

\_\_\_\_\_ is the study of the  
body's structure.

- a. Histology
- b. Anatomy
- c. Embryology
- d. Physiology

\_\_\_\_\_ is the study of the  
body's function.

- a. Histology
- b. Anatomy
- c. Embryology
- d. Physiology

When the anatomy of a body part is intimately tied to its specific function, scientists call this the principle of

---

- a. hierarchical organization.
- b. complementary nature of structure and function.
- c. homeostasis.
- d. negative feedback.

. A phospholipid is an example of organization at the \_\_\_\_\_ level.

- a. chemical
- b. tissue
- c. organ
- d. organism
- e. organ system

The \_\_\_\_\_ system includes the skin.

a. integumentary

b. endocrine

c. respiratory

d. lymphatic

e. None of the responses above is correct

Which of the following definitions best describes homeostasis?

- a. The ability to exchange materials between the internal and external environments.
- b. The ability to keep the internal environment fairly constant.
- c. The ability to use energy to maintain metabolism.
- d. The ability to use negative and positive feedback loops

A negative feedback system is best defined as

- a. a system that is used to maintain homeostasis.
- b. a system that minimizes changes from a set point.
- c. a cycle that increases the change from a normal value.
- d. a system that maintains body temperature

## Positive feedback systems

- a. increase deviations from a normal state.
- b. are more common than negative feedback systems.
- c. may not be used to maintain homeostasis.
- d. More than one of the responses above is correct.
- e. None of the responses above is correct



If an organ starts to experience low levels of oxygen, it can release chemicals that dilate local blood vessels. This brings more oxygen to the organ and is an example of

- a. negative feedback.
- b. positive feedback.
- c. extrinsic regulation.
- d. thermoregulation

. The \_\_\_\_\_ of a cell separates the intracellular space from the extracellular space.

- a. nuclear envelope
- b. Golgi apparatus
- c. mitochondrion
- d. smooth endoplasmic reticulum
- e. plasma membrane

Which of the following is not true of the anatomical position?

- A. The subject is standing erect
- B. arms at the side with the palms directed backwards
- C. feet parallel to each other and flat on the floor
- D. the subject's eyes are looking forward
- E. all the preceding statements are correct

# Which of the following is a logical organization?

- a. atoms, cells, molecules, tissues
- b. molecules, atoms, cells, tissues
- c. atoms, tissues, molecules, cells
- d. atoms, molecules, cells, tissues

The \_\_\_\_\_ level of organization is the main theme presented in this book.

- a. cellular
- b. tissue
- c. organ
- d. organ system

Of the eight necessary life functions, which of the following is NOT required for an individual's survival?

- a. maintaining boundaries
- b. metabolism
- c. reproduction (organismal)
- d. excretion

One survival need of humans is appropriate atmospheric pressure. At high altitudes where atmospheric pressure is lower, you might expect that oxygen acquisition would \_\_\_\_\_.

- a. decrease
- b. increase two-fold
- c. increase three-fold
- d. remain unchanged

# Which of the following is an example of a negative feedback mechanism?

- a. During labor, as uterine contractions begin, levels of the hormone, oxytocin, continuously rise to further stimulate more contractions.
- b. The thyroid gland releases thyroid hormone under the influence of the hormone, TSH. TSH release decreases when thyroid hormone levels reach their set point.
- c. An individual who is incapable of synthesizing thyroid hormone will often develop an enlarged thyroid gland due to continuous TSH stimulation.



If someone has broken their leg,  
they have damaged the  
\_\_\_\_\_ division of their body.

- a. dorsal
- b. appendicular
- c. superficial
- d. axial

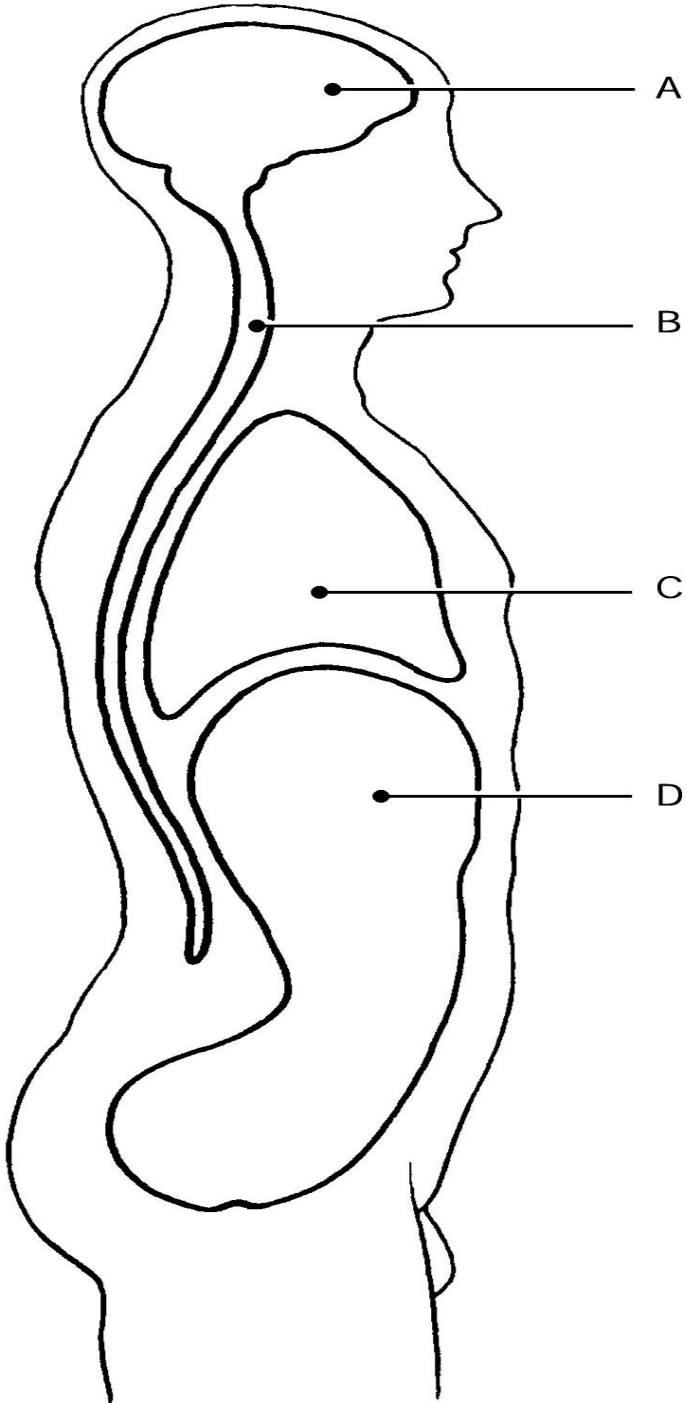
The \_\_\_\_\_ division of the body is necessary for supporting life.

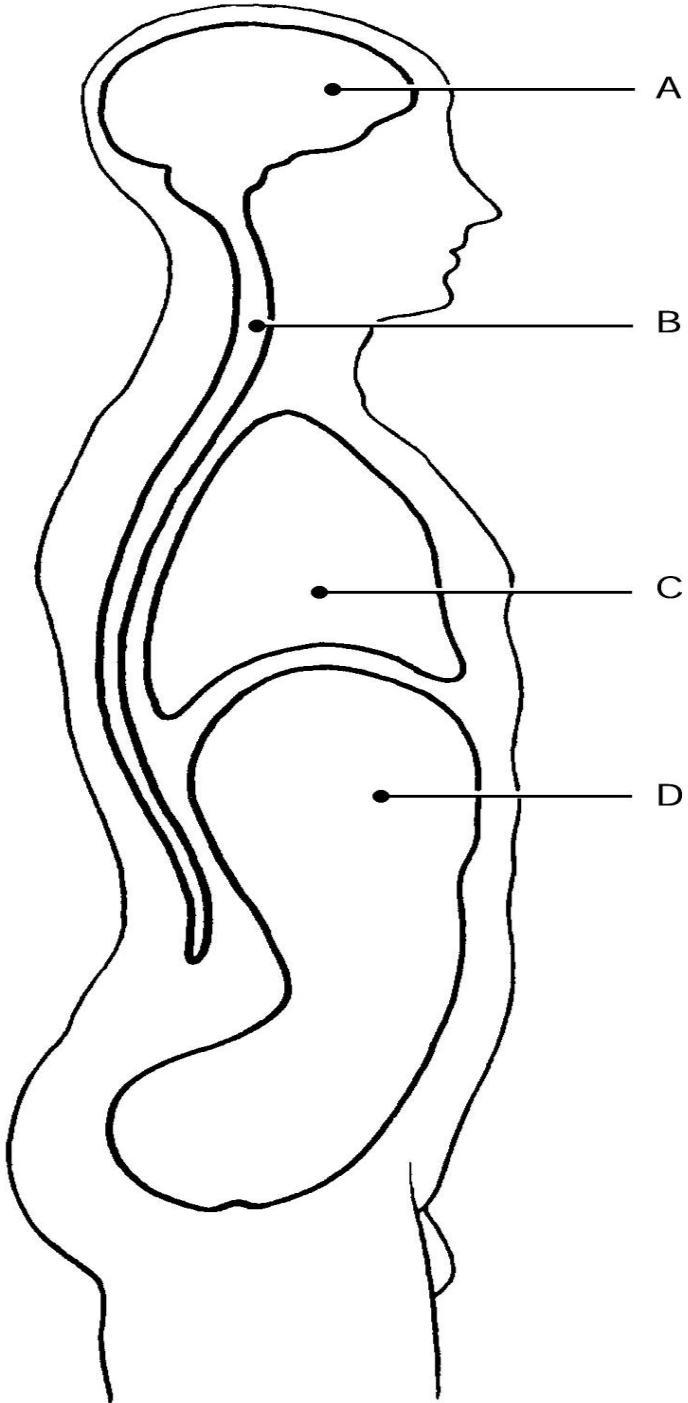
- a. axial
- b. superficial
- c. appendicular
- d. appendage

The term \_\_\_\_\_ refers to internal organs, while the term \_\_\_\_\_ refers to body cavity walls.

