> blood to body



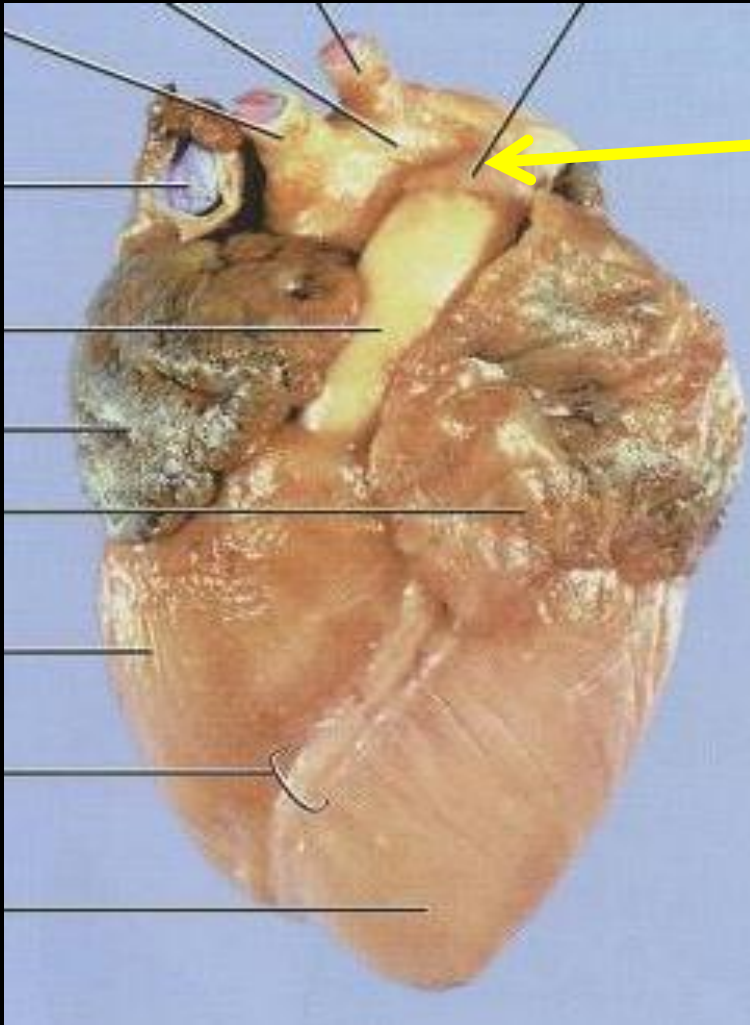


# Aorta

- Arching vessel that carries HIGH  $O_2$  blood to body

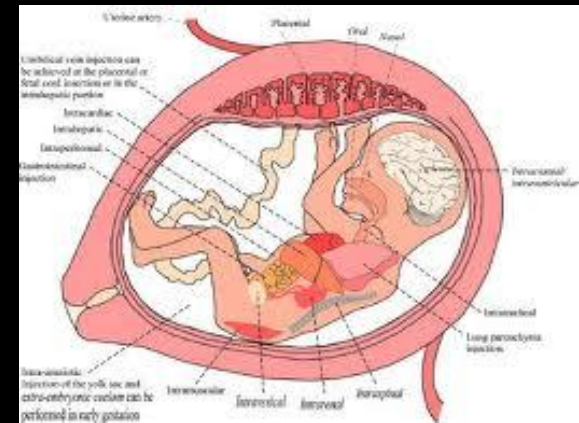


# Check out this feature unique to Fetal Circulation



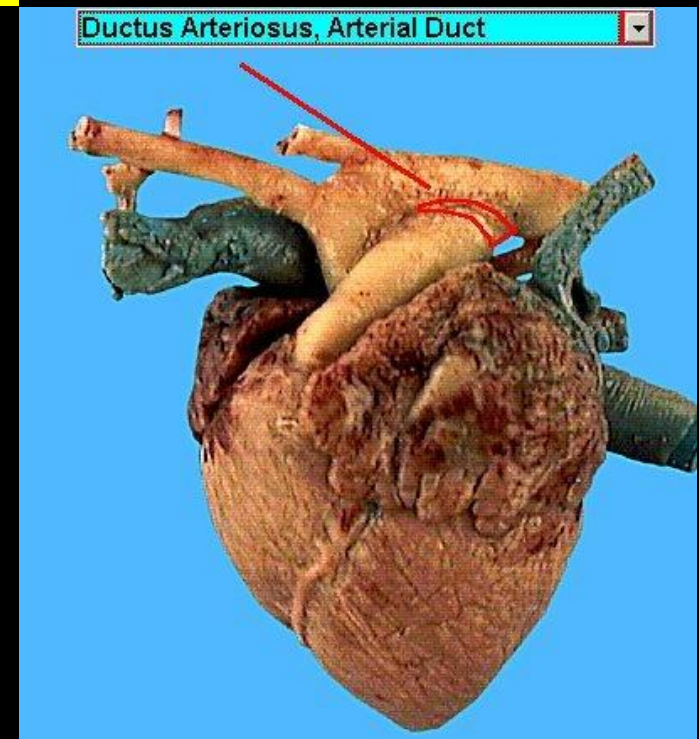
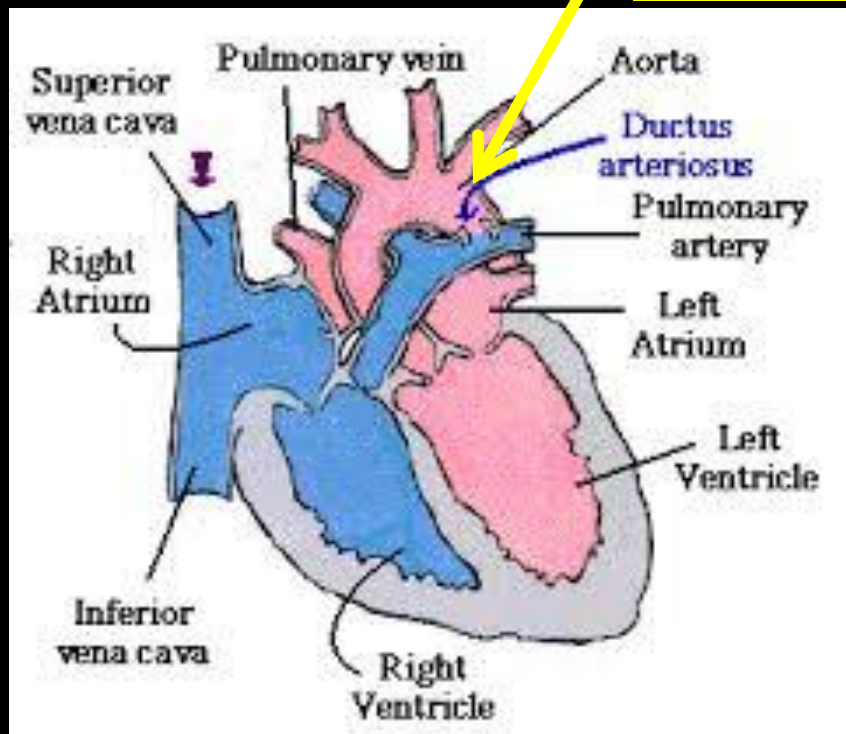
# Dustus Arteriosus

- “Temporary Tube” that allows blood with  $O_2$  to BYPASS a needless trip to the lungs



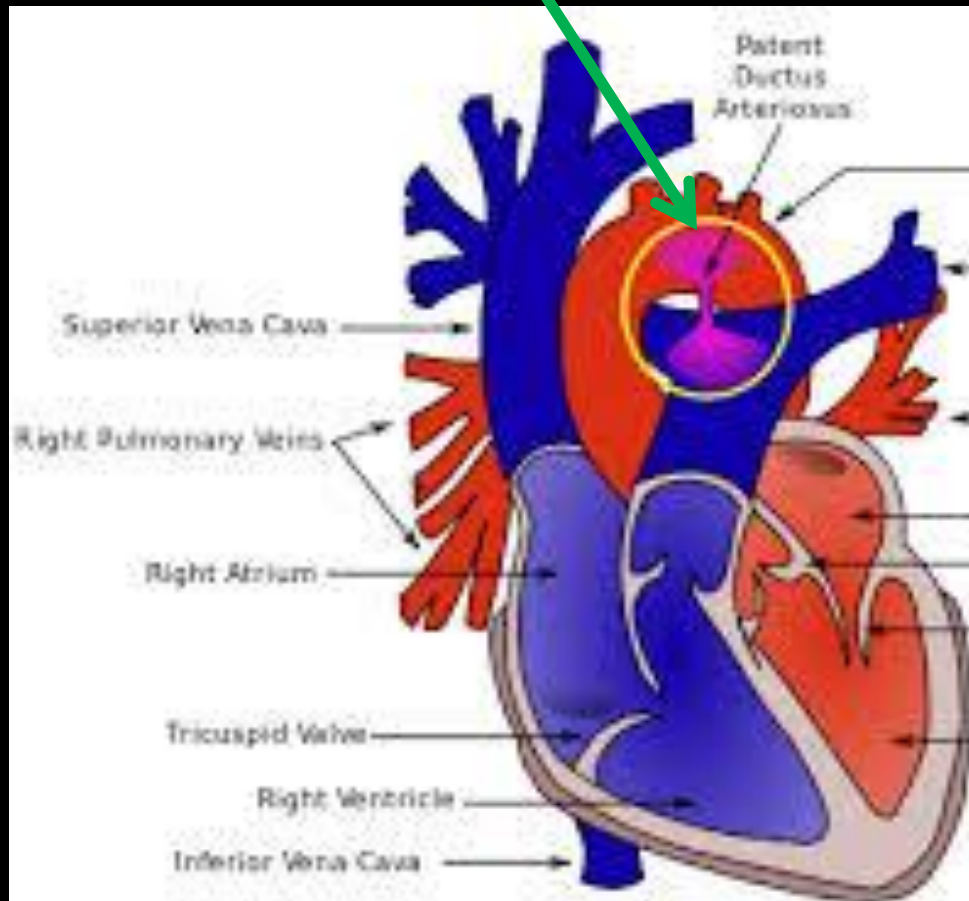
# Check out this feature unique to **Fetal Circulation**

## Ductus Arteriosus

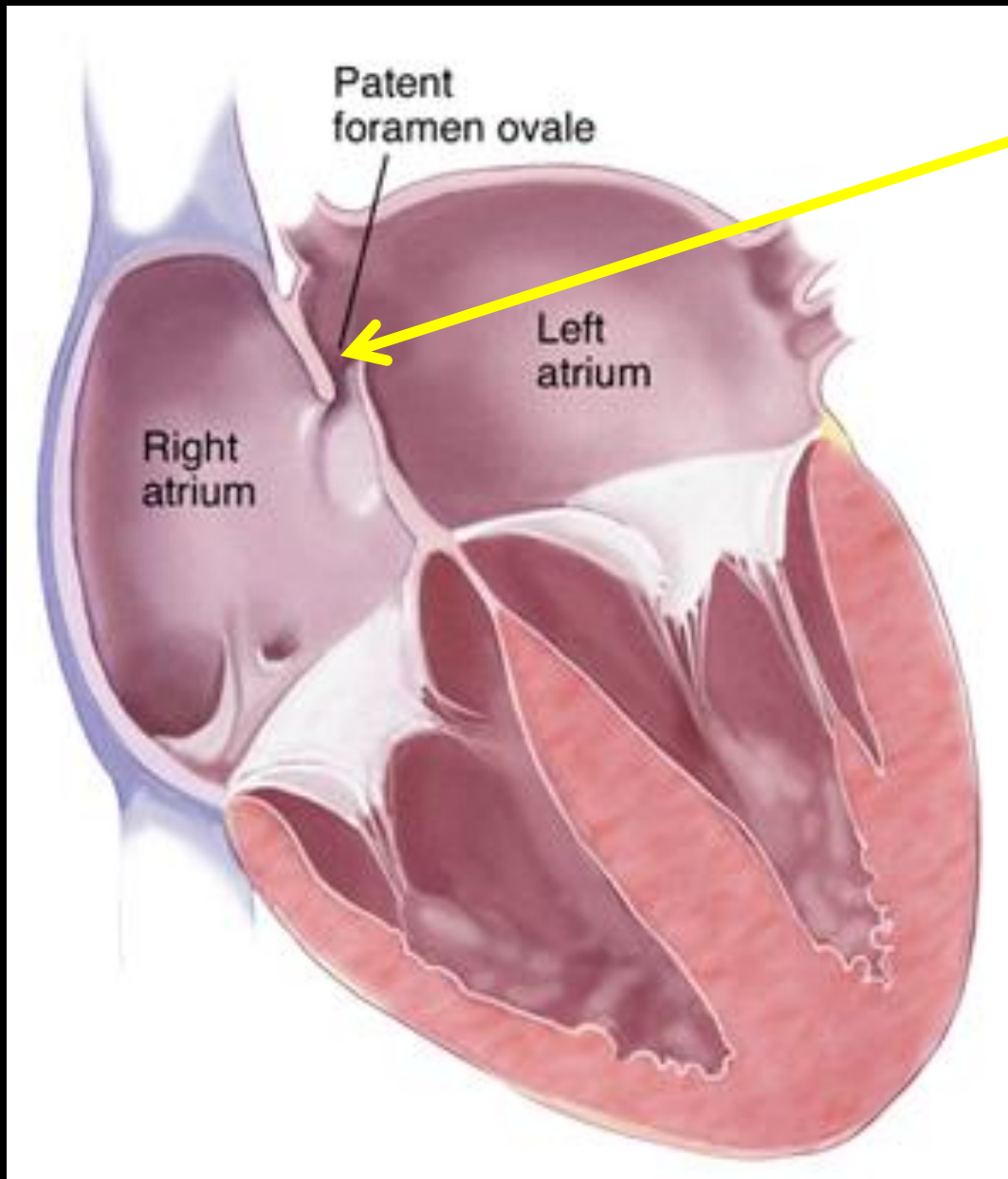


# Check out this feature unique to **Fetal Circulation**

**Ductus  
Arteriosus**

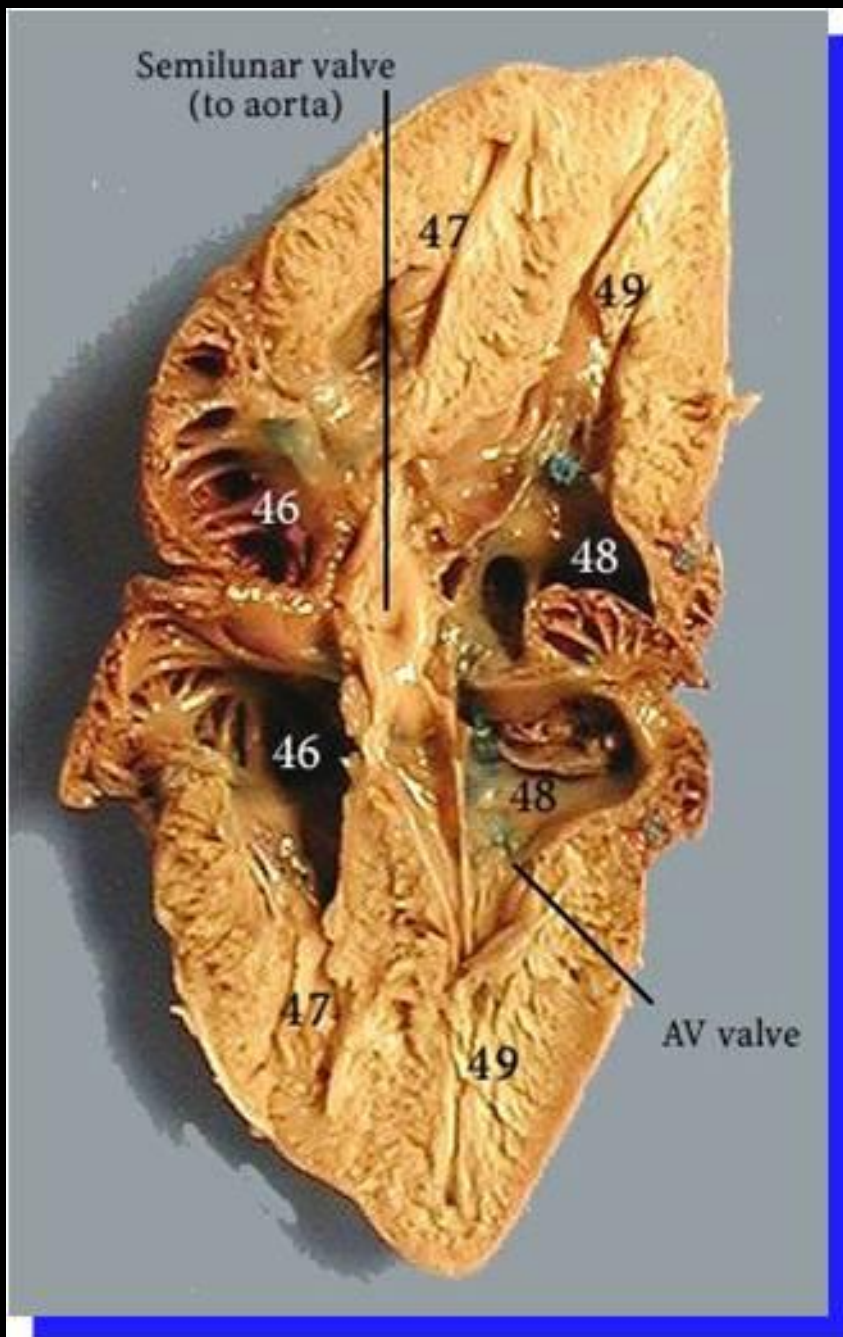






## Foramen ovale

- “Temporary hole” that allows blood with  $O_2$  to slip over to Left atrium and BYPASS a needless trip to the lungs

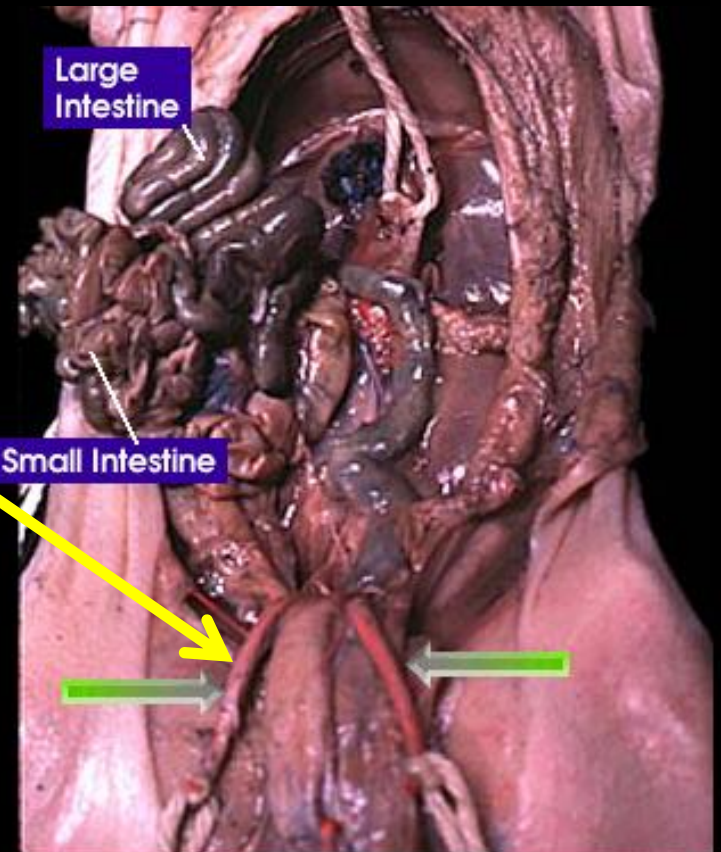
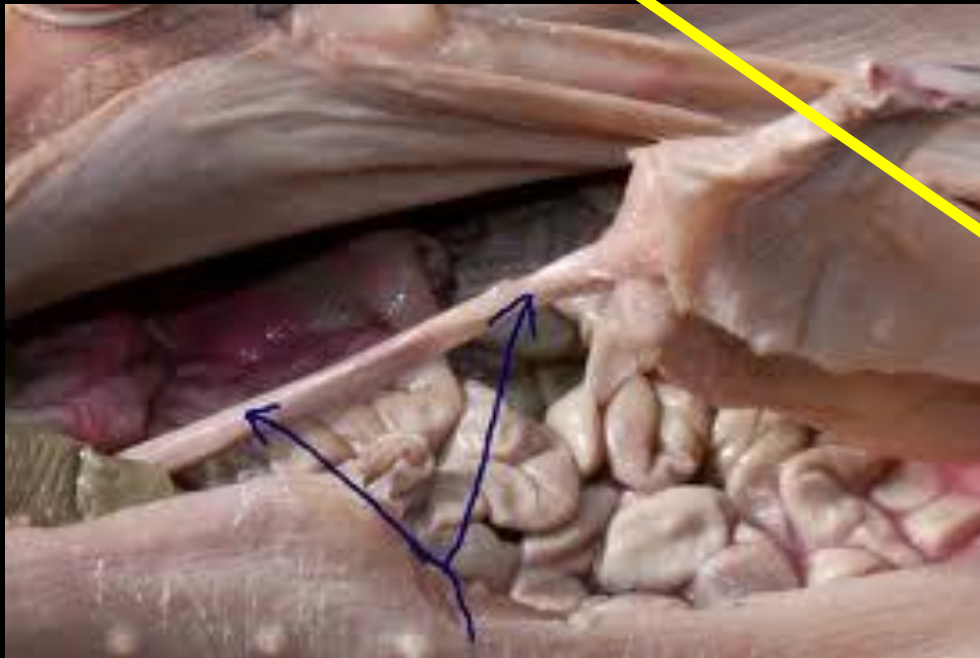


