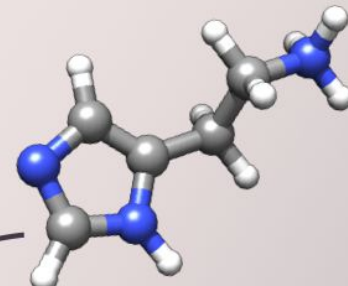
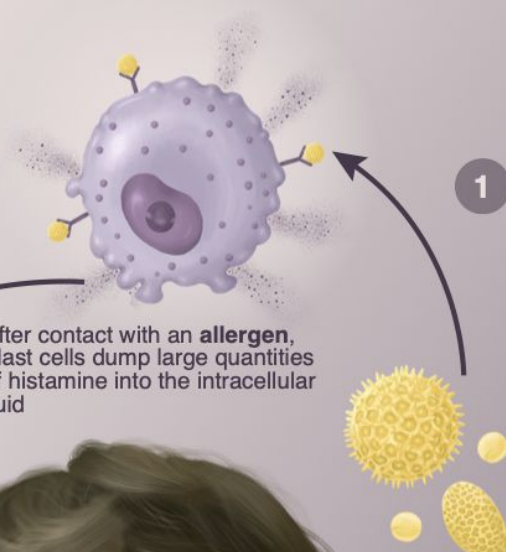
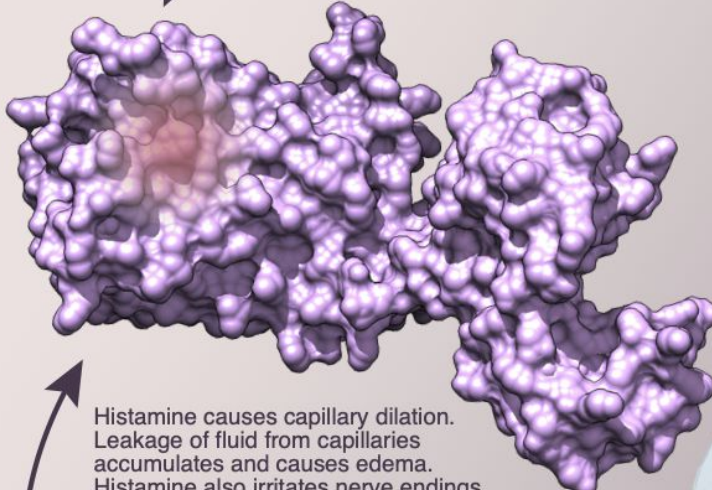


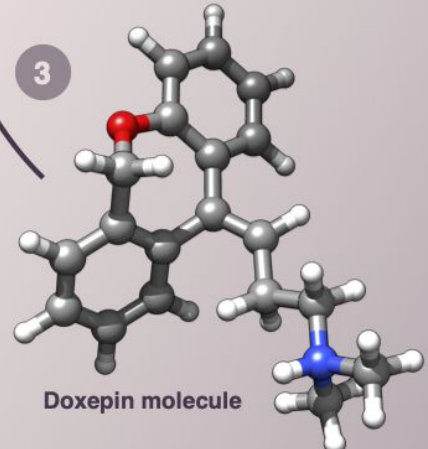
Histamine and Allergic Reactions



Histamine binds to **Histamine H1 receptor protein** on target cells



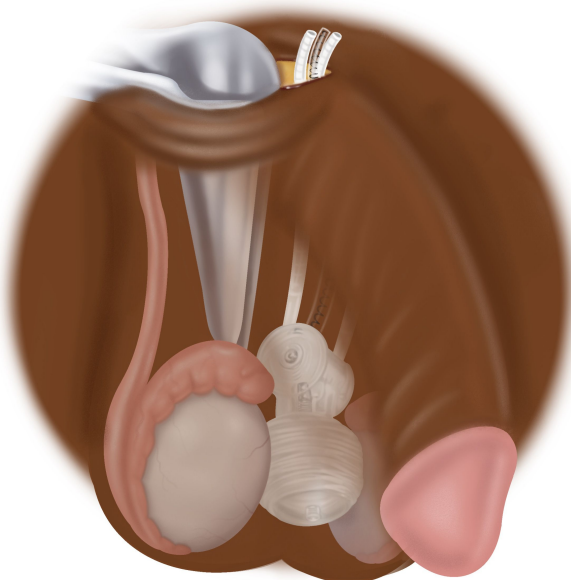
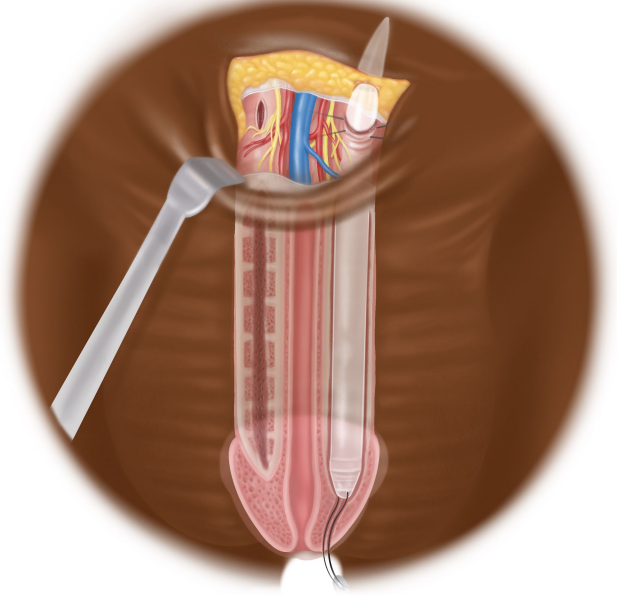
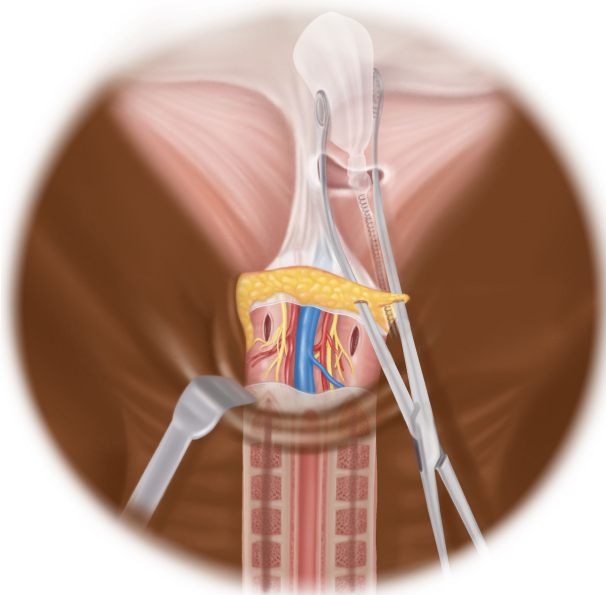
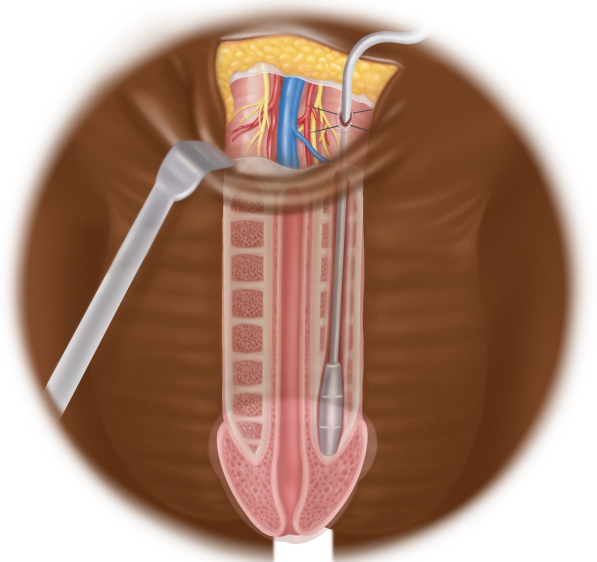
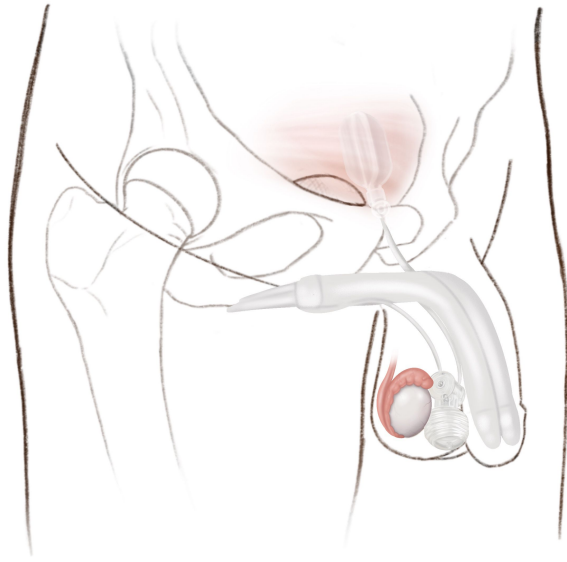
Histamine causes capillary dilation. Leakage of fluid from capillaries accumulates and causes edema. Histamine also irritates nerve endings, causing itching and attracts other inflammatory cells to the area. This is what causes the redness, swelling, and itchiness of dermatitis and hives.



