

# Carolina Biological Supply Company

## **AUTOPSY: Forensic Dissection with *Carolina's Perfect Solution*® Pigs**



**CAROLINA**  
Forensic Science



**CAROLINA**  
[www.carolina.com](http://www.carolina.com)

# Carolina™ Forensic Dissection Kit



**Classroom Kit**  
**Catalog no. 221489**

**Student Kit**  
**Catalog no. 221488**

## **Classroom Kit includes:**

- **8 Carolina's Perfect Solution® Pigs**
- **Carolina's Perfect Solution® Pig Heart**
- **Carolina's Perfect Solution® Pig Kidney**
- **7 Prepared Microscope Slides**
- **40 Large Weigh Boats**
- **8 Absorbent Pads**
- **8 Suture Needles**
- **8 Sponges**
- **8 Hand Lenses**
- **Nylon Line**

# Why Are We Doing a Pig AUTOPSY?



- **Similar to human anatomy**
- **Organ systems are completely removed and studied**
- **New and unique dissection protocol**

# Objectives



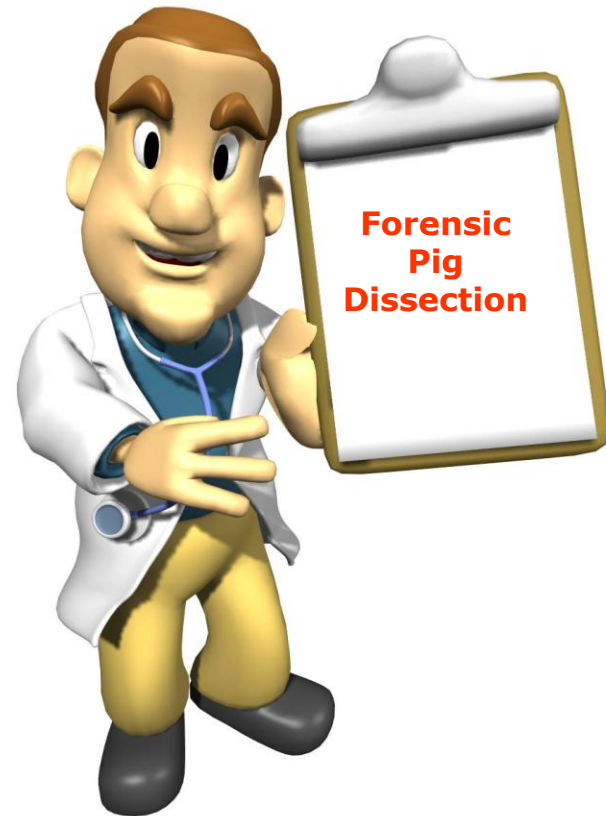
- Conduct a fetal pig dissection using the protocol for a human autopsy
- Experience the quality of *Carolina's Perfect Solution*<sup>®</sup> specimens

# Safety Issues

- **Personal protective equipment**  
Gloves, goggles, and lab aprons
- **Sharps**  
Scalpels and other sharp instruments should be used sparingly; exploration is better performed with blunt instruments
- **Safety tip**  
If you are not using an instrument, set it down

# Modeling a “Real” Autopsy

- **Prosecutor**—The forensic pathologist conducting the autopsy
- **Diener**—The morgue assistant
- **Materials manager**—Responsible for instruments and supplies
- **Recorder**—Records all info for autopsy report



# Getting Started

Participants work in groups of 2



Prepare for dissection

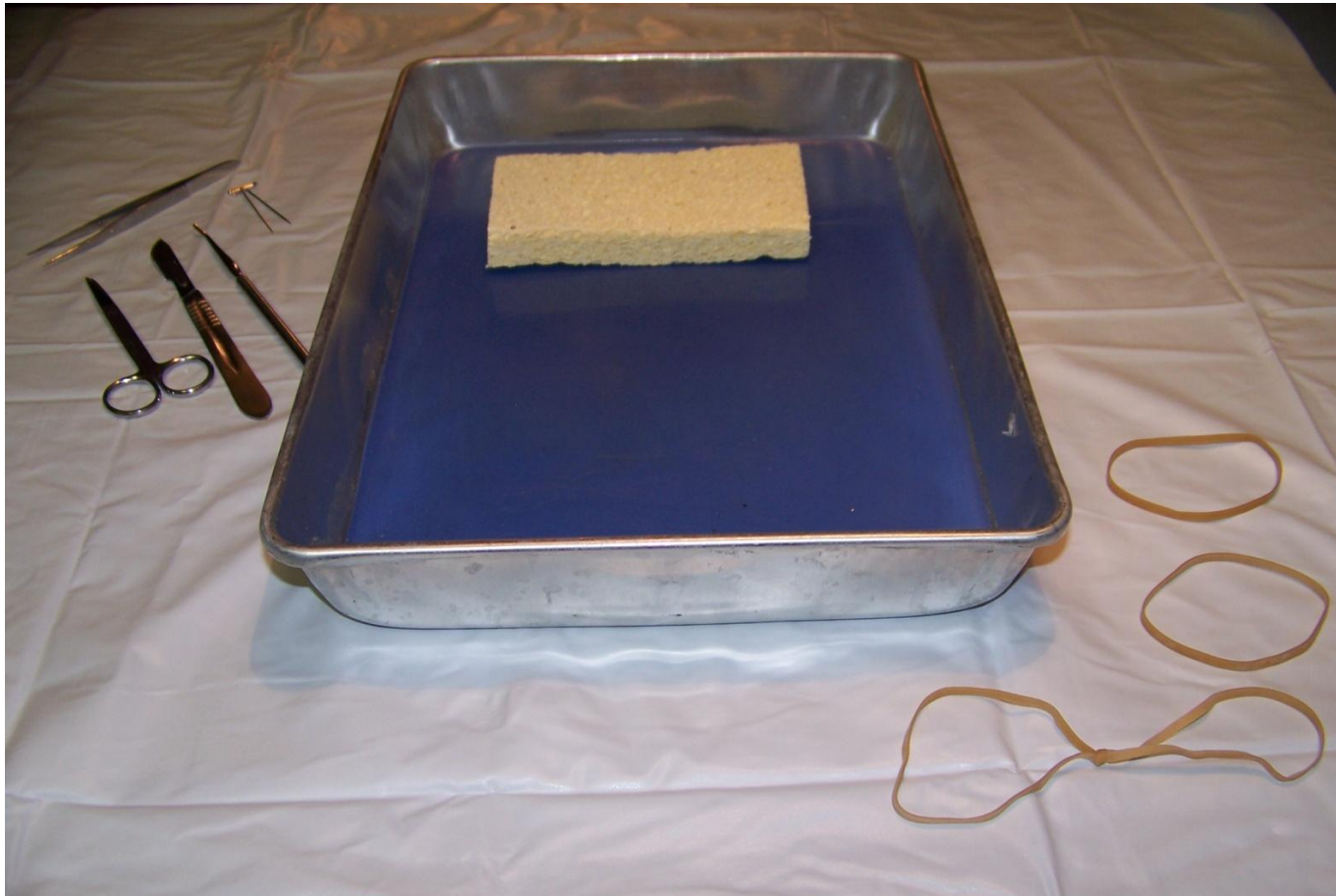


# Dissection Preparation Tips

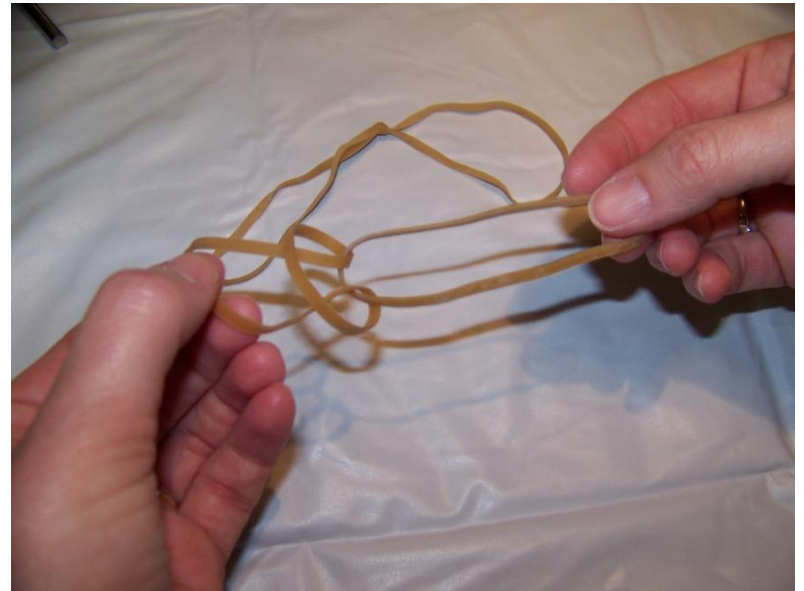
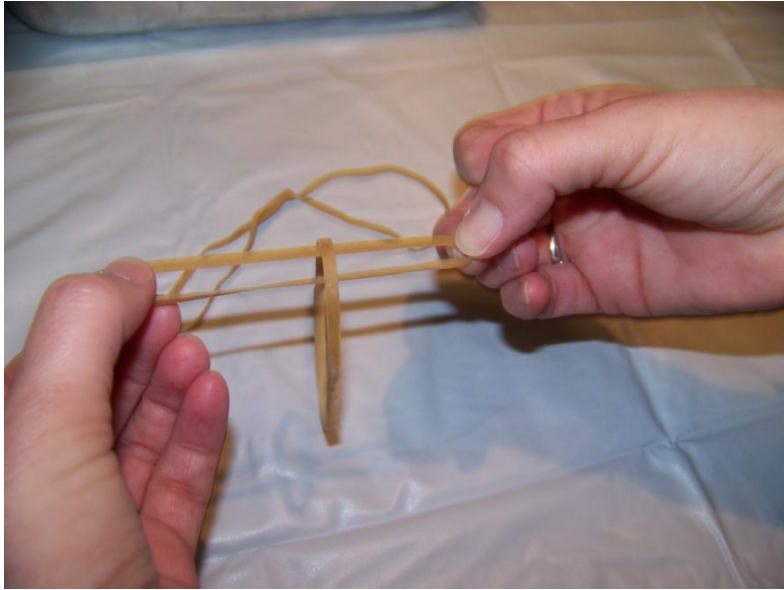
- **Organize your dissection area**
- **Wear apron, gloves, and safety glasses**
- **Place absorbent pad under the dissecting pan (white side up)**
- **Lay out your instruments so they are easy to access**