**Umbilical  
Vein**

- Carries HIGH  $O_2$  blood placenta → fetus

**Umbilical  
Arteries**

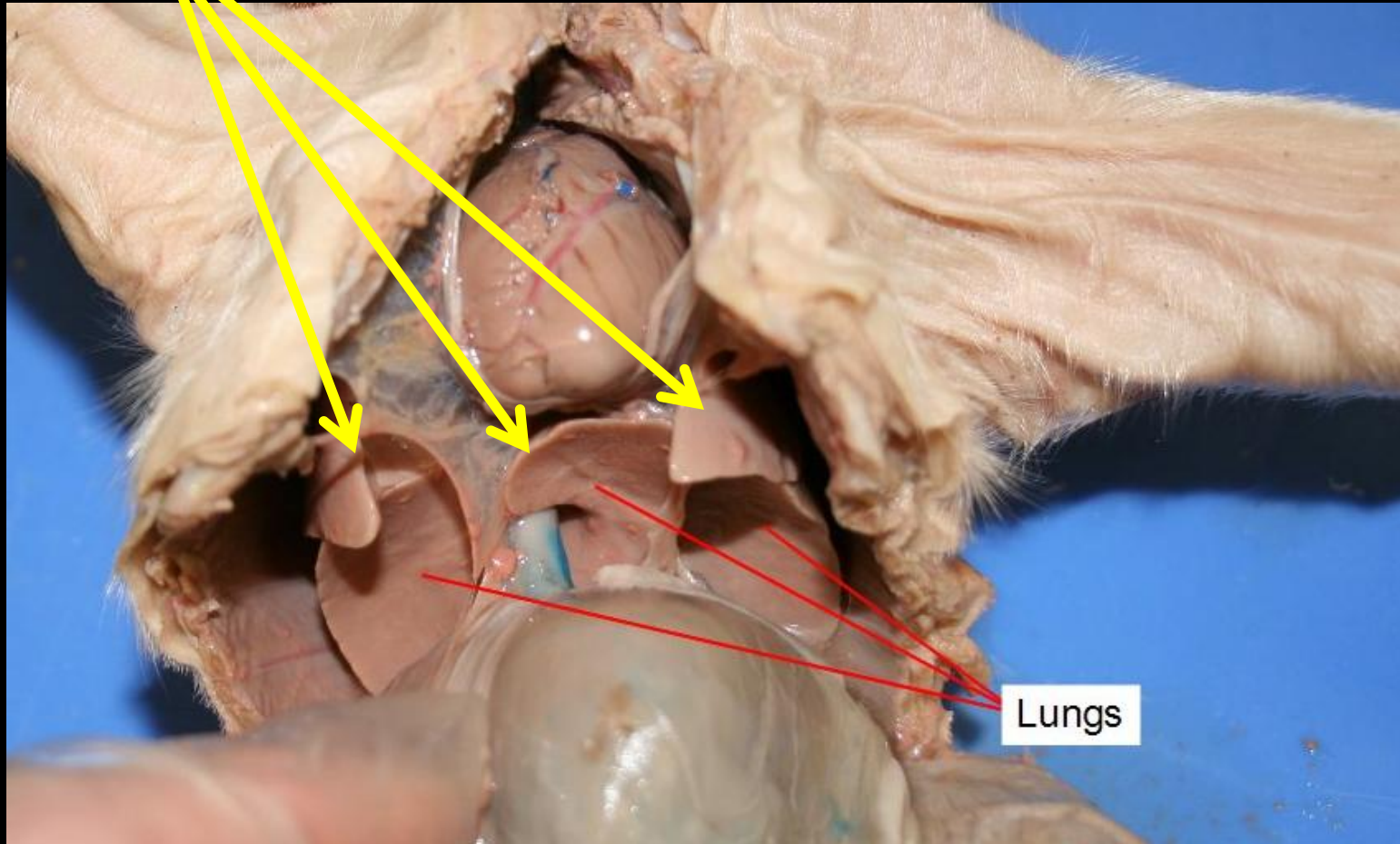
- Carries LOW  $O_2$  blood fetus → placenta





## Lungs

- Gas exchange in the alveoli sacs



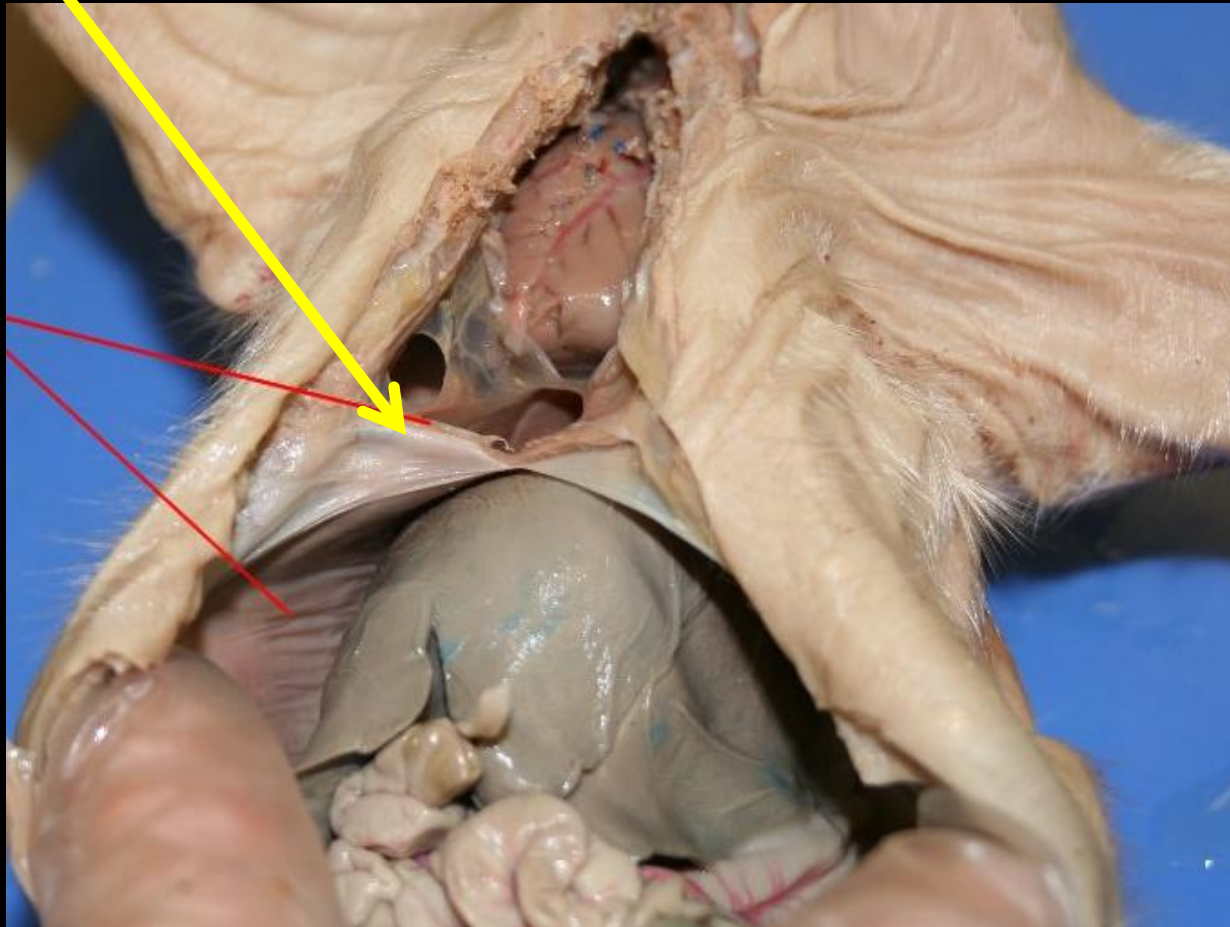
## Bronchi Tubes

- Tubes deliver air trachea → lungs

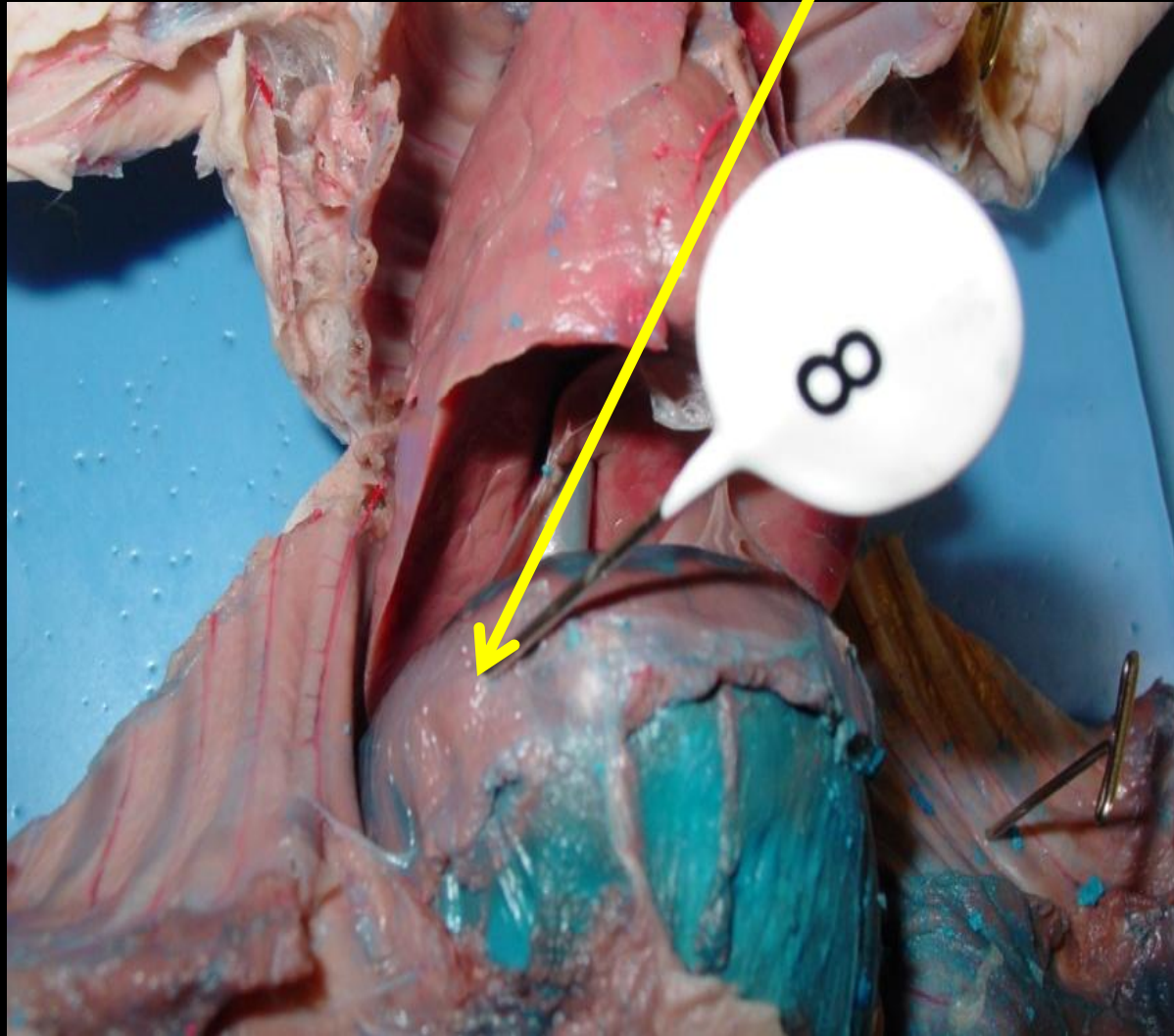


# Diaphragm

- Muscle that aids in breathing
- Separates thoracic and abdominal cavities

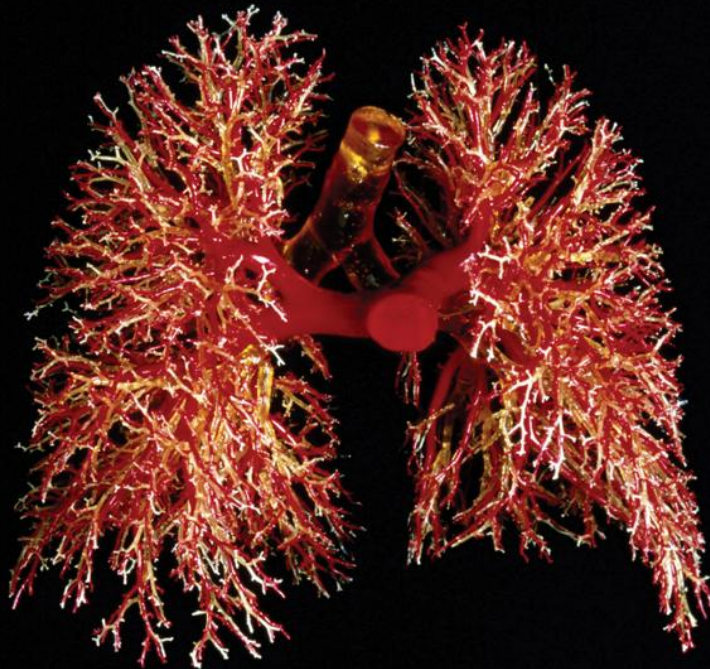


## Another look at the **Diaphragm**

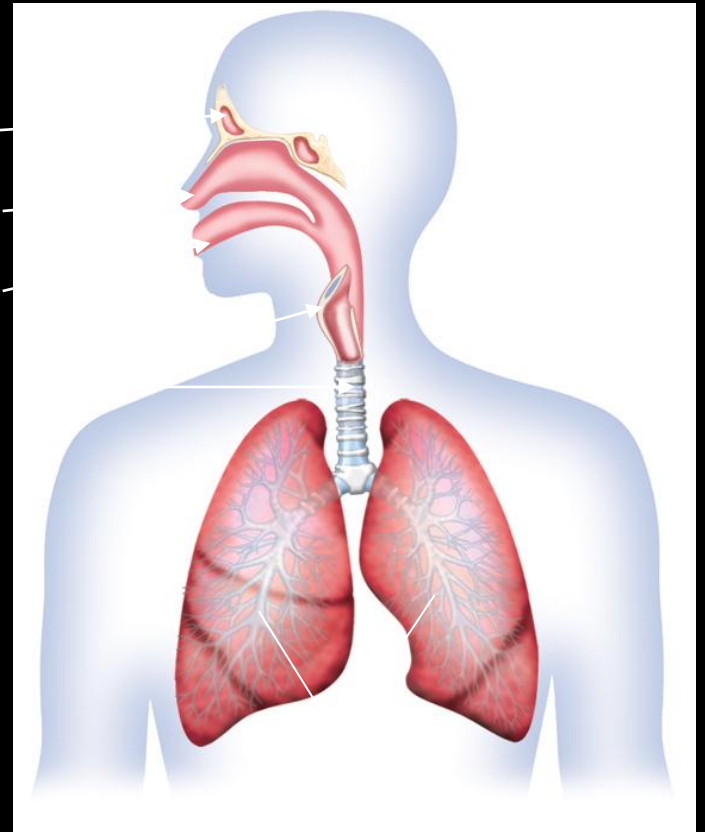


# KEY CONCEPT

The respiratory system exchanges **oxygen** and **carbon dioxide**.

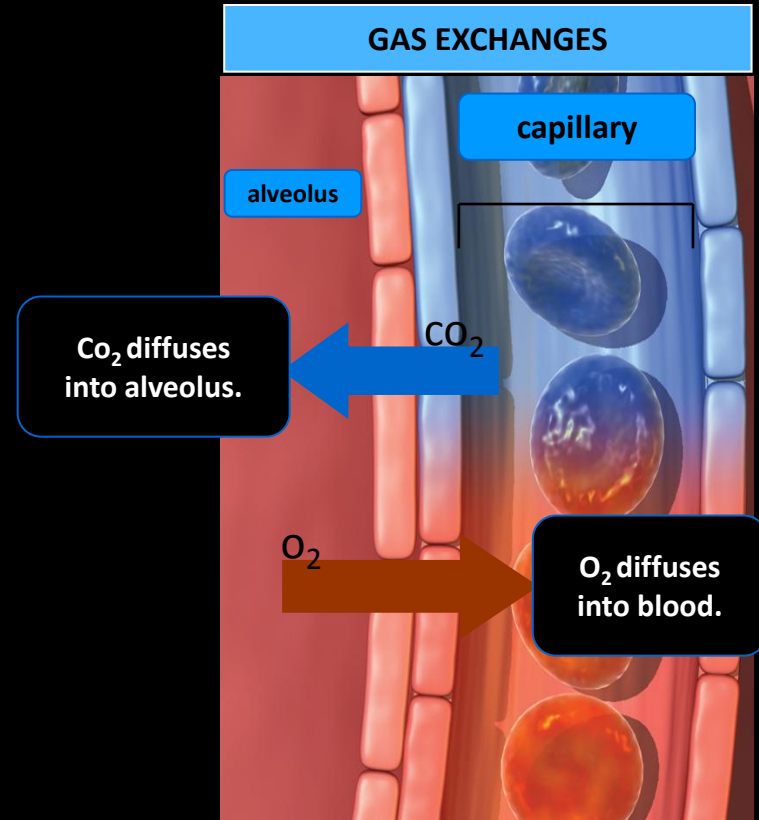
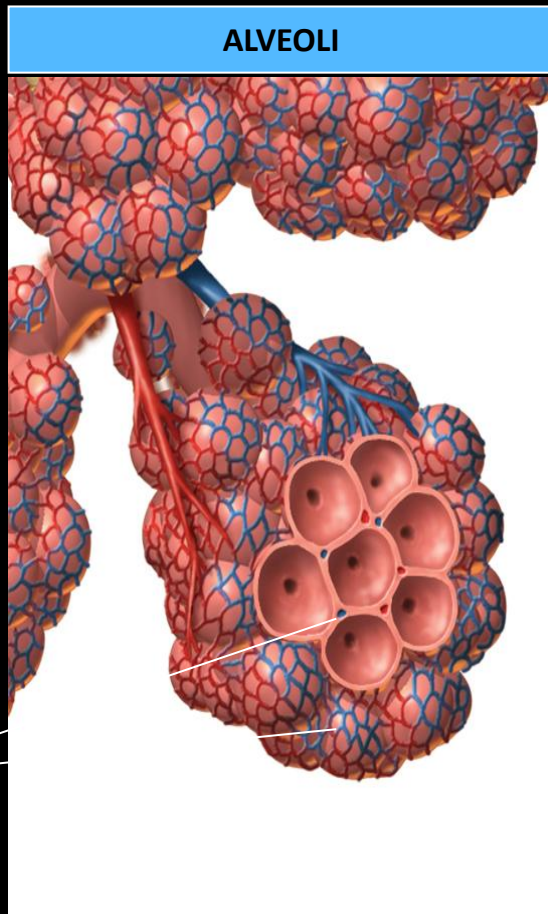


sinus  
nose  
mouth  
trachea





Gas exchange occurs in the **alveoli** of the lungs.

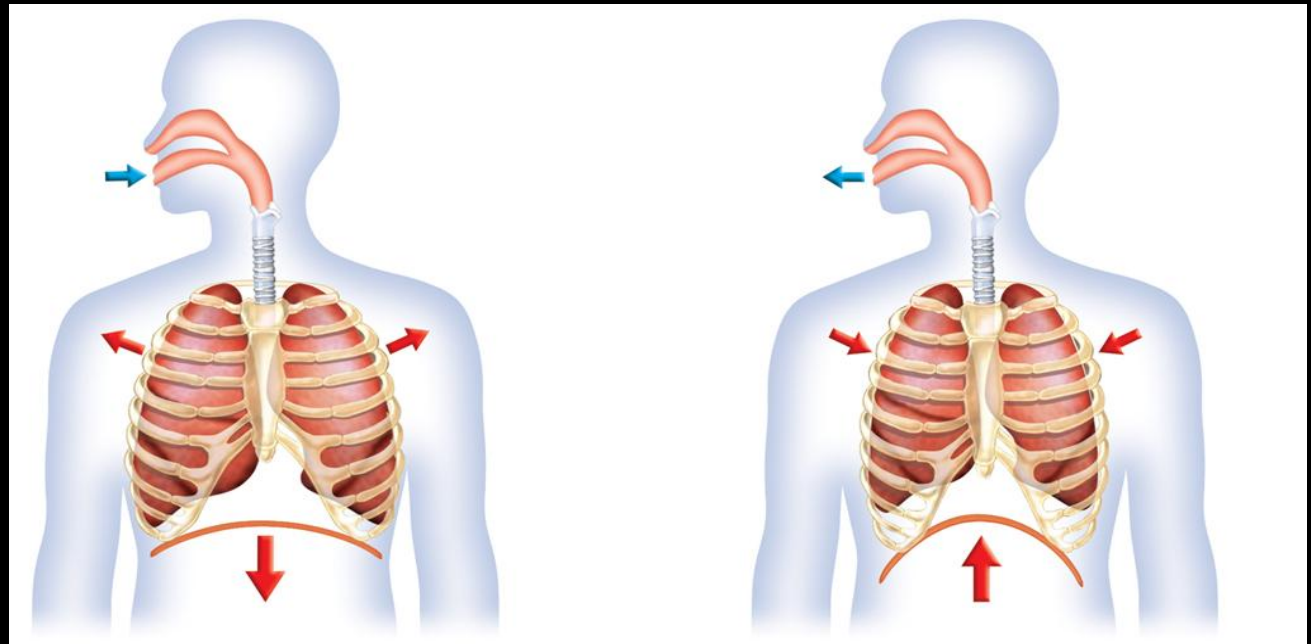




- The **diaphragm** and rib cage muscles contract to help bring air into the lungs
- Air flows from areas of **high** pressure to **low** pressure.