- a. serosa; pleural
- b. visceral; ventral
- c. serosa; parietal
- d. visceral; parietal

# Name each cavity



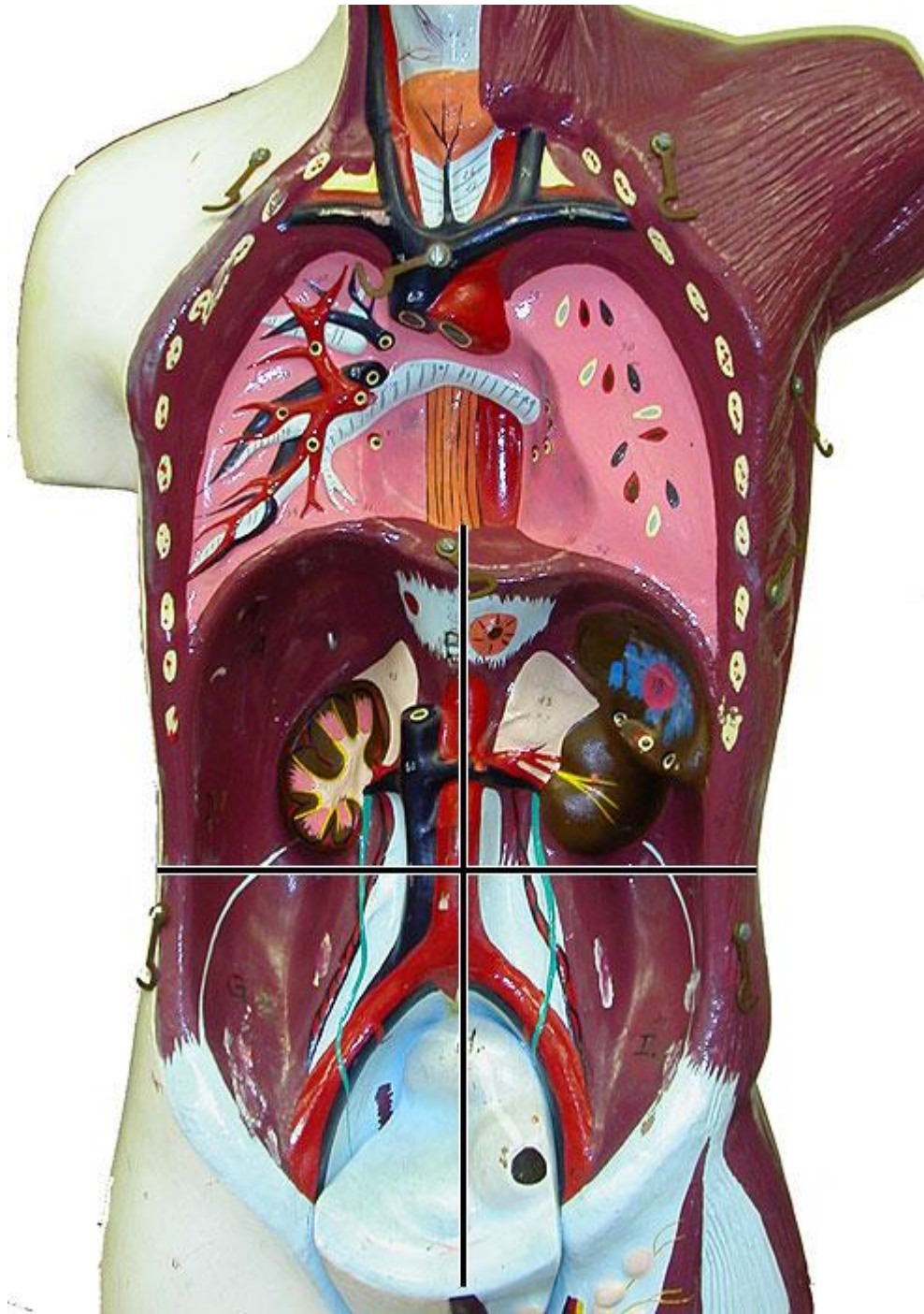


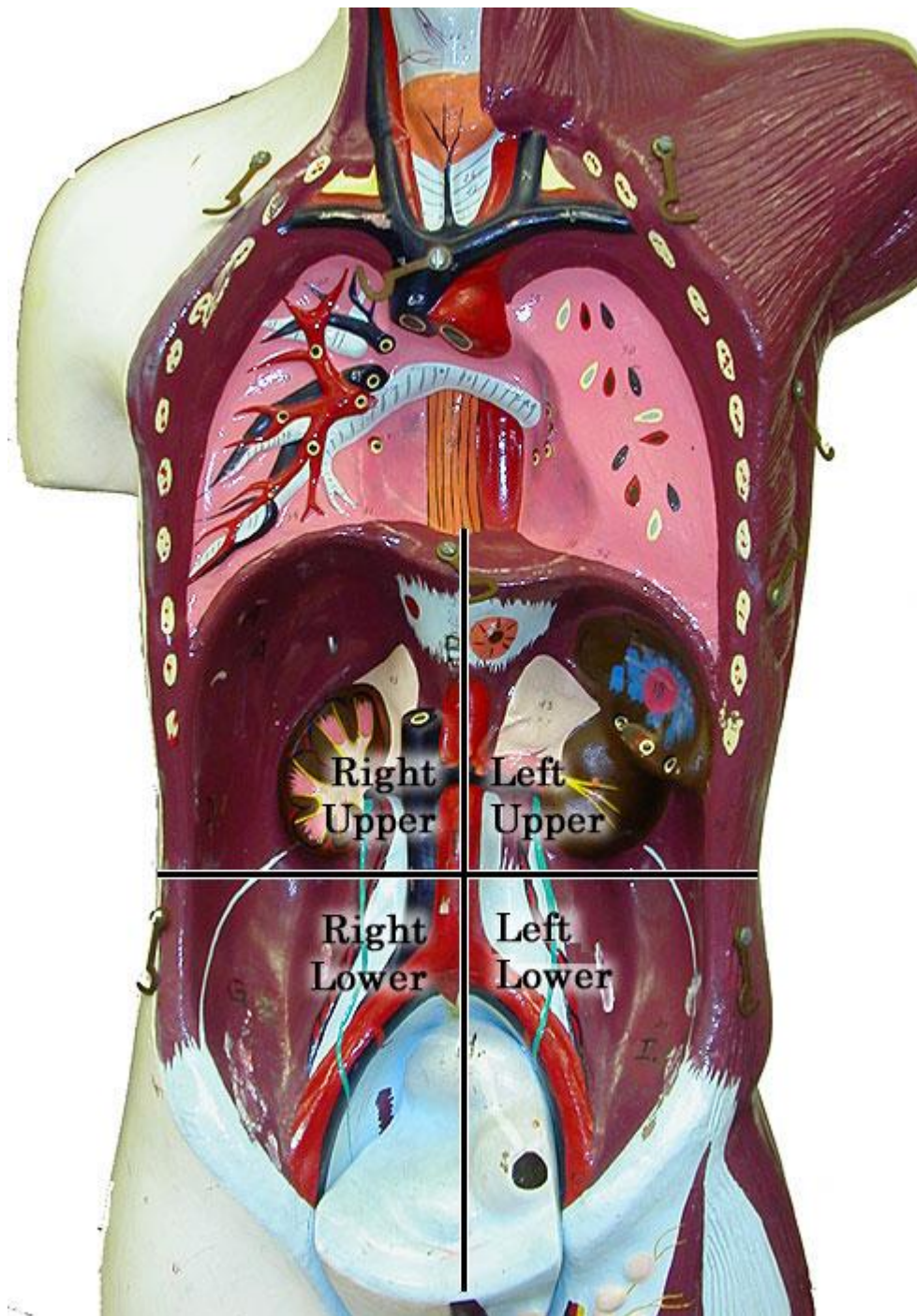
1)Thoracic cavity. Answer: C

2) Cranial cavity. Answer: A

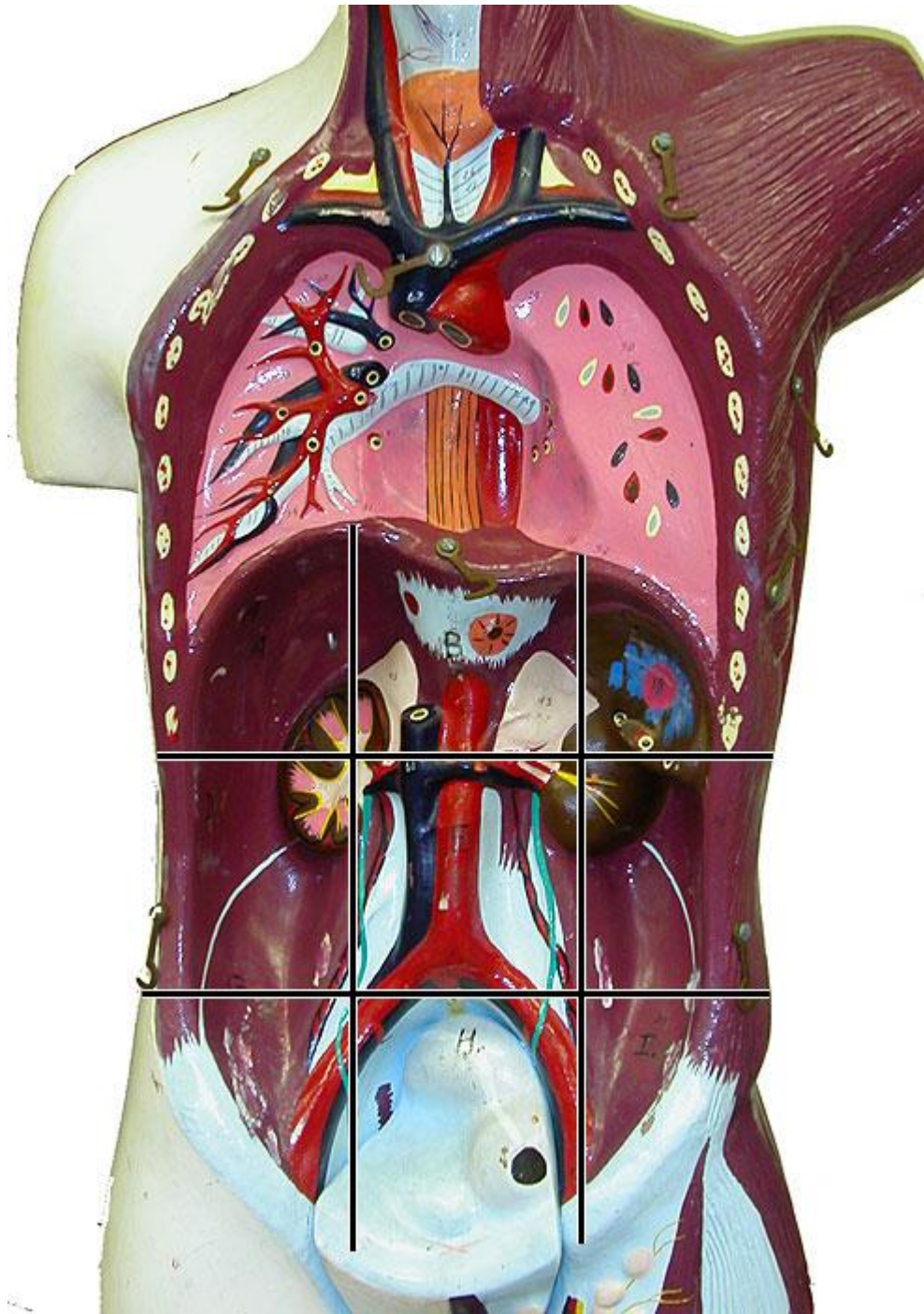
3) Abdominal cavity. Answer: D

4) Vertebral cavity. Answer: B

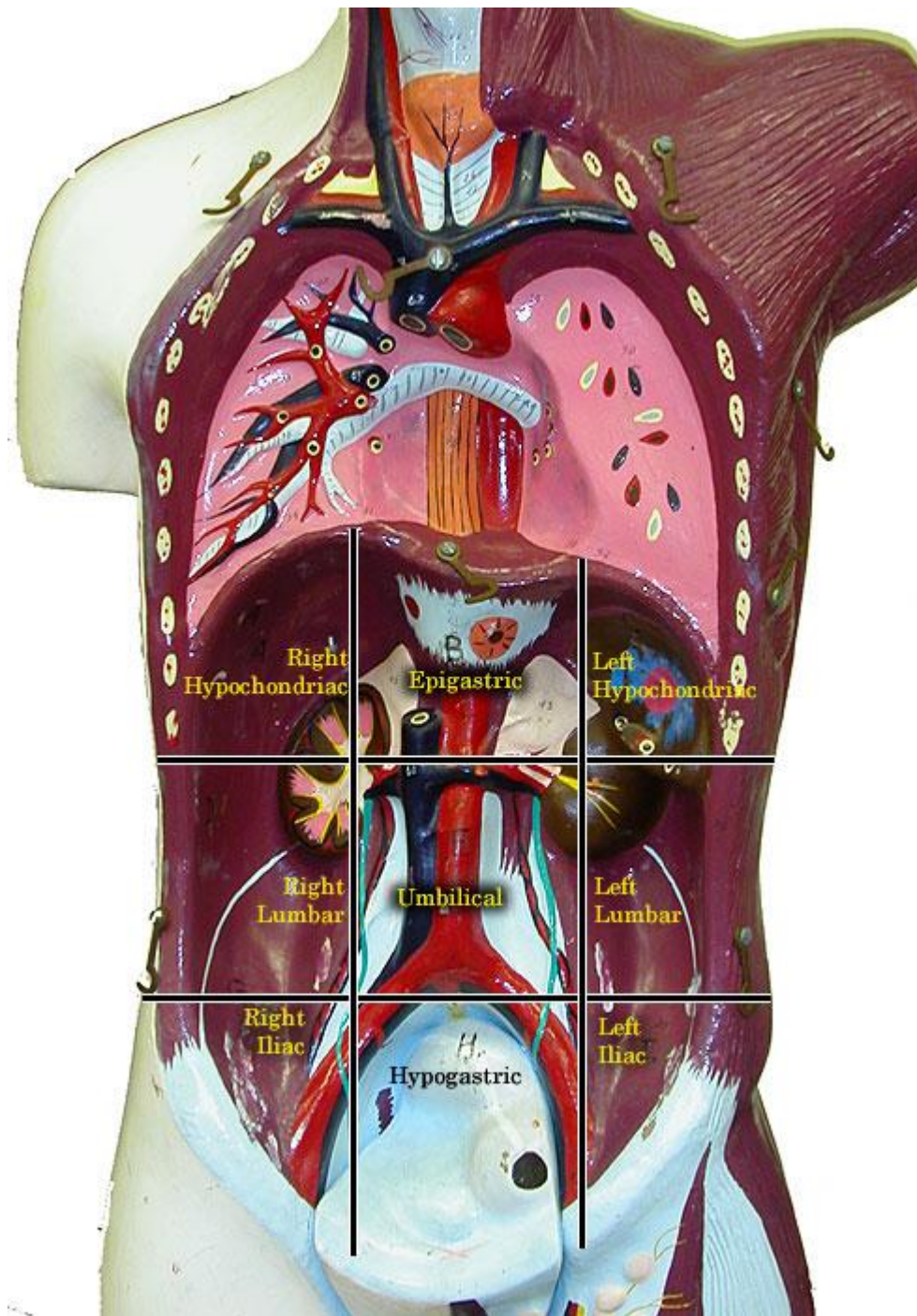












Cranial cavity	
Spinal cavity	
Pleural cavities	
Pericardial cavity	
Mediastinal space	
Abdominal cavity	
Pelvic cavity	

Cranial cavity	Brain and pituitary gland
Spinal cavity	Spinal cord
Pleural cavities	One lung in each
Pericardial cavity	Heart
Mediastinal space	Thymus gland, trachea, esophagus, bronchi, ends of the ven cavae, beginning of the aorta
Abdominal cavity	Stomach, liver, gallbladder, spleen, pancreas, most of the small and large intestines, kidneys
Pelvic cavity	Urinary bladder, sex organs, part of the large intestine, including the cecum, appendix, and rectum





Organ System			Organs and Structures			Function		
Integumentary system			Skin, hair, nails, duct glands			Protects the organism from injury, disease, and infection; aids in the regulation of temperature, the excretion of wastes, and the reception of sensations		
Skeletal system			Bones, joints, cartilage, connective tissue			Provides the framework for the body and works to protect and support the body		
Muscular system			Skeletal, smooth, and cardiac muscles			Provides for body movement and support		
Nervous system			Brain, spinal cord, peripheral nerves			Coordinates body activities by receiving, interpreting, and conducting messages to all other systems of the body		
Special Senses			Eyes, ears, nose, taste buds			Function in receiving sensations such as sight, smell, hearing, and taste		
Digestive system			Mouth, pharynx, esophagus, stomach, large and small intestines, accessory organs such as the gallbladder and pancreas			Receives, breaks down, and absorbs food substances and excretes waste products		
Circulatory system			Heart, blood vessels, blood, lymphatic tissues			Transports materials throughout the body by carrying oxygen and nutrients in the blood to all the cells of the body and carrying away the waste products of the cells		

Respiratory system		
Urinary system		
Reproductive system		
Endocrine system		
Immune system		

Respiratory system	Lungs, nose, pharynx, larynx, trachea	Takes in oxygen from the air and gives off carbon dioxide, which is produced by cell metabolism
Urinary system	Kidneys, ureter, bladder, urethra	Serves in removing waste products from the blood and in excreting wastes in the form of urine
Reproductive system	Sex organs and ducts to the outside	Involved with reproduction and childbirth
Endocrine system	Ductless glands, such as the thyroid and pituitary	Serves to regulate various body functions through glands that secrete hormones directly into the blood to slow down or increase the activity of the cells
Immune system	White blood cells, antibodies	Provides protection against disease and infection



1) Positive feedback mechanisms tend to increase the original stimulus.

Answer:

2) Imaging is useful in discovering obstructed blood supplies in organs and tissues.

Answer:

3) The anatomical position means the body is standing at attention with the palms facing forward and the thumbs pointing away from the body.

Answer:

4) The elbow is proximal to the shoulder.

Answer:

1) Positive feedback mechanisms tend to increase the original stimulus.

Answer: TRUE

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3) The anatomical position means the body is standing at attention with the palms facing forward and the thumbs pointing away from the body.

Answer: TRUE

4) The elbow is proximal to the shoulder.

Answer: FALSE

5) The serous membrane that lines the peritoneal cavity is called visceral peritoneum.