# Additional Materials Management



# Prepare Rubber Bands



# Remove Specimen from Bag and Place on Tray

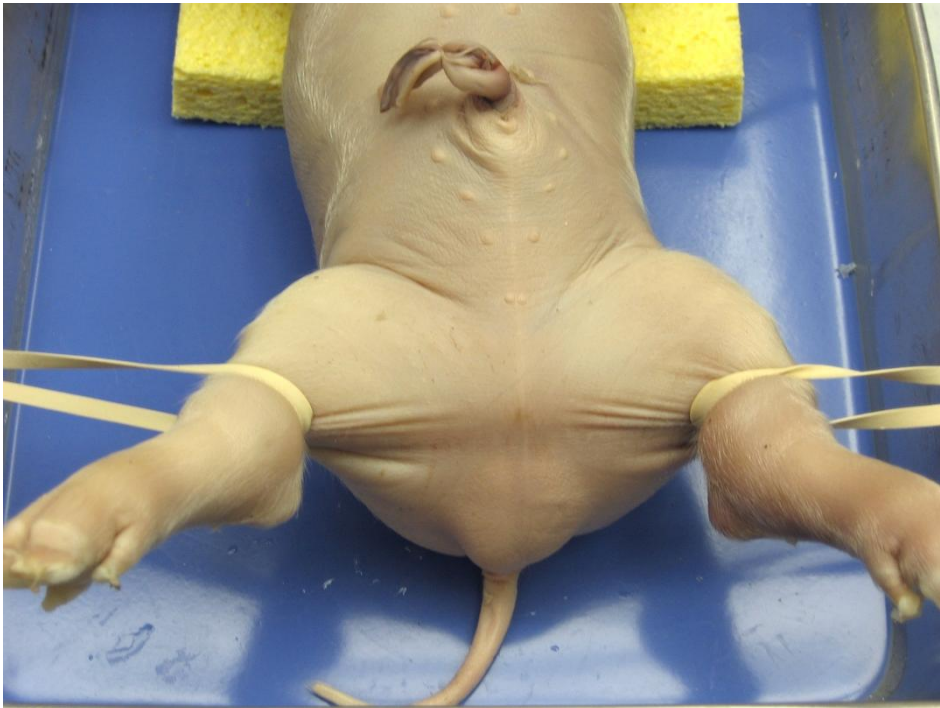


**Twist one side of rubber band around one leg. Wrap band around back of tray and twist around the other leg.**



# Determining Gender

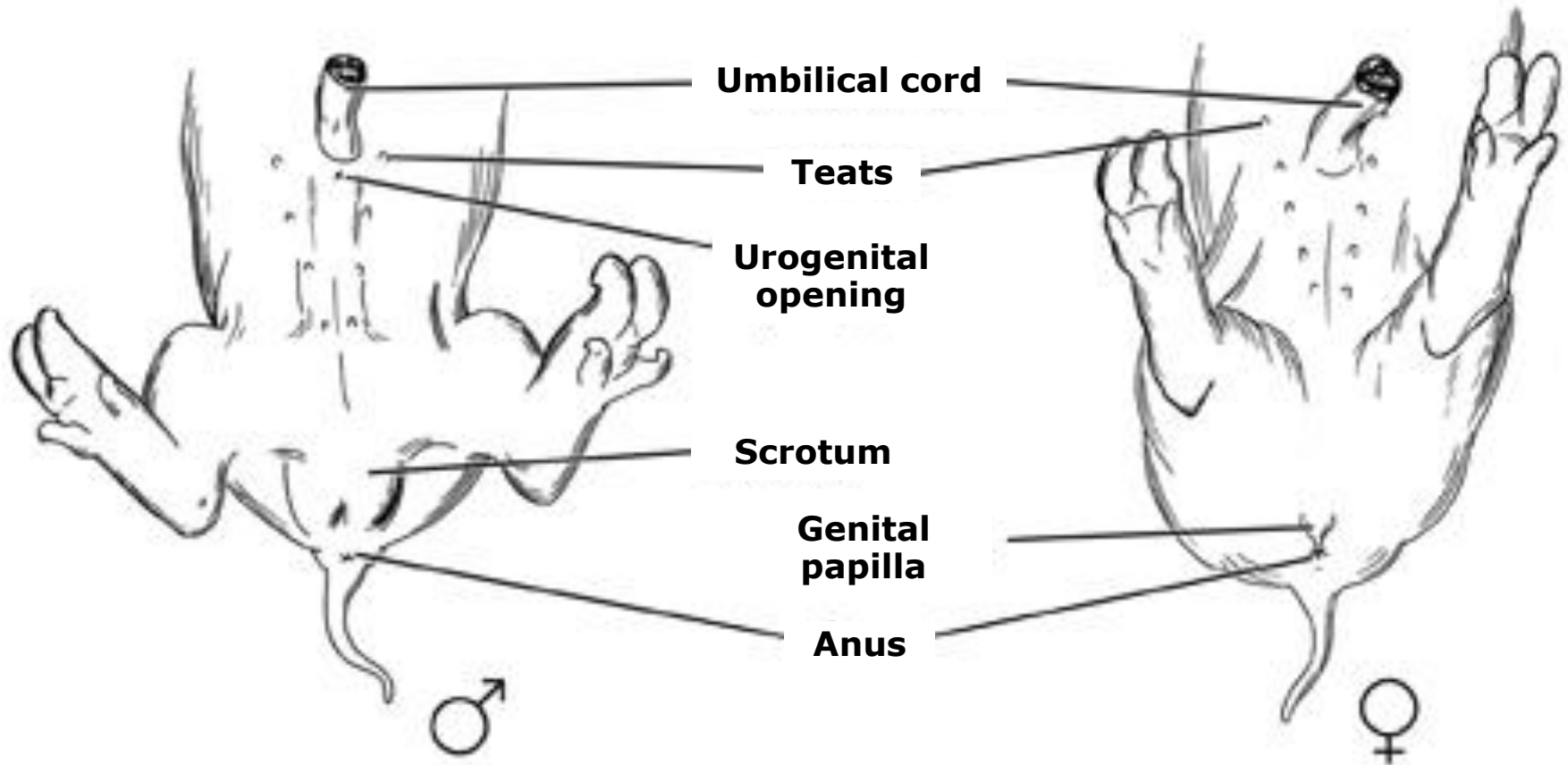
## Male



## Female



# Determining Gender



# External Anatomy

Examine external features beginning with the **HEAD**. Pay careful attention to:

- Amount and color of hair
- Unique markings
- Mouth
- Nostrils
- Tongue
- Ears
- Eyes



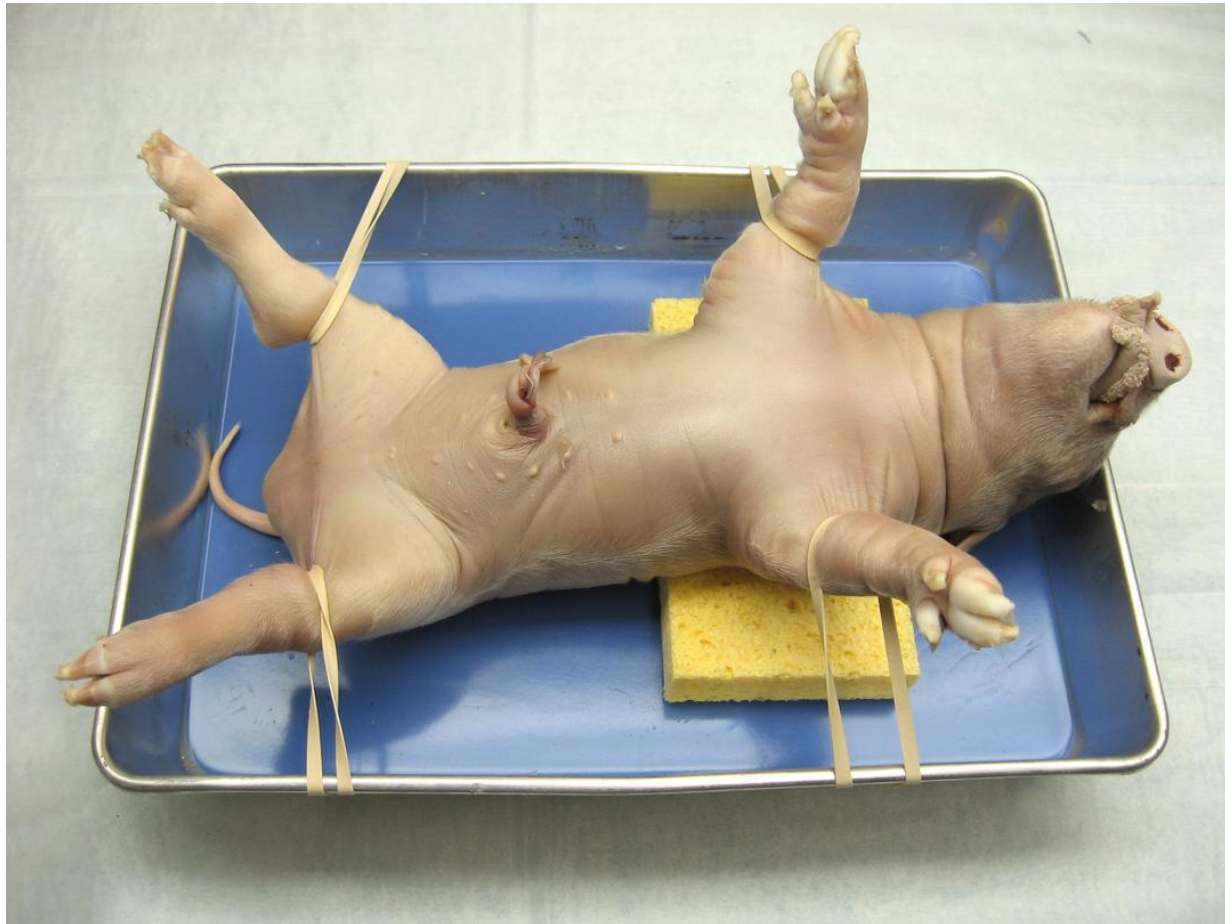
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# Autopsy Report

| Location                           | Observations |
|------------------------------------|--------------|
| Head                               |              |
| Dorsal Side                        |              |
| Ventral Side                       |              |
| Appendages                         |              |
| Posterior<br>(including genitalia) |              |