Air inhaled.

Muscles contract and rib cage expands.



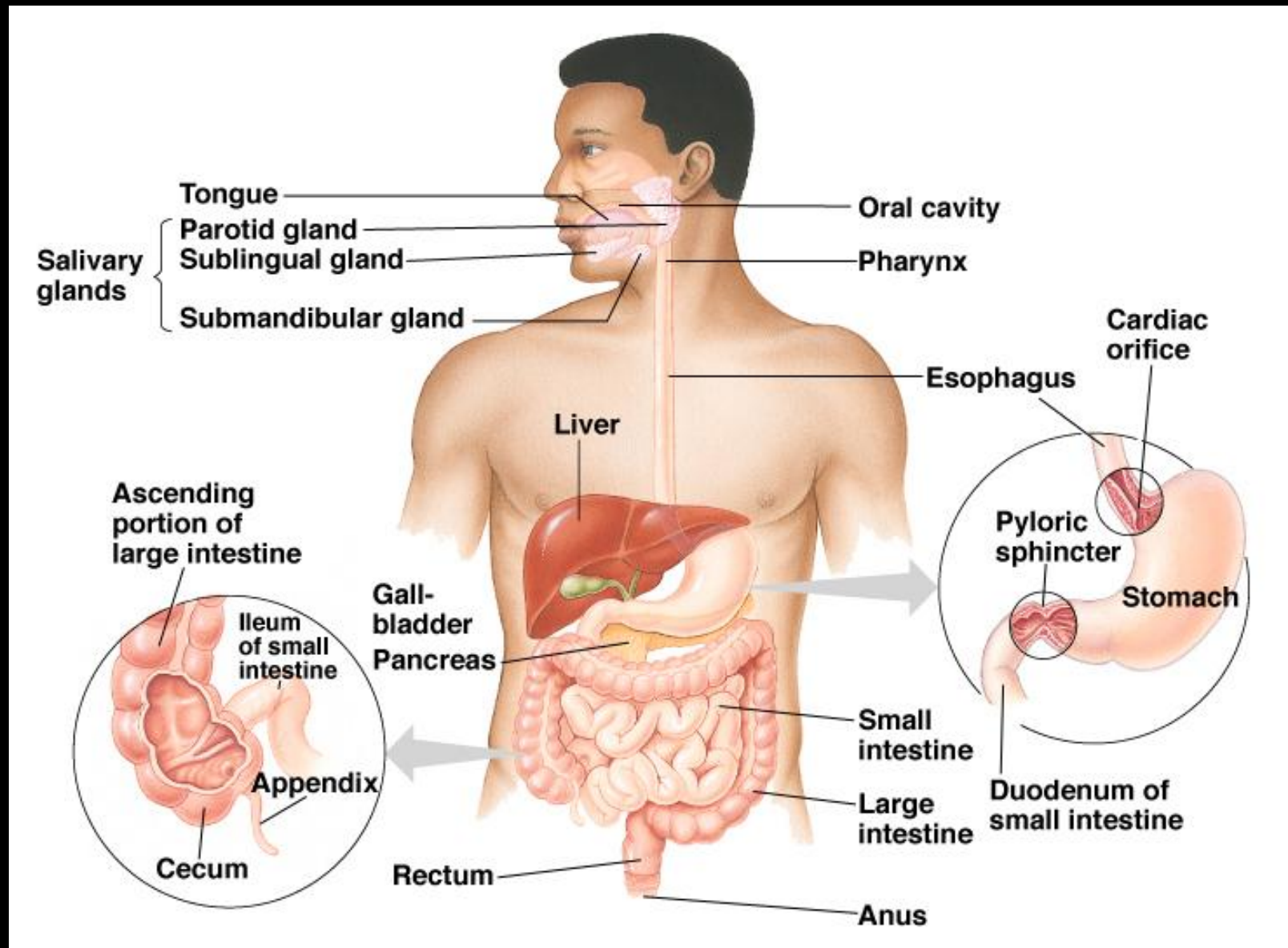
Diaphragm flattens  
and moves downward.

Diaphragm relaxes  
and rises.

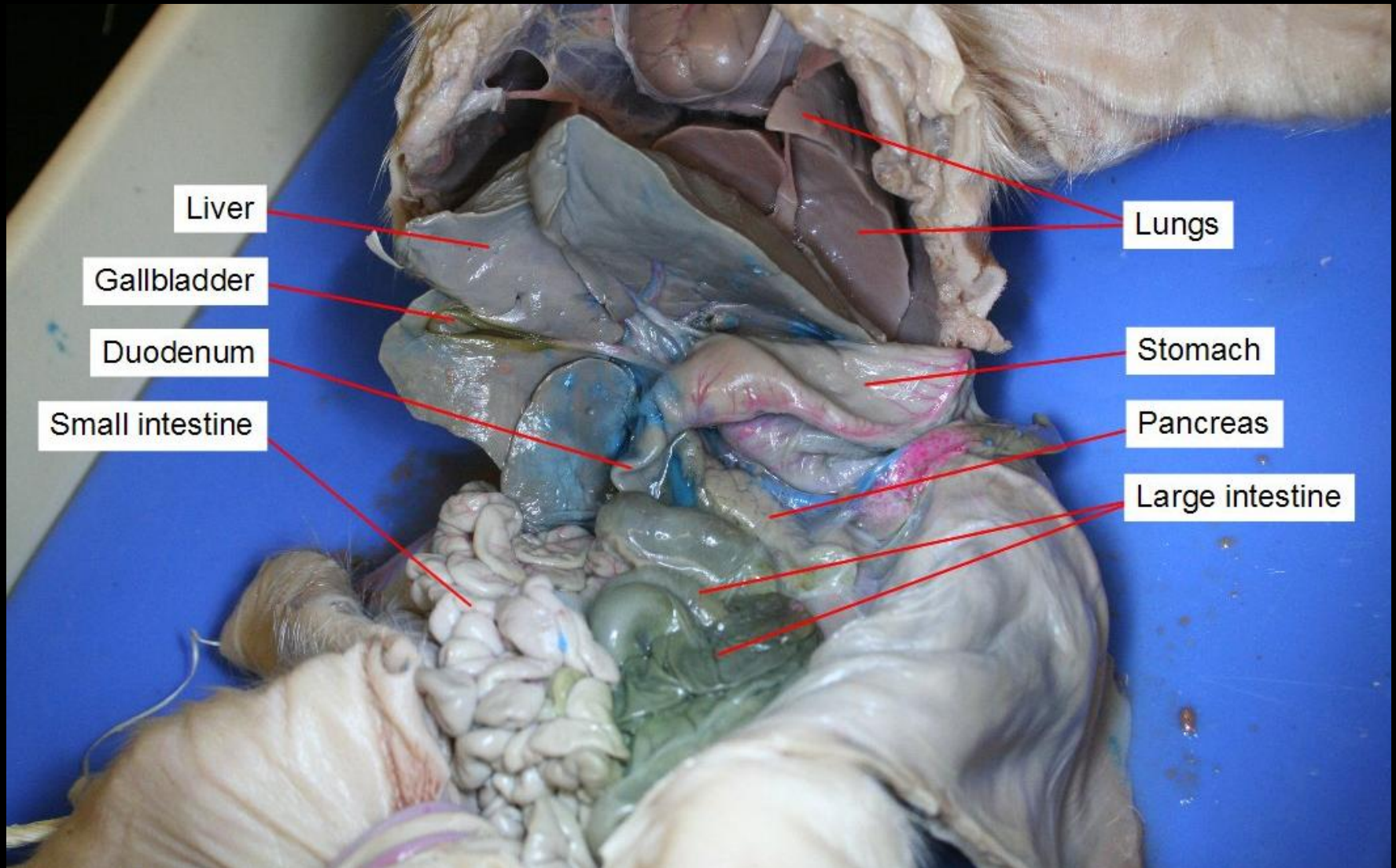
LAB

Day 4

# Digestive System in humans...



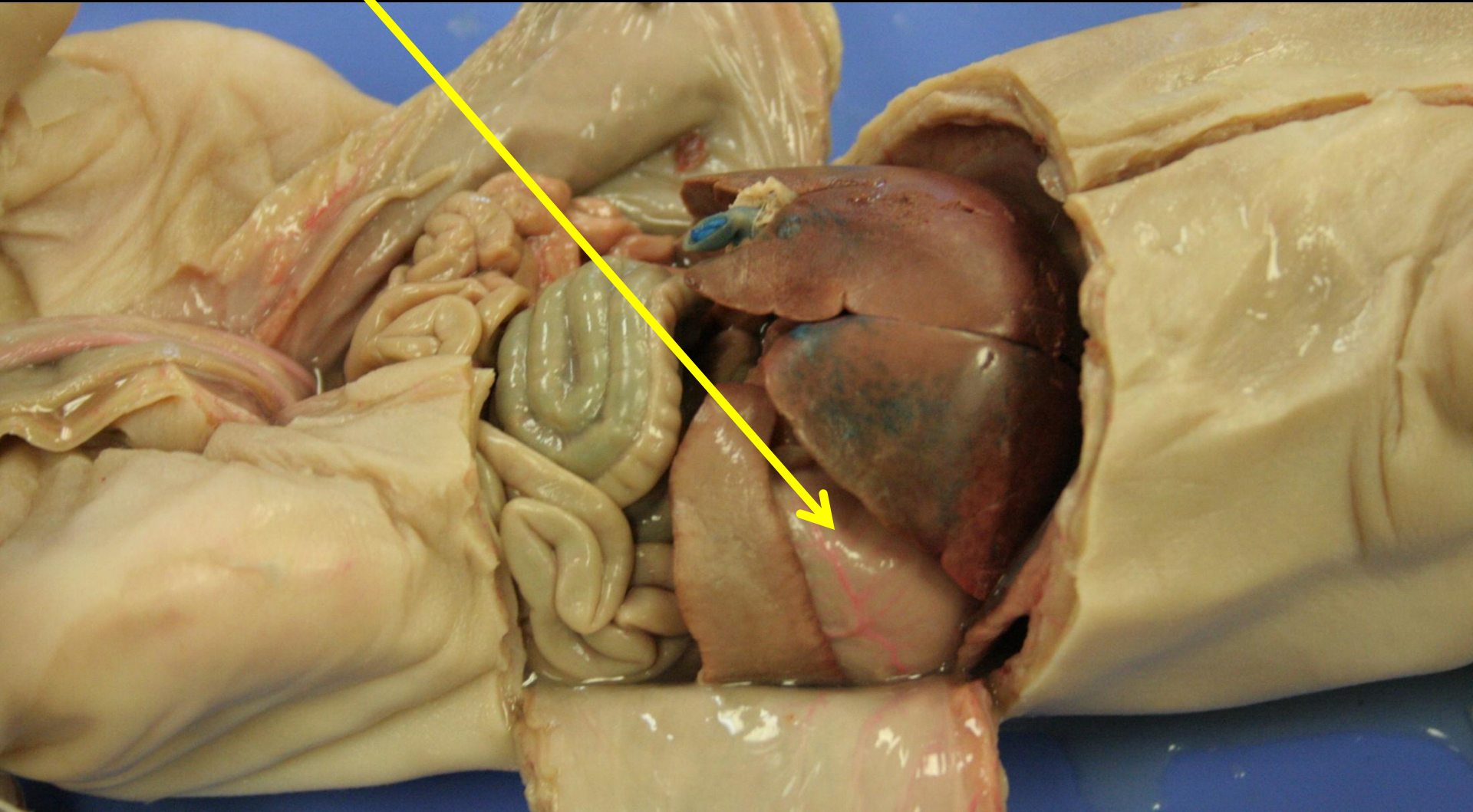
# Digestive System





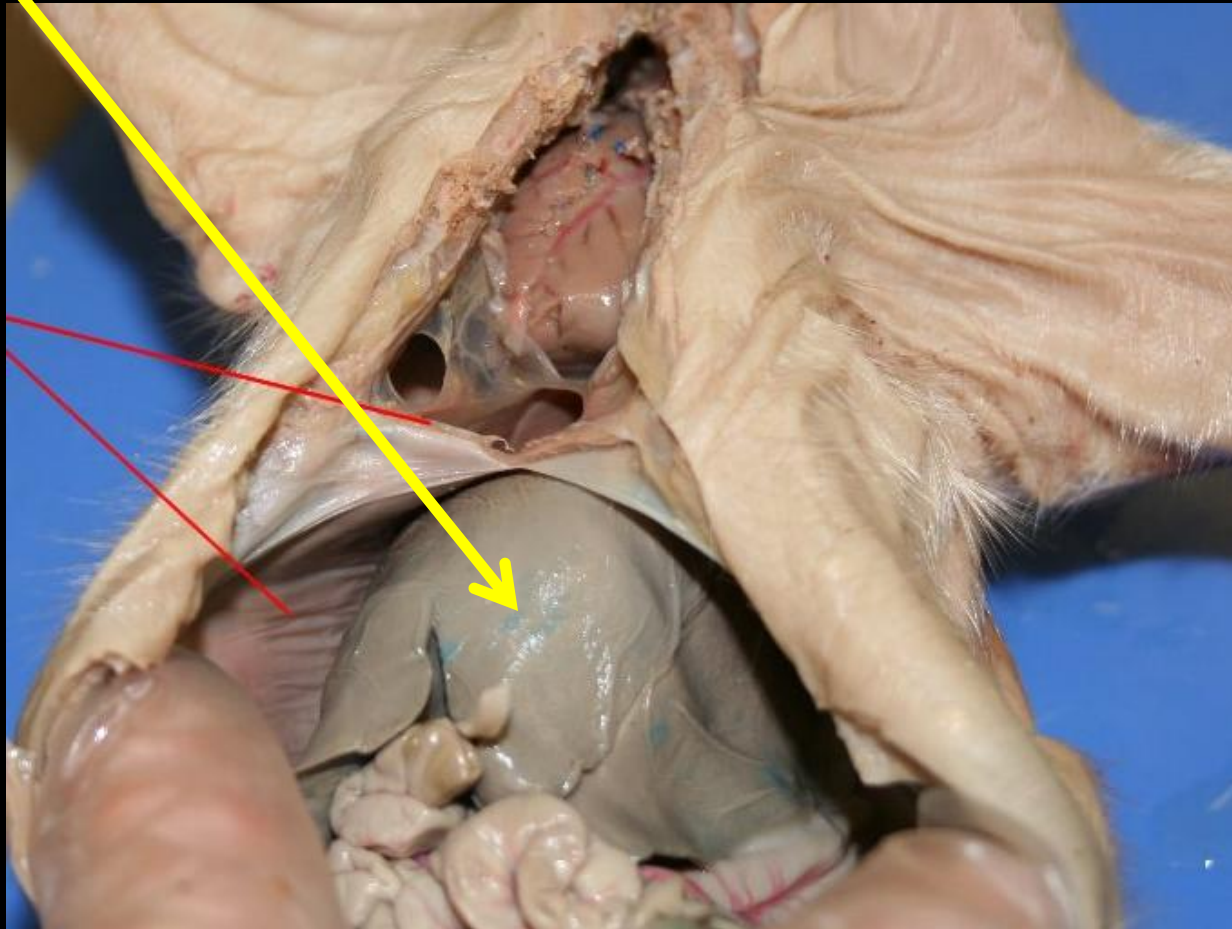
## **Stomach**

- begins protein digestion
- produces digestive enzymes & HCl acid



# Liver

- Produces bile (breaks fats apart)
- Detoxifies blood
- Stores excess blood glucose as glycogen





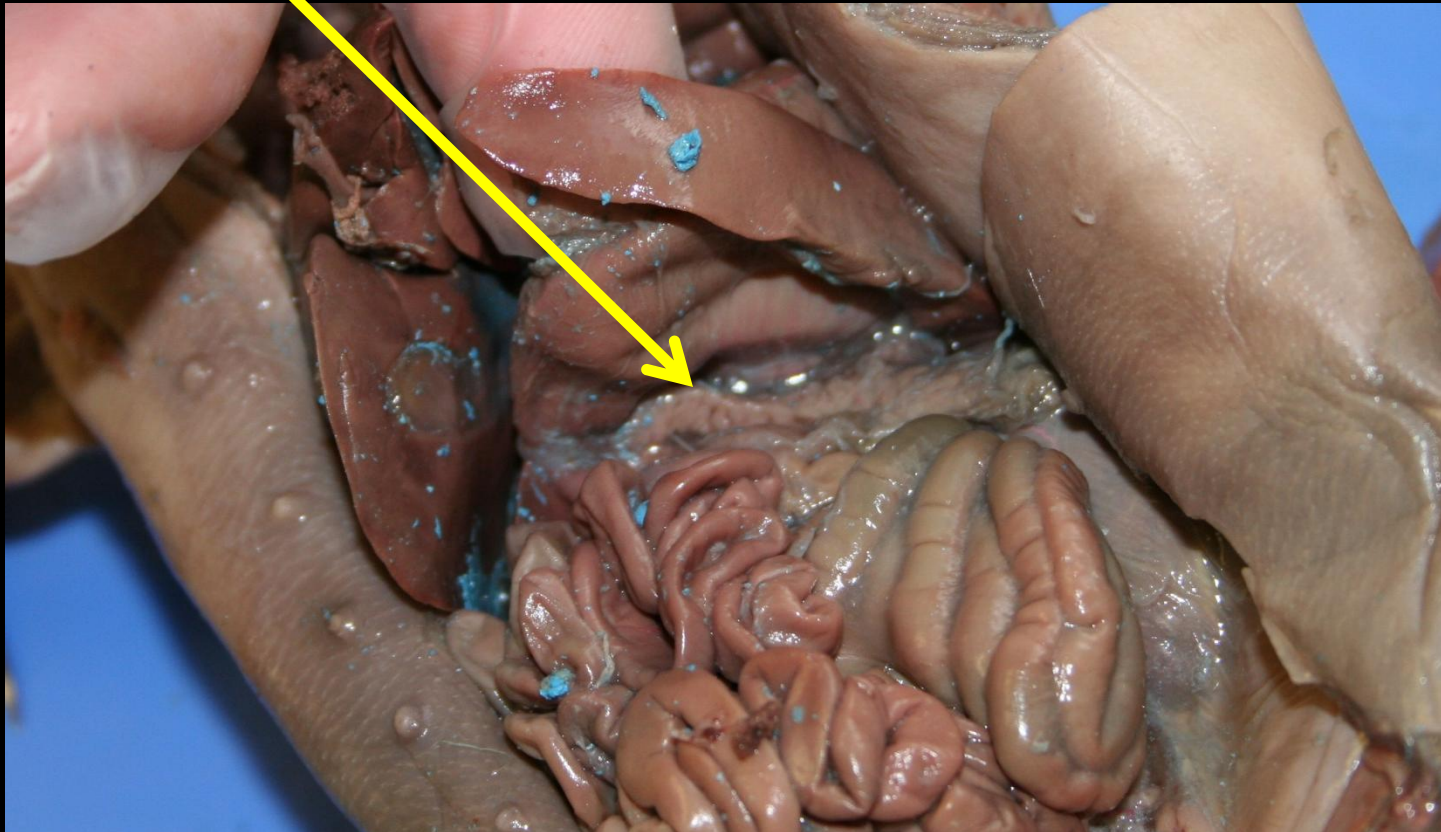
# Gall Bladder

- Store bile



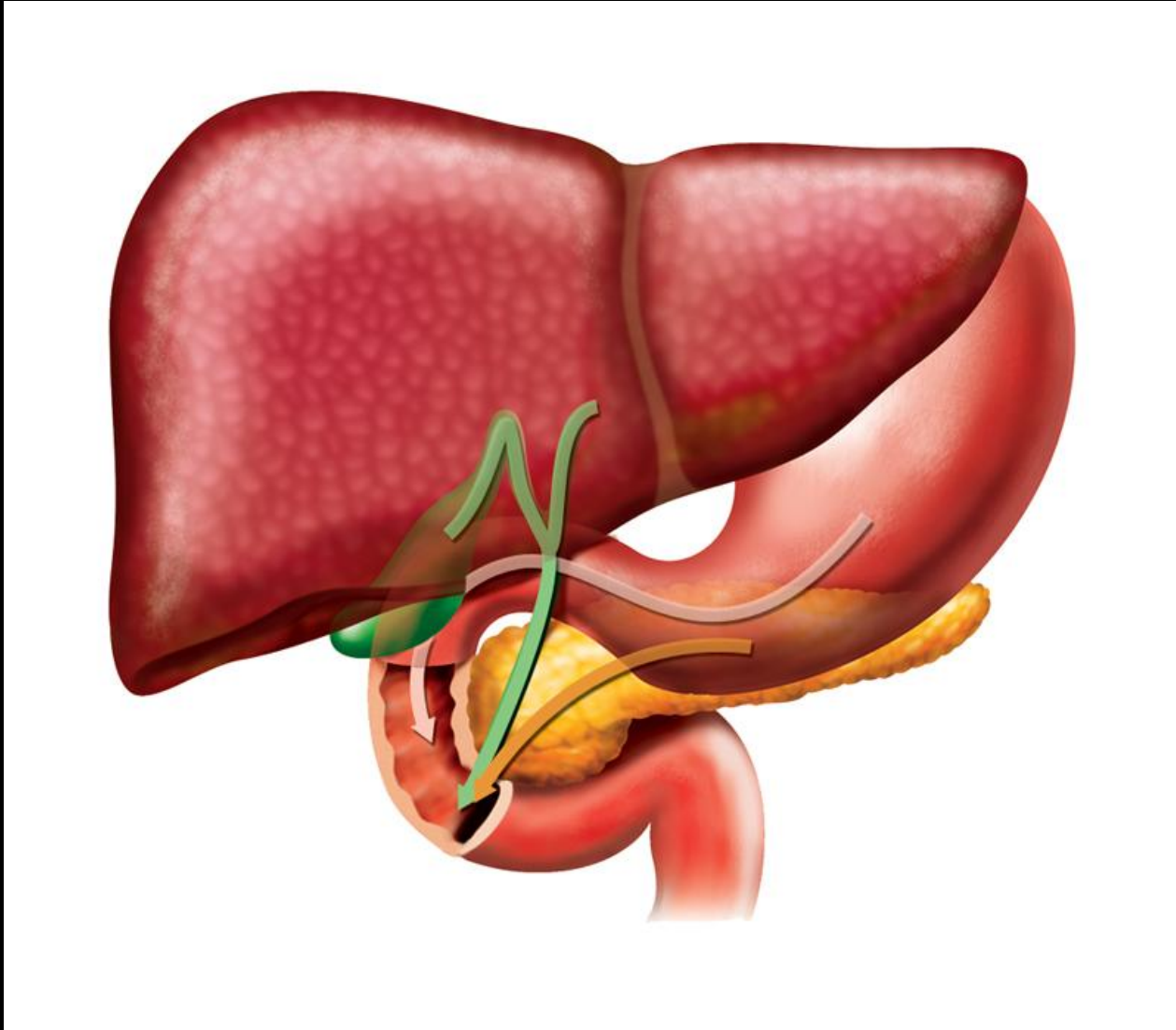
## Pancreas

- Regulates blood glucose (sugars)
- Secretes fat-digesting enzymes into small intestine



