

Veterinary Specialty of the Day:

Radiology

Some veterinarians and veterinary technicians undergo further training to specialize in a specific field of medicine. Veterinarians who specialize in Radiology can diagnose diseases or conditions by examining medical images, such as x-rays, MRIs, CT scans, and ultrasounds. Radiologists work closely with other veterinarians who send medical images of their patients to be examined and interpreted by the radiologist.

Discussion Questions

- What might a veterinarian look for in an x-ray?
- Why do you think it is important for veterinarians to see inside an animal's body?

Veterinary radiologists are trained to analyze images of...



Bones

A veterinarian may take images to check for injuries such as a broken bone.



Internal Organs

Veterinarians may take images of an animal's internal organs, such as the lungs or kidneys.



Soft Tissue

A veterinarian may take images of soft tissue, such as the brain or muscles.

Imaging Technology

There are a few different types of scans taken by radiologists in order to see inside the body of their patients. Here are a few of those technologies:



Magnetic Resonance Imaging (MRI)

An MRI machine uses powerful magnets to produce images. MRIs are great for creating images of soft tissues, such as the tissues that make up the brain and muscles (including the heart).

MRI of a dog's brain:



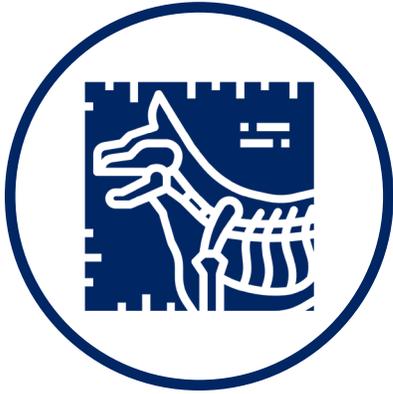
Ultrasound (Sonogram)

Ultrasounds use sound waves which bounce off the internal organs to create an image of the inside of the body. A probe is placed on the body and it is moved around so the veterinarian can see the internal organ from different angles in real-time.

Ultrasound of a cat's kidney:



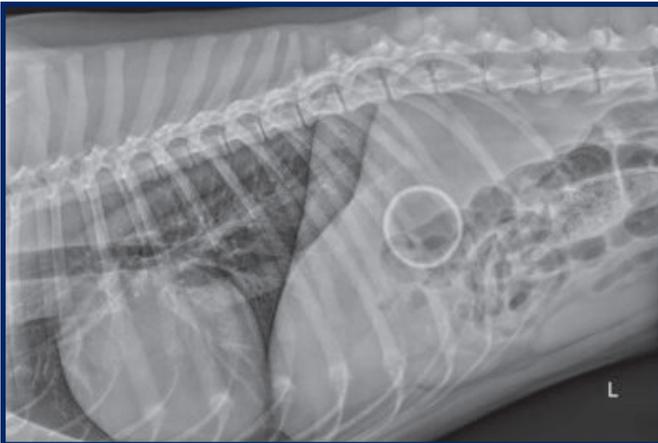
Imaging Technology (continued)



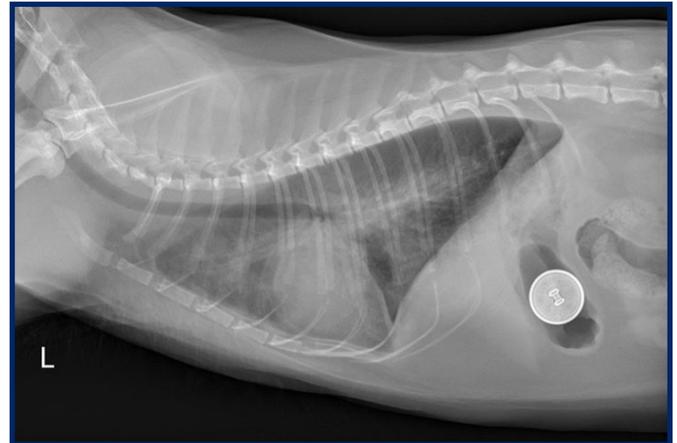
Radiograph (X-Ray)

X-rays are beams that pass through the body, which are then used to create a flat, 2D image of the inside of the animal. X-rays are a great tool for taking images of an animal's heart, lungs, and bones.