# Prepare for Internal Anatomy



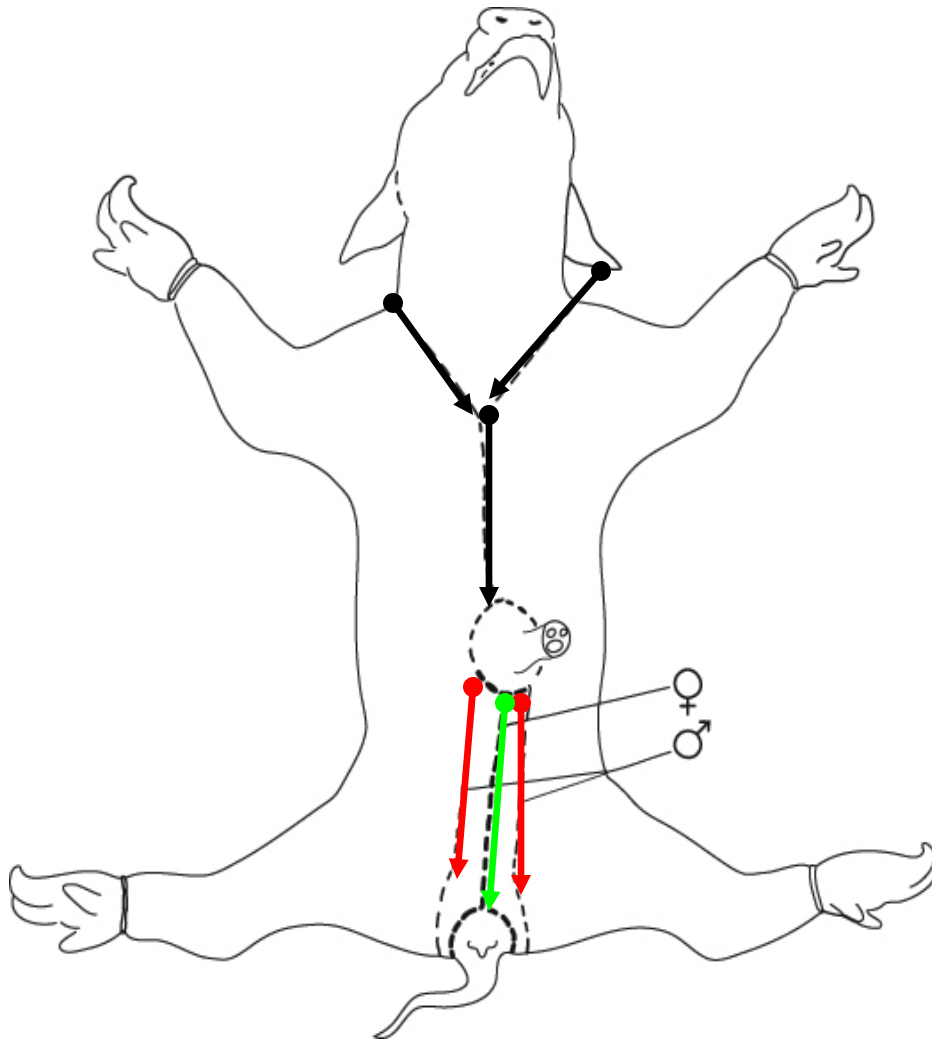


# Making the First Incision



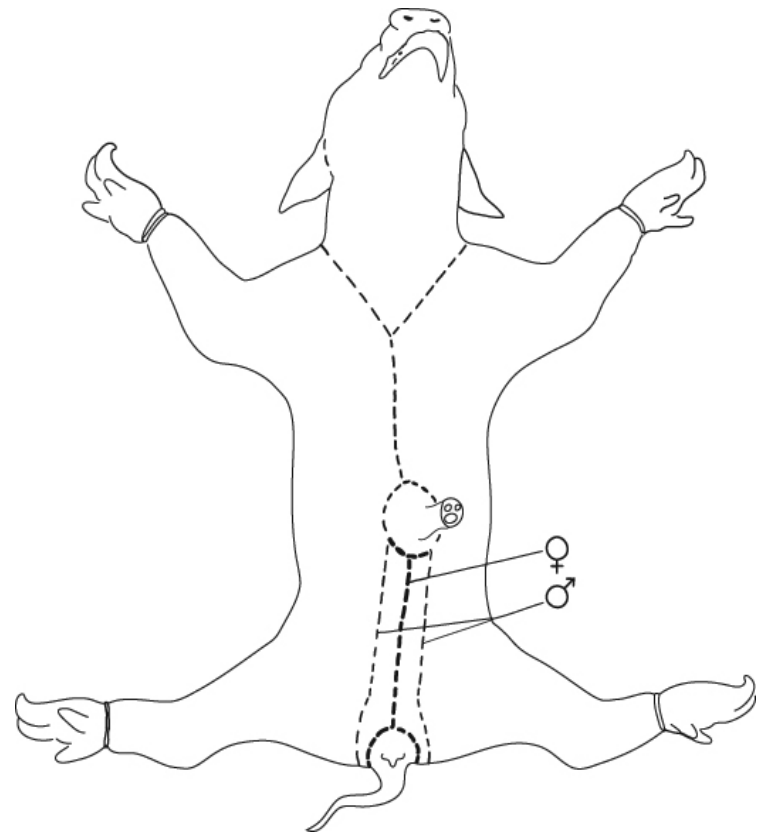
**Feel for the space between the top of the shoulder and the corner of the jaw. This will assist you in making the initial incision.**

# Classic Y Incision for Internal Anatomy



# Y-Shaped Incision

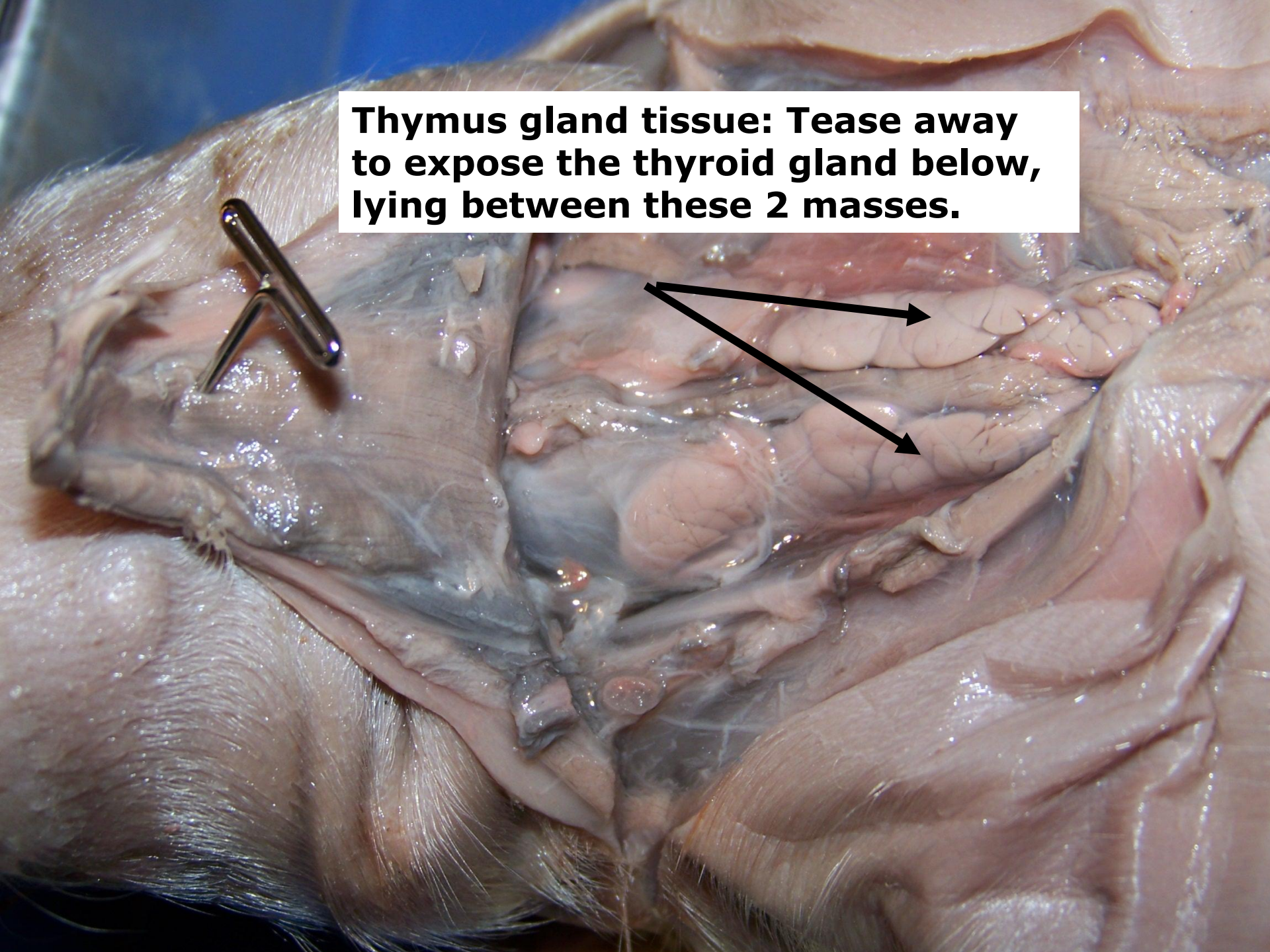
- **Continue cutting the tail of the Y incision until you reach the umbilical cord**
- **Use appropriate cut for male or female pig**
- **Cut the skin, muscle, and connective tissues of the chest wall (exposing the sternum and rib cage)**