Answer:

6) A major function of serous membranes is to increase friction.

Answer:

7) The right hypochondriac region contains the majority of the stomach.

Answer:

8) Lungs carry out an excretory function.

Answer:

9) Embryology concerns the structural changes that occur in an individual from conception through old age.

Answer:

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10) A tissue consists of groups of similar cells that have a common function.

Answer:

11) It is important for any organism to maintain its boundaries, so that its internal environment remains distinct from the external environment surrounding it.

Answer:

12) Without some sort of positive or negative feedback mechanism, it would be impossible to keep our body chemistry in balance.

Answer:

10) A tissue consists of groups of similar cells that have a common function.

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13) Regardless of the variable being regulated, all homeostatic control mechanisms have at least three interdependent components.

Answer:

14) In a negative feedback mechanism, ADH is the equivalent to the "thermostat" in your home heating system.

Answer:

15) The epigastric region is located superior to the umbilical region.

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A. distal B. superior C. proximal D. anterior E. lateral.

- The wrist is-----to the elbow.

.

- The elbow is-----to the shoulder.

.

- The nasal cavity is-----to the oral cavity.

- The knee is-----to the ankle.

- The ankle is-----to the knee.

.

- The heart is----to the vertebral column.

.

- The right eye is-----to the bridge of the

.

- The left eye is-----to the bridge of the nose.

.

- The forehead is-----to the bridge of the nose.

<p>10) Directly causes mechanical motion. Answer:</p> <p>11) Responds to environmental changes by transmitting electrical impulses. Answer:</p>	<p>A) Skeletal B) Nervous C) Integumentary D) Muscular</p>	
<p>12) Provides support and levers for muscles to work on. Answer:</p>		
<p>13) Protects underlying organs from mechanical damage and synthesizes vitamin D. Answer:</p>		

14) Controls the body with chemical molecules called hormones.

Answer: A

- A) Endocrine
- B) Immune
- C) Cardiovascular
- D) Lymphatic

15) Delivers oxygen and nutrients to the tissues.

Answer: B

16) Produces antibodies that neutralize foreign substances.

Answer: A

17) Removes and filters excess fluid from tissues.

Answer: C

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*Match the following examples of feedback mechanisms:*

18) Blood glucose levels

Answer:

19) Blood pressure

Answer:

20) Blood clotting

Answer:

21) Delivery a baby

Answer:

A) Positive feedback

B) Negative feedback

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18) Blood glucose levels

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*Match the following systems:*

A) Cardiovascular

B) Respiratory

22) Arteries, veins, heart.

Answer:

23) Trachea, bronchi, aveoli.

Answer:

24) Adrenal glands, pancreas, pituitary.

Answer:

25) Esophagus, large intestines, rectum.

Answer:

26) Kidneys, bladder, ureters.

Answer:



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A) Cardiovascular

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22) Arteries, veins, heart.

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24) Adrenal glands, pancreas,  
pituitary.

Answer: B

25) Esophagus, large intestines,  
rectum.

Answer: A

26) Kidneys, bladder, ureters.

Answer: C

*Match the following terms:*

37) The bridge of the nose is \_\_\_\_\_ to the left eye.

Answer:

38) The upper arm is \_\_\_\_\_ to the forearm.

Answer:

39) The heart is \_\_\_\_\_ to the stomach.

Answer:

40) The fingers are \_\_\_\_\_ to the wrist.

Answer:

41) The stomach is \_\_\_\_\_ to the spine.