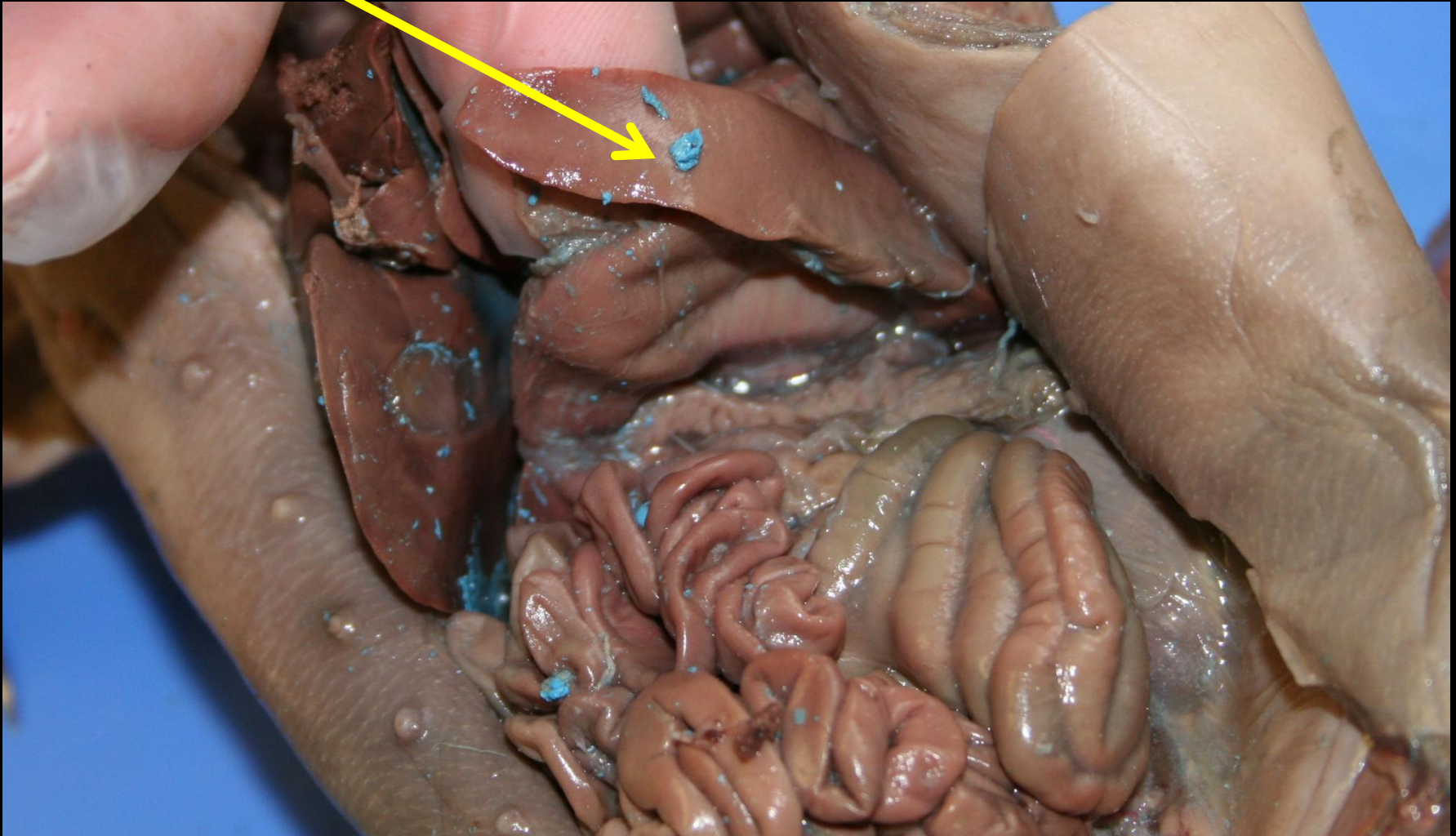


The liver, gall bladder & pancreas work together.



# Spleen

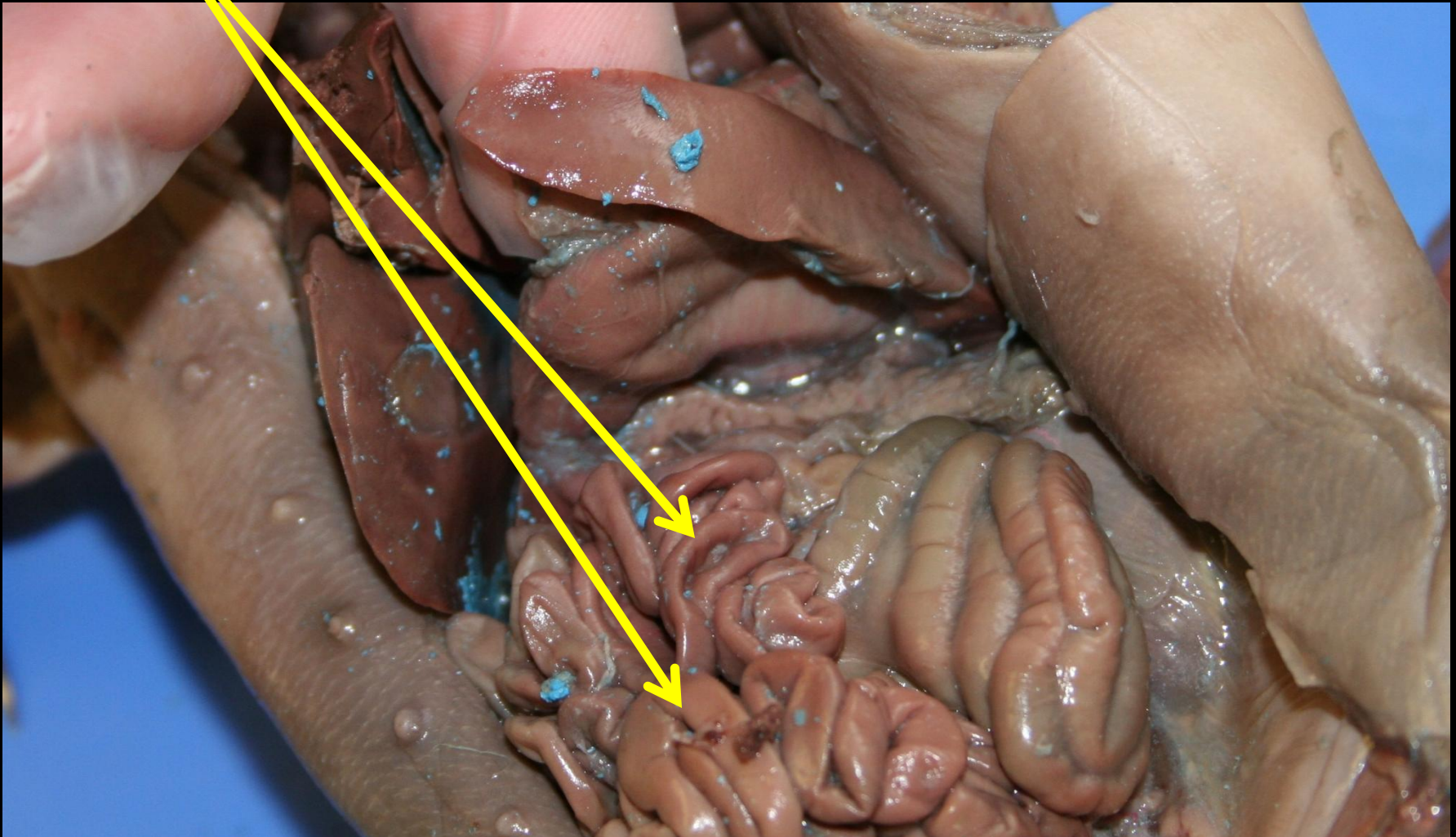
- Maintains healthy blood volume





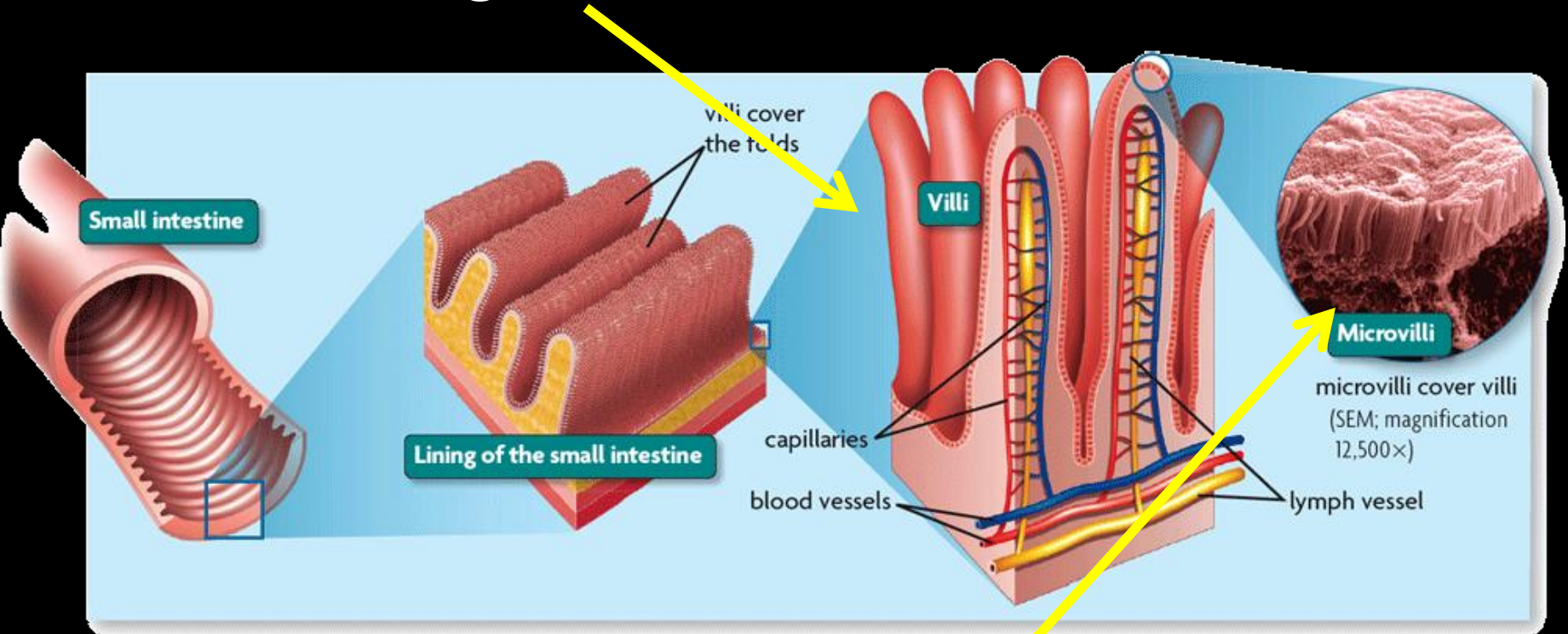
## Small Intestine

- Digestion is completed here
- Nutrients are absorbed into blood



# Small intestine:

- **Villi** = “fingers”

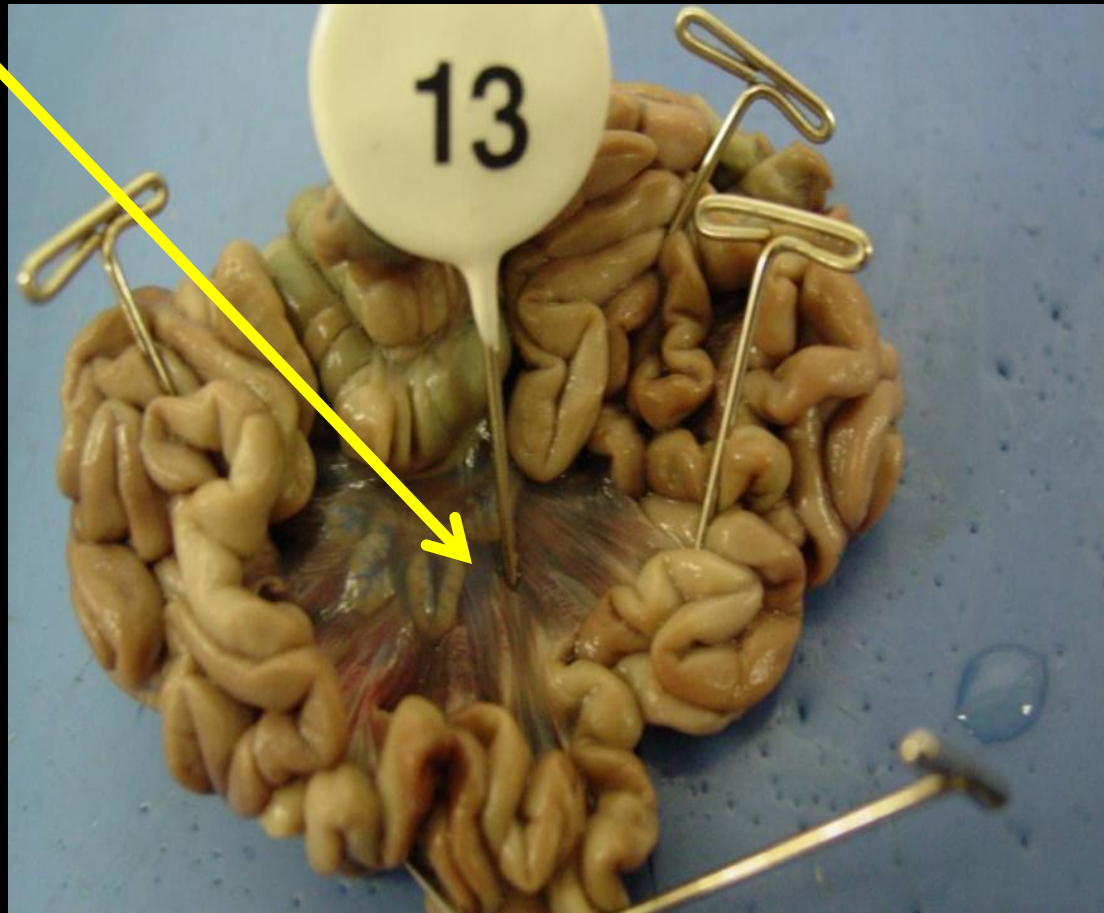


- **Microvilli** = tiny “bristles”
- Total surface area = **tennis court surface**