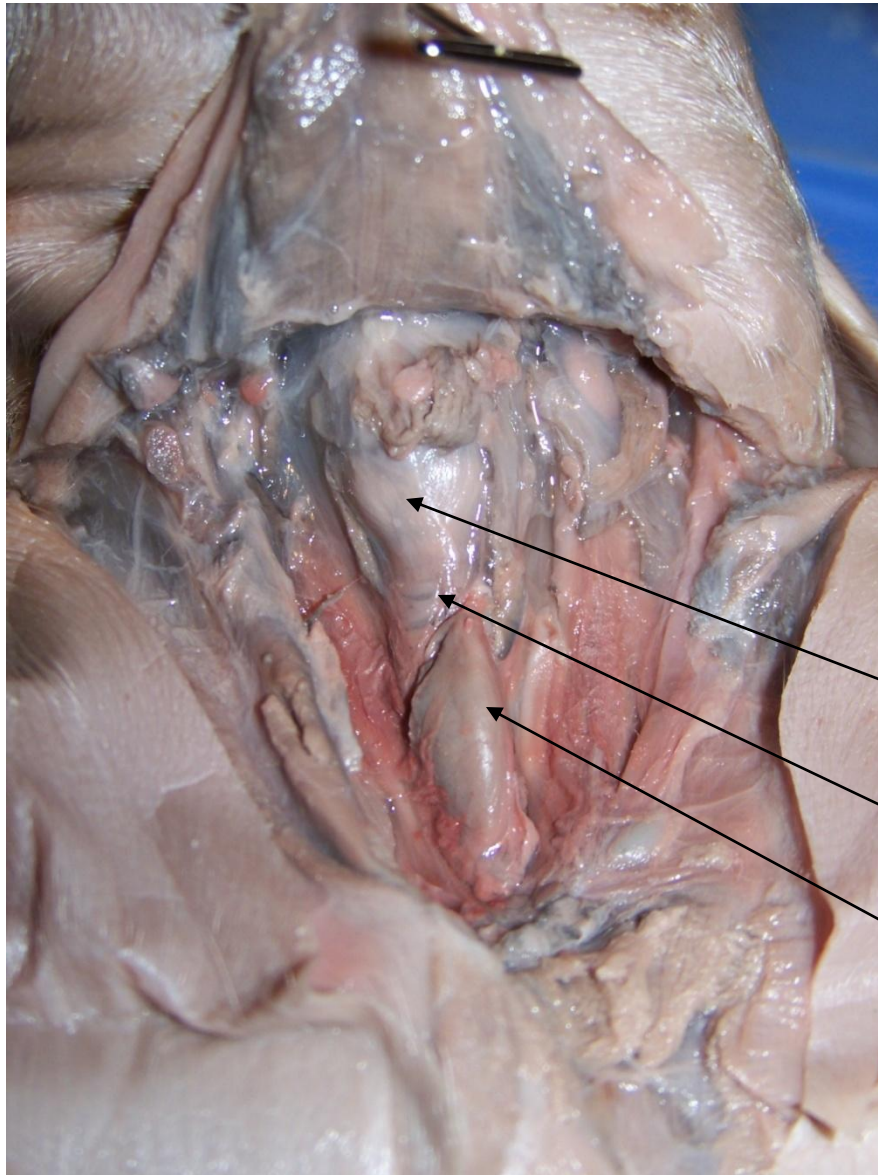




**Lift the V-shaped flap and pull it gently upwards. Use the tip of the scalpel as shown to assist in lifting the flap.**

**Thymus gland tissue: Tease away to expose the thyroid gland below, lying between these 2 masses.**





**The thymus gland tissue is removed, and the thyroid gland is exposed.**

**Thyroid cartilage over larynx**

**Trachea**

**Thyroid gland**



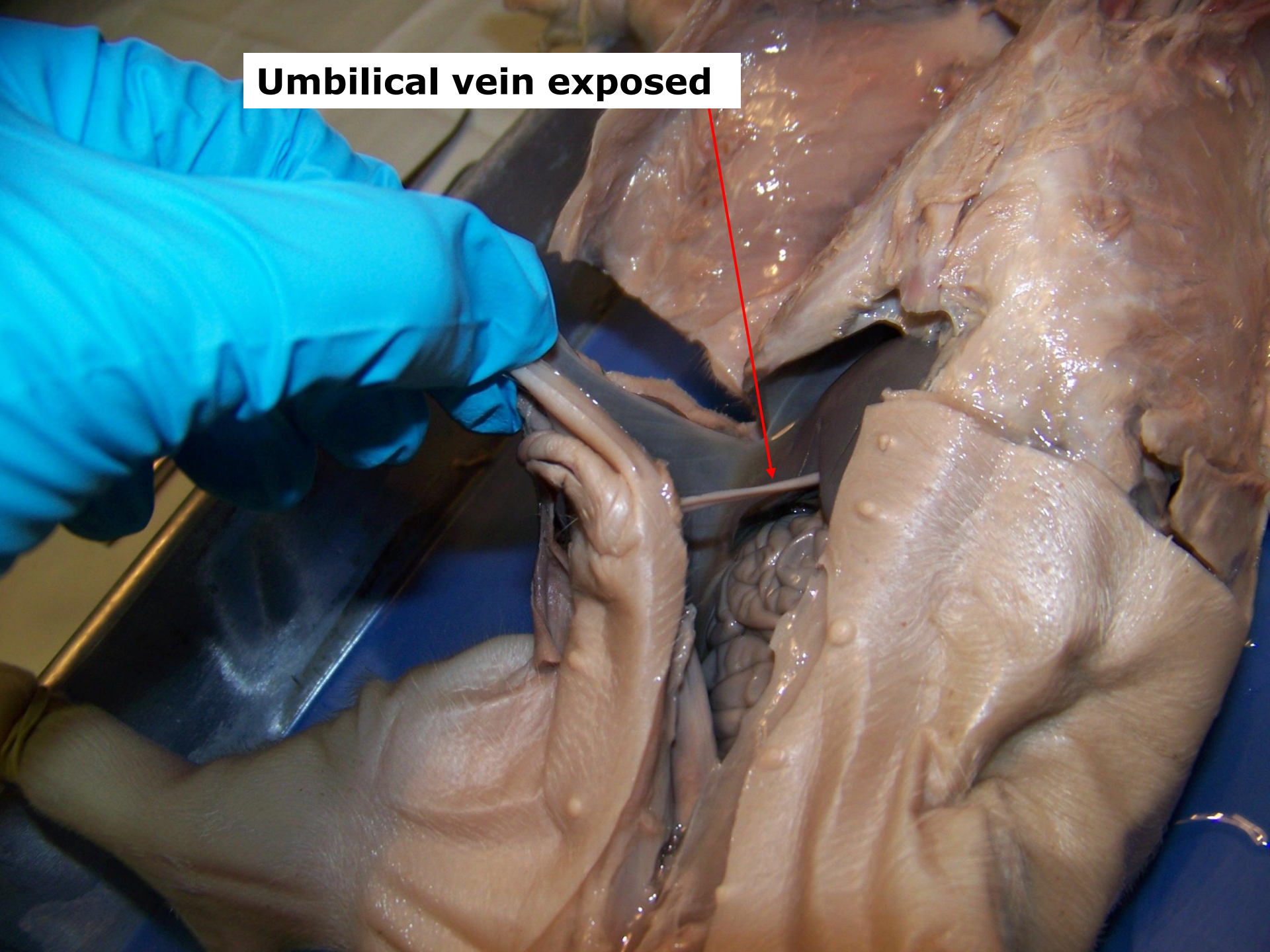
**Remove thymus and thyroid tissue. Measure the length and mass and record them on your data table.**



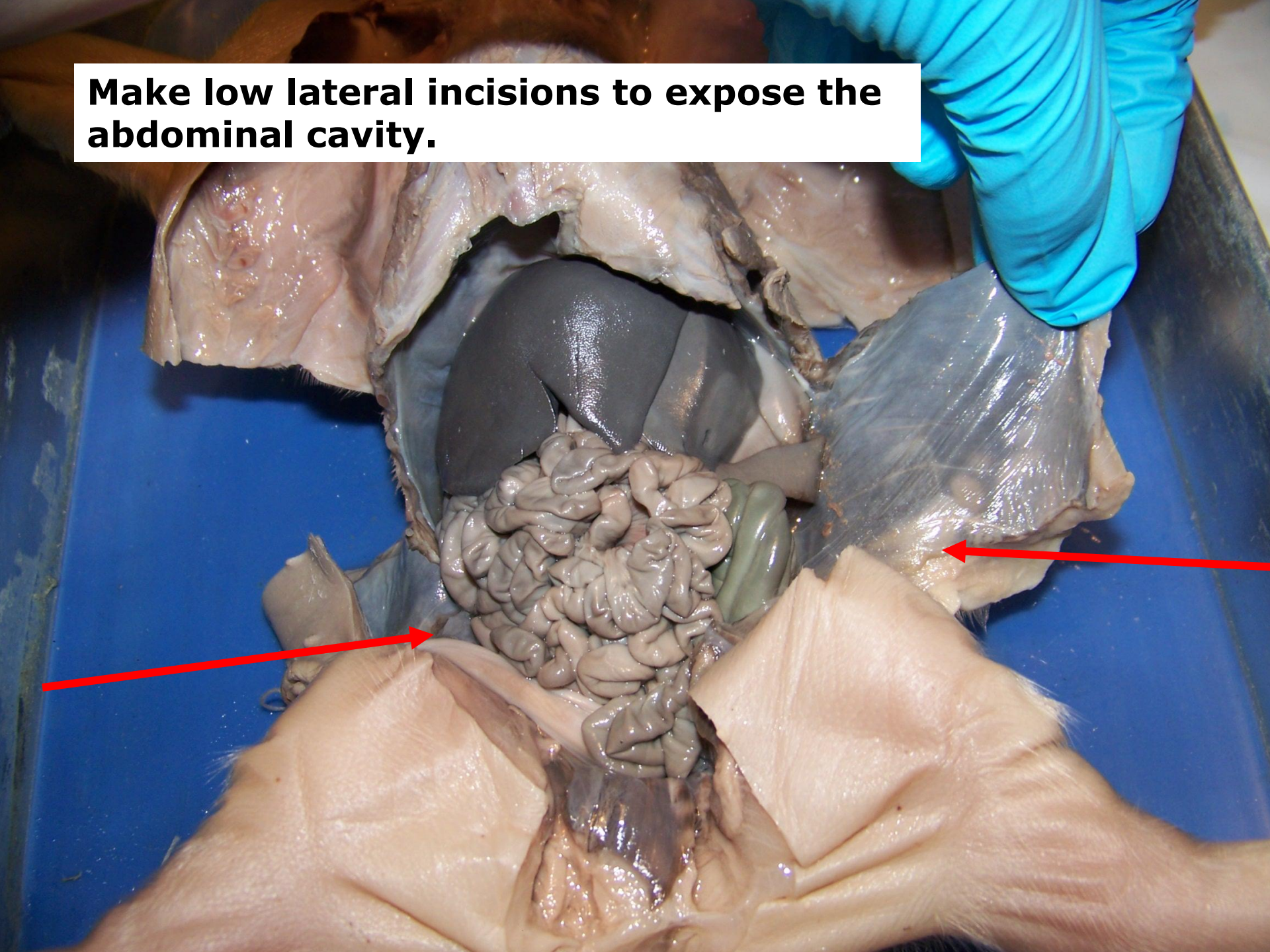
**Peel skin and tissue away from midline incision. Use the scalpel or scissors to help clear away the fascia. Make a lateral incision on both sides of the body at the bottom of the rib cage.**