Answer:

A) Medial

B) Anterior

C) Proximal

D) Distal

E) Superior

*Match the following terms:*

37) The bridge of the nose is \_\_\_\_\_ to the left eye.

Answer: A

38) The upper arm is \_\_\_\_\_ to the forearm.

Answer: C

39) The heart is \_\_\_\_\_ to the stomach.

Answer: E

40) The fingers are \_\_\_\_\_ to the wrist.

Answer: D

41) The stomach is \_\_\_\_\_ to the spine.

Answer: B

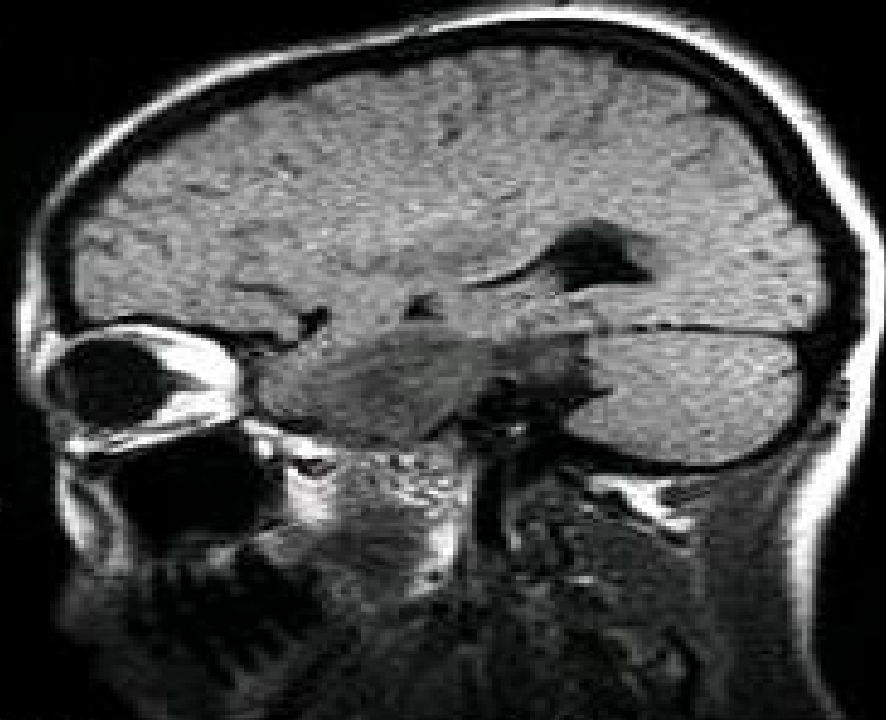
A) Medial

B) Anterior

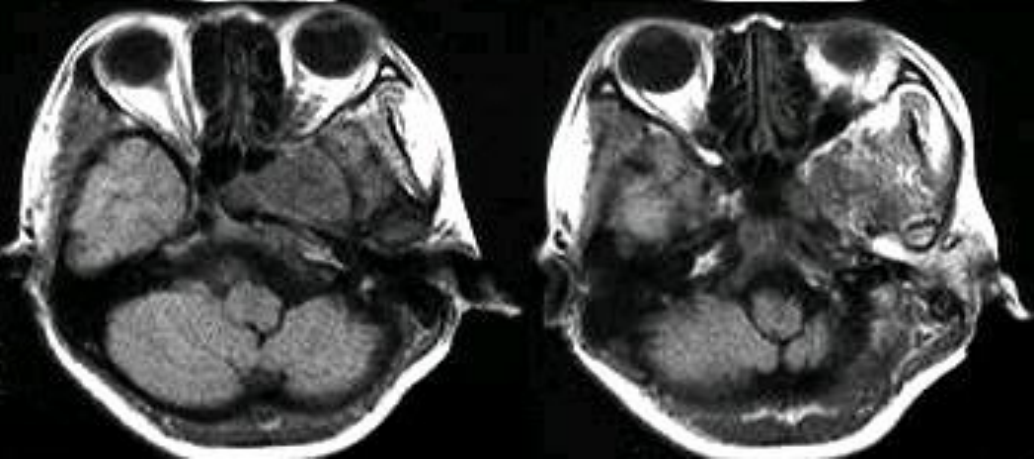
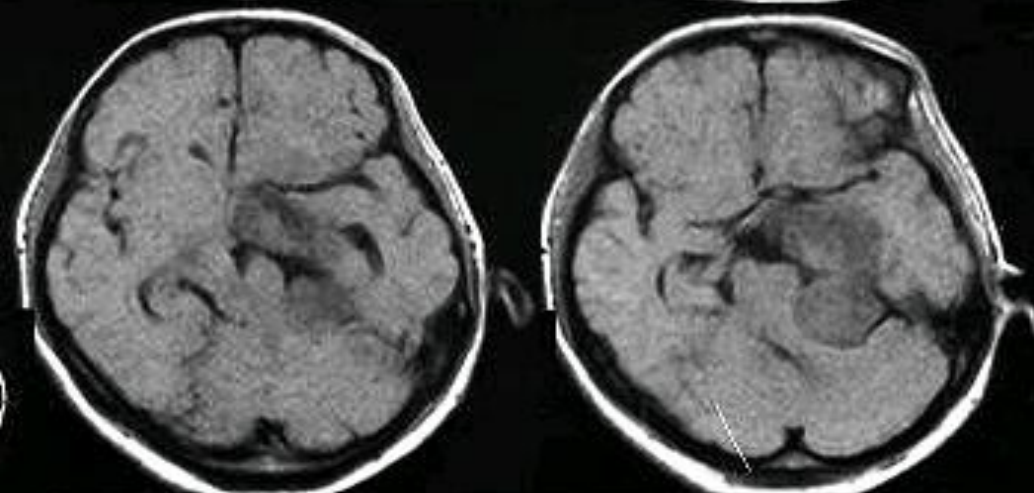
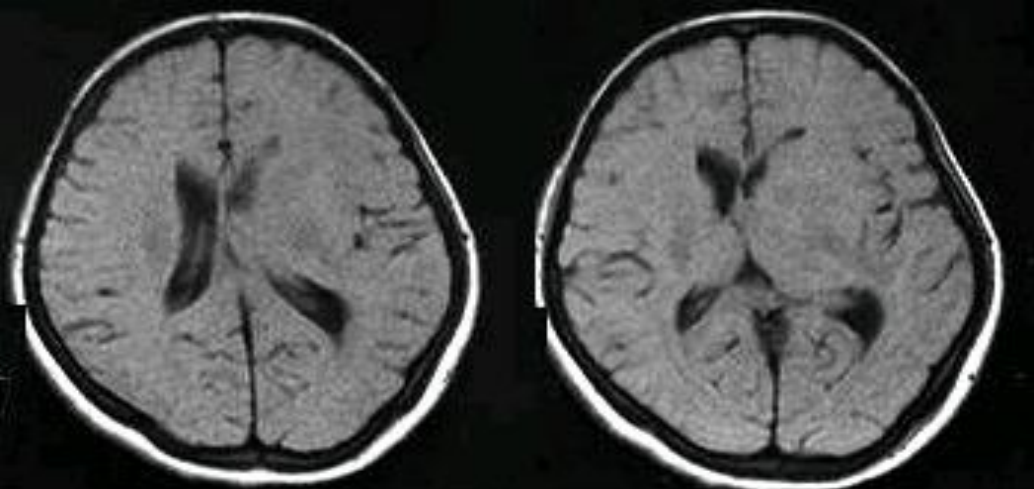
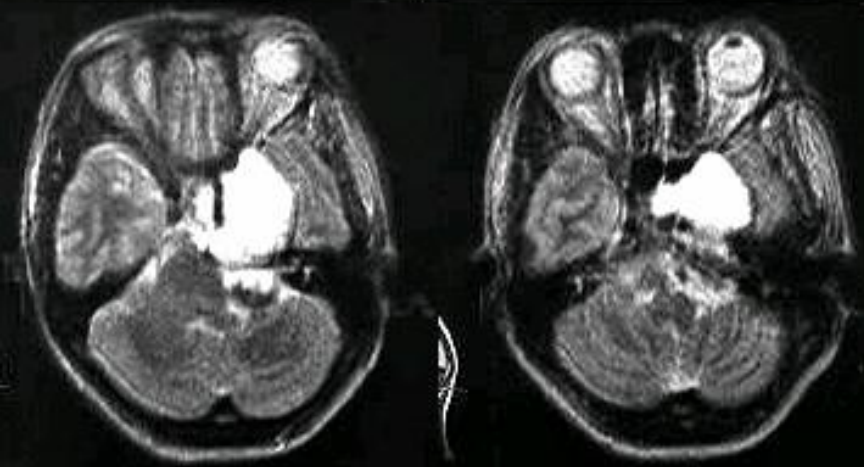
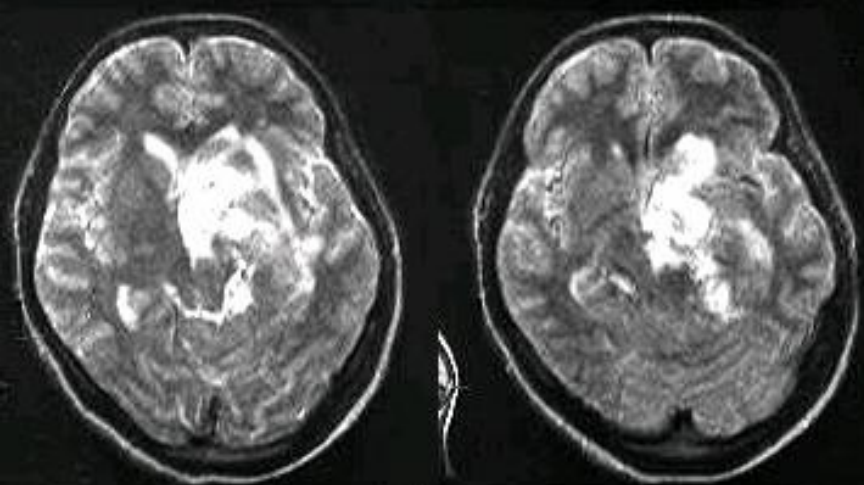
C) Proximal

