

# Body Imaging Breakdown

Methods radiologists use to see what's happening inside your body.



## X-Rays

- Send electromagnetic radiation through the body, which is absorbed differently based on tissue density.
- Create a 2-D image of the inside of the body.
- Commonly used to look at bones for fractures, or the chest for infections or other problems, like fluid.
- Require patient to wear lead shield to protect the rest of the body from radiation.

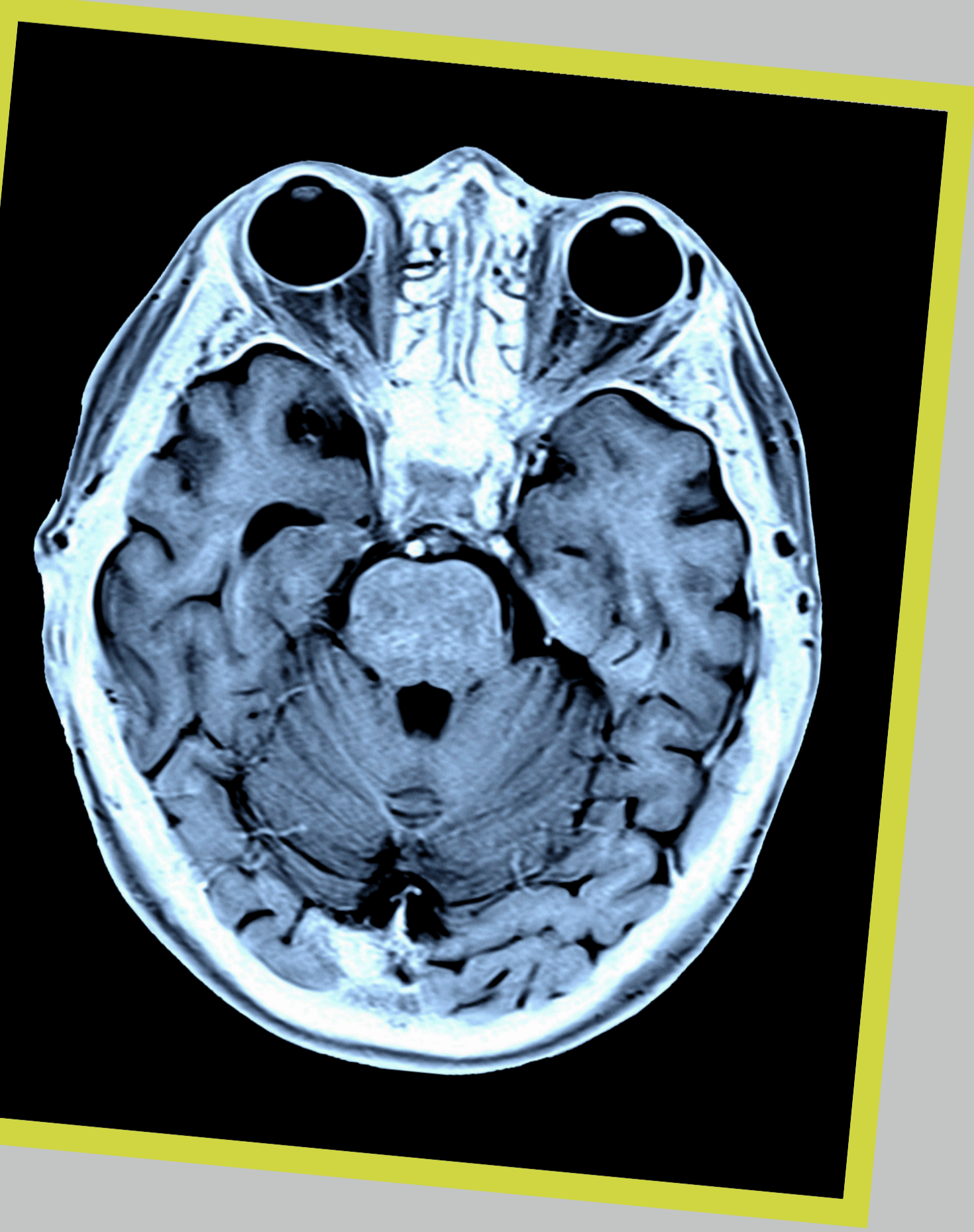
## Ultrasound

- Sends high-frequency soundwaves through the body that are reflected differently depending on tissue density.
- Creates a moving 3-D image to show how organs and fluids are moving.
- Commonly used during pregnancy to view fetus, or to look at abdominal organs.
- Can be used on the heart (echocardiogram) to see how blood is moving.
- Involves a wand-like instrument called a transducer, and a water-based gel applied to the skin.



## Computed Tomography (CT) Scans

- 360-degree X-rays.
- Create a 3-D image of the inside of the body through cross sections, or thin slices.
- Commonly used for head injuries or abdominal issues, long-term monitoring of head issues and vision problems, and for early detection of lung cancer in people who smoke.
- Aided by intravenous and oral dye to help provide contrast between normal and abnormal tissues and structures.
- Are typically the first line of radiology: If CT scans don't give enough detail, MRIs are used next.