Antihistamines, such as Doxepin, block the action of histamine by binding to the Histamine H1 receptor



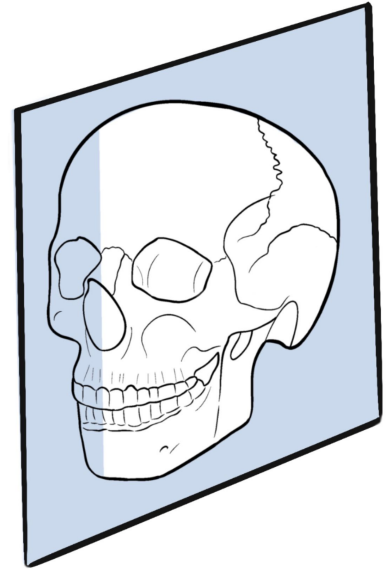
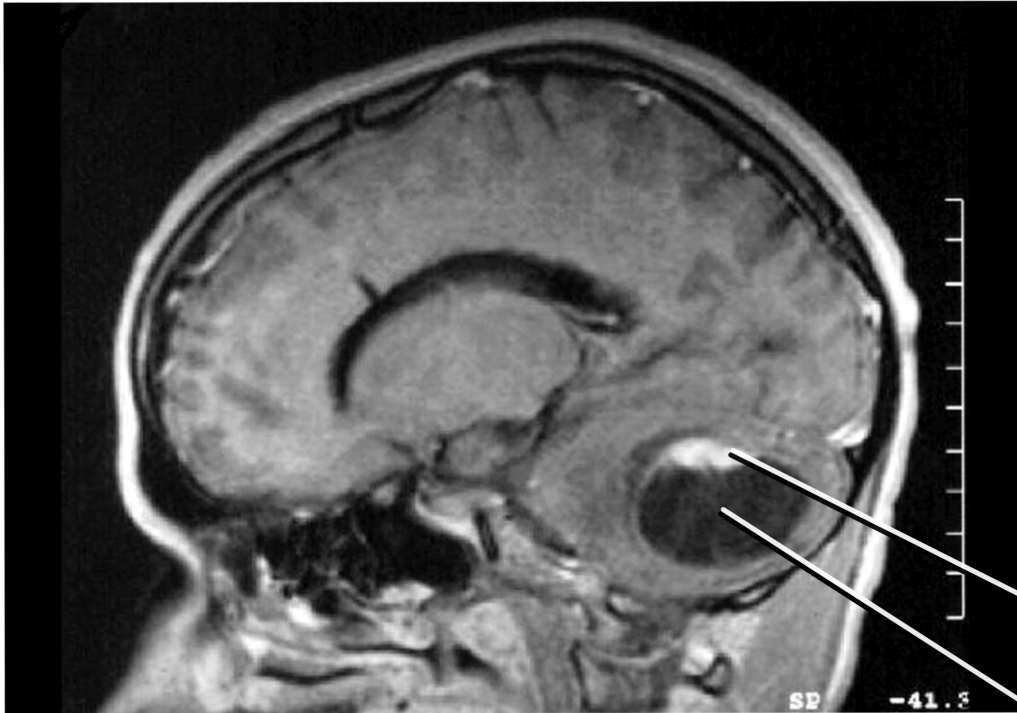
Penile Prosthesis Surgery



JANE DOE

Juvenile Pilocytic Astrocytoma

MRI Print

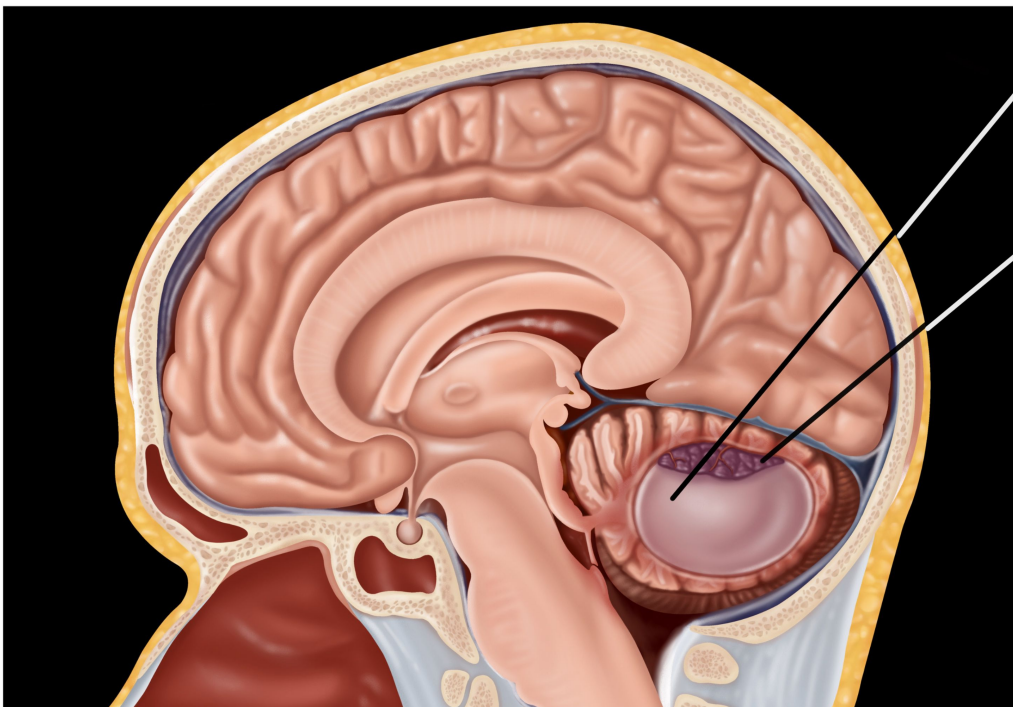


MRI Showing Pilocytic Astrocytoma

Cystic Portion

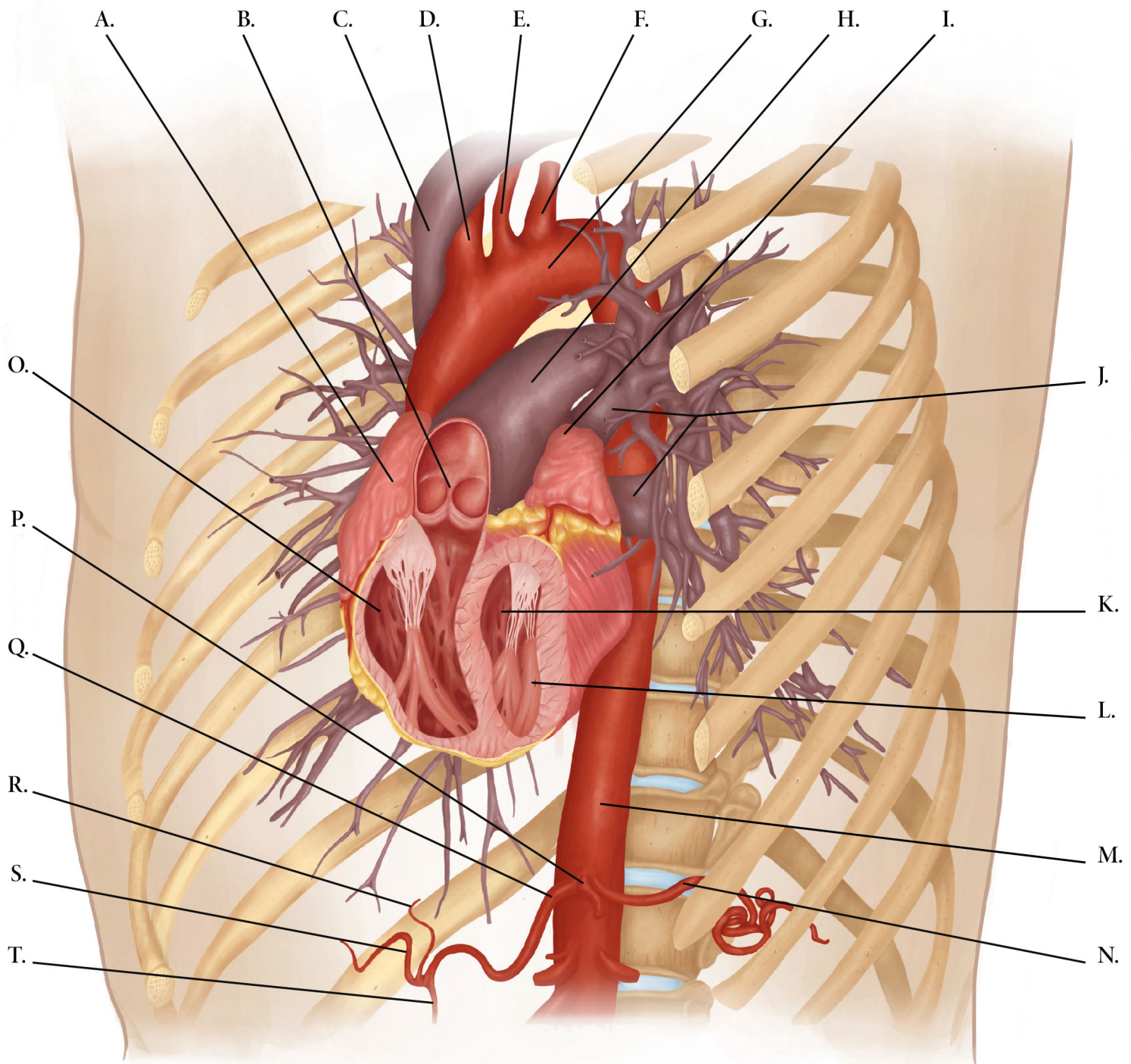
Mural Nodule

Interpretation of MRI



Sagittal Section of Brain Showing Pilocytic Astrocytoma

Anatomy of the Heart and Thoracic Aorta



Key

- | | | | |
|---------------------------|---------------------------|---------------------|----------------------|
| A. Right atrium | F. Left subclavian a. | K. Left ventricle | P. Left gastric a. |
| B. Pulmonary valve | G. Aortic arch | L. Papillary muscle | Q. Common hepatic a. |
| C. Superior vena cava | H. Pulmonary trunk | M. Descending aorta | R. Right gastric a. |
| D. Brachiocephalic a. | I. Auricle of left atrium | N. Splenic a. | S. Proper hepatic a. |
| E. Left common carotid a. | J. Left pulmonary veins | O. Right ventricle | T. Gastroduodenal a. |