D) Distal

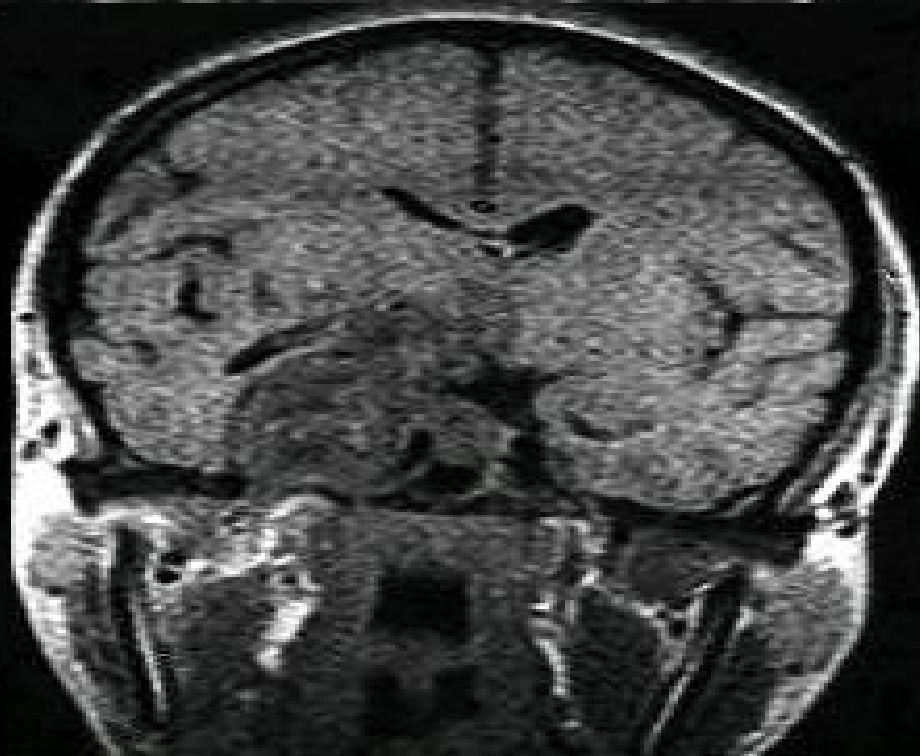
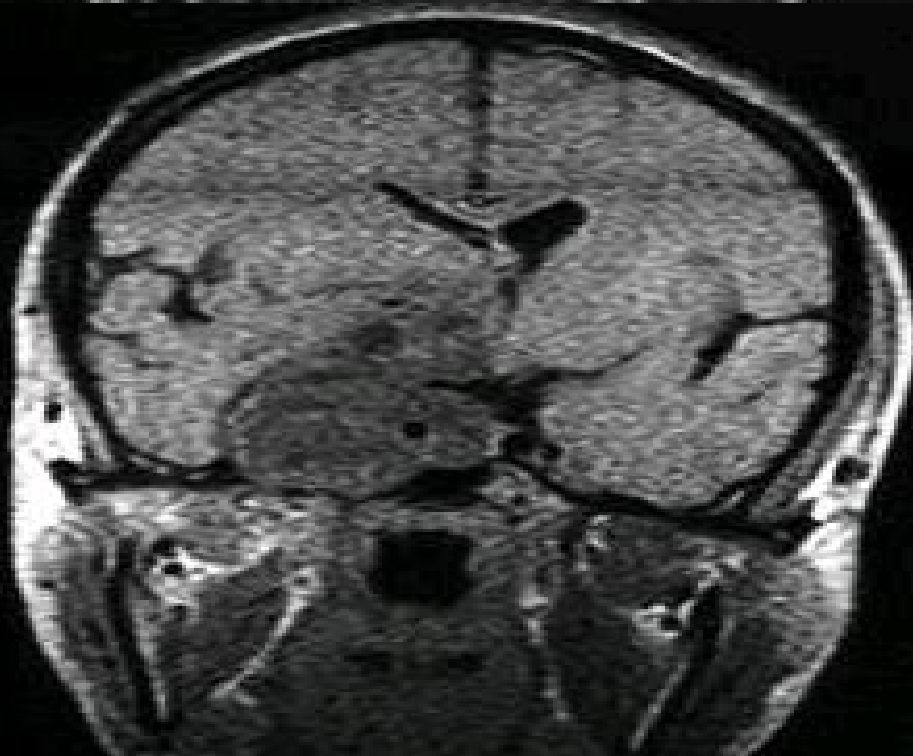
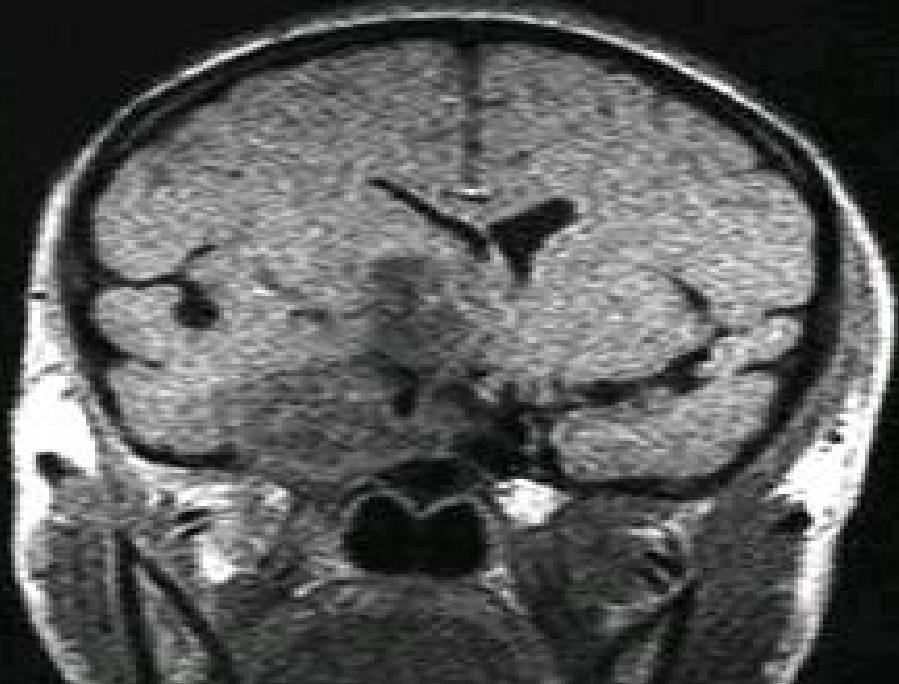
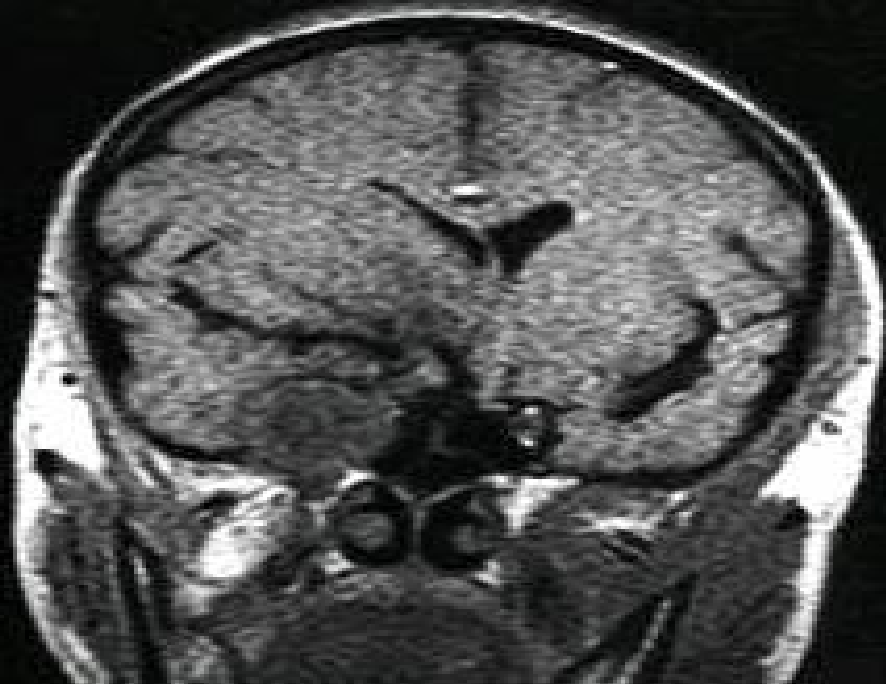
E) Superior