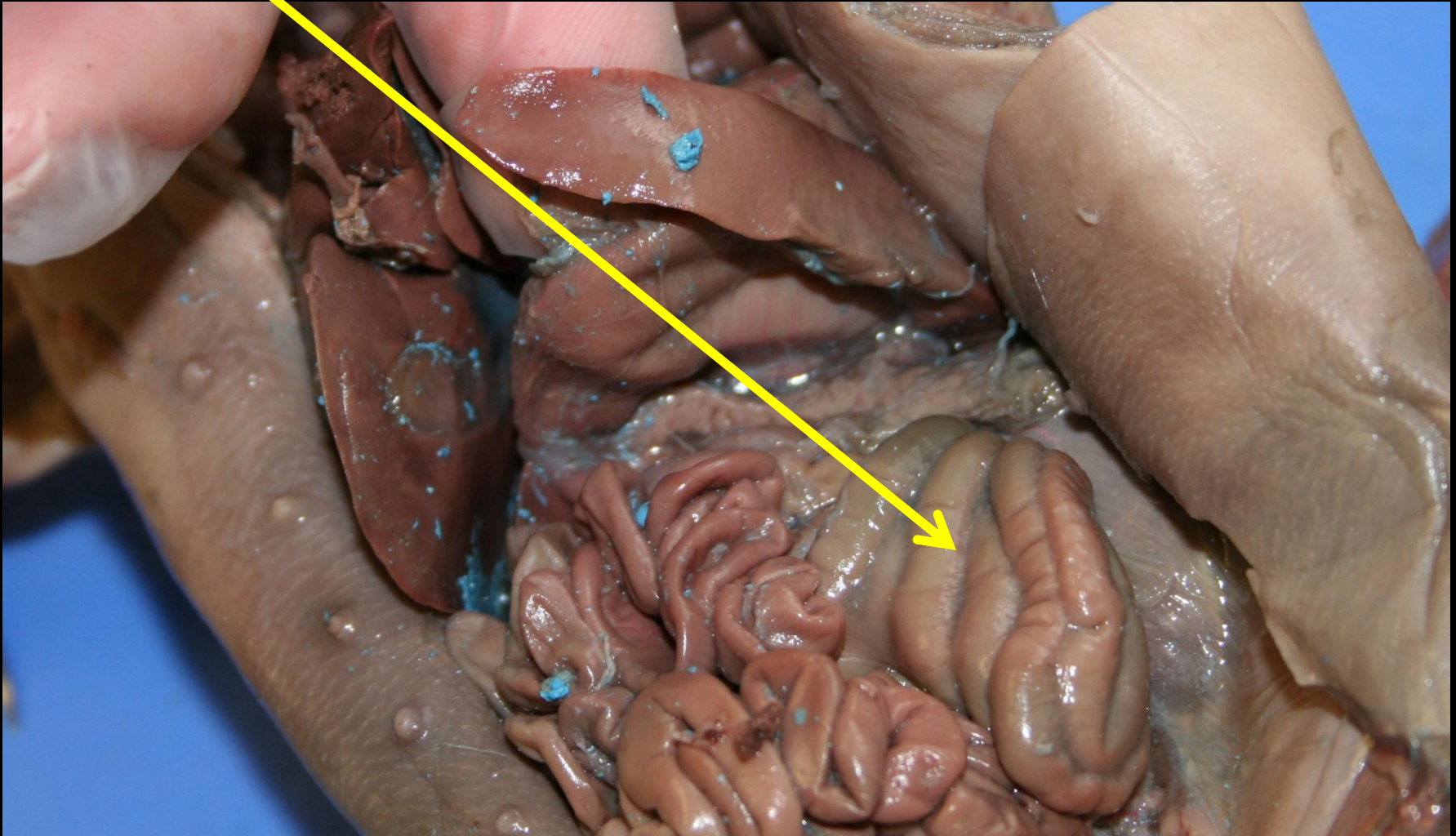


## Mesentery

- “shrink wrap” membrane that holds small intestine in place

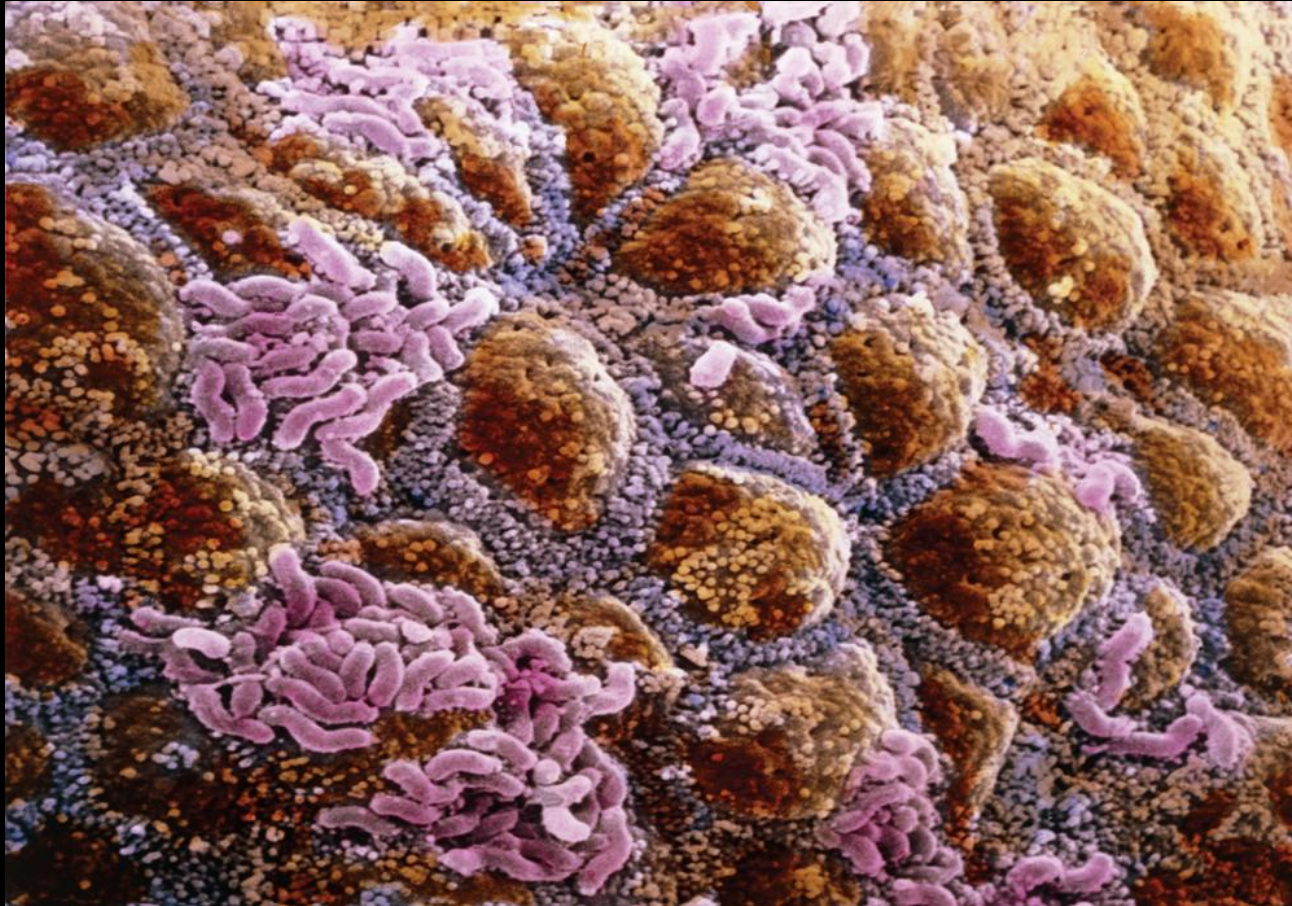


**Large Intestine** • Reabsorbs H<sub>2</sub>O from feces into blood



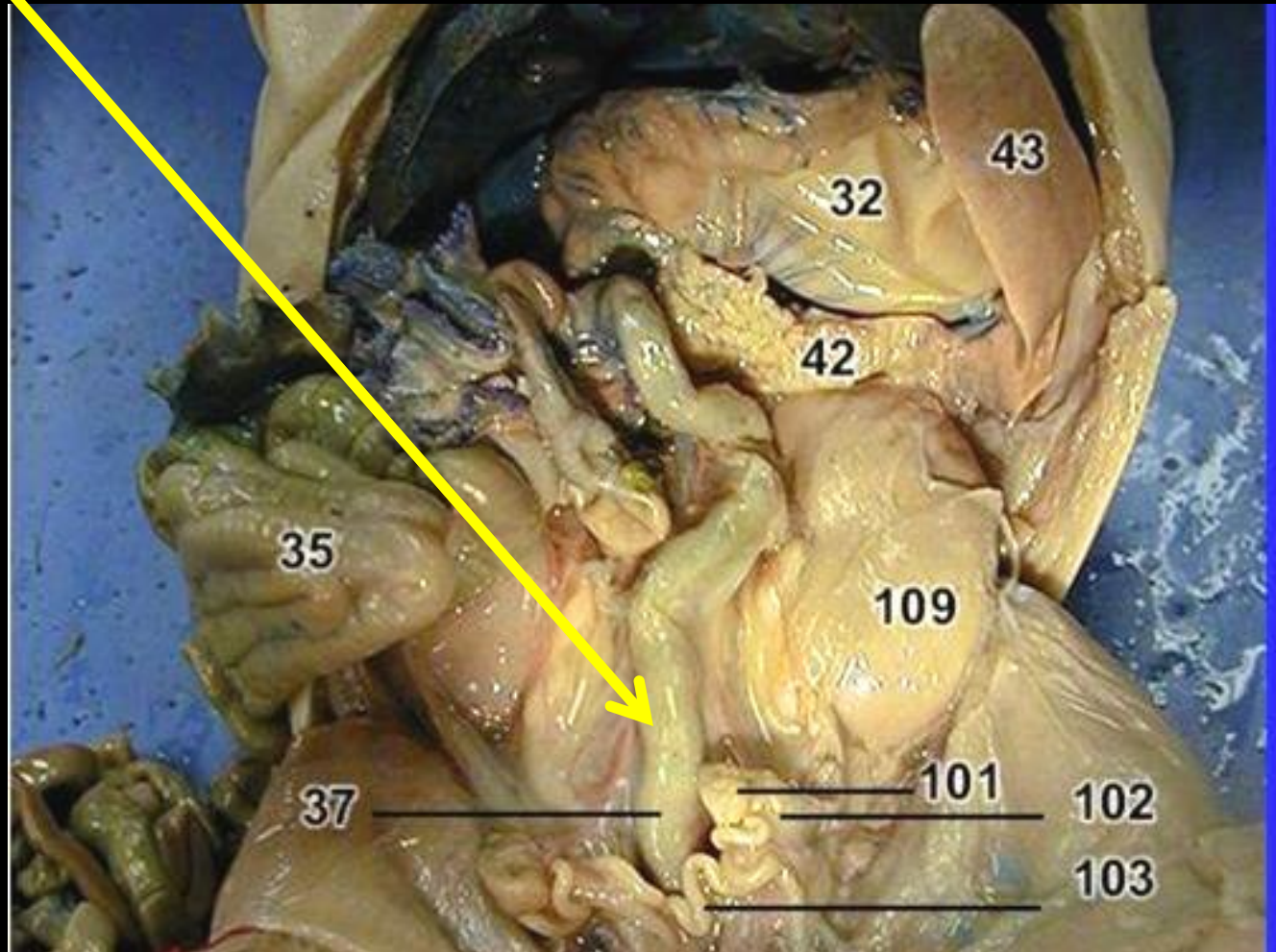


- The large intestine contains many **bacteria**.
  - some synthesize important **vitamins**



## Rectum

- Stores feces (solid waste) before it is excreted from the body



## Anus

- Opening for feces just under tail



LAB

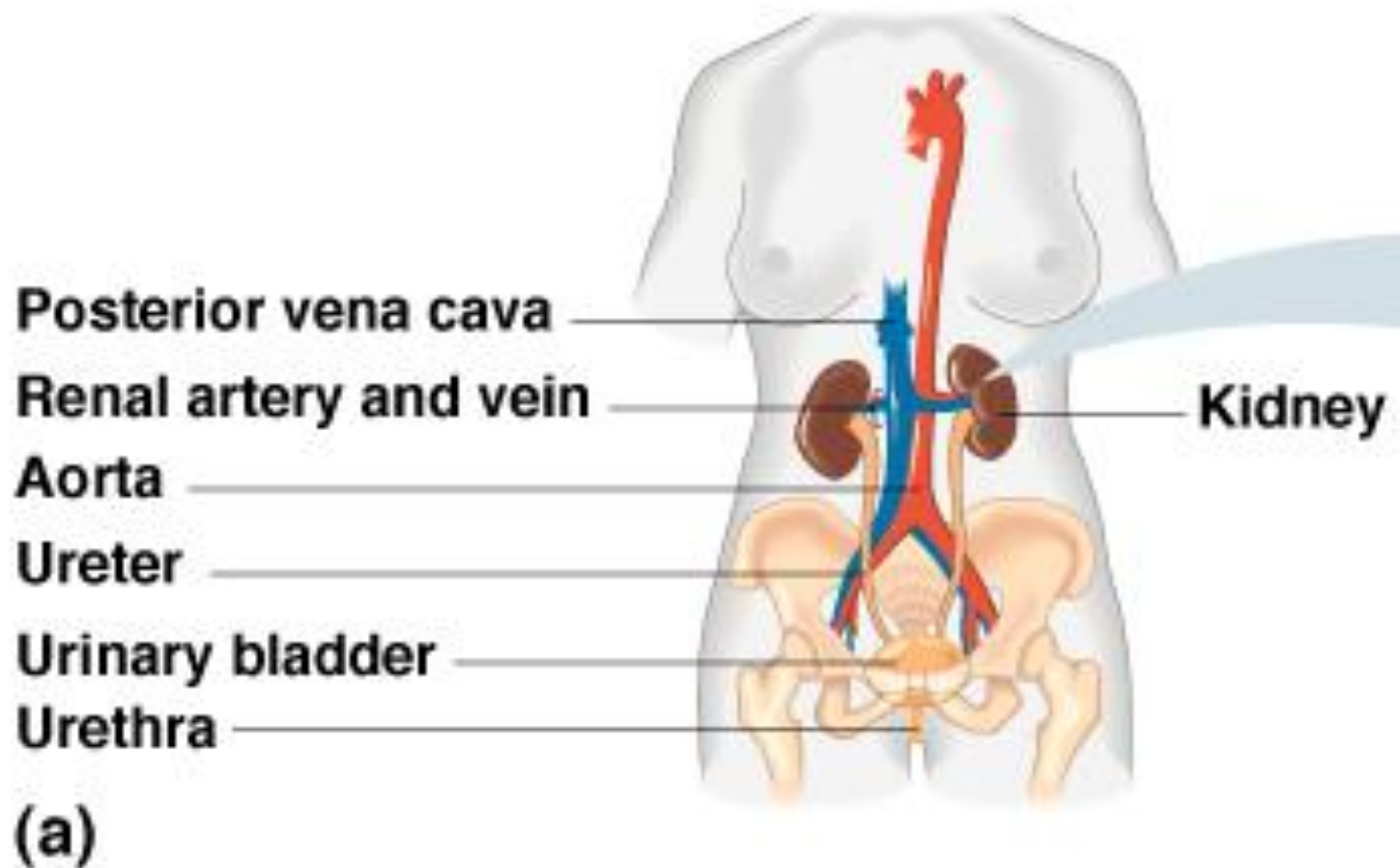
Day 5

Sure, our child is a bit odd,  
but you just can't beat  
the strawberry milk.



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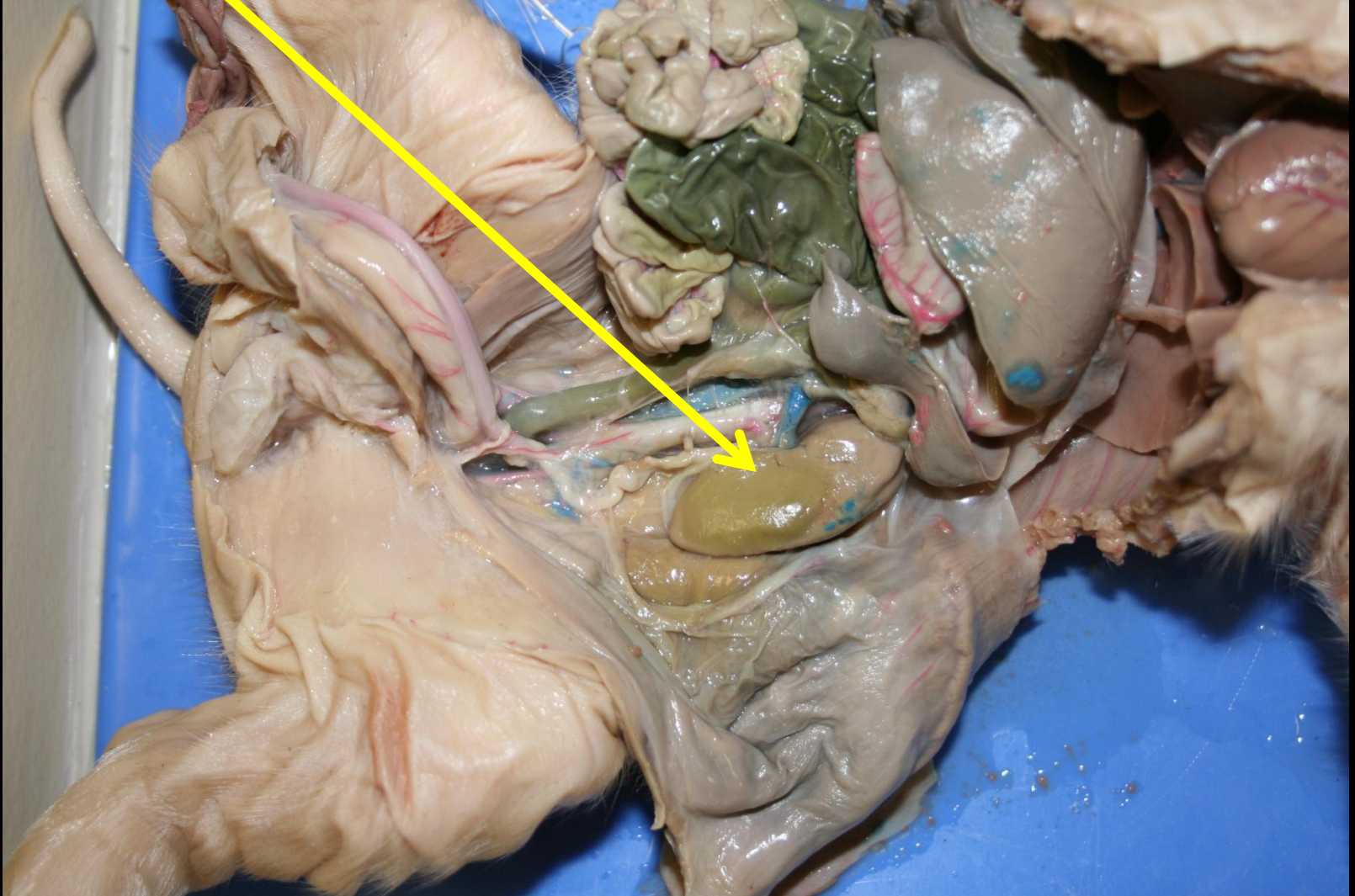
# In the human...





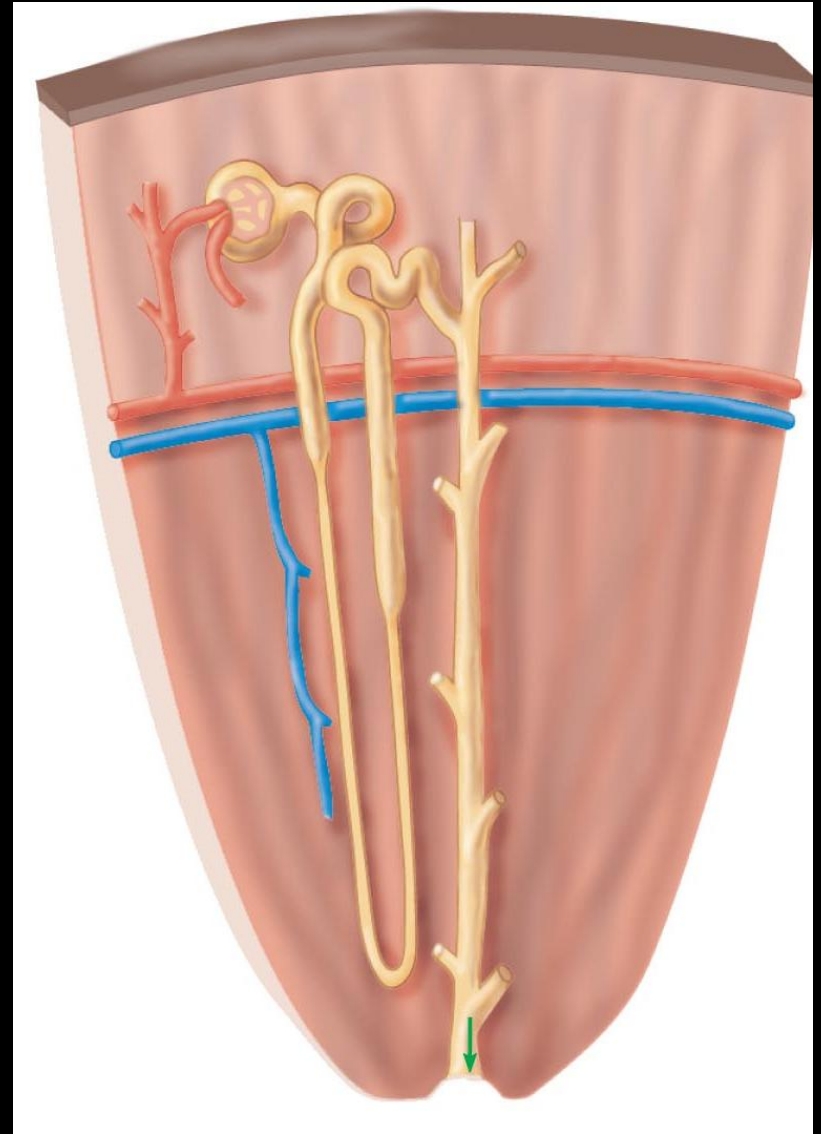
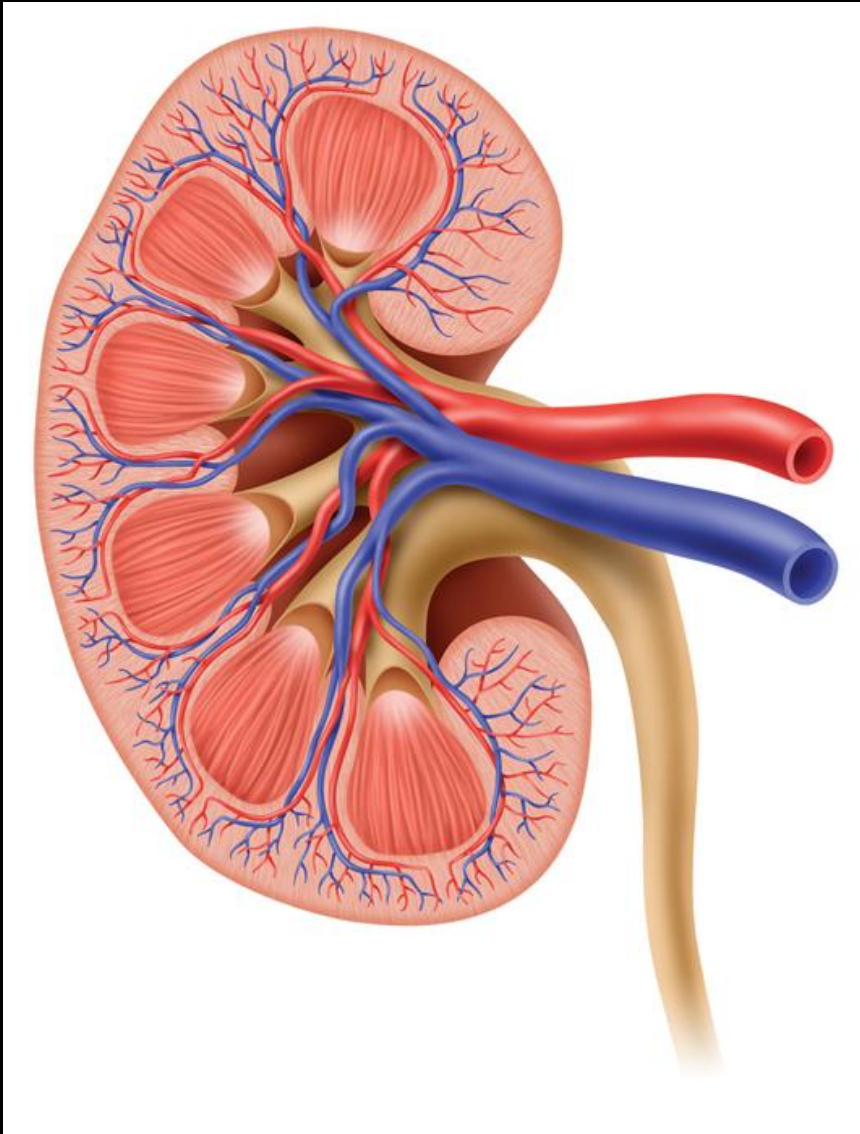
# Kidney