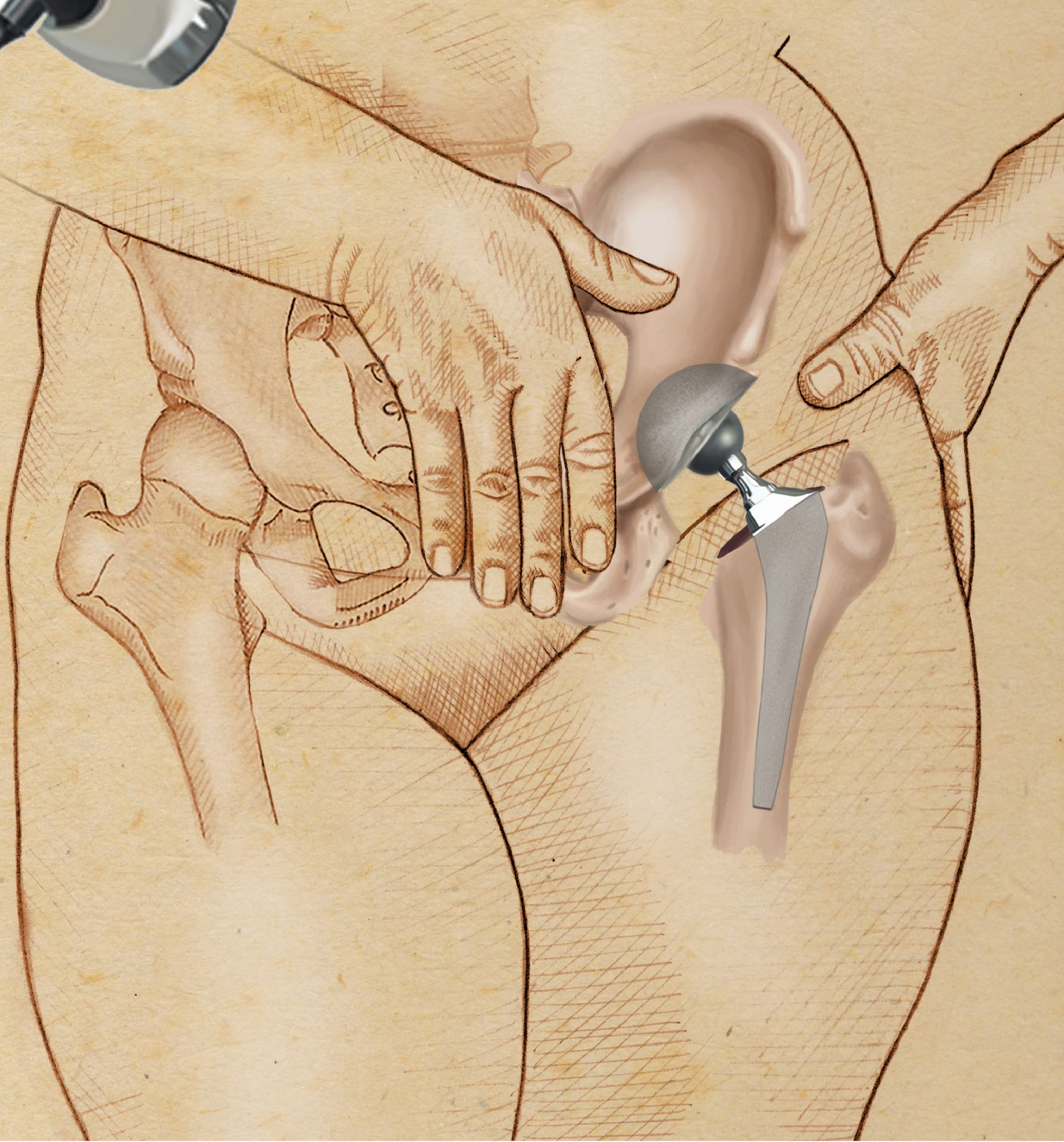
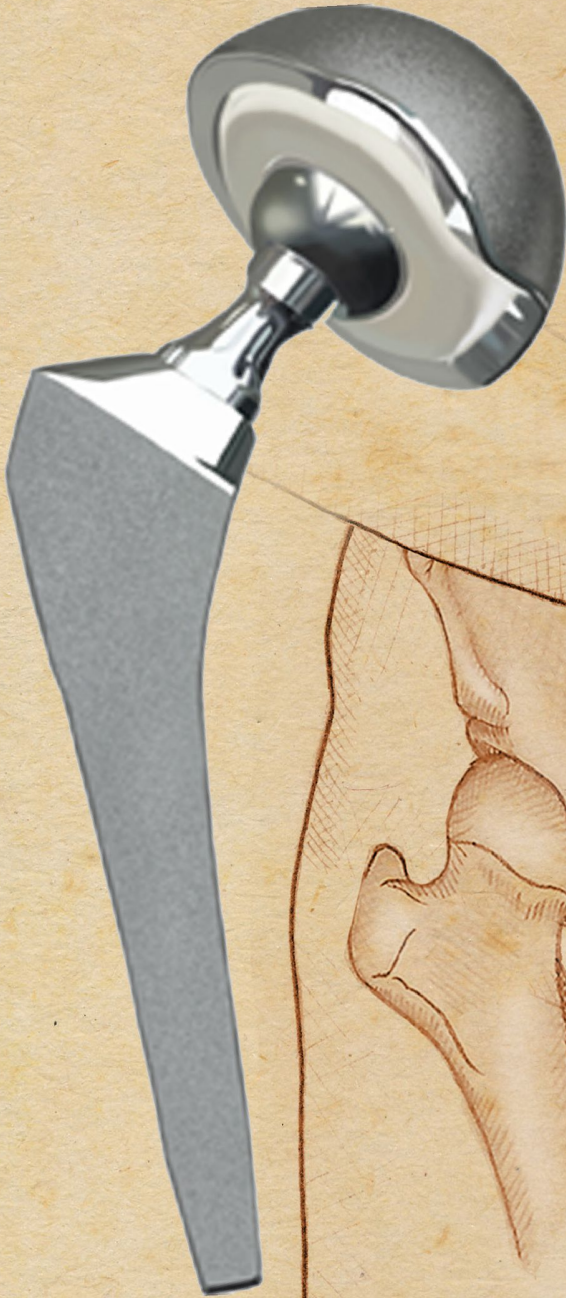


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Distribution of the Facial Nerve

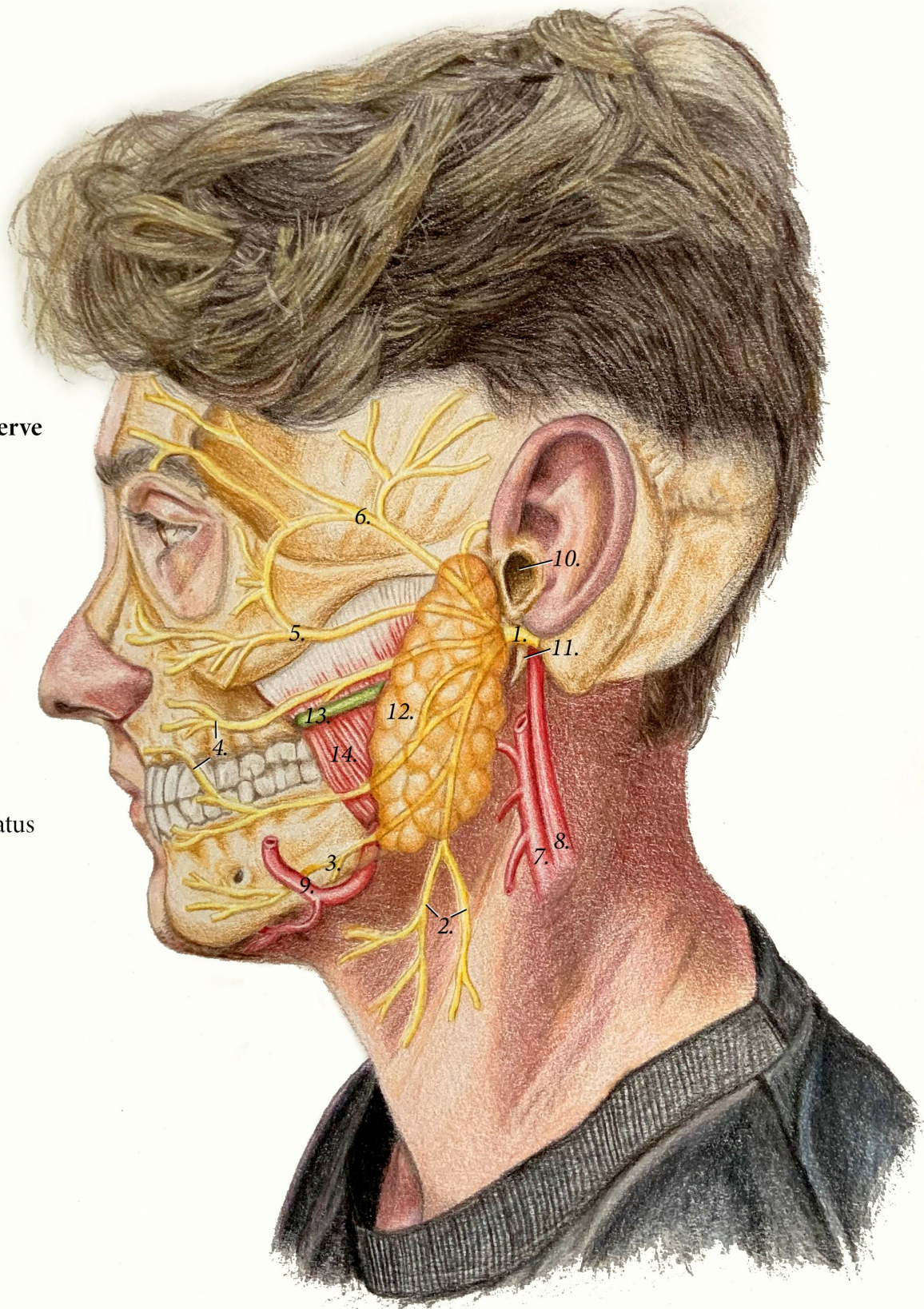
(lateral view)