Sagittal

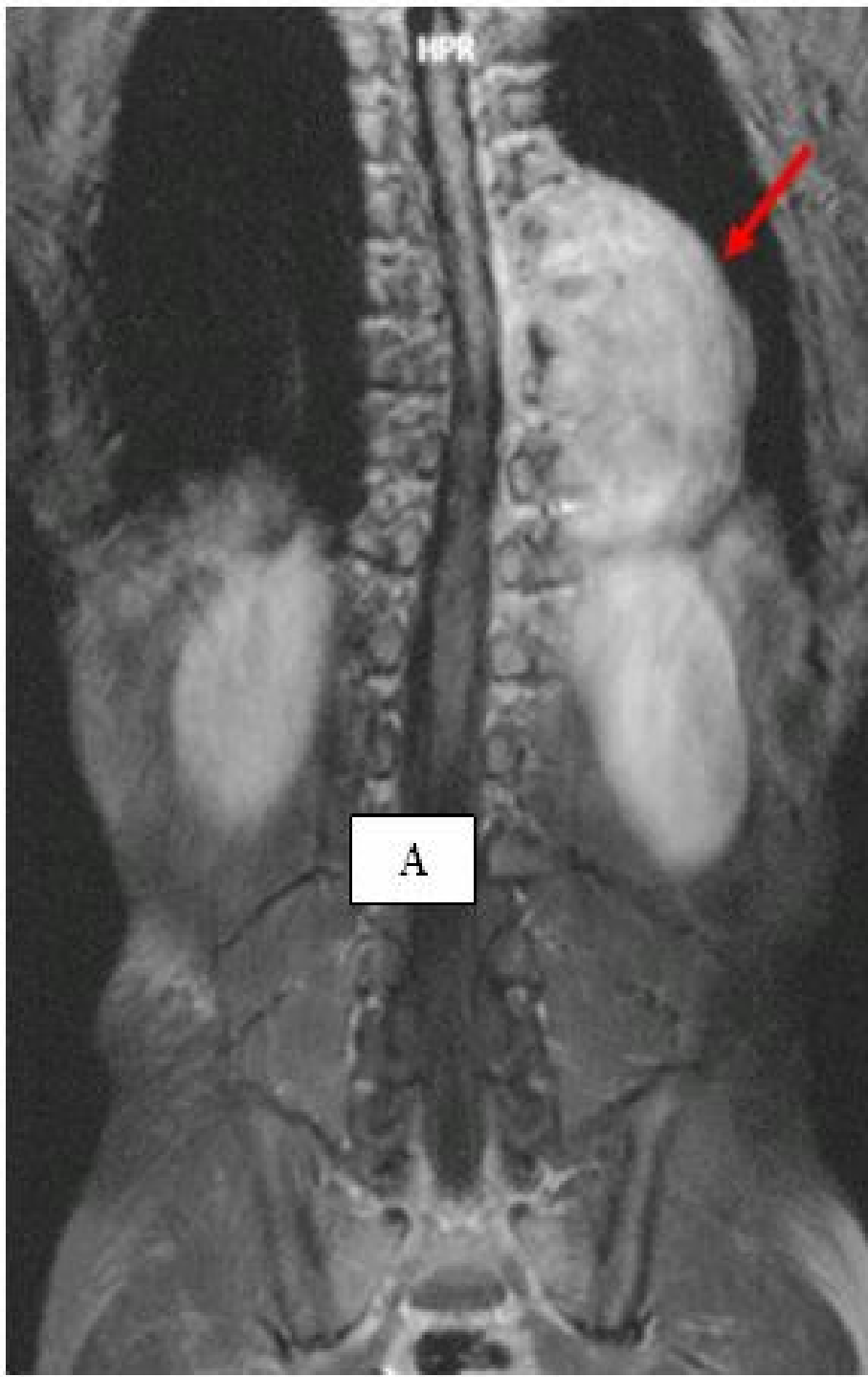


# Axial

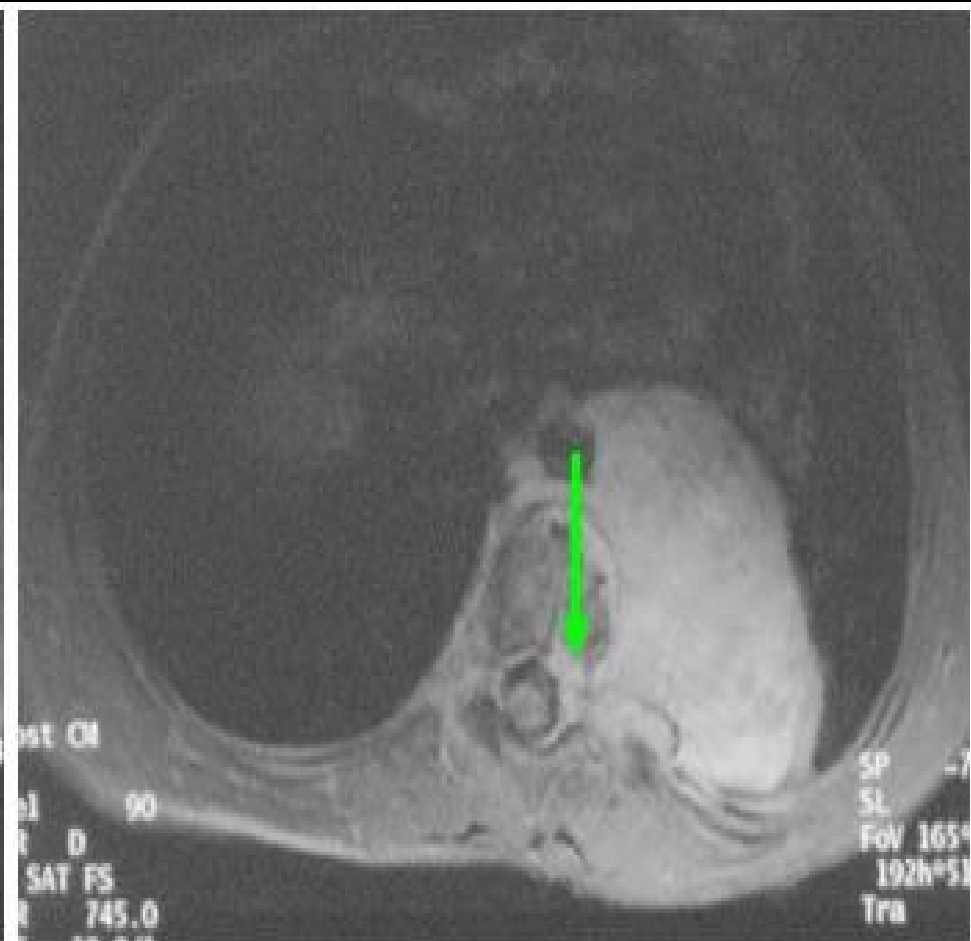




Coronal

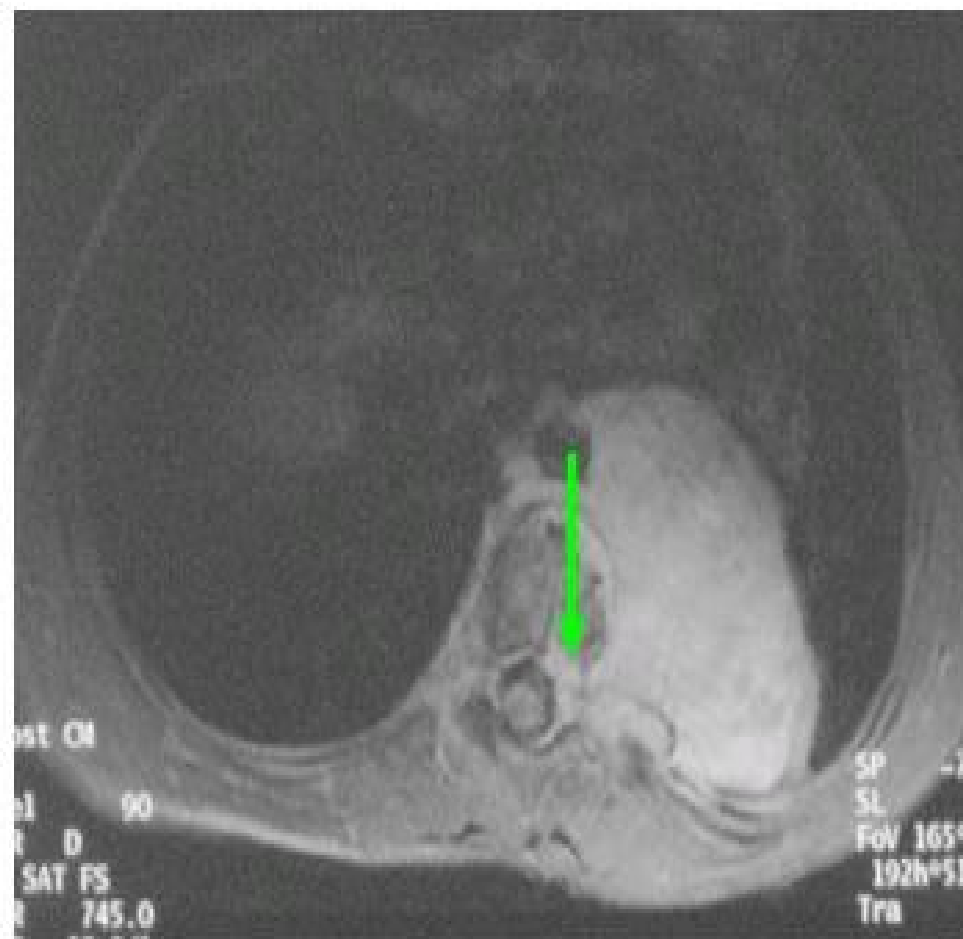


**Sagittal MRI with left  
paravertebral tumor ( red arrow ).**



## Axial MRI.

Demonstrates encapsulation of the aorta by tumor ( red arrow ) and the intraspinal growth through the neural foramen ( green arrow ).



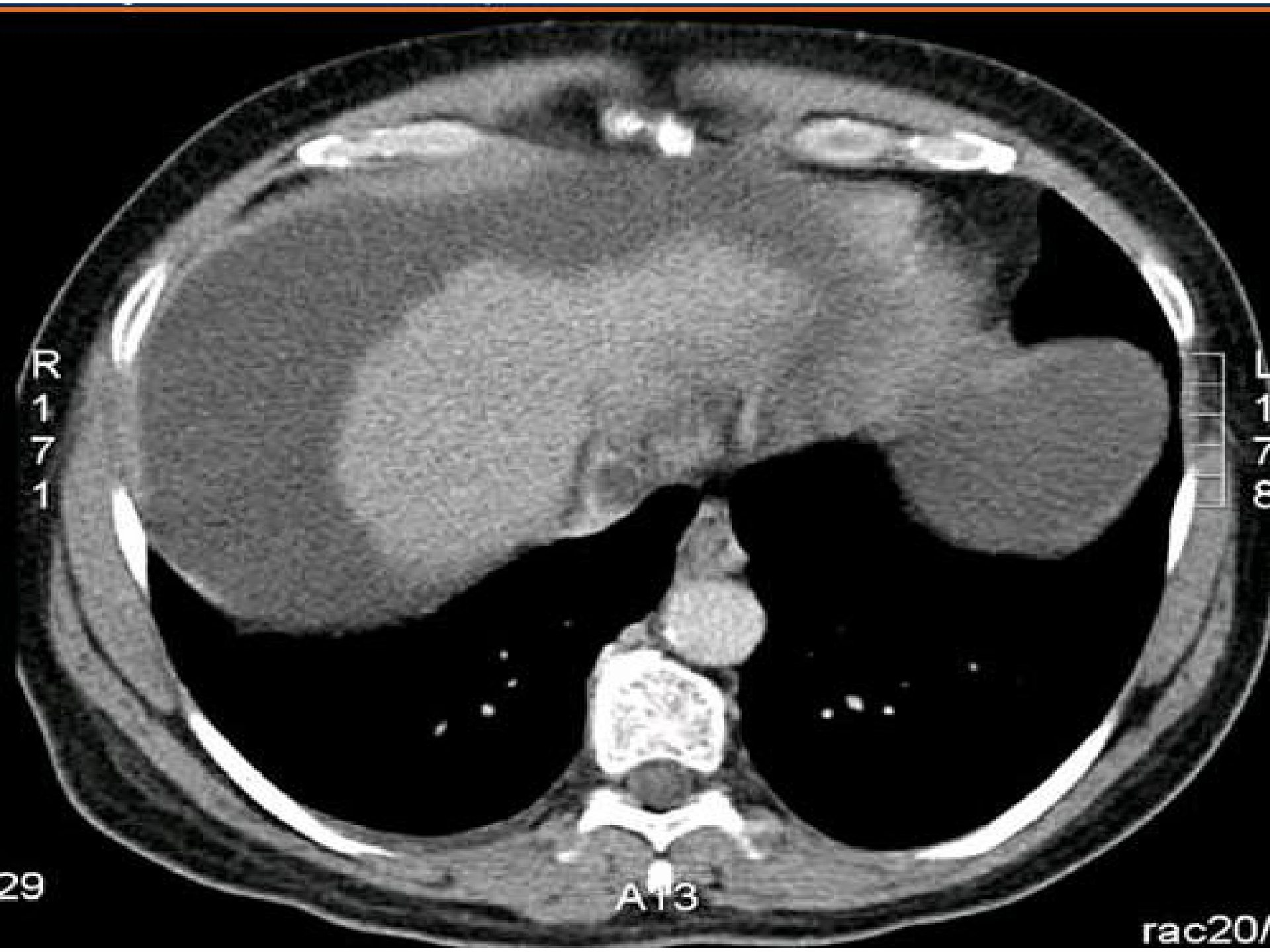


rest



strain

Sagittal dynamic MRI studies of the  
pelvic floor.