- Filters urine from blood

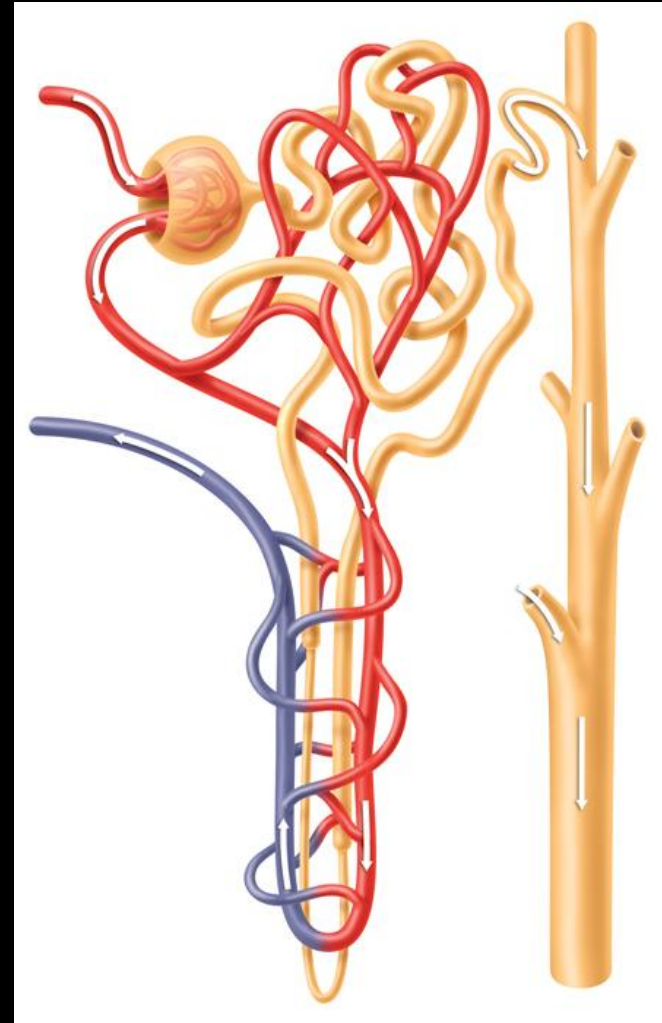
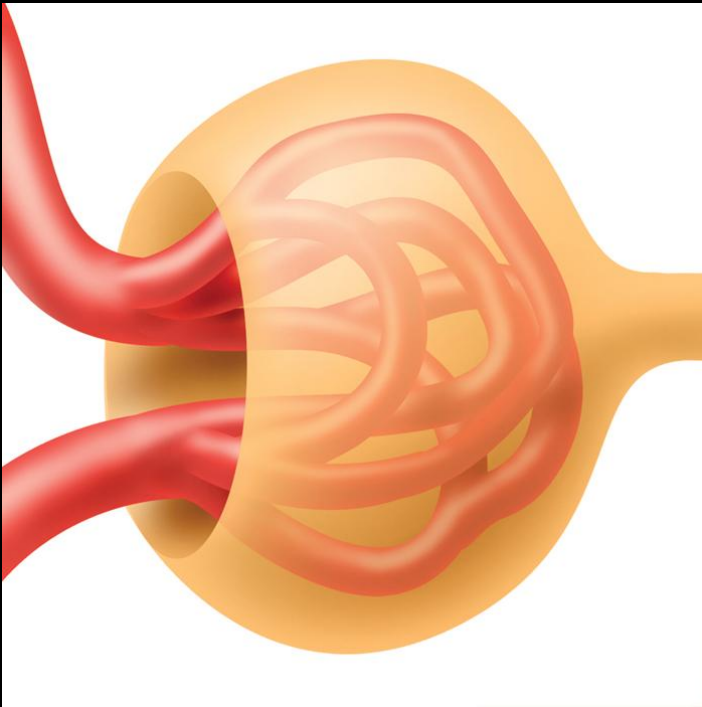


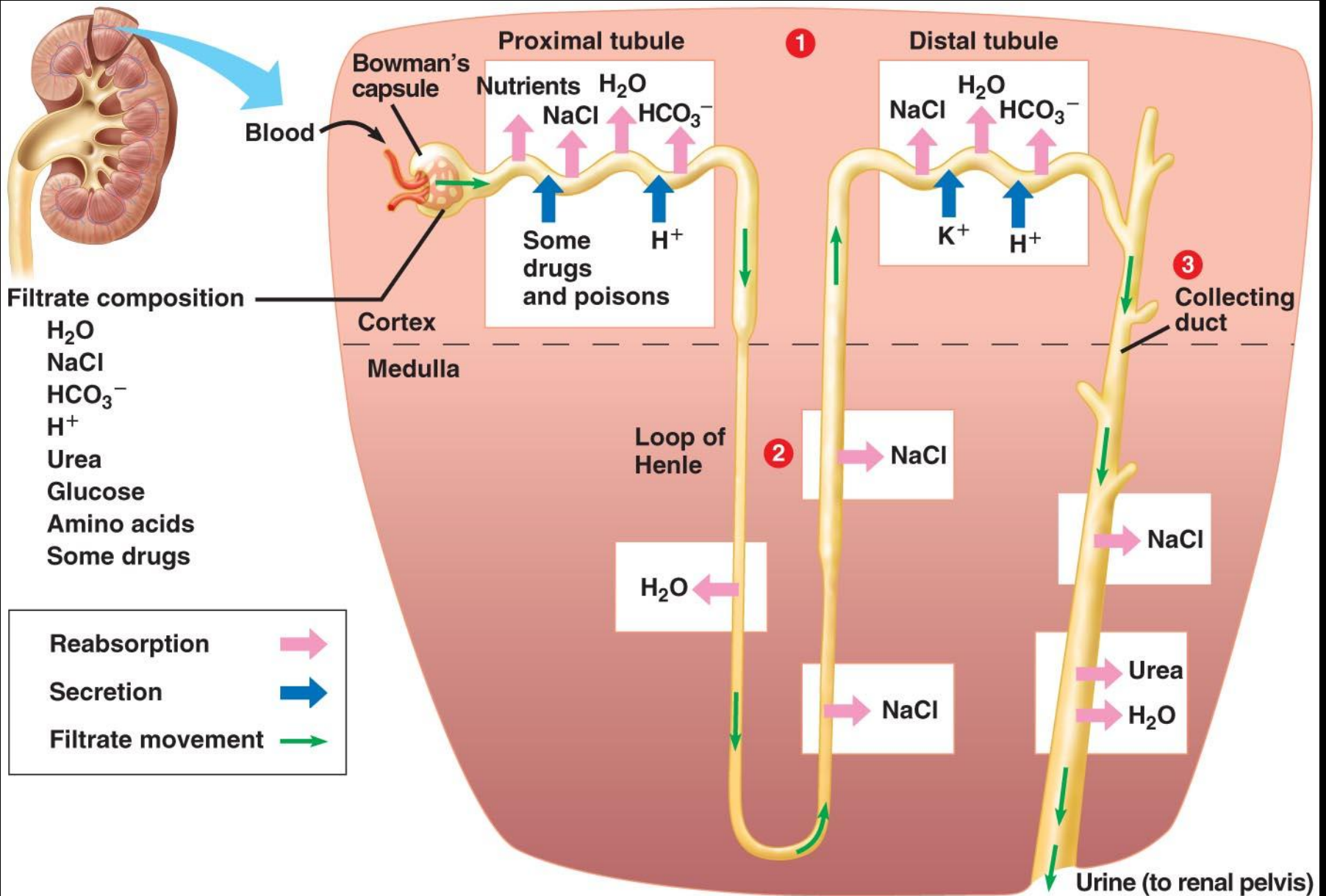


The kidneys is filled with thousands of **Nephrons**



- **Urine** and **Nutrients** are filtered into the **Nephron tube**
- **Urine** is funneled to the bladder
- **Nutrients** are reabsorbed into blood







- **Dialysis** can be used to filter and clean the blood for patients with **damage to both kidneys**.



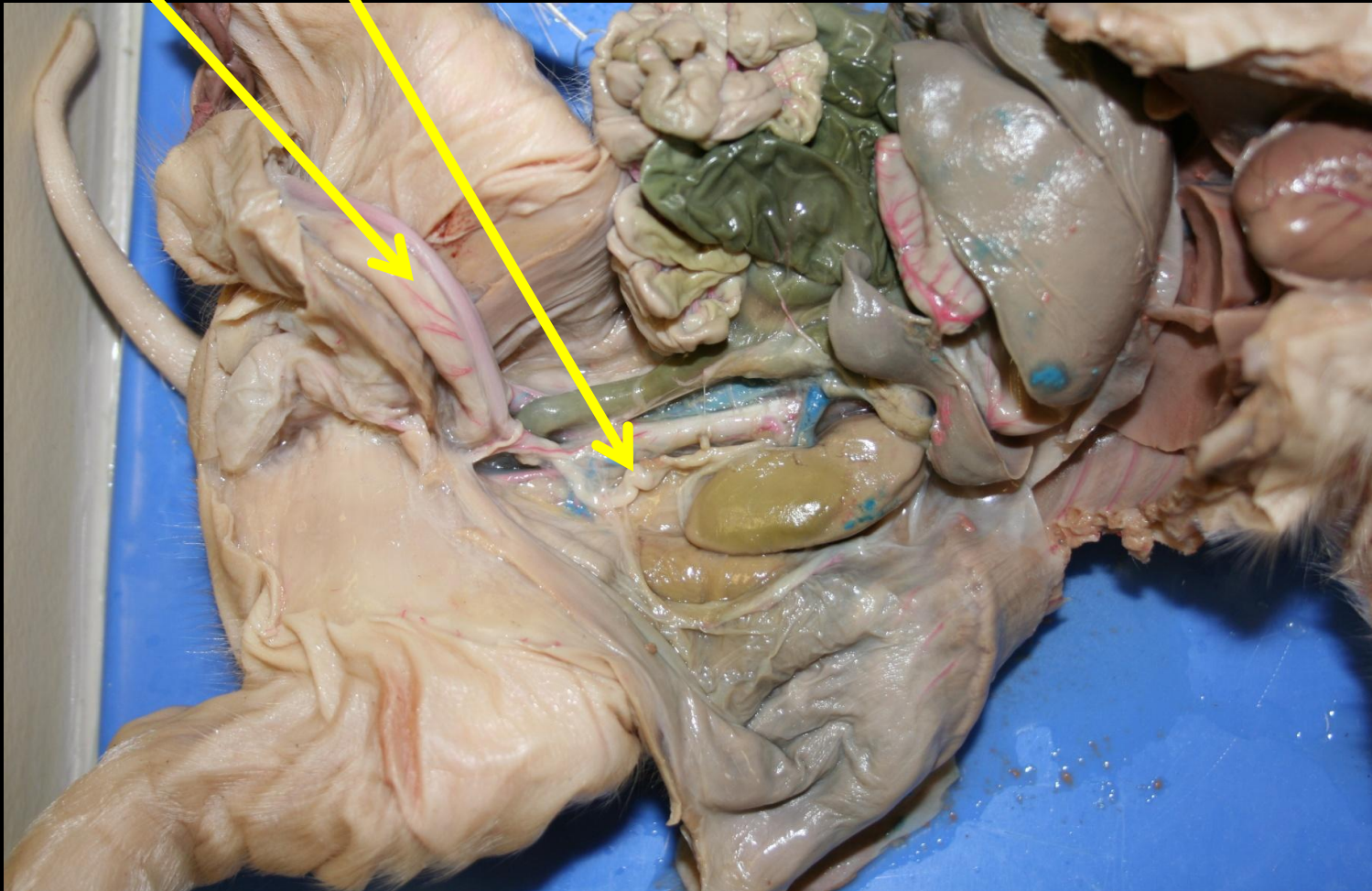


**Ureter**

- Carries urine from kidney → bladder

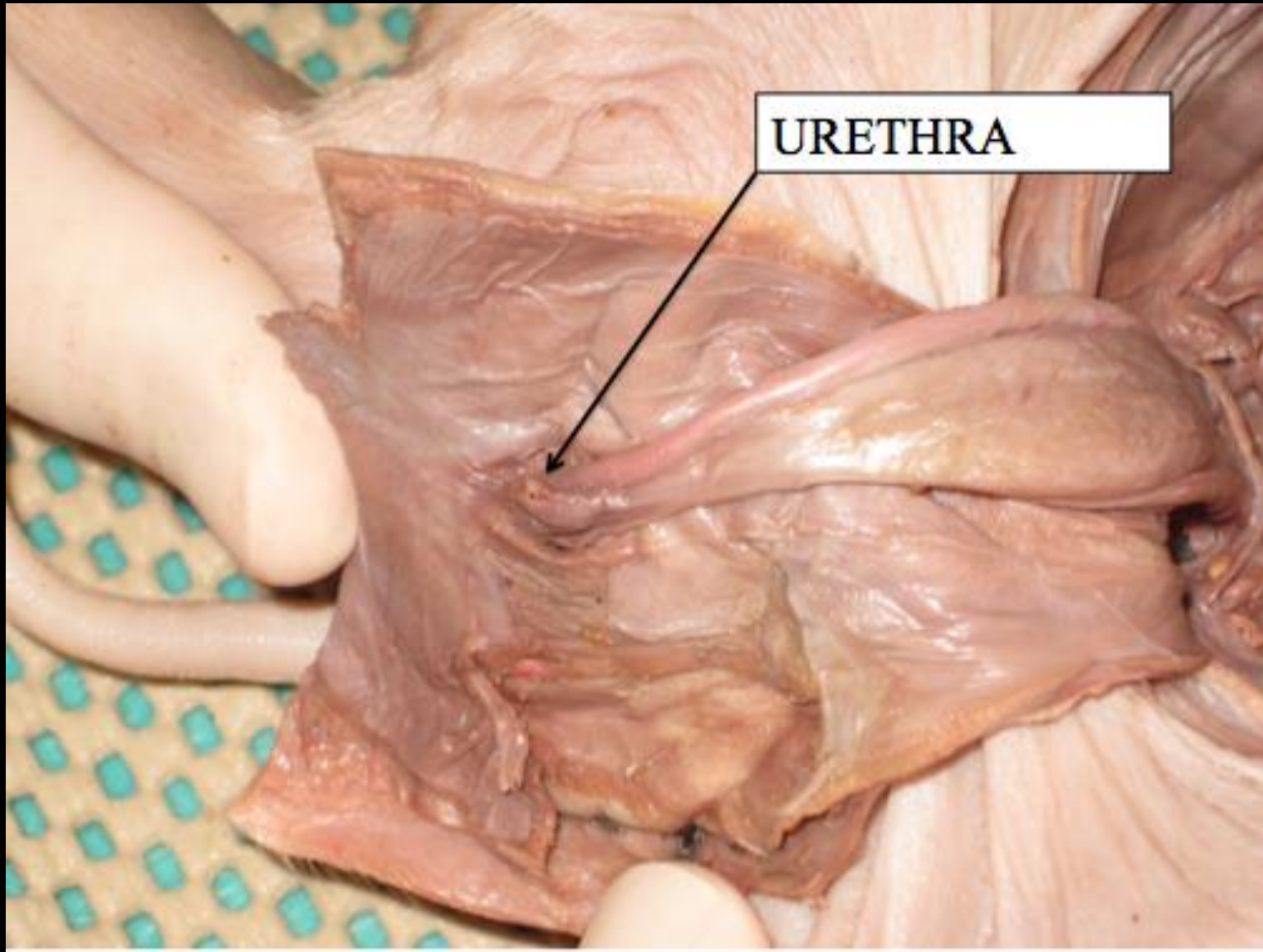
**Bladder**

- Stores urine until excreted



**Urethra**

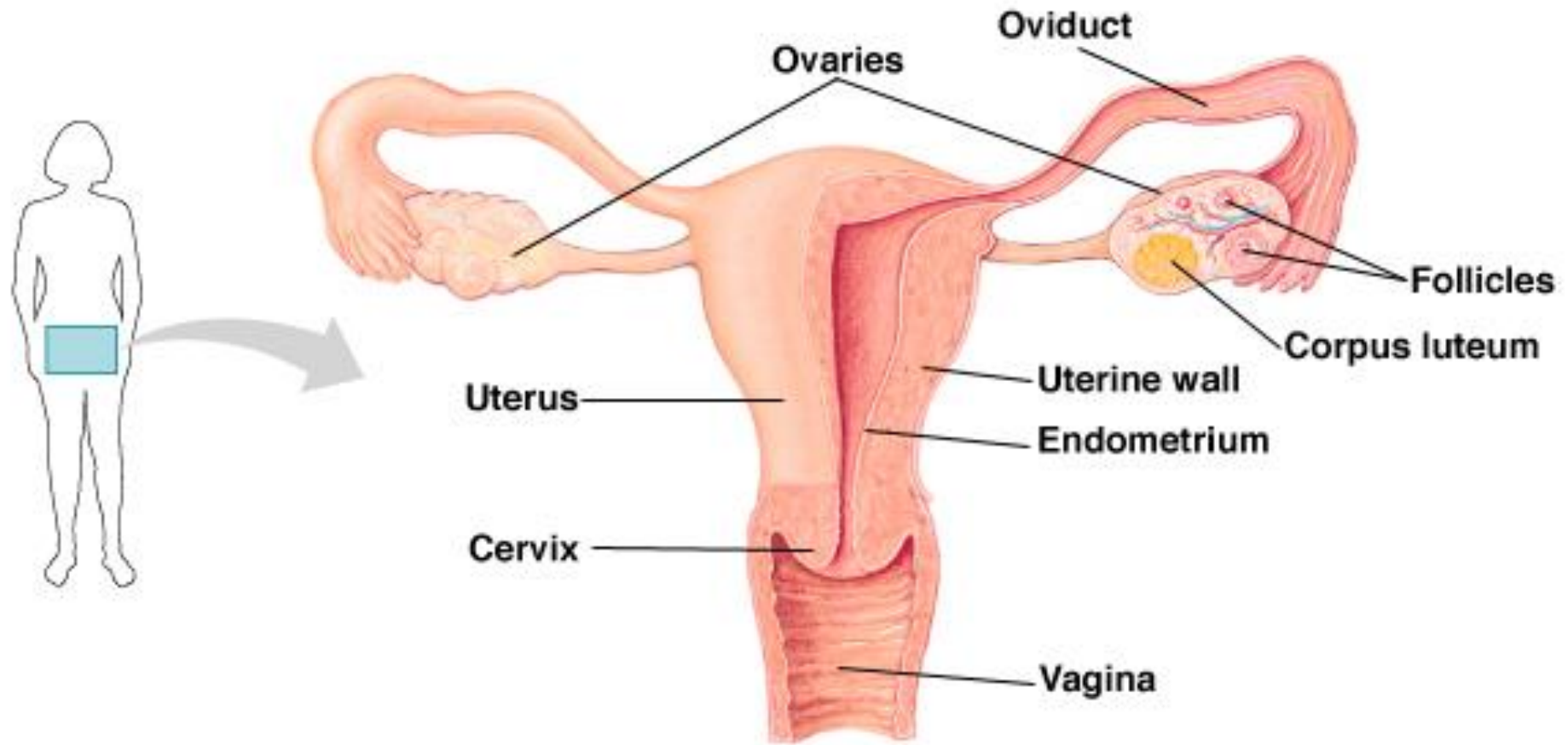
- tube where urine/sperm exit the body



**Urethra**

- tube where urine/sperm exit the body

# In Human Females...





# Reproductive System

## Ovaries:

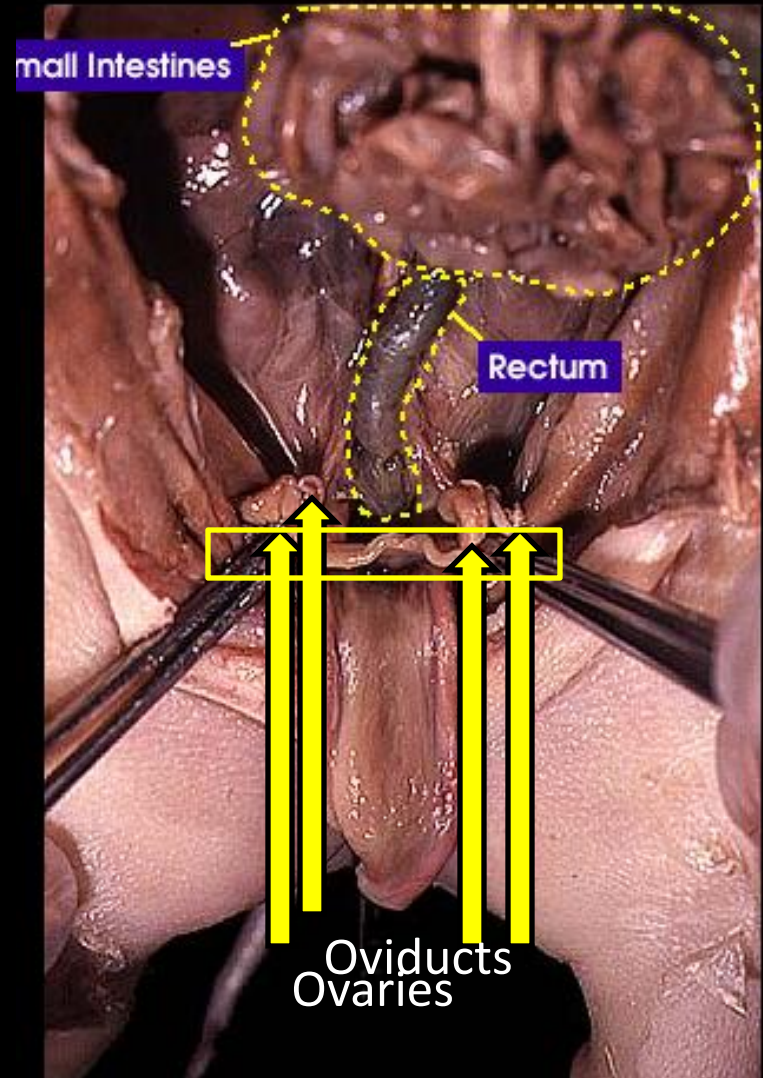
- Produce & hold eggs

## Oviducts:

- Directs eggs to the uterus
- Site of fertilization

## Uterus:

- 8 – 10 fetuses develop here.