Branches of the Facial nerve

1. Facial nerve trunk
2. Cervical branch
3. Marginal mandibular
4. Buccal
5. Zygomatic
6. Temporal

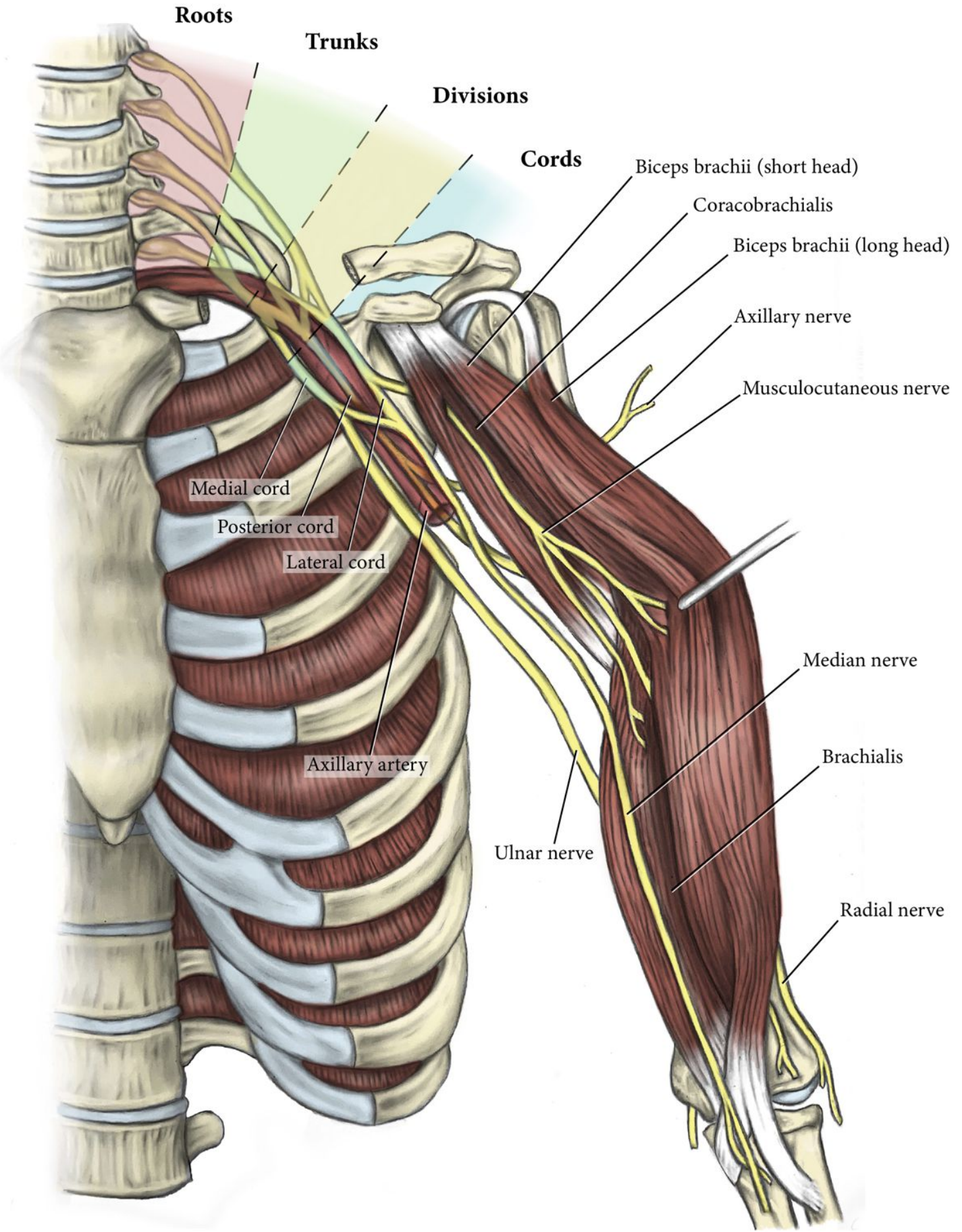
Other Structures

7. External carotid artery
8. Internal carotid artery
9. Facial artery
10. External auditory meatus
11. Styloid process
12. Parotid gland
13. Parotid duct
14. Masseter muscle

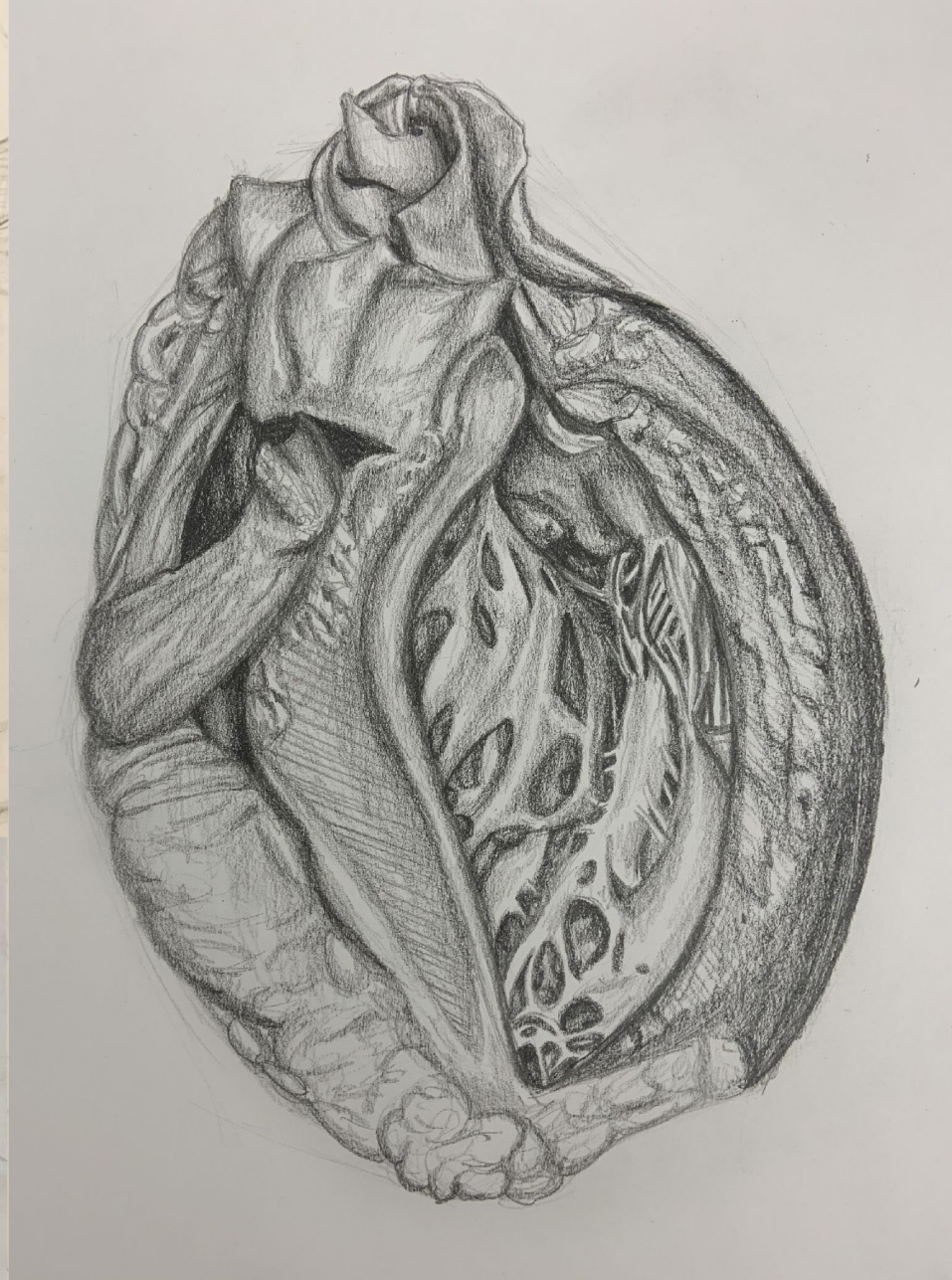
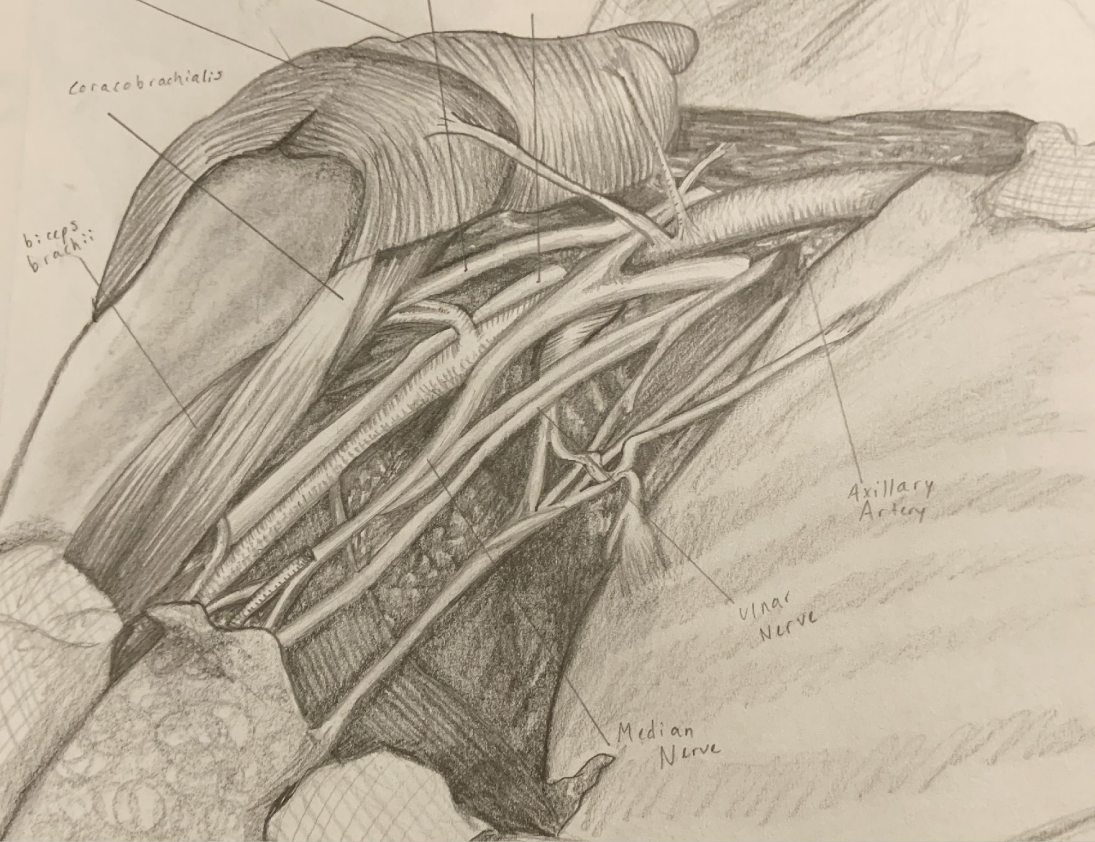


The Brachial Plexus and Innervation of Upper Arm Muscles

(anterior view)