29

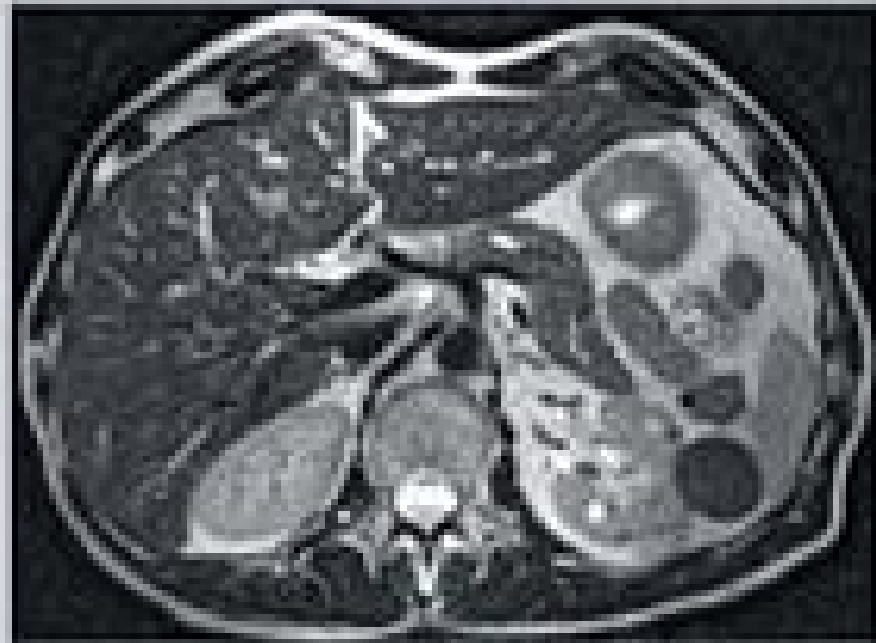
A13

rac20/



# Transverse thoracic cavity

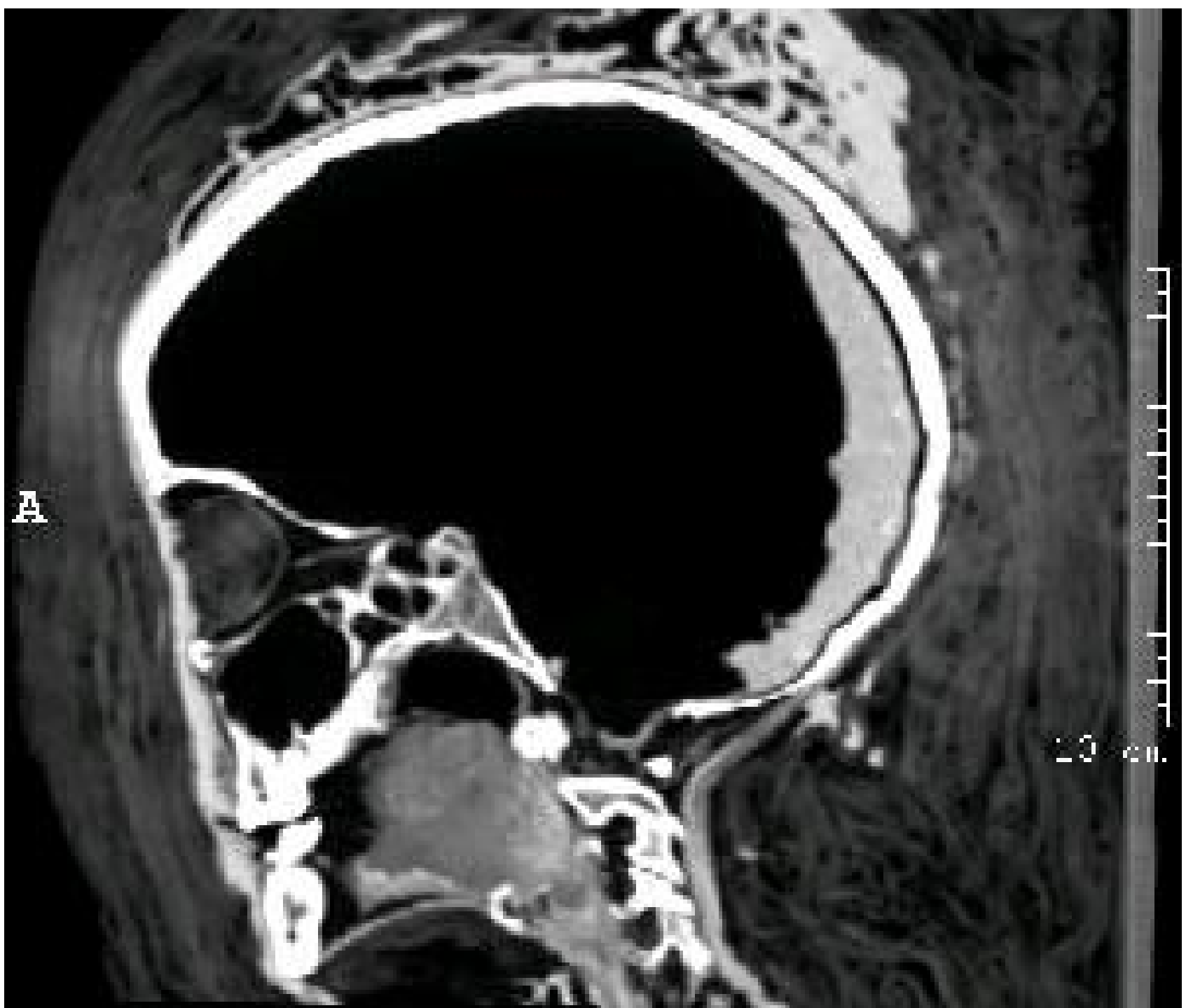
**Recognize  
the cavities**

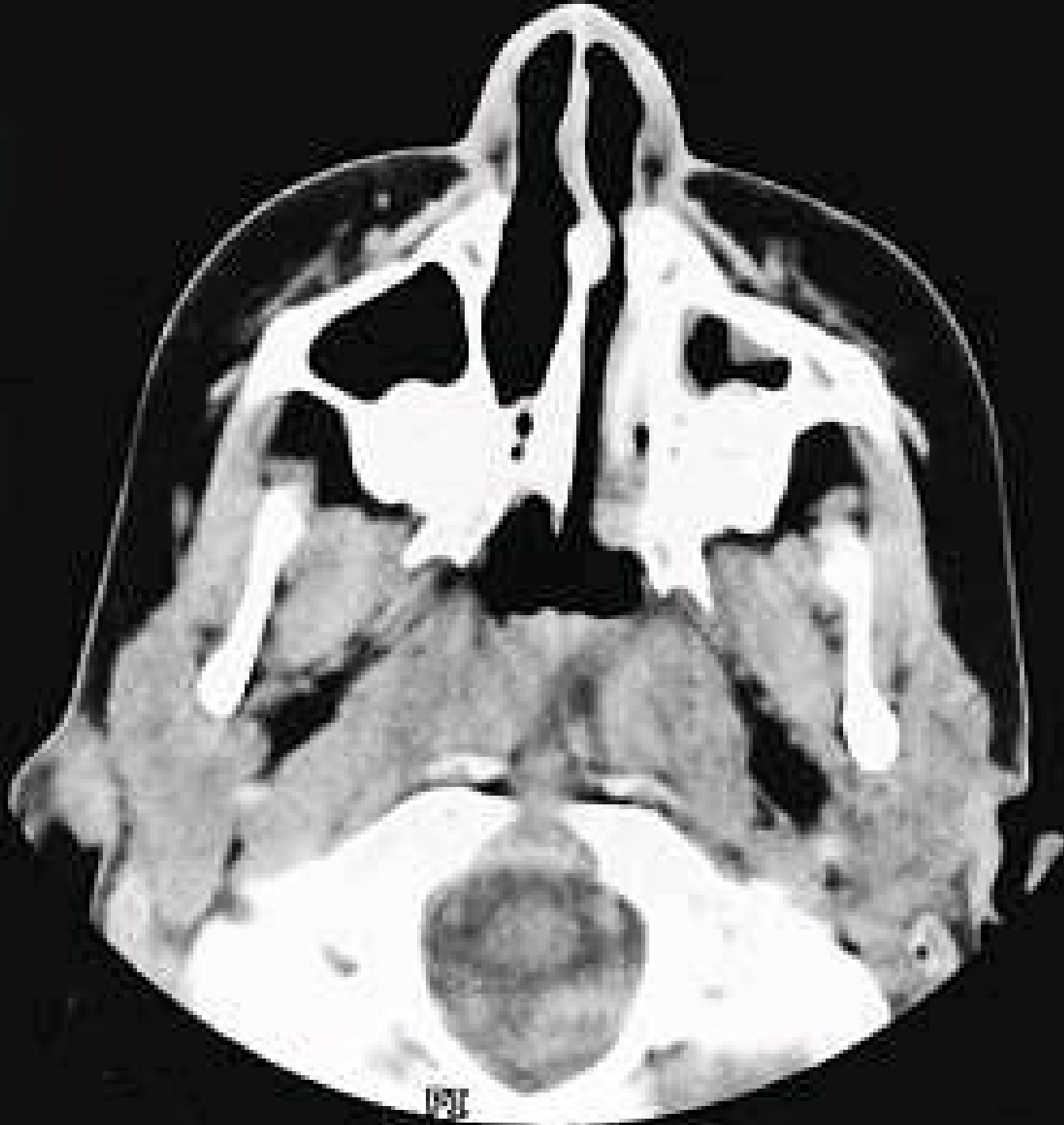


**LIFE**



Photo by Alexander Tsiaras





Axial CT scan demonstrating  
unilateral choanal atresia.