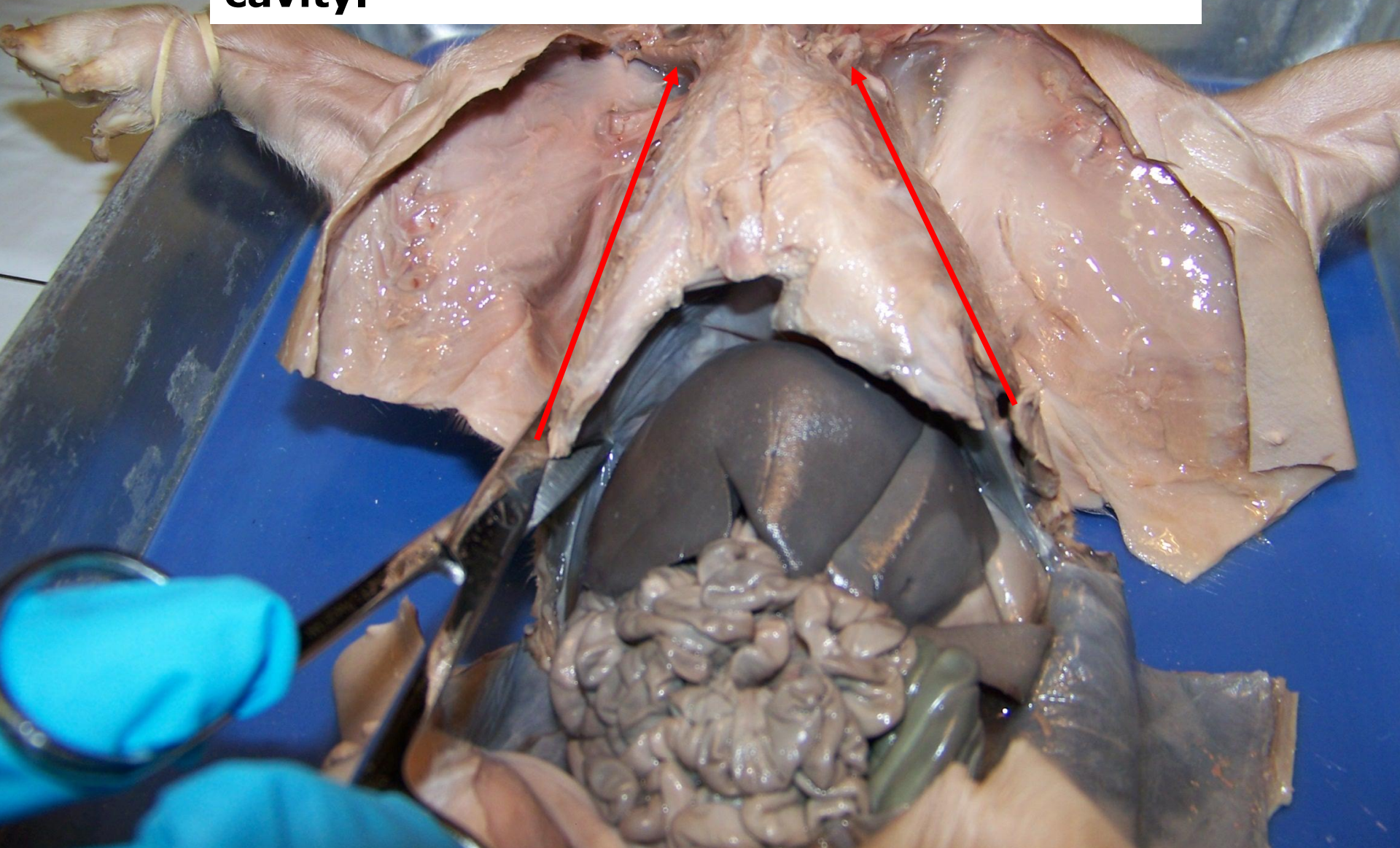
**Umbilical vein exposed**



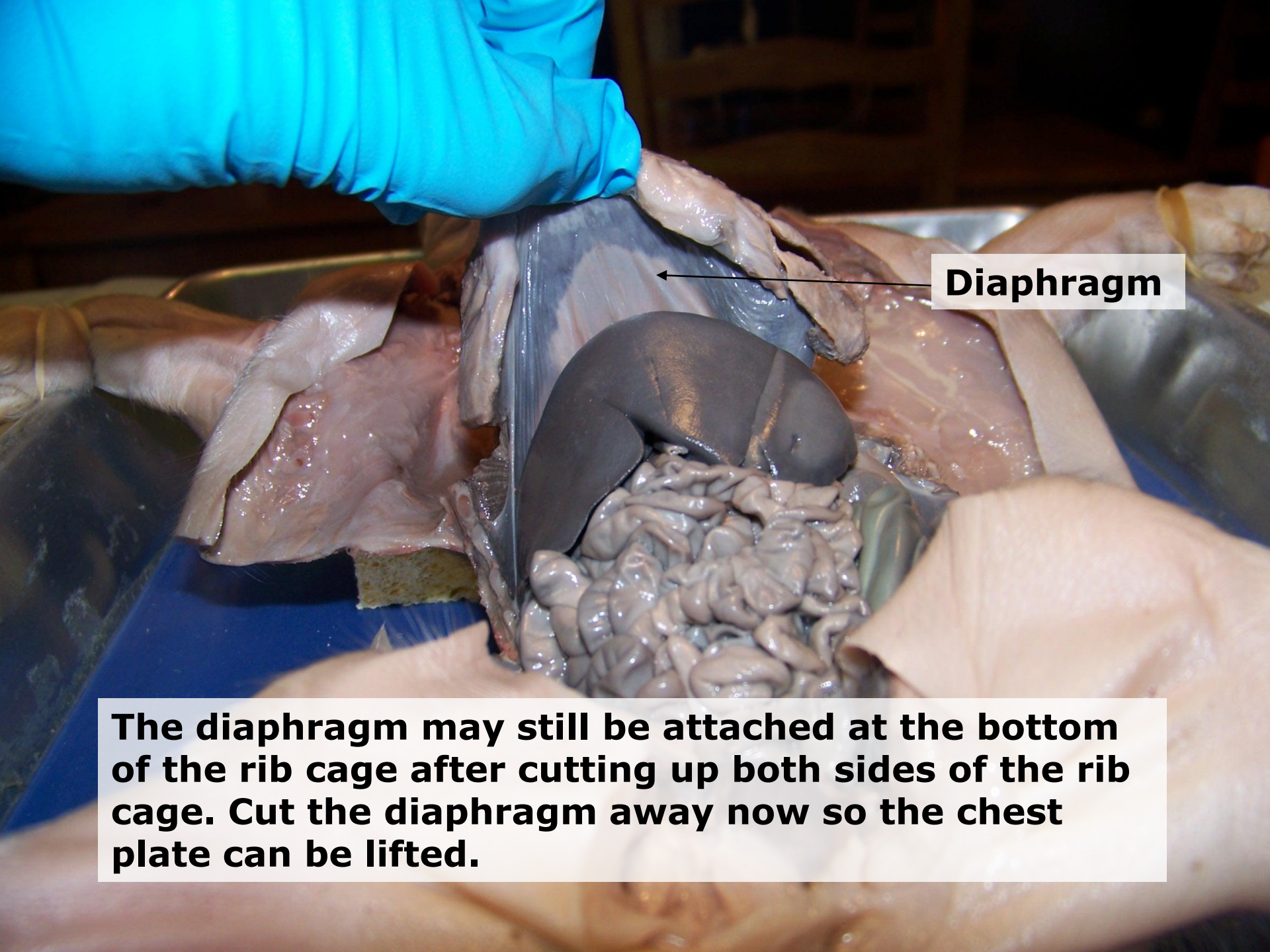
**Make low lateral incisions to expose the abdominal cavity.**



**Cut up each side of the rib cage to remove the chest plate. Stay low in the chest cavity.**





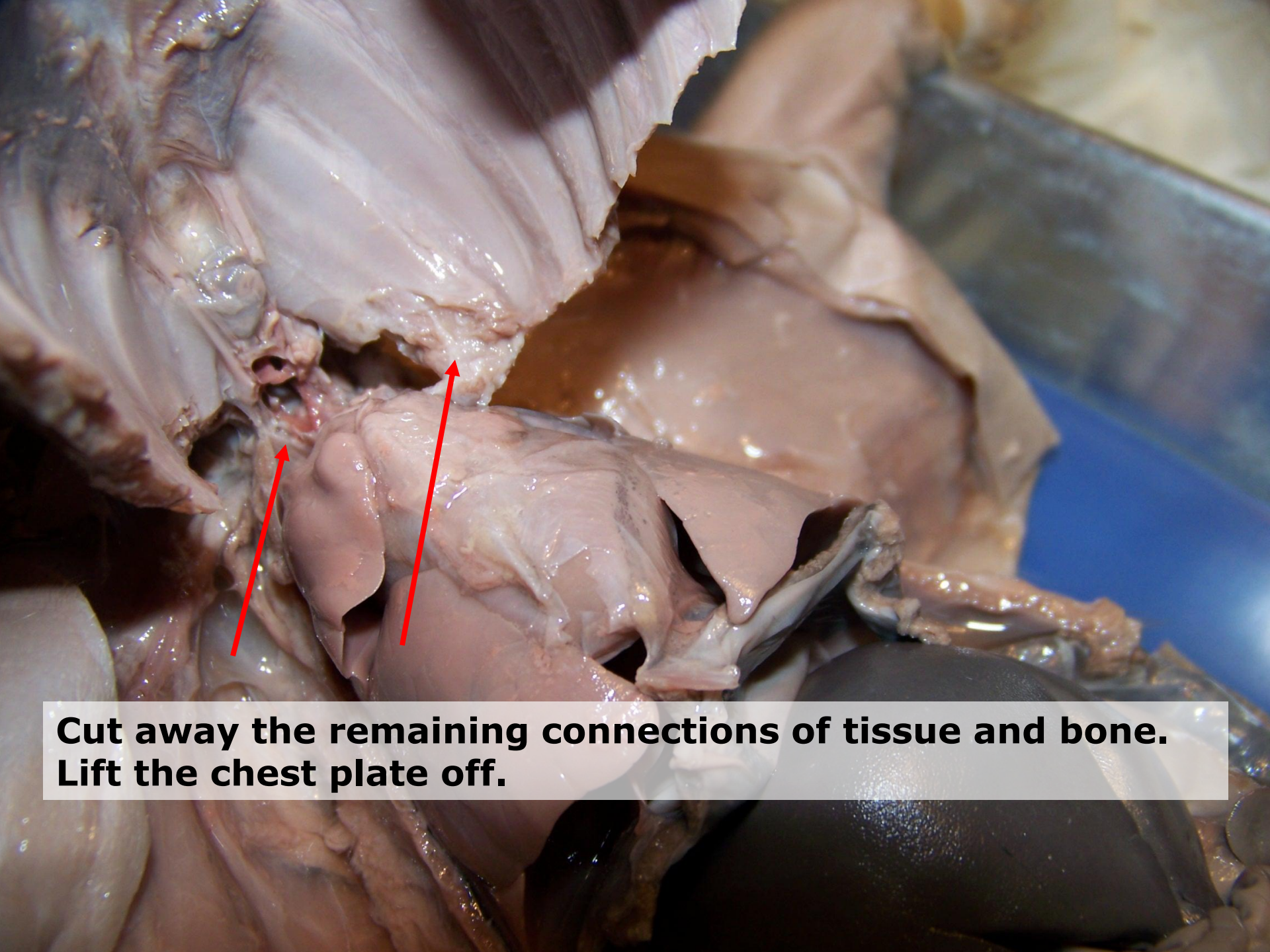


**Diaphragm**

**The diaphragm may still be attached at the bottom of the rib cage after cutting up both sides of the rib cage. Cut the diaphragm away now so the chest plate can be lifted.**