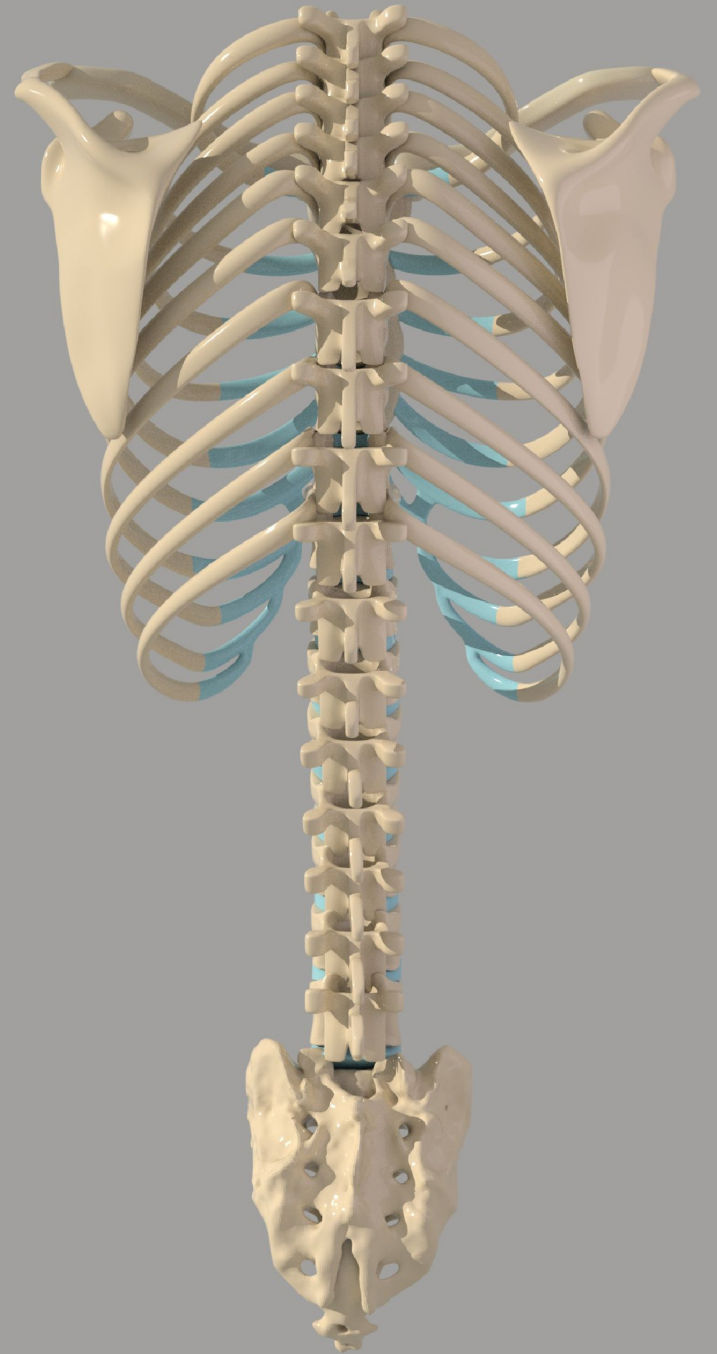
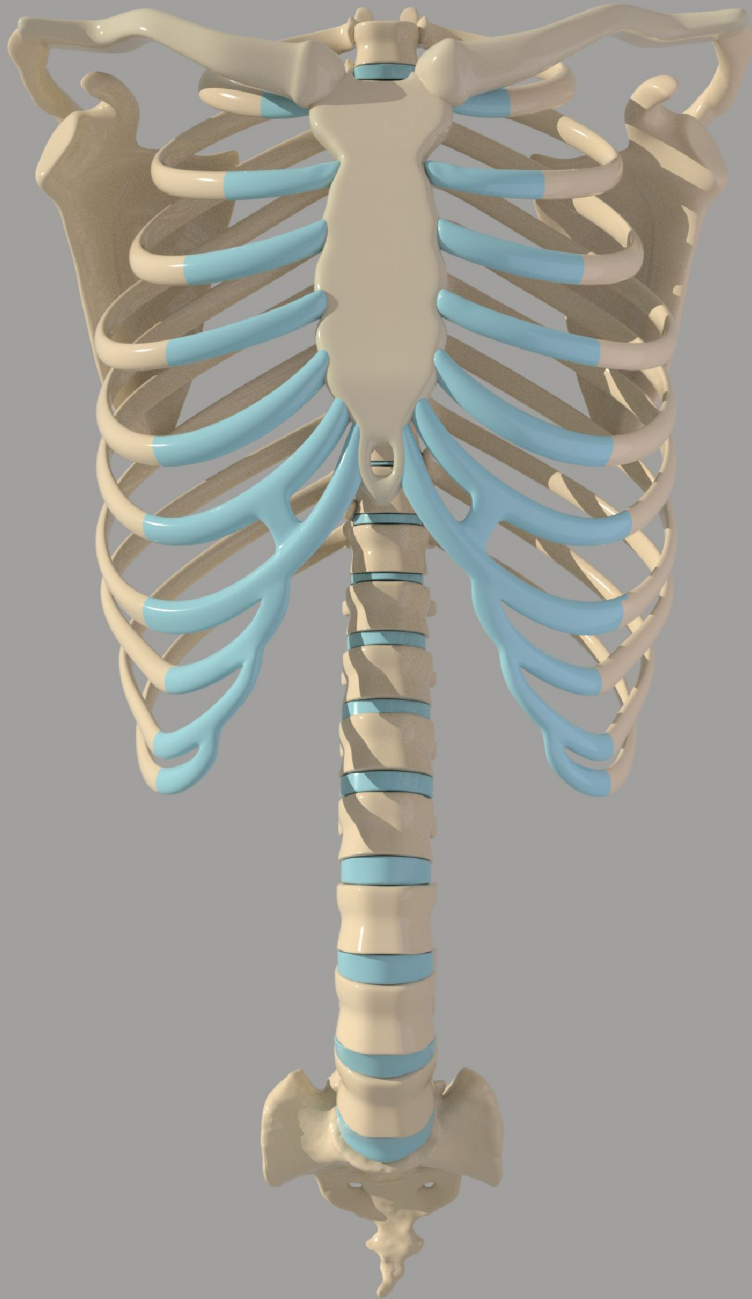
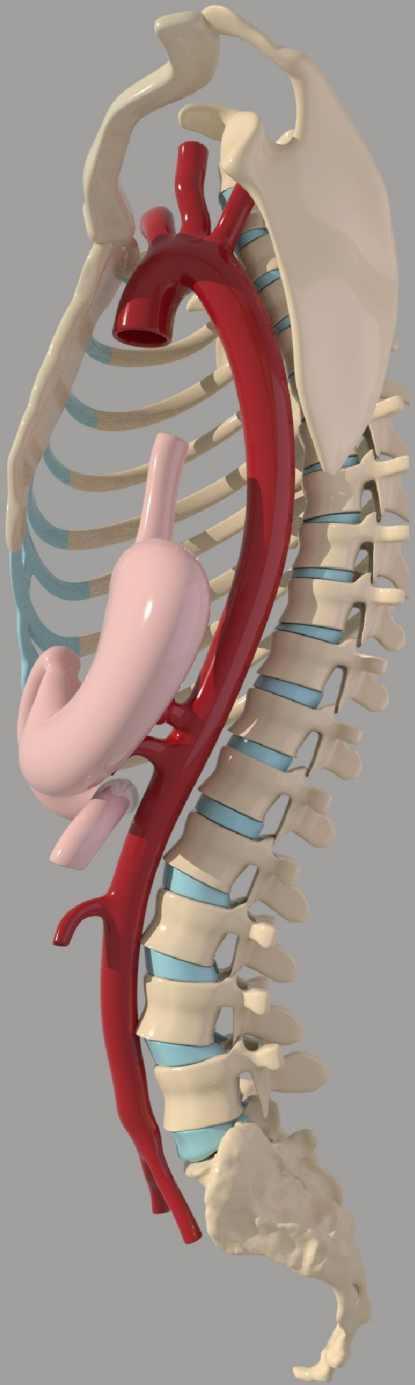


Cadaver sketches:

Top left - Brachial plexus

Bottom left - Pubic hemisection (*Female*)

Right - Heart (*Right ventricle*)

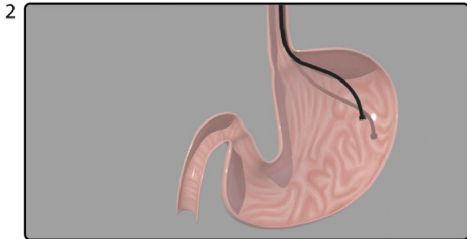


Intragastric Balloon Procedure

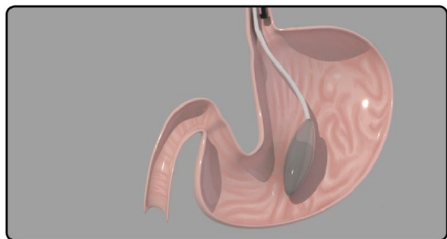
Claire Hannon



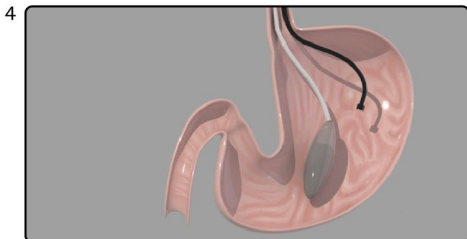
Title: Intragastric Balloon Procedure
Stomach faces posteriorly so exterior of stomach is shown. Title fades in. Title fades out. Stomach swings around anteriorly so that interior of stomach is shown



Initially, the gastroenterologist inspects the stomach to insure no problems exist that would negate implanting the balloon.
Endoscope is slowly inserted into the stomach



The endoscope is removed, and the thin and deflated balloon is gently pushed down the esophagus and into the stomach.
Endoscope moves out of the stomach. Small pause. Pipe with deflated balloon is slowly inserted into the stomach.



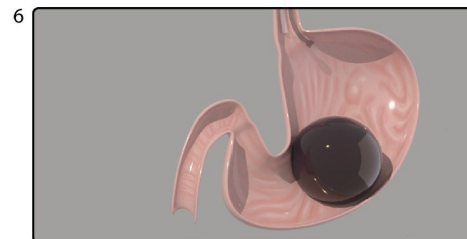
With the balloon in place, the endoscope is reinserted into the stomach to ensure proper balloon placement.
Endoscope is slowly inserted into the stomach

Intragastric Balloon Procedure

Claire Hannon



It is filled to about the size of a grapefruit, approximately 600 ccs, as the gastroenterologist keeps the balloon in sight.
Balloon slowly inflates and tints purple to represent being filled with solution



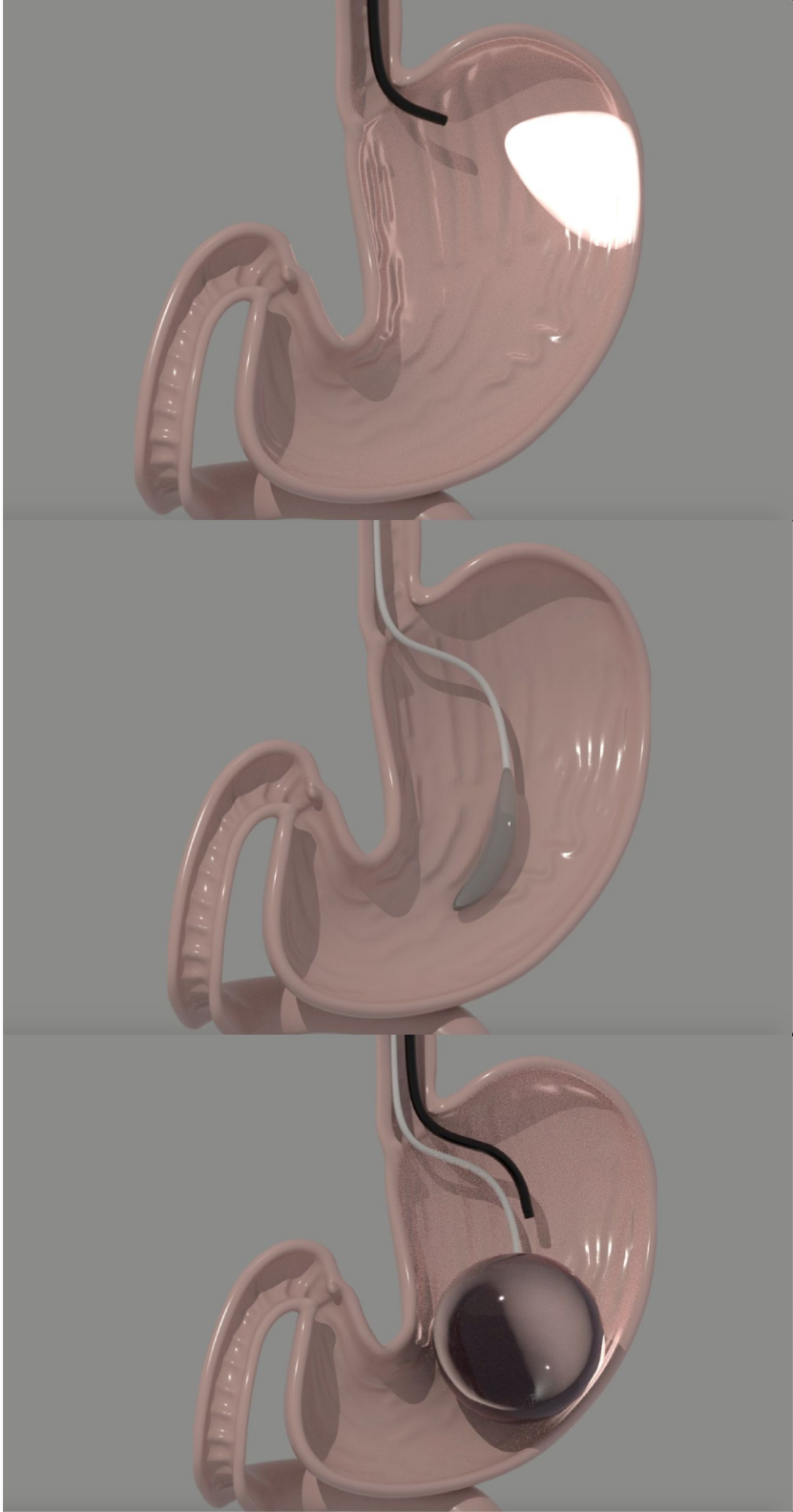
It serves to decrease the rate at which food exits the stomach and stimulates receptors that send signals to the brain providing a sense of fullness.
Pipe connected to balloon releases balloon and moves out of the stomach. Small pause. Endoscope then also begins to move out of the stomach.