373

.85

5.0cm

Acc Num:17

KAPLAN

M 9 0074

DOB: Jun 2

Jan 1

Index: 3.0

m/8.06 0.75:1

S21.5

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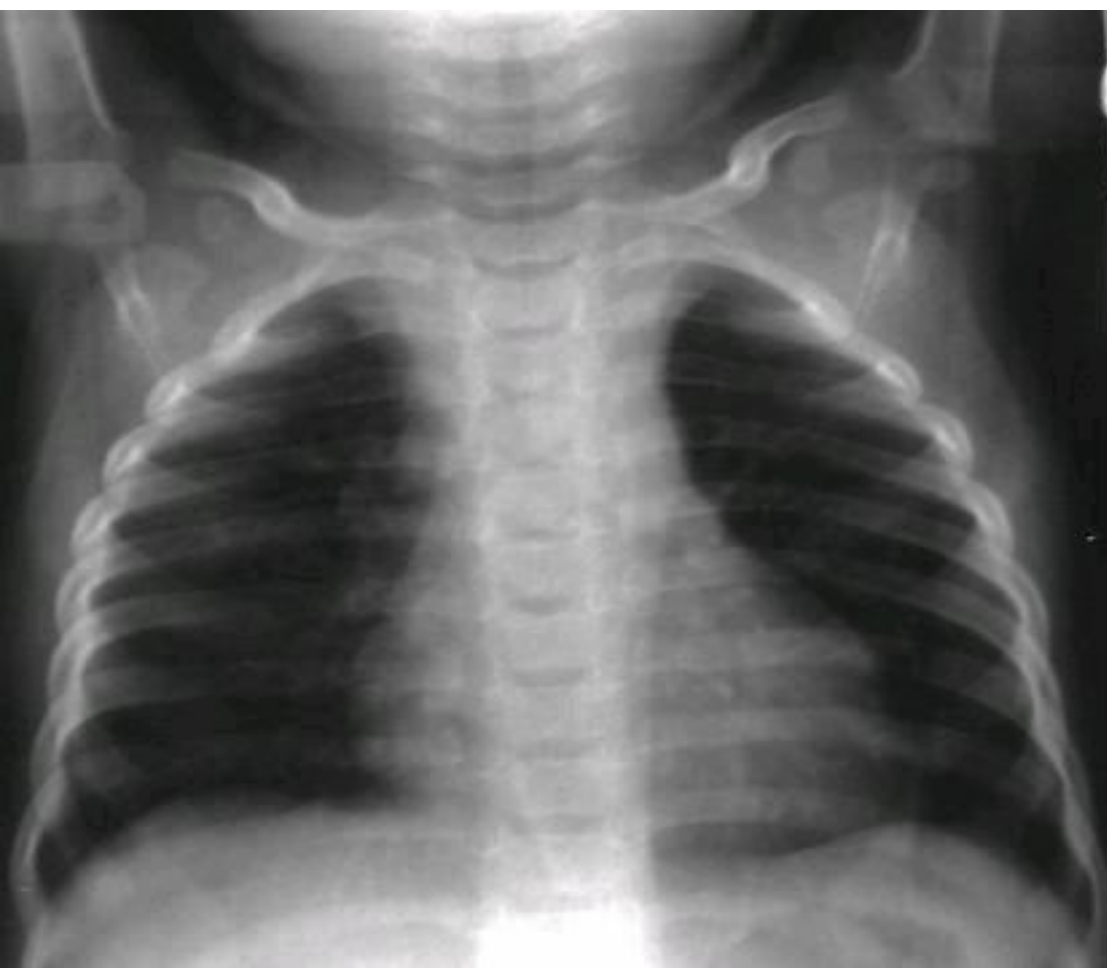
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AI

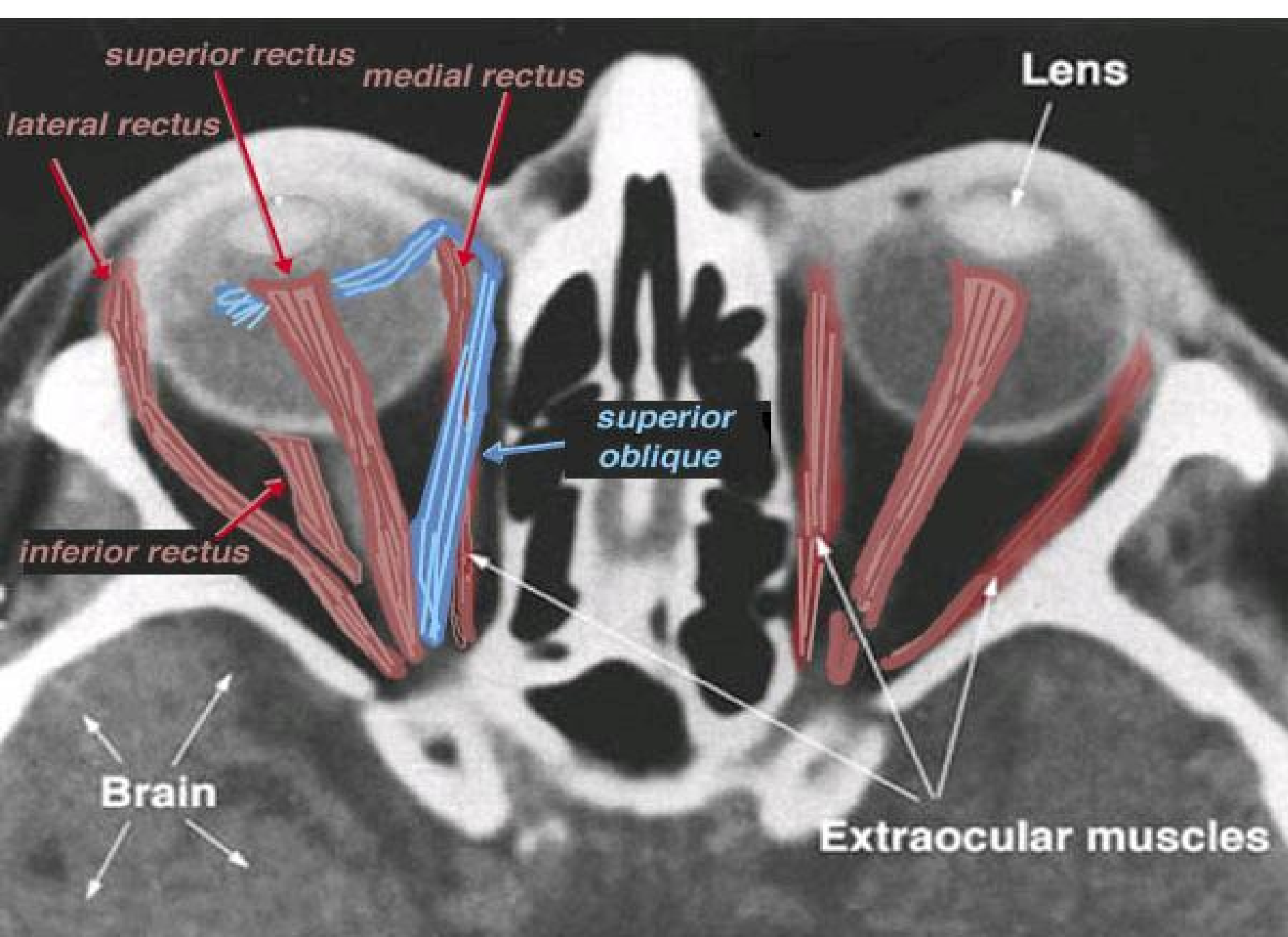


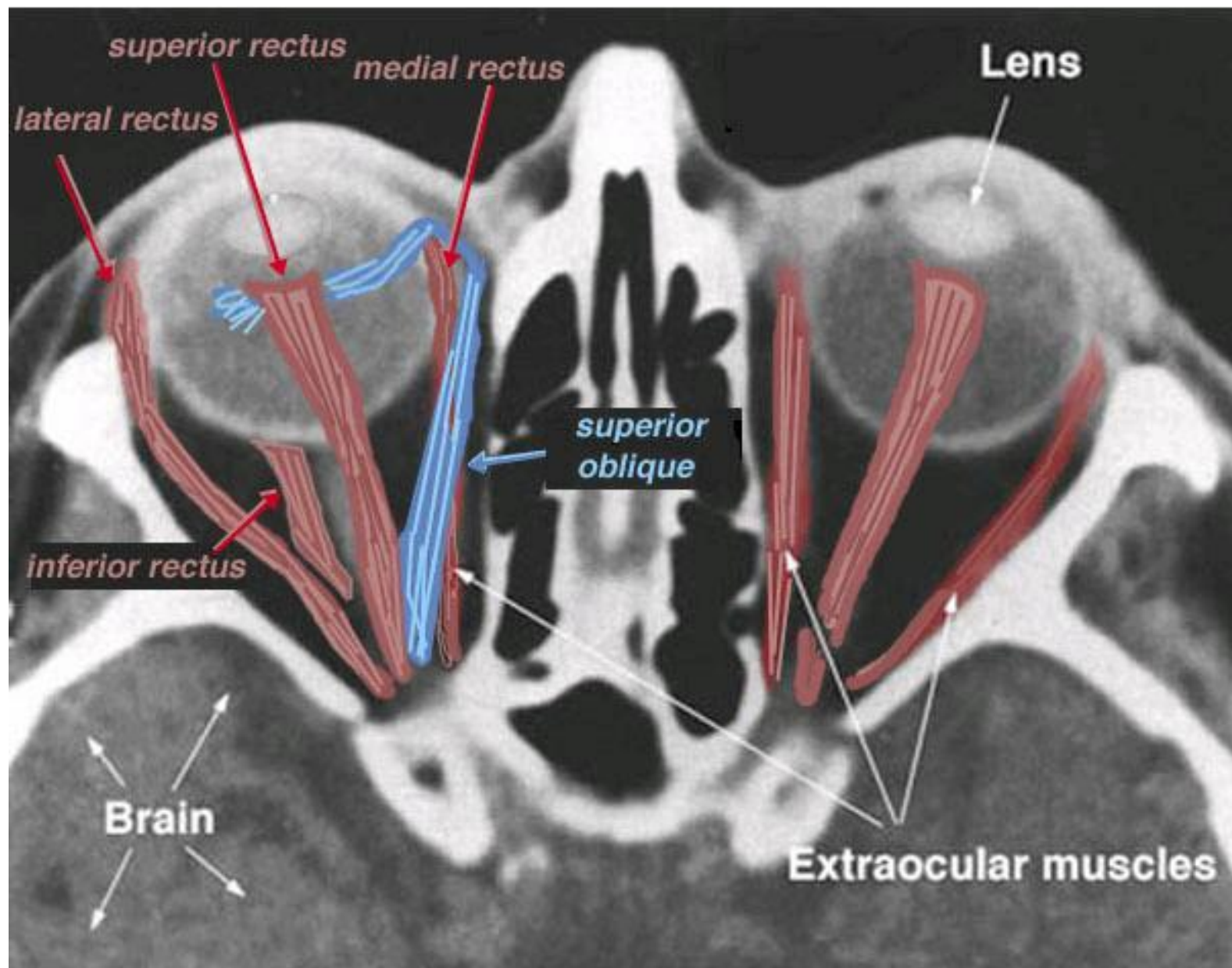
Coronal CT scan.





Frontal, lateral view





**Fig. 3.** CT Horizontal transverse scan at the plane of the brain, orbits and nose of the human head.



# Lateral view