# Reproductive System

## Ovaries:

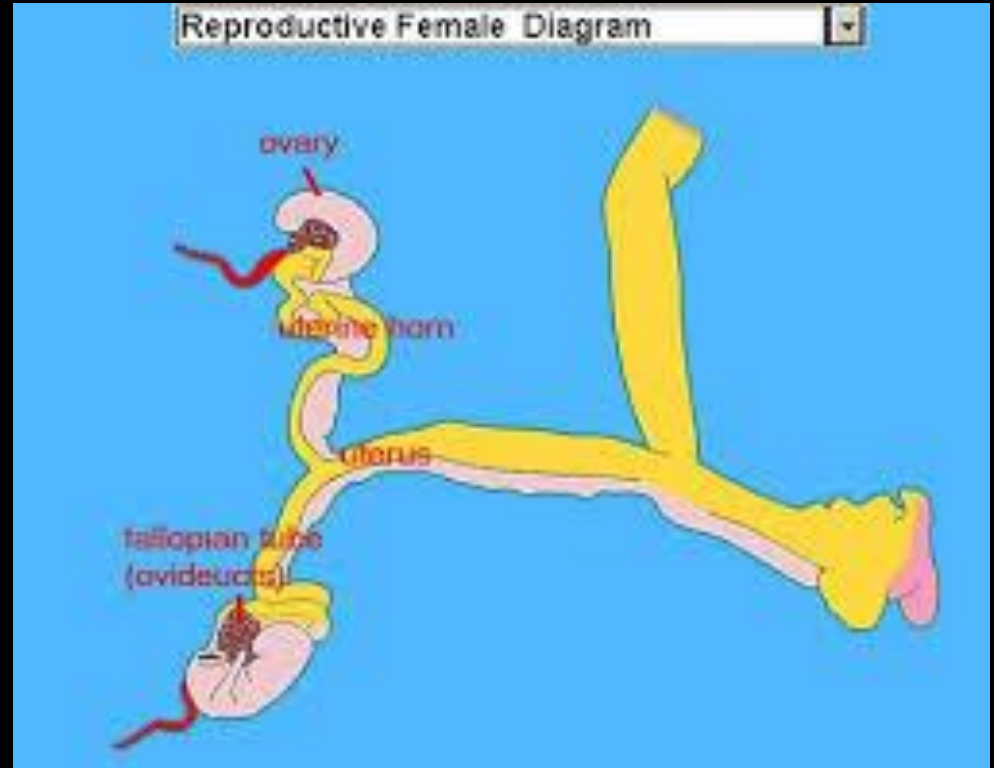
- Produce & hold eggs

## Oviducts:

- Directs eggs to the uterus
- Site of fertilization

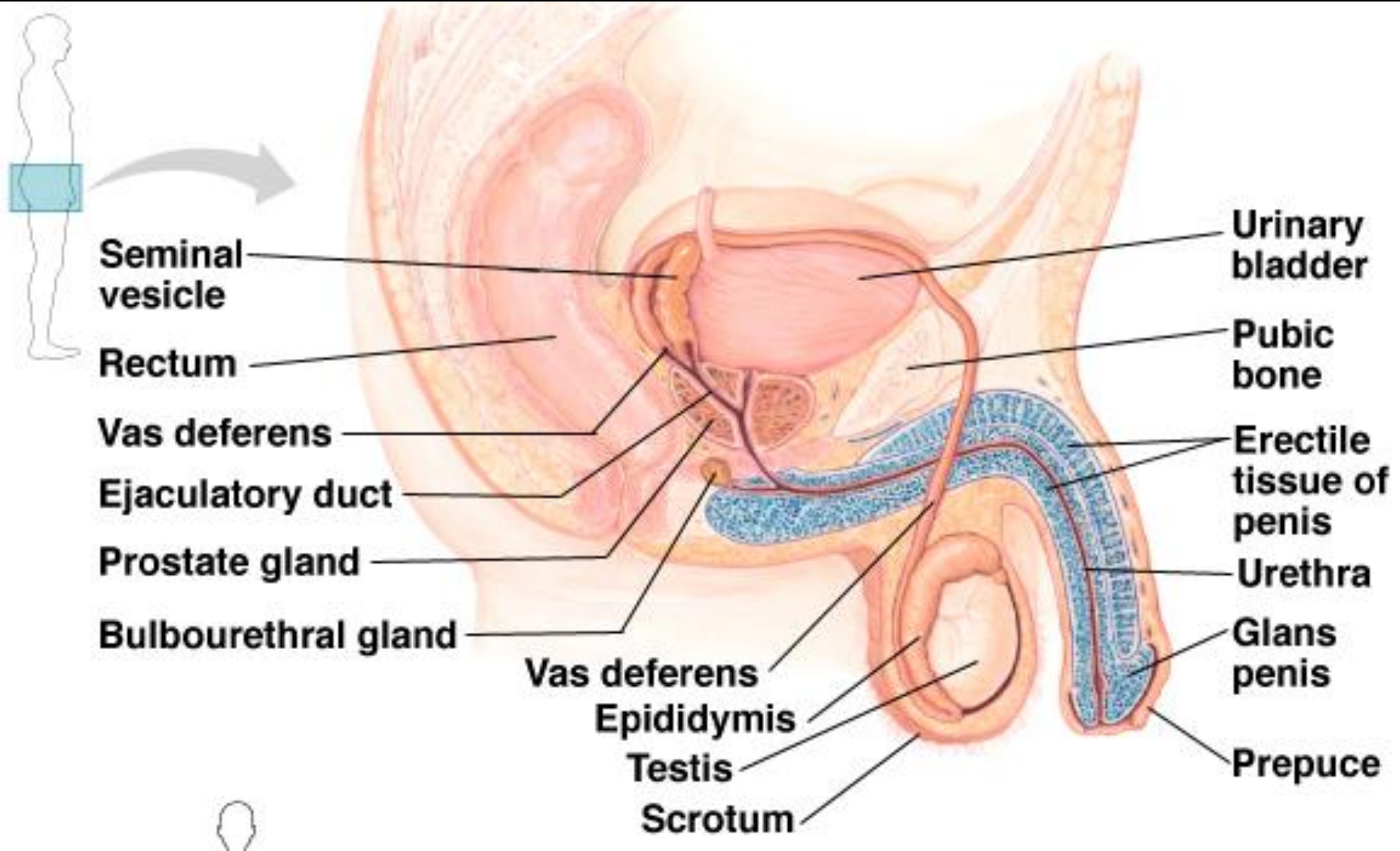
## Uterus:

- 8 – 10 fetuses develop here.





# In Human males...





# Reproductive System

Penis

## Scrotum

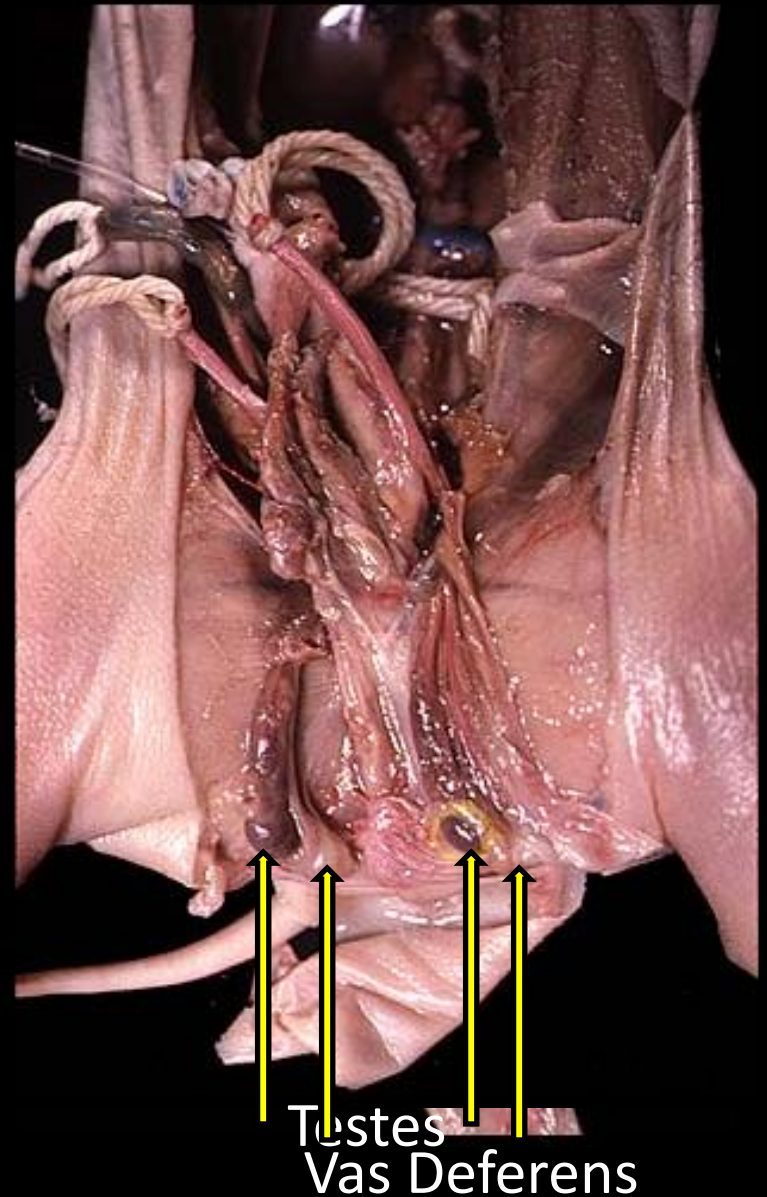
- Sac that holds testes

## Testes:

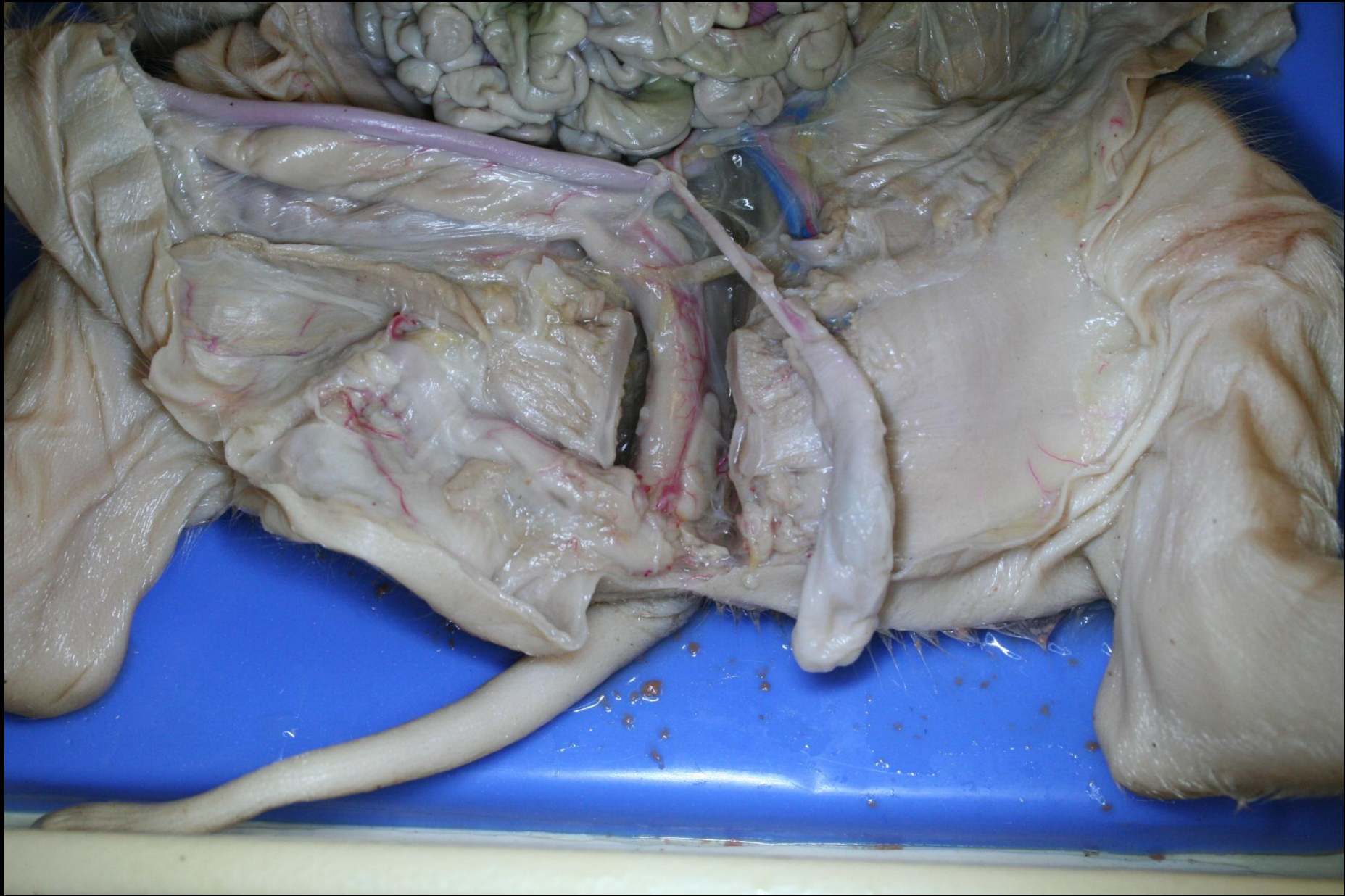
- Produce sperm.

## Vas Deferens:

- Carry sperm from testes → urethra



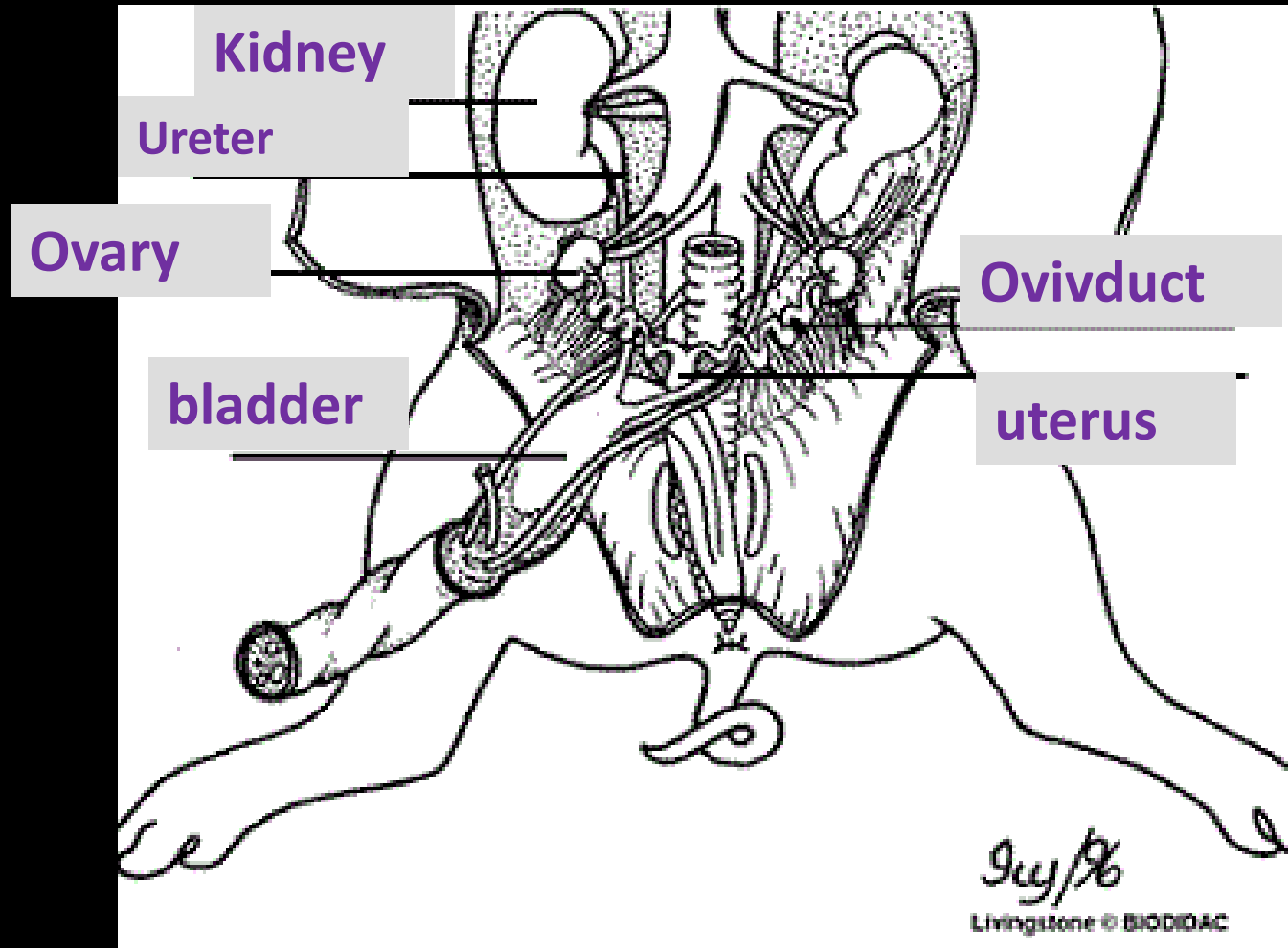




# Let's Review Urogenital Anatomy

Male or Female?

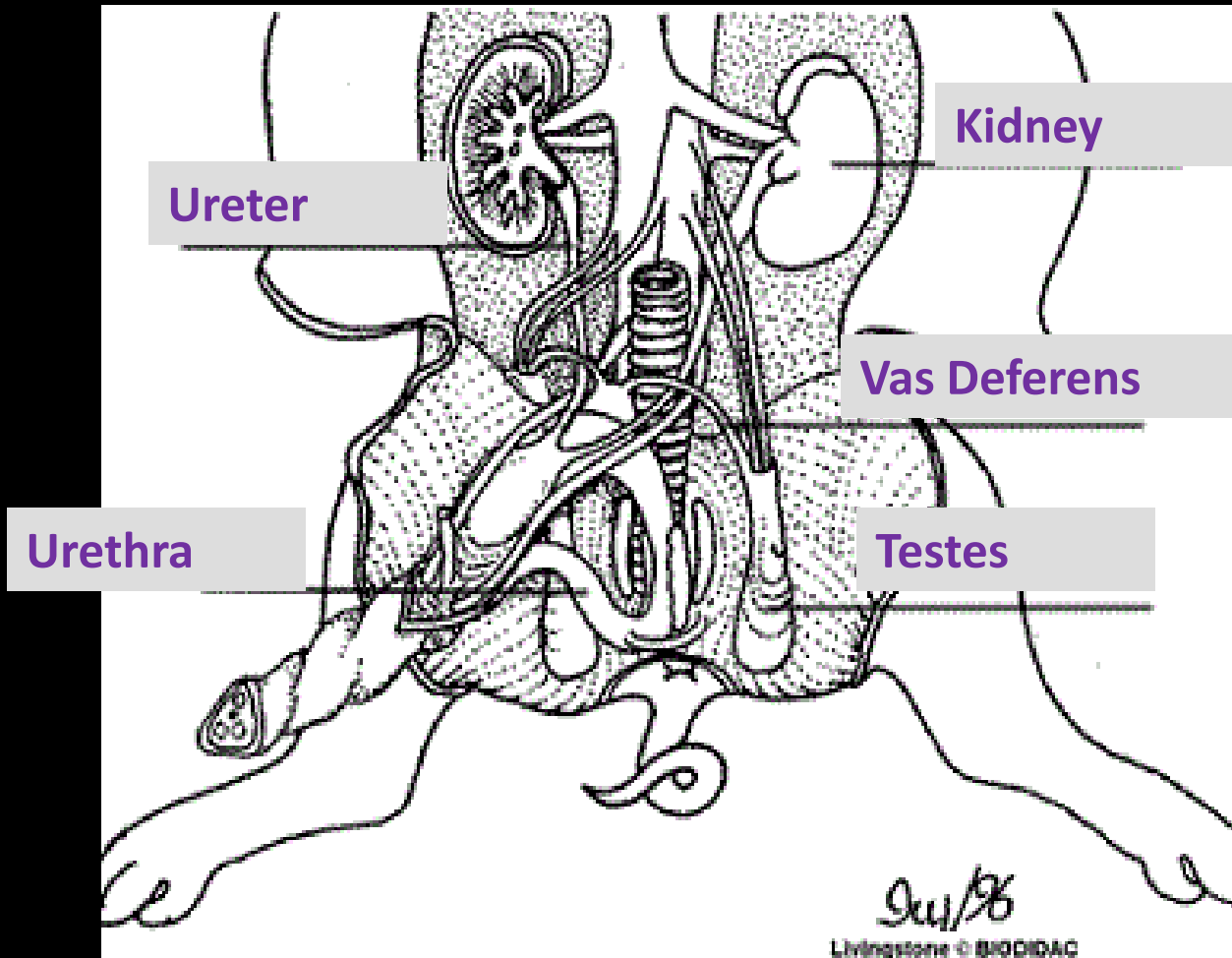
Female Urogenital Terms: Uterus, Ureter, Ovary, Bladder, Kidney, Oviduct/Uterus Horns