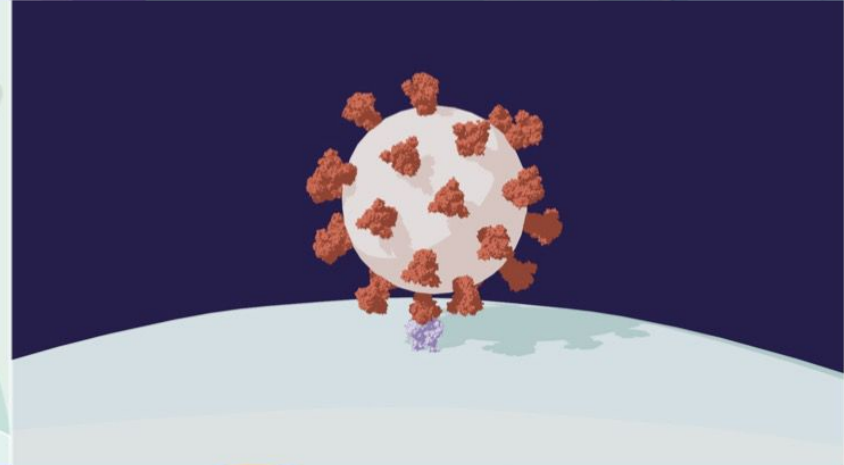
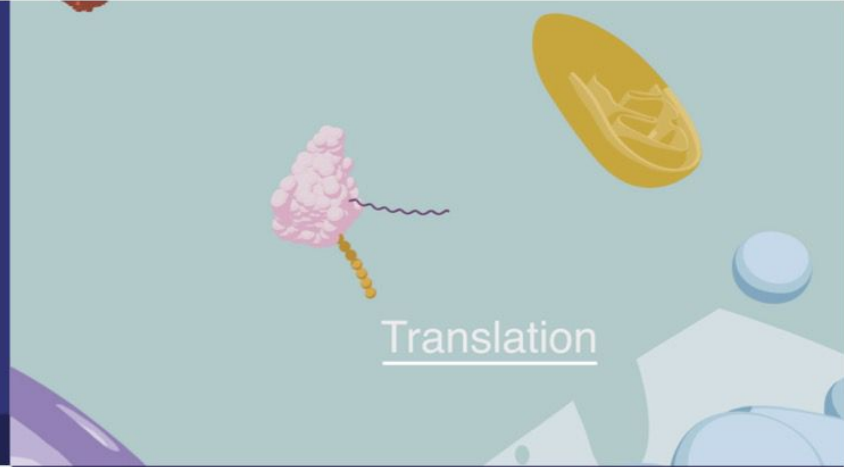
After six months, the balloon is deflated and removed.
Endoscope descends and pierces balloon. Balloon slowly deflates. Deflated balloon attached to endoscope pulls balloon out of the stomach.



Credits: Animated By: Claire Hannon
Stomach fades out. Credits fade in. Credits fade out.

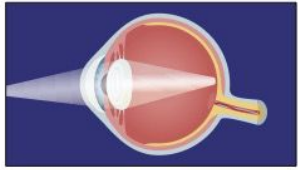


Covid-19 2D / 3D Animation Stills



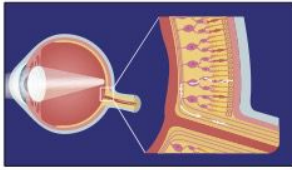
Claire Hannon

Presbyopia Storyboard



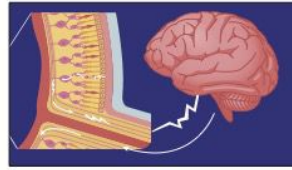
Next light passes through the lens which works together with the cornea to focus light correctly on the retina.

Light beam moves through the lens and focuses on the fovea centralis.



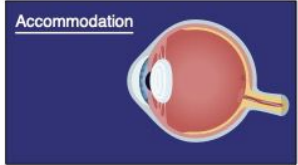
When light is absorbed by the retina, special cells called photoreceptors turn the light into electrical signals.

Sagittal eye zooms out and to the left. Box highlights part of the retina. Lead lines and photoreceptors wipe onto screen, electrical signal moves from cell down optic nerve (arrows indicate direction)



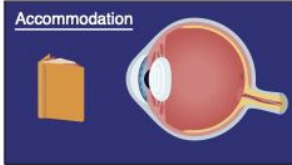
These electrical signals then travel from the retina to the optic nerve to the brain which then turns the signals into the images you see.

Photoreceptors move to the left and brain fades in. Electrical signal travels to brain. After a short pause, electrical signal travels back to the retina. (arrows indicate direction)



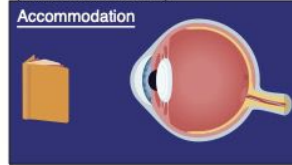
To see an image the eye focuses through accommodation.

Brain and photoreceptors pan off screen to the right to return to sagittal eye, box and lead lines fade out. Accommodation fades onto screen.



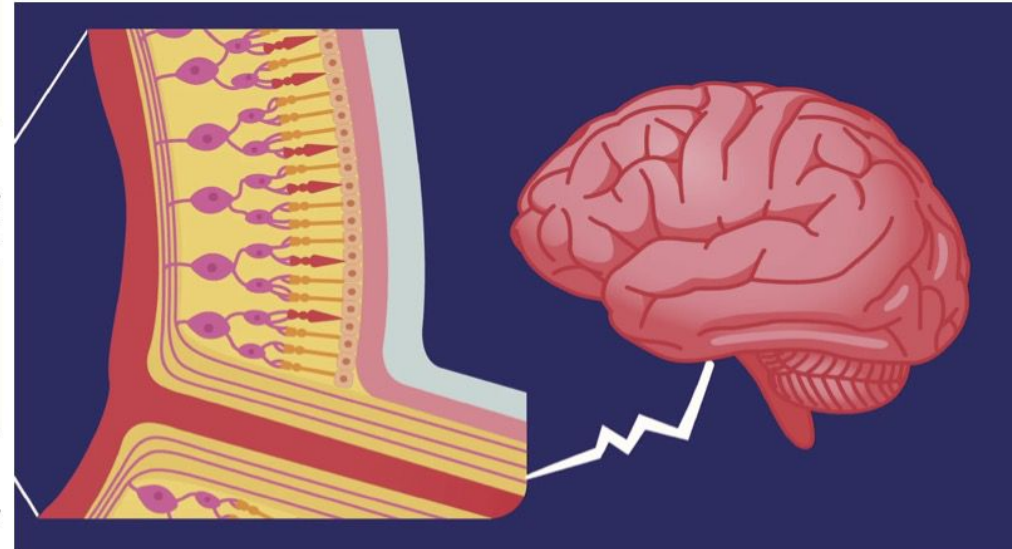
Contraction of the ciliary body regulates the lenses curvature.

Book fades onto screen.



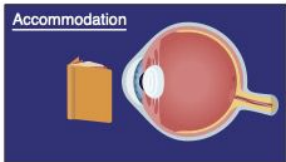
To focus on distant images the ciliary body relaxes, causing the curvature of the lens to flatten.

Book moves to the left, away from the eye. Lens flattens



Claire Hannon

Presbyopia Storyboard



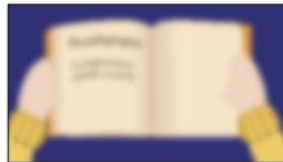
And to focus on close images, the muscles contract to thicken the lens.

Book moves to the right, closer to the eye. The lens contracts to become more spherical.



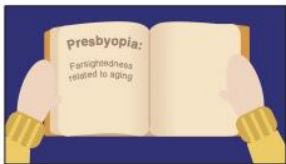
However, as we age the lens hardens, and the muscle fibers become less elastic, making it harder for the lens to accommodate.

Cuts to the character reading. Her eyes move back and fourth to indicate reading.



This causes objects at a close distance to appear blurry.

Cuts to the book in her hands. Becomes blurry.



This is diagnosed as presbyopia or farsightedness related to aging.

Book comes back into focus. Text in the book is emphasized letter by letter going along with the audio.



Presbyopia is a natural part of aging and may become noticeable in your early to mid 40s.

Cut back to character reading and starts to zoom onto the characters face. Eyes will still move back and fourth to indicate reading.