**The diaphragm is cut away.**

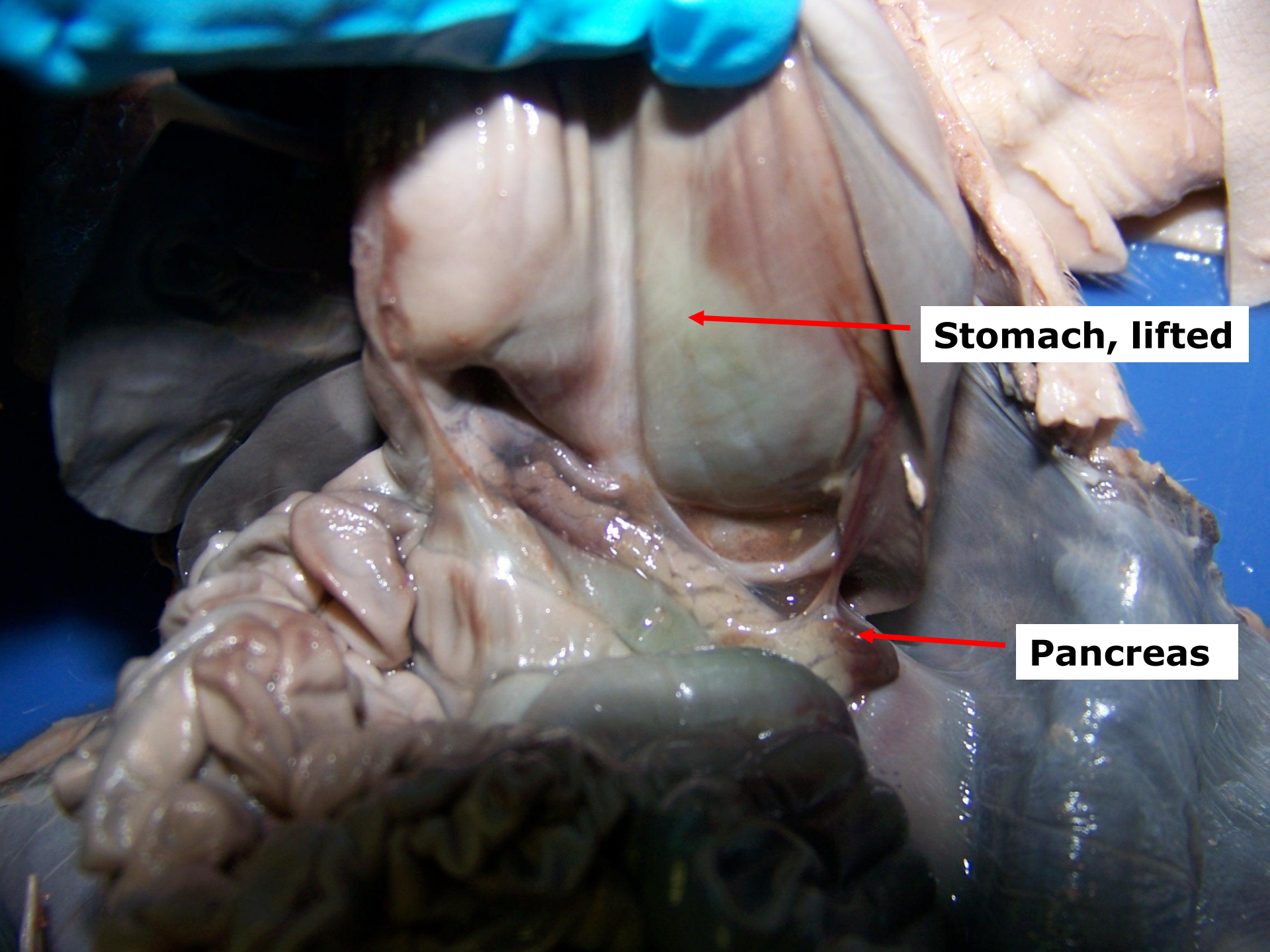




**Cut away the remaining connections of tissue and bone.  
Lift the chest plate off.**

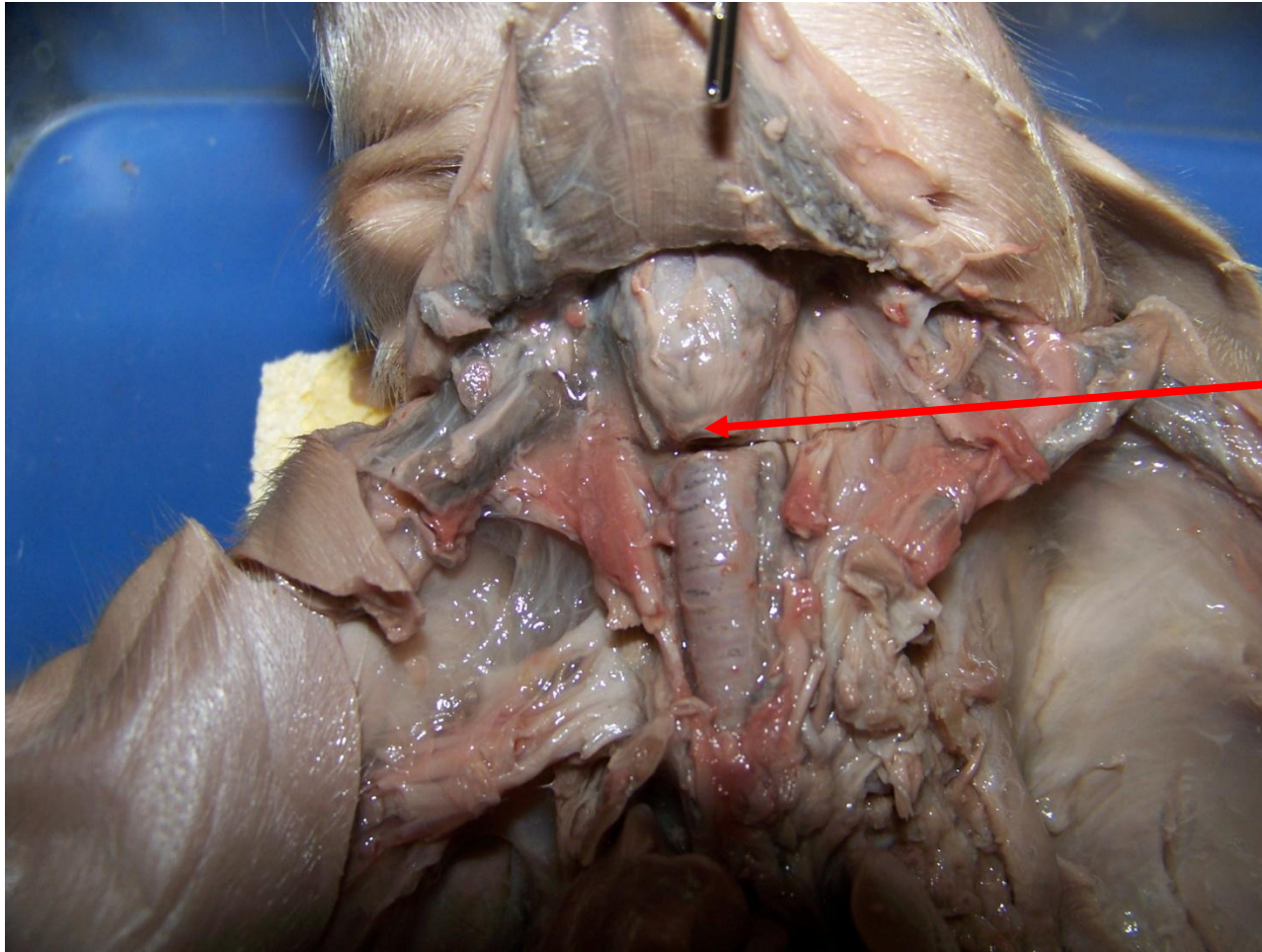
**Before removing the organ block, have students look for and examine the pancreas. Gently lift the stomach and look for the gland tissue in the crease between the bottom of the stomach and the top of the intestines.**