# Let's Review Urogenital Anatomy

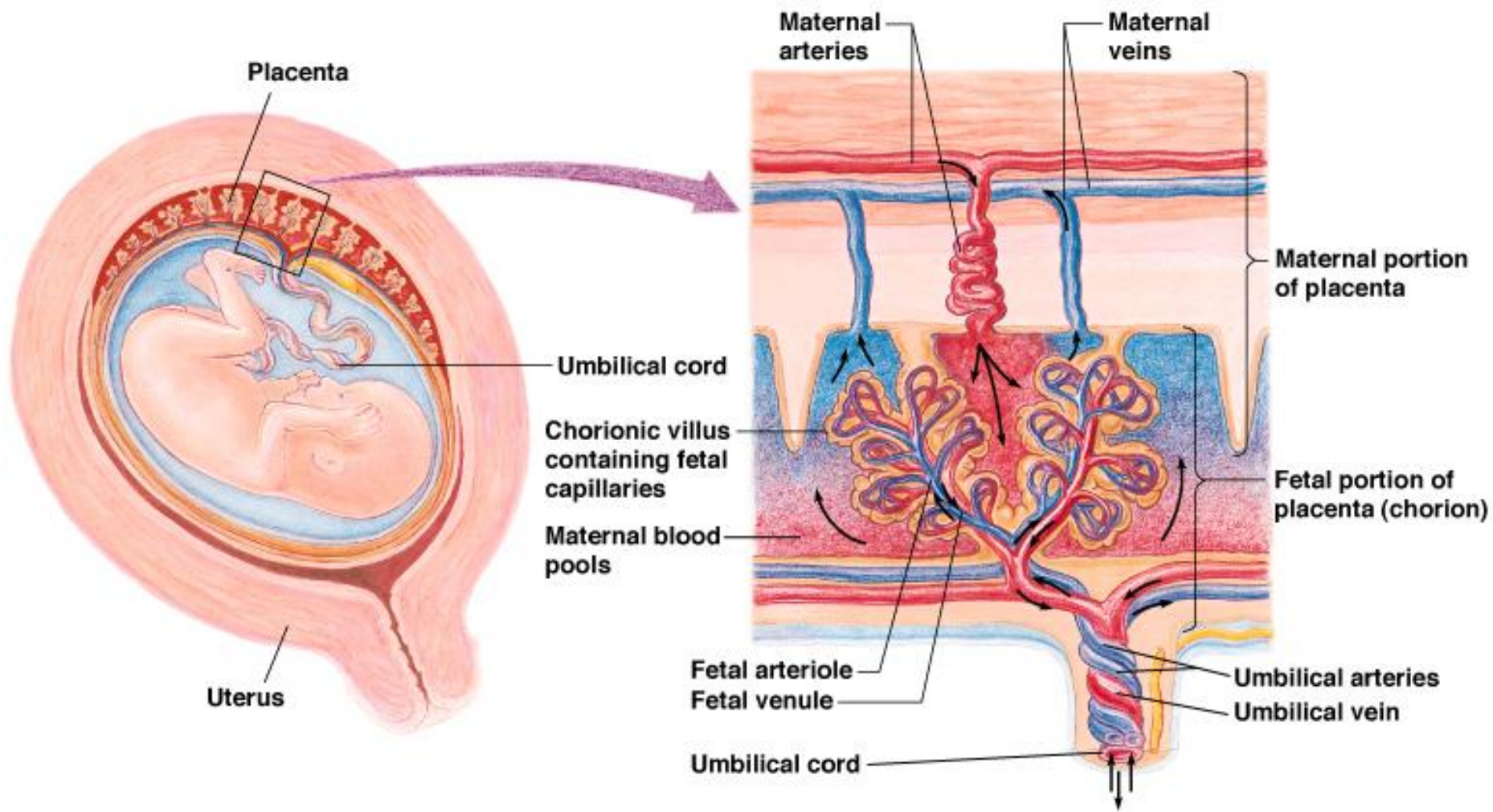
Male or Female?

Male Urogenital Terms: Urethra, Ureter, Testes, Kidney, Vas Deferens

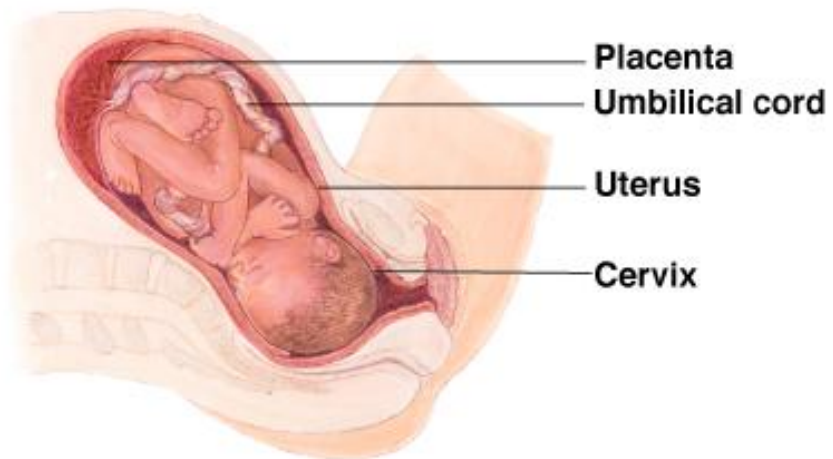




# Pregnancy in Humans...



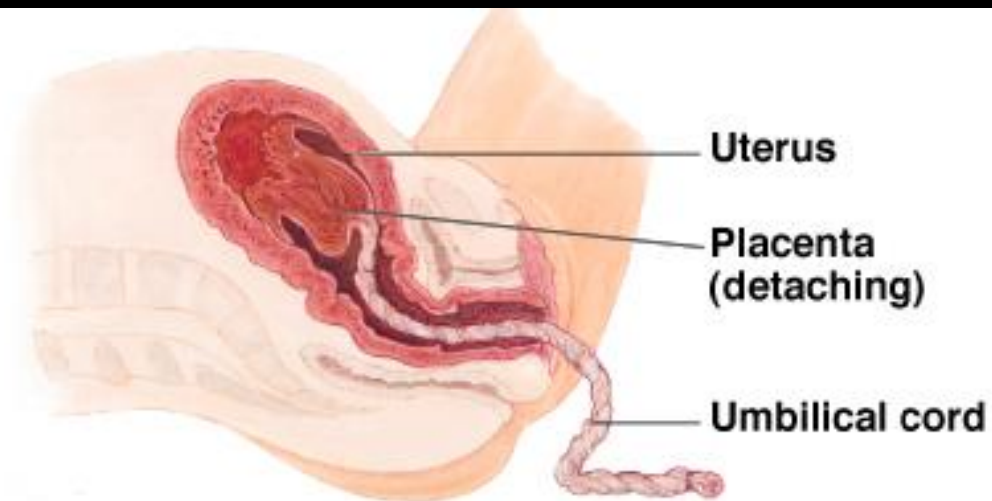




**1** Dilation of the cervix



**2** Expulsion: delivery of the infant



**3** Delivery of the placenta



# Nervous System

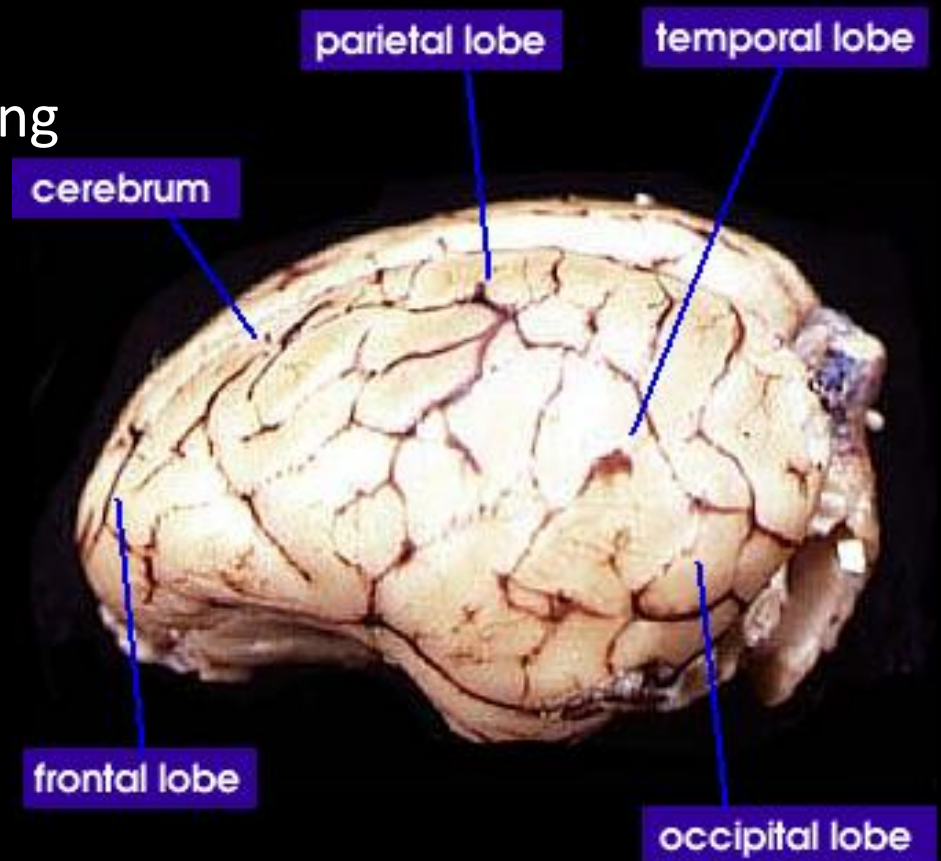
- Brain
  - Cerebrospinal fluid is produced in the hollow ventricles of the brain and circulates in the layers of the meninges (membranes)
  - Blood vessels supply nutrients



# Nervous System

- Brain is divided into 4 Sections
  - Frontal: Thought, speech, motor function
  - Parietal: Sensory association
  - Occipital: Vision
  - Temporal: Smell and hearing

\*\*The major difference between a human brain and most mammal's brains is the smoothness. Humans have many more “wrinkles” to increase the surface area.



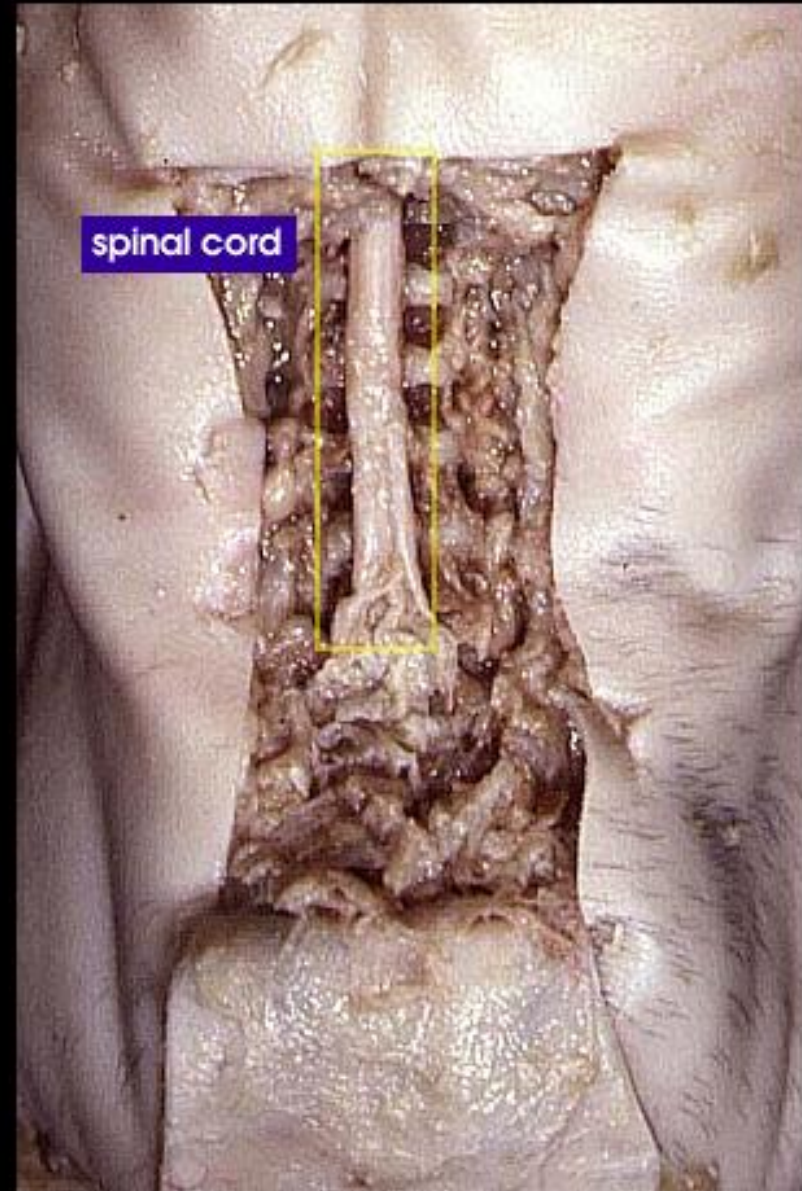


# Nervous System

Most mammals have:

- 8 cervical vertebrae
- 12 thoracic vertebrae
- 5 lumbar vertebrae
- 5 sacral vertebrae
- 1 coccygeal vertebra

Spinal cord —  
entering skull



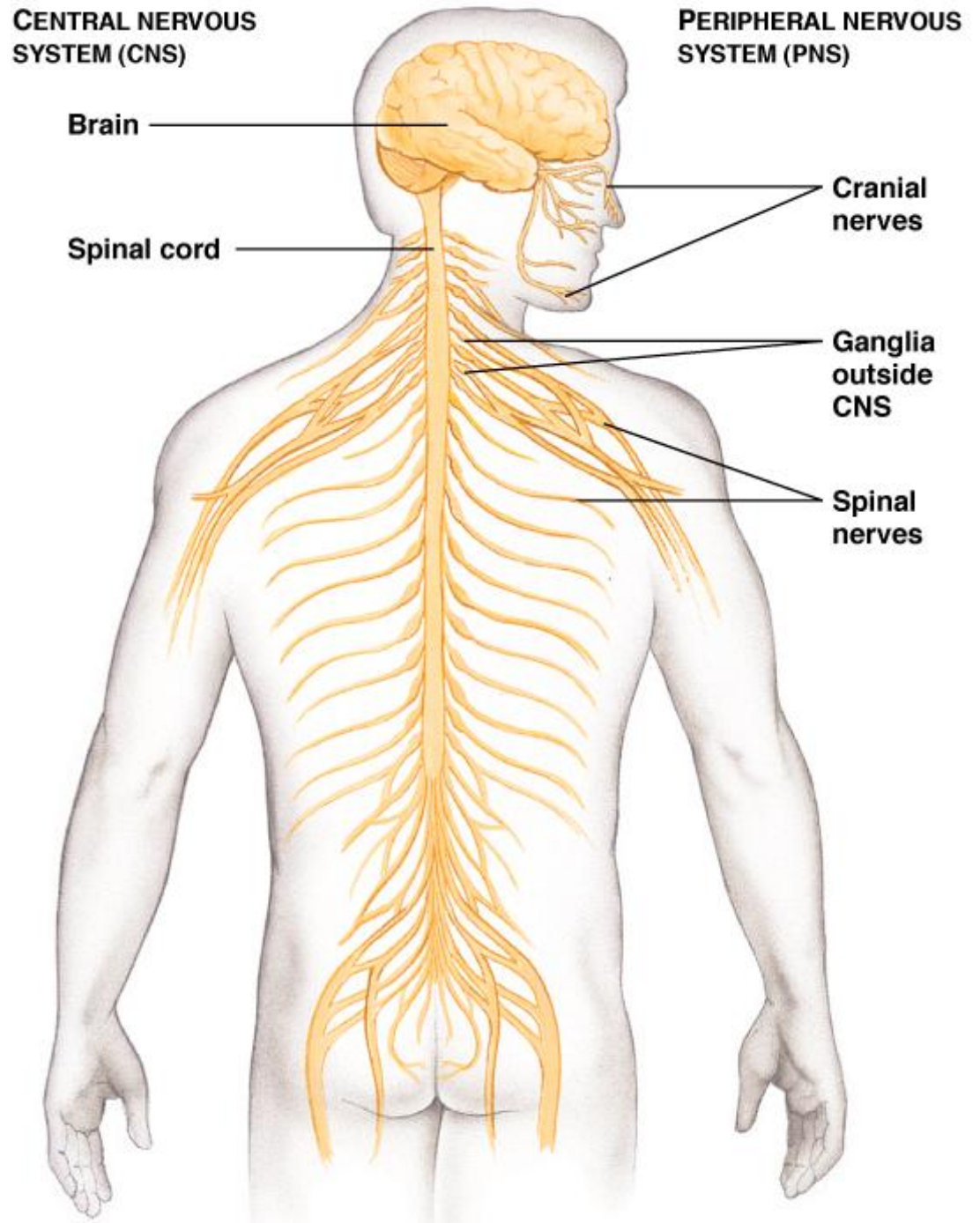
By removing the vertebrae, you can expose the spinal cord.

\*The spinal cord has bundles of nerves which radiate all over the body.

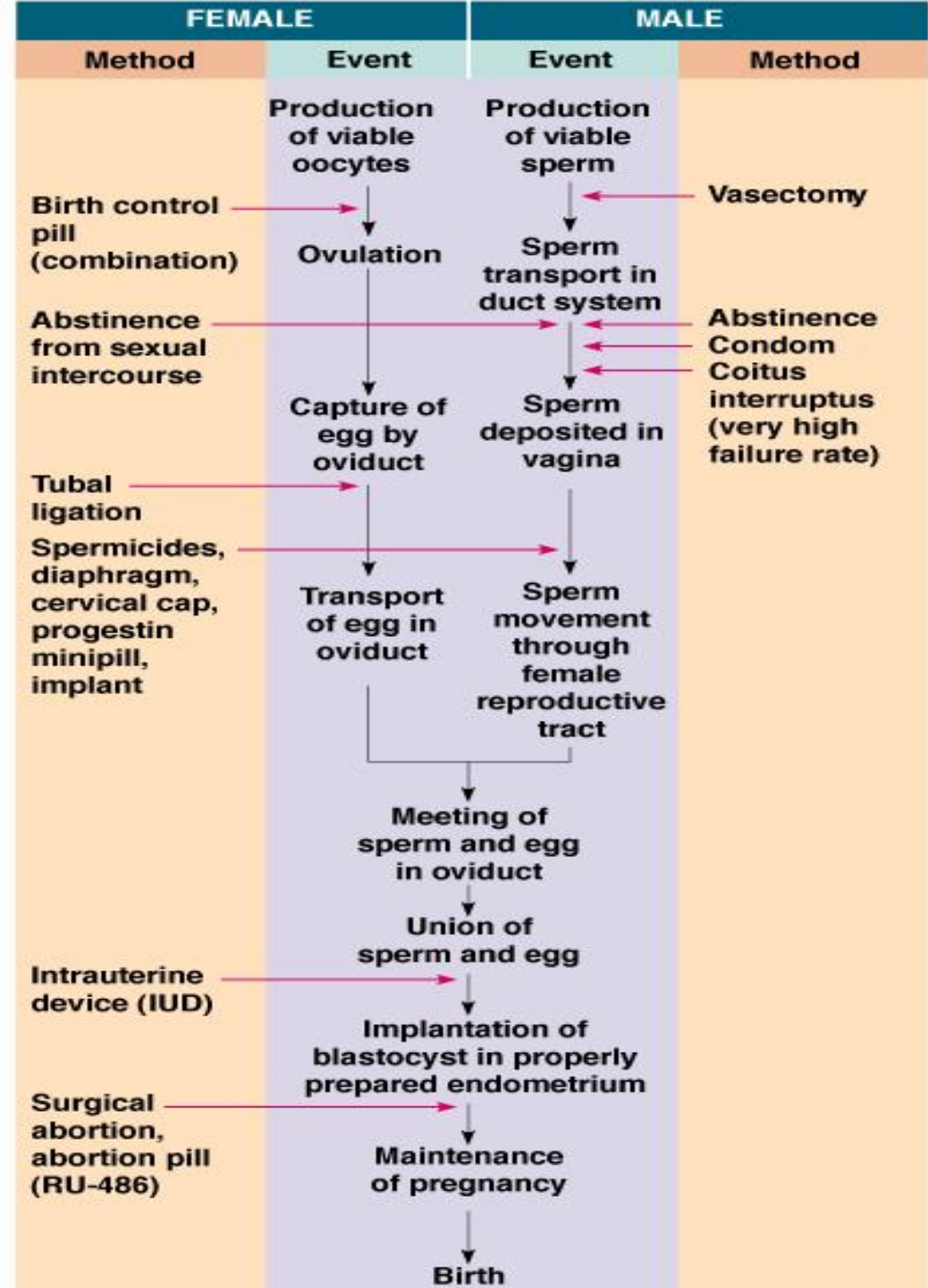
\*Information is then relayed between the body and brain.



In humans...



# Interesting Side Note...



- Digestion of carbohydrates begins in the mouth.
- Digestion of proteins occurs in the stomach.
- Digestion of fats and sugars occur in the small intestine.