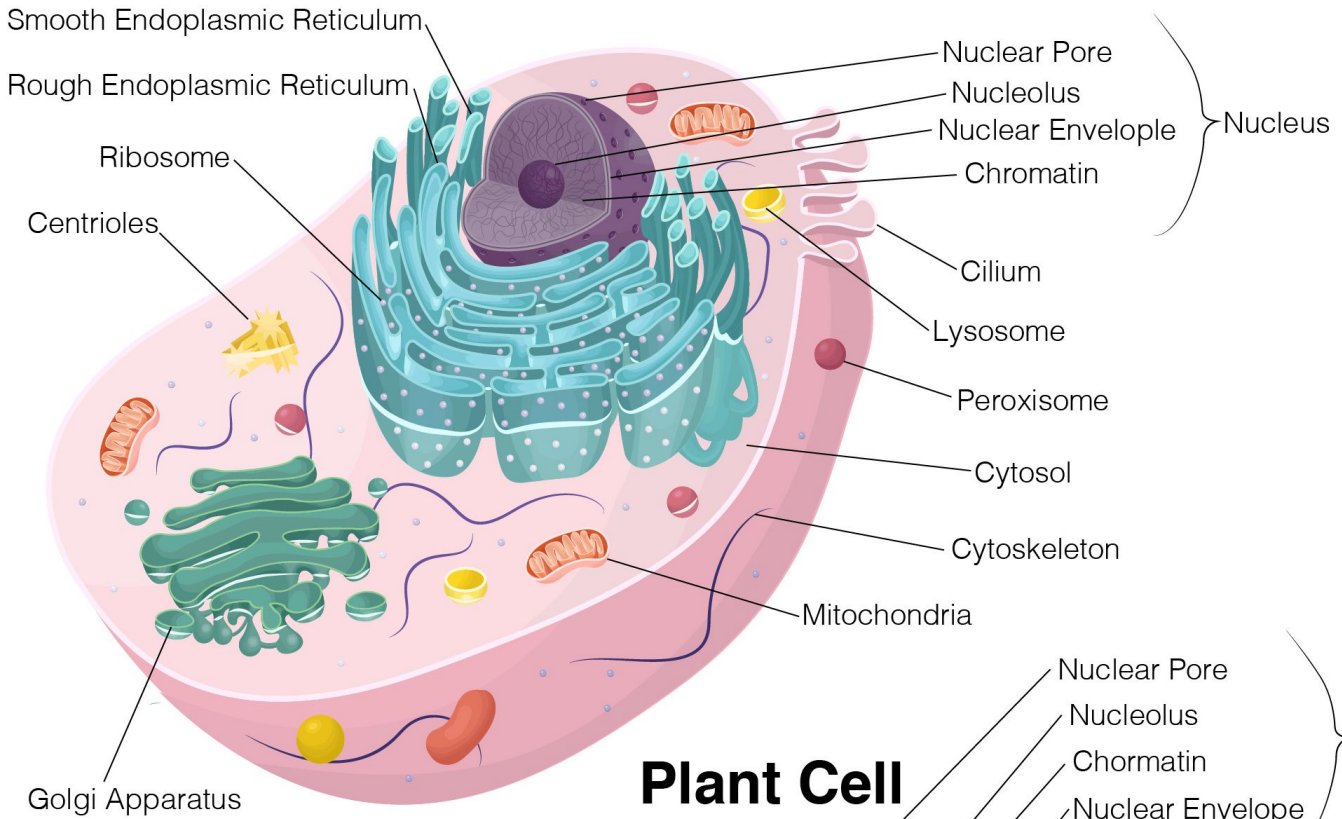


Glasses and contacts compensate for presbyopia by magnifying close images.

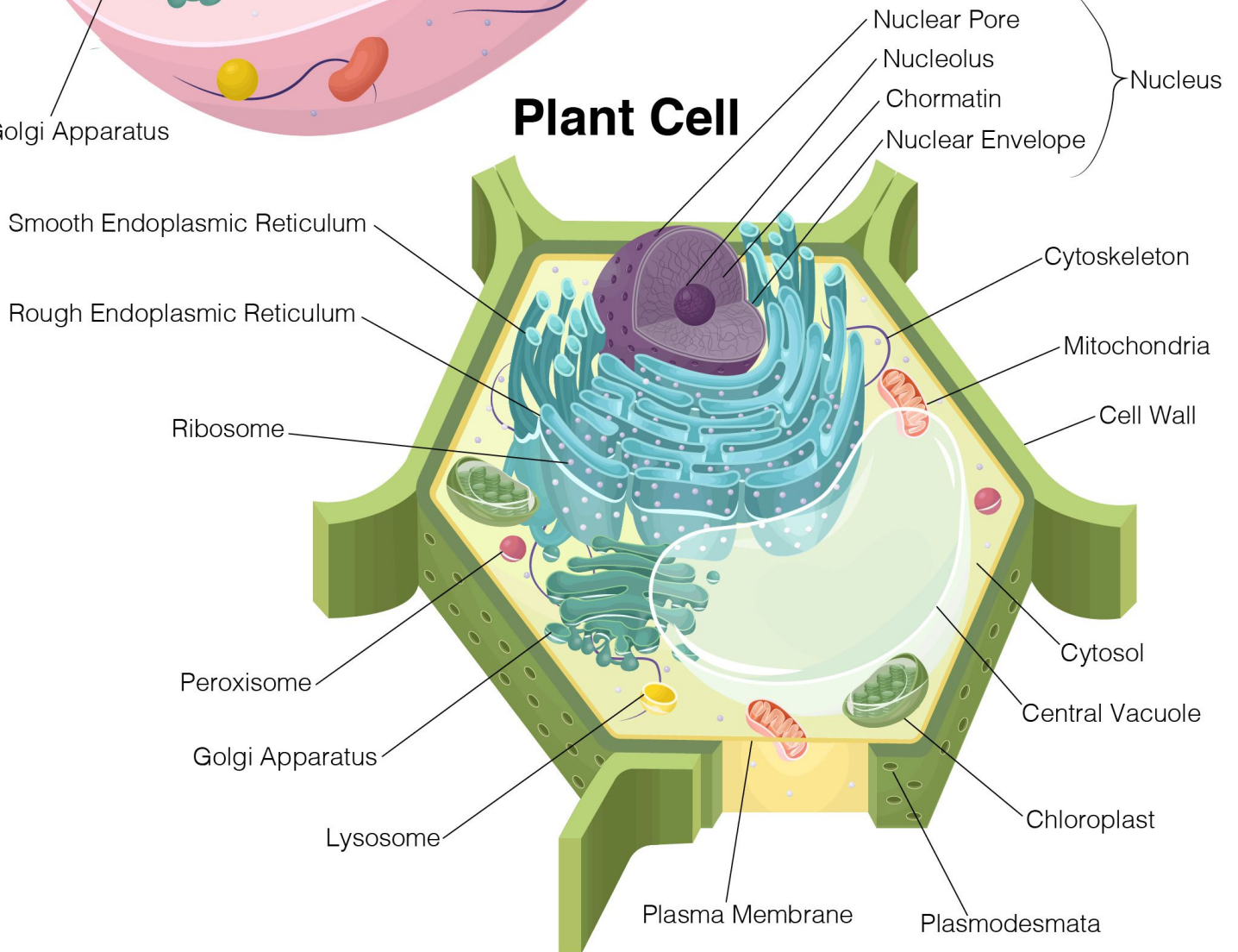
Cut to character looking straight on. Glasses fall from the top of the screen onto her eye. Head bobs slightly to indicate secondary motion.