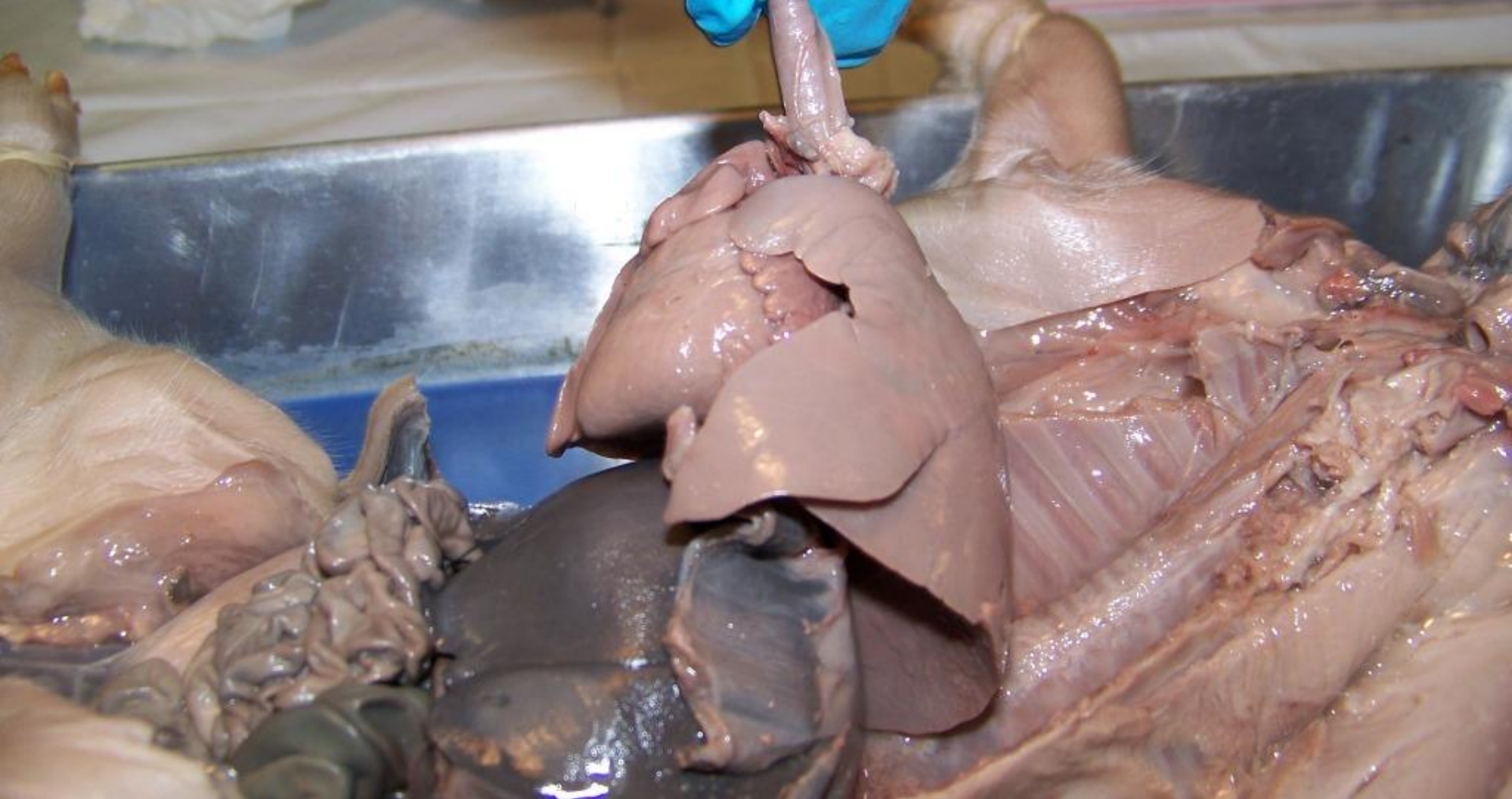


**Stomach, lifted**

**Pancreas**

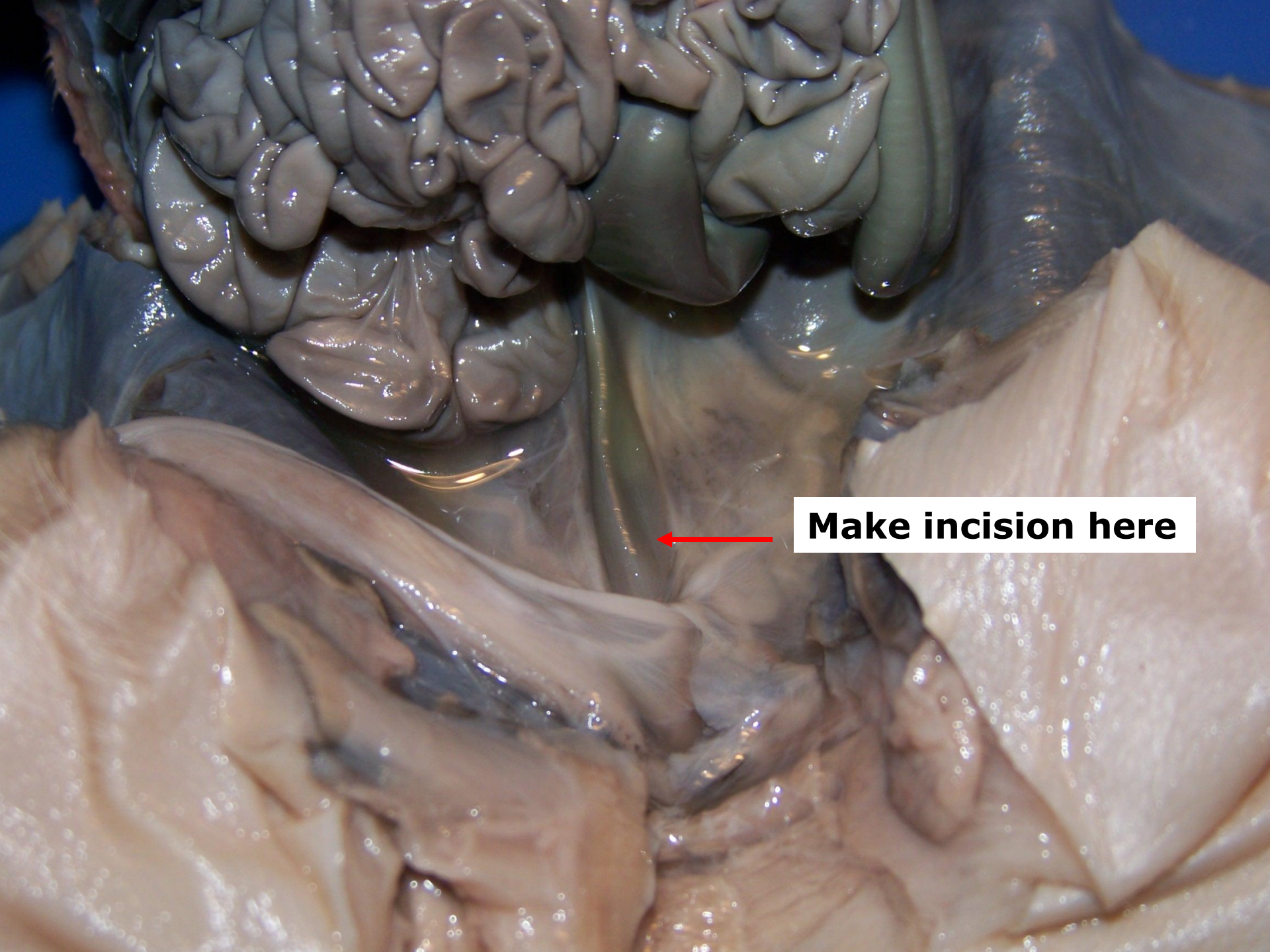


**To begin removal of the organ block, make the initial incision at the top of the trachea, just below the larynx.**



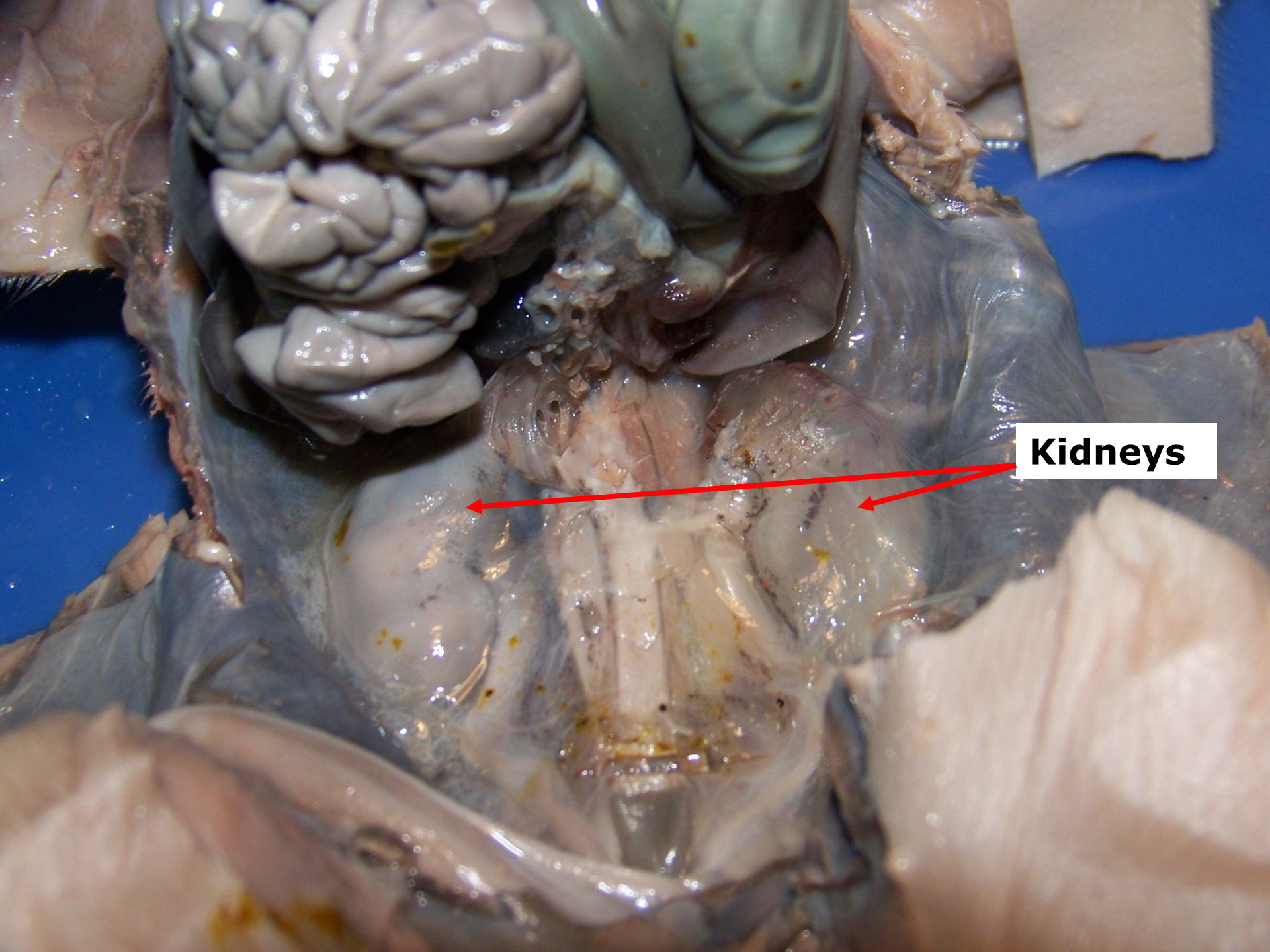
**Lift from trachea and pull gently downward. Make sure you have included the esophagus lying posterior to the trachea. Use the tip of the scalpel to help remove the connective tissue that holds the organ block to the back of the body.**

**After beginning the initial removal of the organ block, go to the lowest point of the large intestine and make an incision. Proceed with removal of the organ block from the bottom by pulling gently upward.**