X-ray of tennis ball swallowed by dog:



X-ray of button swallowed by cat:



X-ray of cockatiel:



Children's Resources: Veterinary Radiology

Imaging Technology (continued)



Computed Tomography (CT) Scans

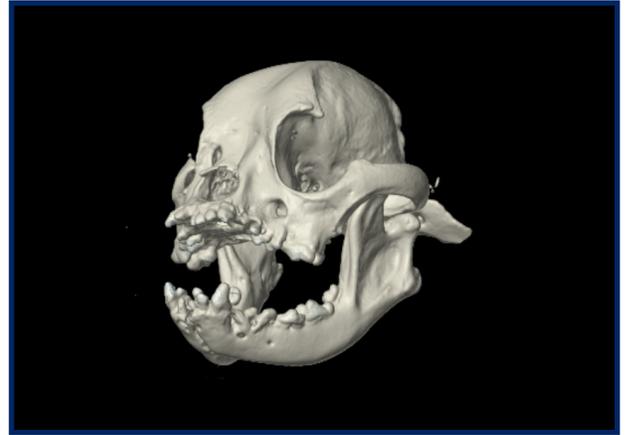
A CT scan uses a series of x-rays to create a 3D image of the body that can be broken up into different "slices". CT scans can be used to create images of bone, internal organs, and even blood vessels.

[Click the images below to watch videos of the CT scans](#)

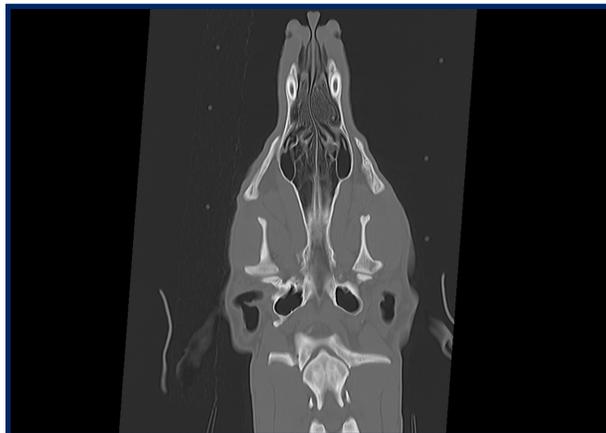
**CT scan of dog skull
(normal jaw):**



**CT scan of bulldog skull
(crowded jaw):**



**CT scan slice of an image
of dog head:**



Activities



PreK & Up

DIY X-Ray Light Board

Materials: clear storage container, white tissue paper, clear tape, holiday lights, (optional) black construction paper, scissors, printed x-rays of animals

- An illuminator (light board) is used to view details in x-rays. While radiologists no longer use light boards now that x-rays are digital, you can still have fun building your very own **Light Board** at home!
- Tape white tissue paper to the top of the lid of a clear storage container. Place lit holiday lights inside the box. You may need to cut a small hole in the container to pull the cord through.
- Your child can use this light board by placing different transparent objects on top. For some fun with x-rays, have your child draw or cut out their own x-rays using black construction paper. You can also print x-rays of different animals and place it on top of the light board to make it look like a real veterinary office!



3rd Grade & Up

DIY Bones

Materials: newspaper, flour or white glue, water, paper towel rolls, white paint

- Want to make your own 3D bone reconstructions like a CT scan? Then **Paper Mache Bones** are a fun option!
- Mix flour and water in equal parts to make the paper mache mix. Tear newspaper into strips and dip. Place strips along the paper towel roll and shape. Once dry, it's time to paint!
- Experiment making a variety of different bones using other household craft objects. For example, use a small balloon to make a skull, or pipe cleaners to make a rib cage!

Activities



9th - 12th Grade

Career Exploration: Veterinary Radiology

Materials: computer/tablet/phone with internet access

- The field of veterinary medicine is huge and there are many job opportunities available to those interested in pursuing a career in the field.
- If your child is interested in a career in radiology, encourage them to research the various job opportunities and programs that exist.
- Need a place to start? Check out this article on veterinary radiologists: <http://www.veterinaryradiology.net/129/what-is-a-veterinary-radiologist/>

References:

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<https://www.amcnyc.org/blog/2017/11/15/the-difference-between-diagnostic-radiology-radiation-therapy-and-interventional-radiology>

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