The History of **X-ray**

In 1895, Wilhelm Conrad Roentgen (1845-1923) invented the X-ray. As a physics professor in Germany, Roentgen was conducting experiments with a Crookes tube – a sealed glass tube with two electrodes on either end. On a Friday evening in his laboratory on Nov. 8, 1895, Roentgen covered the tube with black cardboard in a dark room and supplied an electric current. He noticed that a greenish-yellow illumination appeared on a screen several feet away.

Roentgen continued the experiment, placing several different items between the tube and the screen. At one point, he held a lead pipe up to the ray and saw the bones of his fingers on the screen. Demonstrating his exciting discovery to his wife, Roentgen directed the ray at his wife's hand for 15 minutes, which resulted in the first X-ray image of a hand with a woman's ring.

Roentgen named his finding the "X" ray, as "X" is the algebraic term for unknown. In 1901, Roentgen was the first person to receive the Nobel Prize in physics.

Photograph of Wilhelm Conrad Roentgen.

Defining the X-ray

X-rays are pictures made by passing radiant beams through an object and capturing the image on the other side. The image is recorded digitally or on film. X-rays produce pictures of the inside of the human body and are used to view broken bones, problems in the lungs and abdomen, tumors and dental cavities. Solid objects like bones absorb X-rays and allow less light to pass through, making them appear white on the picture. Fat and bodily organs absorb less light and look gray. Air absorbs the least, so lungs appear black.

Using the X-ray: Radiologic Technology

Before the invention of the X-ray, doctors had to poke, prod and use their sense of touch to find the source of injuries such as bullet wounds and broken bones. The term "radiology" is now used to describe functions that use an X-ray. Today's radiology systems are highly sophisticated machines that can detect abnormalities, injury, illness and, in some cases, provide therapeutic treatment for diseases.

Fun Facts

In 2023, scientists in Svalbard X-rayed the flattened, fossilized remains of an ichthyosaur, an ancient marine reptile. The remains are believed to be 240 million years old.

X-ray has been used on mummies in order to preserve the ancient artifact while learning about the diseases suffered by Egyptians and their medical treatments.

From the 1920s to the 1970s, shoe-fitting fluoroscopes were used in shoe stores around the world and were often used to measure the feet of young children.

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