**Make incision here**

**As you pull upward,  
note the kidneys in the posterior  
of the abdominal cavity.  
These can be removed later.**



**Kidneys**

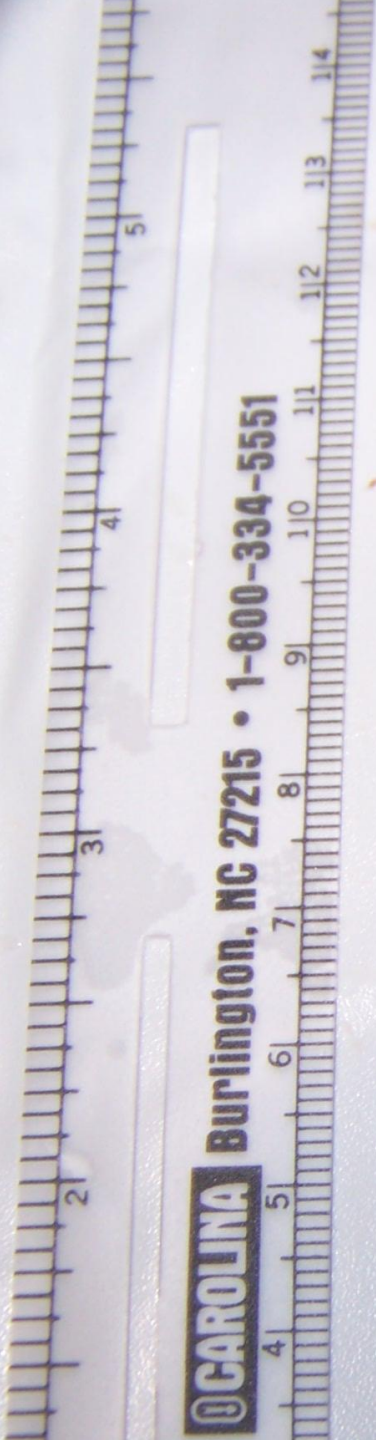






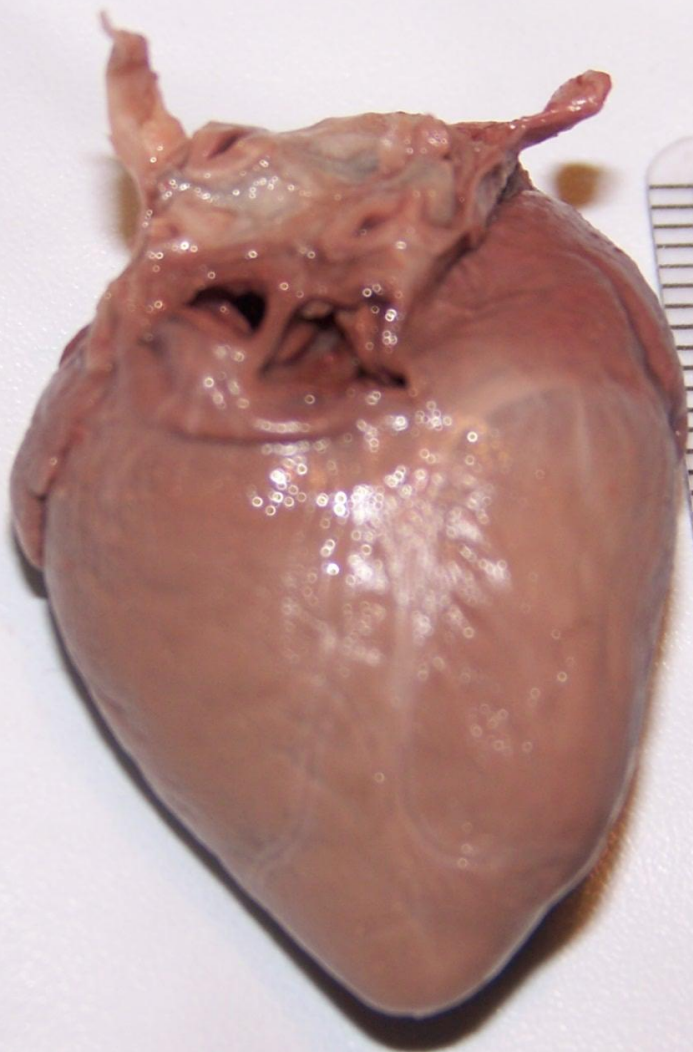
## **Organ Block Removed**

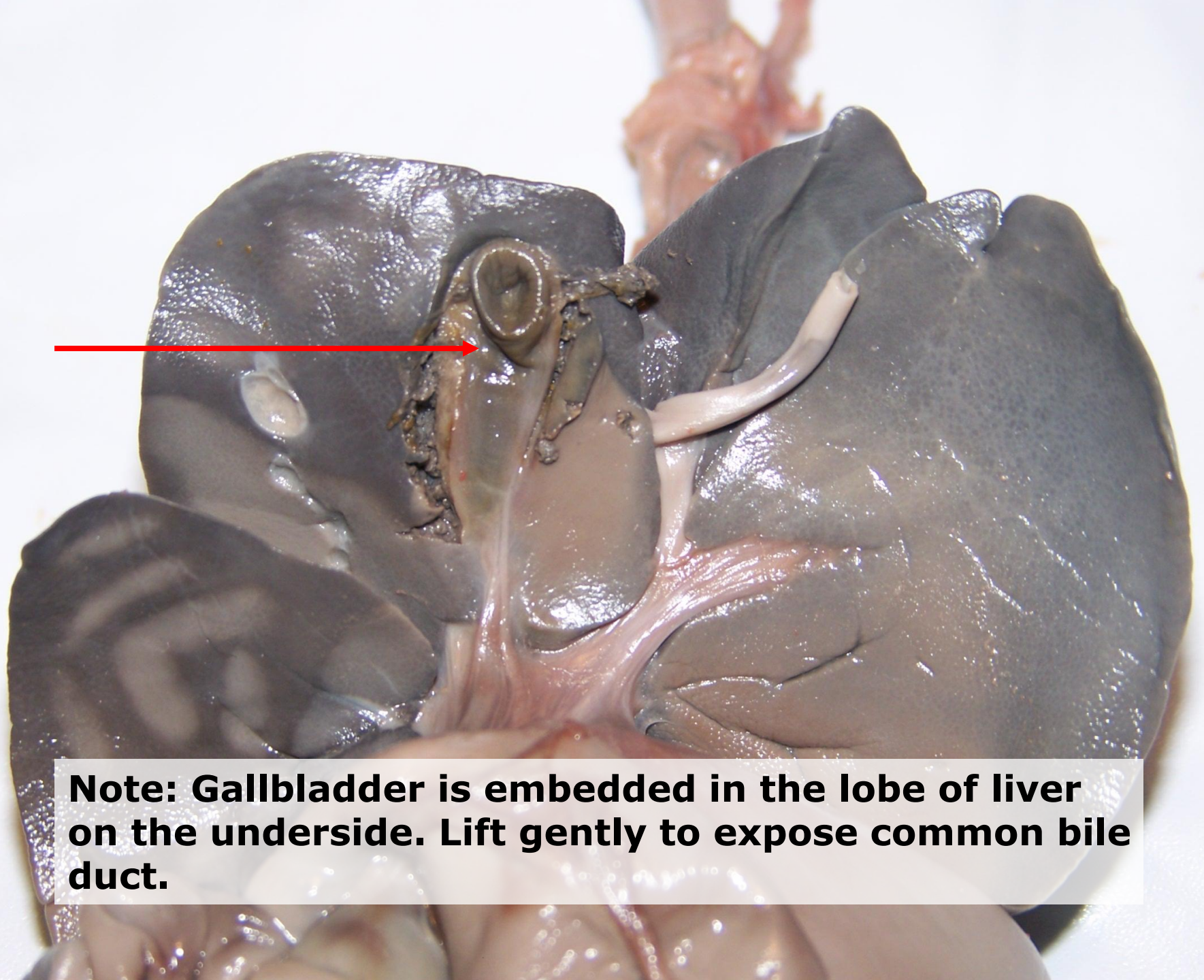
- **Begin to remove organs individually.**
- **Measure the length and mass of each organ.**
- **Record on data table.**



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**Note: Gallbladder is embedded in the lobe of liver on the underside. Lift gently to expose common bile duct.**

# Internal Anatomy

- **Respiratory system**
- **Endocrine system**
- **Circulatory system**
- **Digestive system**
- **Urogenital system**
- **Fetal pig heart vs adult pig heart**
- **Fetal pig kidney vs adult pig kidney**
- **Central nervous system (brain, spinal cord)**
- **Prepared microscope slides**

# The Final Steps



**Return all of the organs to the body cavity and suture the incisions.**

# Time to Clean Up . . .

- ***Carolina's Perfect Solution***<sup>®</sup> specimens
  - Return to white bucket or take home for further study
  - All other waste in the trash bags
- **Dissecting pans and instruments**
  - Clean or take as gift
- **Safety glasses and aprons**
  - Gift from Carolina
- **Evaluation forms/info cards**
  - Complete, return to presenter

# We Can Meet Your Dissection Needs



**Top-quality specimens  
and supplies**





# Additional Resources from Carolina

## Carolina™ BioLab® Virtual Lab Series

Guide students through an interactive virtual dissection, teaching internal and external features



# Carolina Free Resources



**Carolina offers many free resources  
to help support teachers.**

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**www.carolina.com**



**CAROLINA®**  
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# Wear Your Tee and Enter to Win a **FREE** Kit of **YOUR** Choice!



- To be eligible, you **MUST** wear your "Perfect" T-shirt to the Carolina booth.
- Present your completed entry form to a staff member from **PRESERVED MATERIALS.**
- One winner will be chosen after the show. (You need not be present to win.)

# Evaluations: Share Your Thoughts!

**Scale = 1 to 10**

**10 = Outstanding**

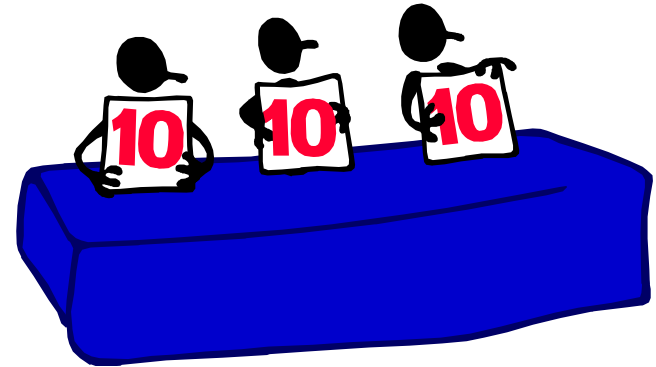
**9 = Above Average**

**8, 7 = Average**

**6, 5, 4 = Below Average**

**3, 2, 1 = Well Below Average**

**Please provide comments!**



# **Carolina Biological Supply Company**

**Thank you for investing your time  
in our training program.**

**For all of your classroom needs,  
Visit our Web site at [www.carolina.com](http://www.carolina.com).**

**Enjoy the rest of the conference!**