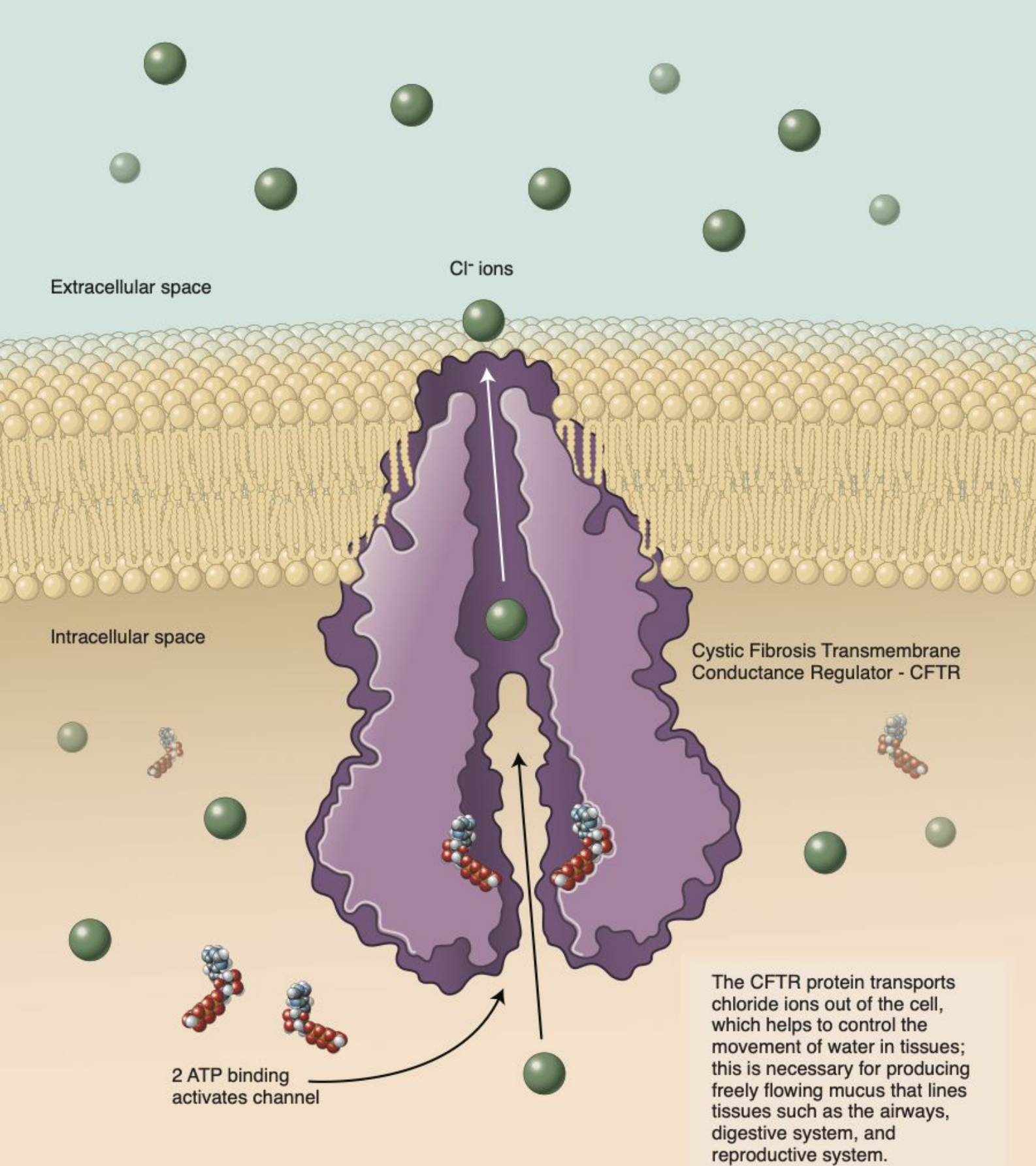


Animal Cell



Plant Cell





Extracellular space

Cl⁻ ions

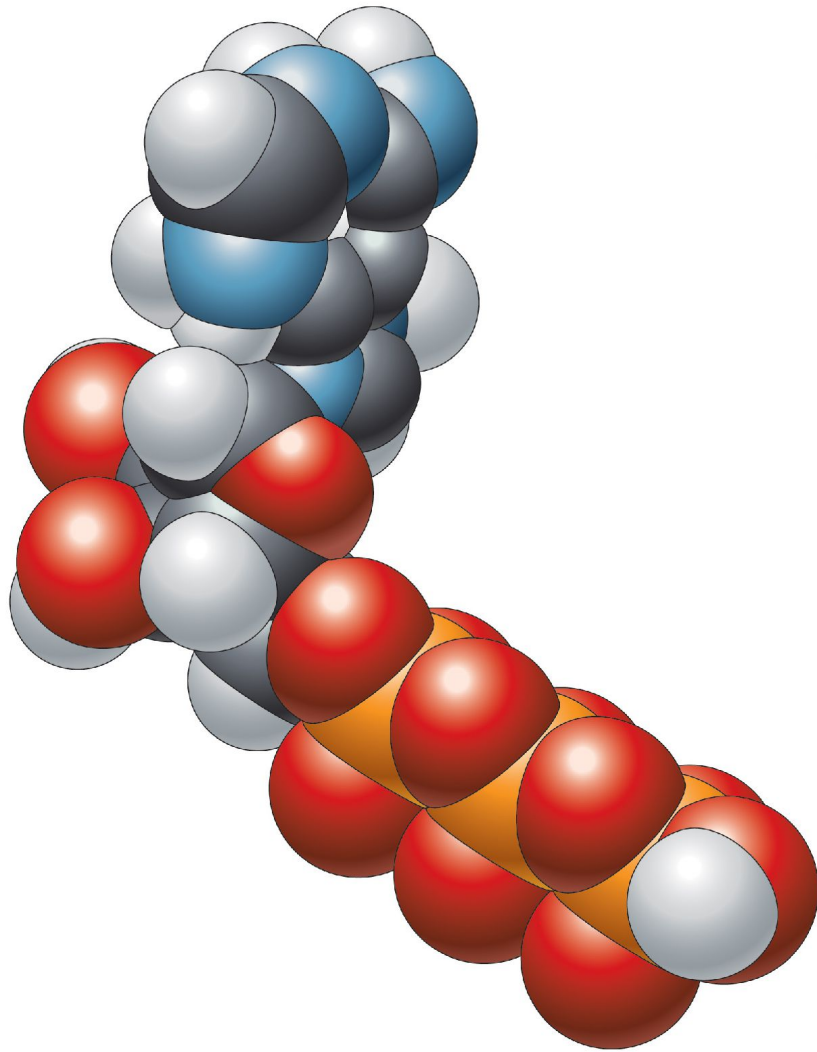
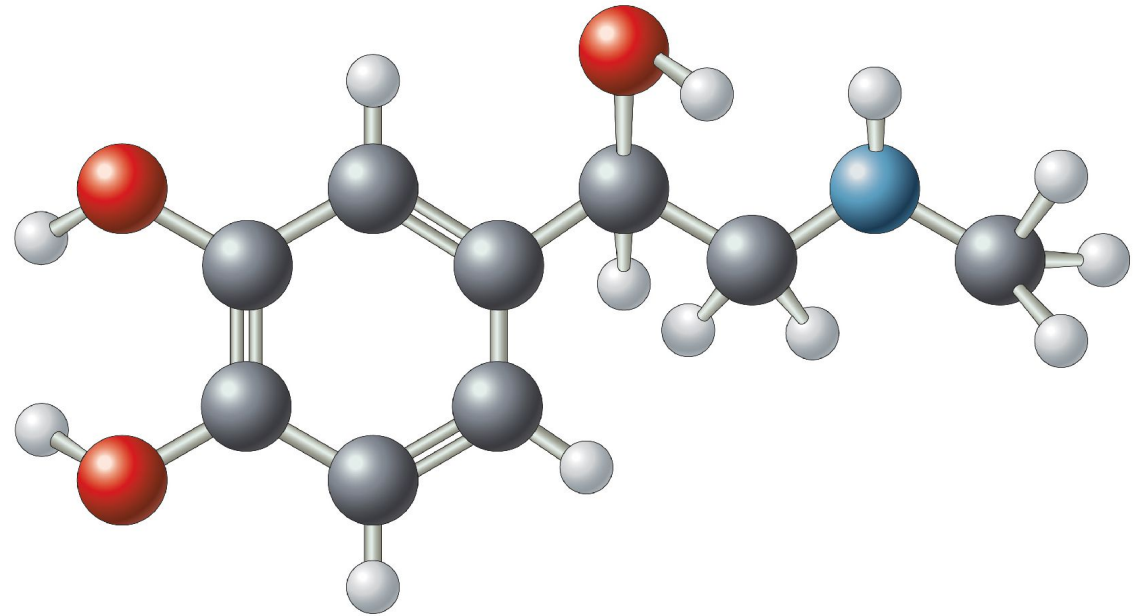
Intracellular space

Cystic Fibrosis Transmembrane
Conductance Regulator - CFTR

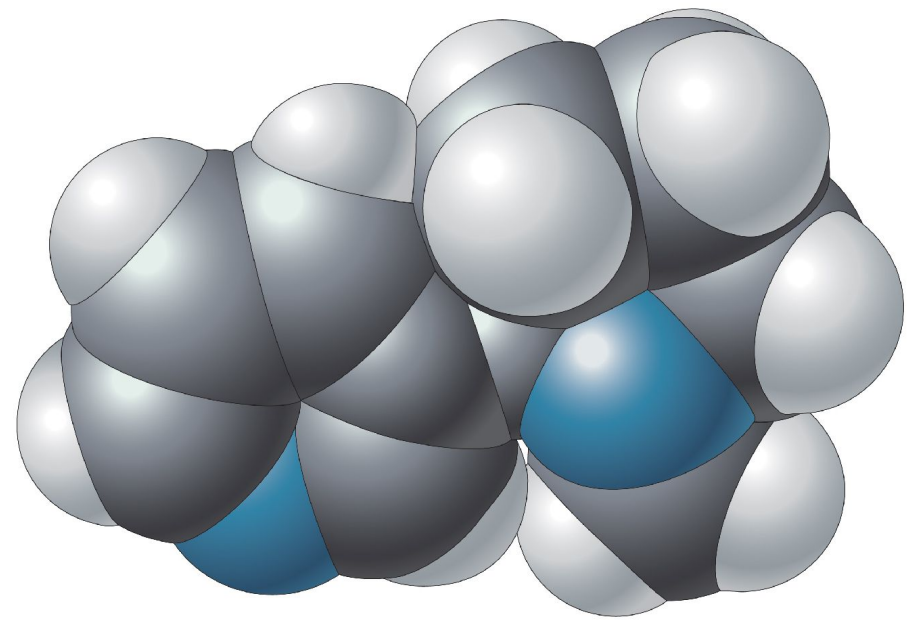
2 ATP binding
activates channel

The CFTR protein transports chloride ions out of the cell, which helps to control the movement of water in tissues; this is necessary for producing freely flowing mucus that lines tissues such as the airways, digestive system, and reproductive system.

Epinephrine

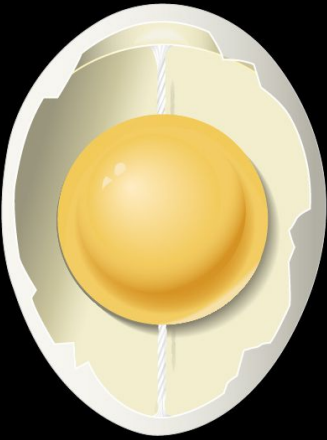


Adenosine triphosphate



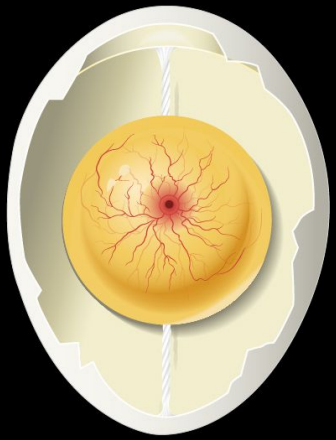
Nicotine

Embryonic Development of *Gallus Gallus Domesticus*



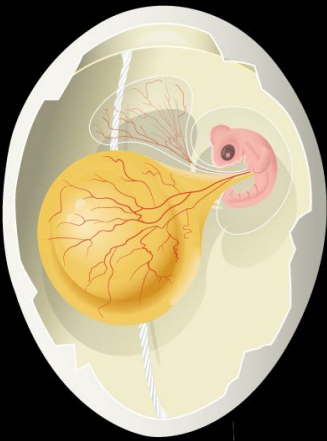
Day 1-2

- No development



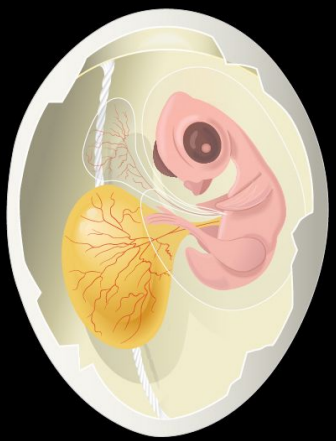
Day 3-4

- Heart Beats
- Blood Vessels are visible
- Eye is Pigmented



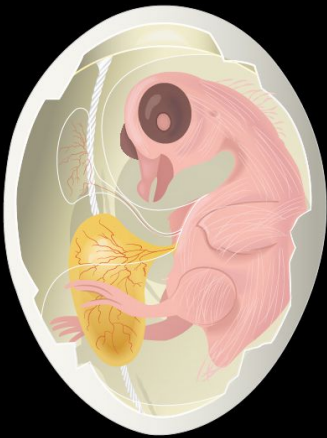
Day 7-8

- Feather tracts are seen
- Egg tooth begins to appear



Day 11-12

- Toes fully form
- First few feathers apparent



Day 15-16

- Gut is drawn into abdominal cavity
- Albumen is nearly gone



Day 19-20

- Yolk sac draws into body
- Embryo becomes a chick Ready to hatch



Bee Hummingbird

Mellisuga helenae

The bee hummingbird is the smallest bird in the world at about 2 inches tall and weighing around .0560-071 ounces. They are so small they are often mistaken for bees, which is how they earned their name. Bee hummingbirds build their nests an inch across and lay eggs the size of coffee beans. They are endemic to Cuban forests where they pollinate around 1,500 flowers a day. Bee hummingbirds can fly up to 25-30 miles per hour and beat their wings 80 times per second. They are near threatened due to habitat destruction