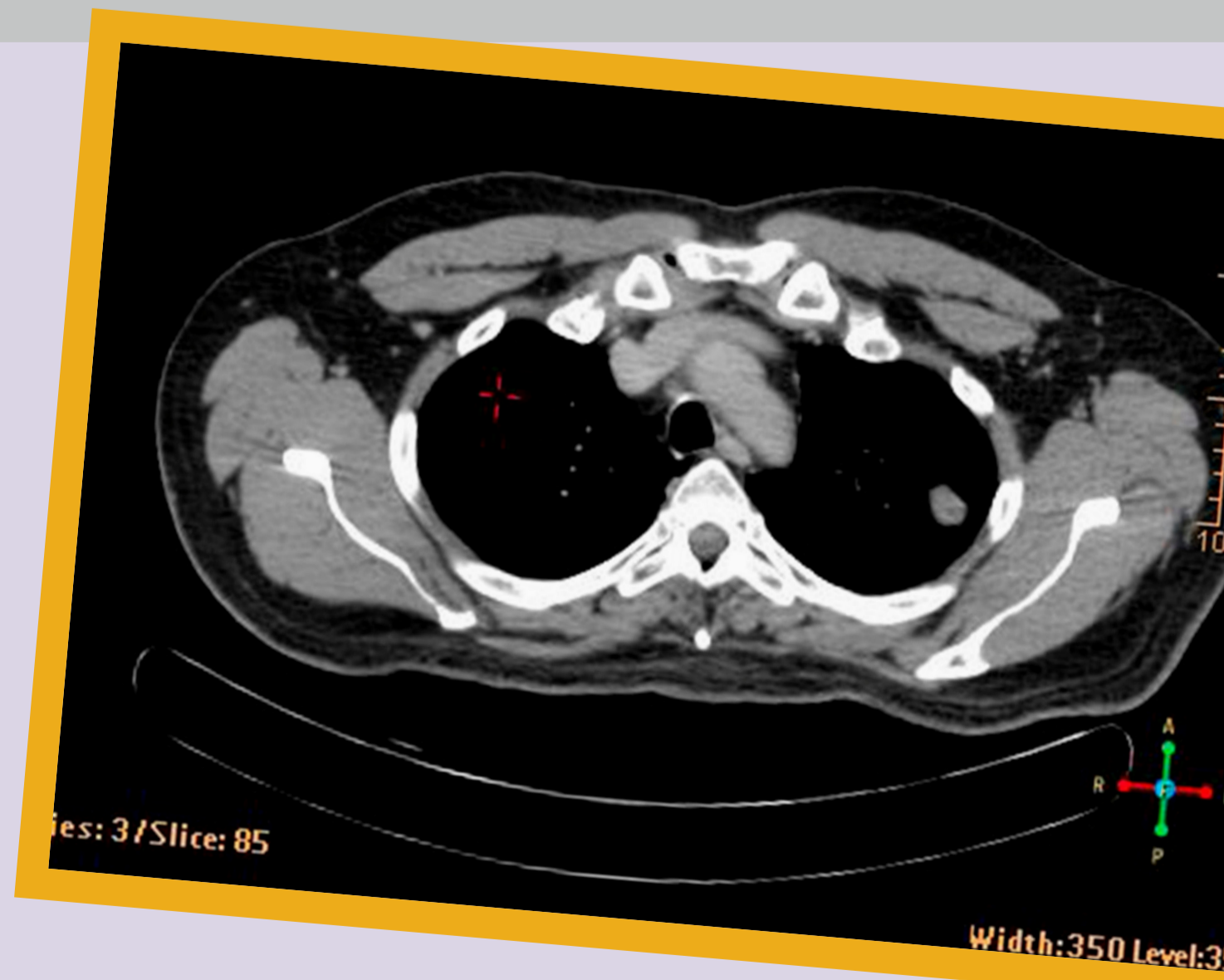


## Magnetic Resonance Imaging (MRI)

- Involves magnetic fields and radio frequencies to create clear and detailed images of the body, which physicians read in cross sections.
- Commonly used for musculoskeletal injuries, abnormalities in the spine and head injuries.
- Often involve oral or IV dye to increase contrast of images.

## Positron Emission Tomography (PET) Scans

- Involve a radioactive tracer that is usually high in sugar.
- Tracer is administered orally or through an IV, and then scan is performed to show problems at the cellular level.
- Commonly used to detect cancerous growths. (Cancer and abnormal structures eat up a lot of sugar, and the tracer will light up in those areas.)



### Sources:

<https://www.ama-assn.org/specialty/radiology-interventional-and-diagnostic>

<https://www.theabr.org/about/radiology-specialties>

<https://www.health.harvard.edu/diagnostic-tests-and-medical-procedures>

<https://www.healthline.com/health/pet-scan>