

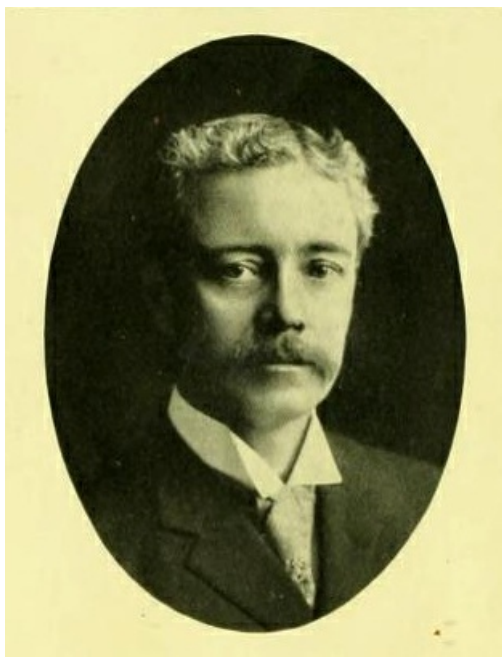
## **X-Rays: Discovering a Super Power** <sup>[1]</sup>

### **X-Rays: Discovering a Super Power**

By North Carolina Government & Heritage Library, 2020

Wouldn't it be neat if people had x-ray vision like Superman? Well, in a way they do!

Have you even injured yourself and needed to have an X-ray? Or maybe you've had x-rays taken of your teeth at the dentist. Doctors use x-rays to take pictures of things inside our bodies to help diagnose and treat illnesses and problems. Today it's hard to imagine a time when the technology to take pictures of things inside us didn't exist.



**Portrait of Henry Louis Smith, President of Davidson College. In the Davidson College yearbook *Quips and Cranks*, Vol. XIII, 1909-1910, p. 8, published 1910 by [Davidson College, Davidson, NC]. Presented on Digital NC.**

### **What are X-Rays?**

X-rays are a type of radiation. Radiation is a form of energy that can occur naturally. Rays from the sun are also a form of radiation. X-rays are a special type of radiation that can travel through some kinds of materials. And in the 1890s, scientists discovered x-rays and began experimenting with them.

They discovered that they could create x-rays. They did this by passing electricity through a vacuum tube. A vacuum tube is a tube that has little or no air in it. That's sort of like outer space! Then scientists discovered that the x-rays they created could pass through people. Then they discovered that x-rays could be used to take pictures of things inside our bodies. German scientist Wilhelm Roentgen made this discovery on November 8, 1895. After Roentgen made his discovery, the news spread. And scientists around the world began to duplicate his experiment.

### **X-Ray experiments in North Carolina**

In 1896 Davidson College professor Henry Louis Smith and students began x-ray experiments. X-ray images are called "radiographs". And Professor Smith made a radiograph of a human hand that had a bullet in it. His experiment was one of the very first radiographs to capture something foreign in a body.

Scientists and doctors were quick to find new and improved ways to use the discovery. In 1897, Professor Smith helped save the life of a young girl in Cabarrus County. Over several days it had become more and more difficult for her to breathe. Smith used his x-ray equipment to take an image of her body that showed she had a thimble stuck in her throat. Doctors in Charlotte performed surgery to save her. And the news spread again about the use of x-ray images.

In the early days, people did not realize the dangers of x-ray radiation. Then people who routinely worked with radiation began to develop cancer. This led to learning how much radiation is safe and how to protect people from getting too much. If you've had x-rays of your teeth, you may remember that the dentist placed a heavy plastic blanket on top of you. The blanket protects your body from getting x-ray radiation that it doesn't need. Since the first x-ray experiments and uses in medicine, our ability to see things inside bodies has come even farther. Today x-rays are still used, along with other methods like ultrasound, MRIs, and CT scans. And the technology is changing and improving all the time.

## North Carolina radiology pioneer Margaret Kennedy Goodwin

Taking x-ray images or radiographs to help diagnose medical conditions is called radiology. Margaret Kennedy Goodwin was a pioneer in radiology in North Carolina. She was raised in Durham, North Carolina. And she became an x-ray technician after college.

She worked as the head radiology technician at Lincoln Hospital in Durham from 1938 to 1976. And she led a two-year training program for radiology technicians. Ms. Goodwin was the first person of color to hold an office in the American Society of X-Ray Technicians. She became the first black president of the NC Society of Radiologic Technologists.

X-rays are now used for more than medicine. Can you find some ways that other jobs and professions have used x-rays?

---

To see a photograph of Margaret Kennedy Goodwin taking an x-ray of a patient at Durham, North Carolina's Lincoln Hospital, [visit this link](#) [2].

### References:

North Carolina Highway Historical Marker Program. "X-RAY Experiments." <http://www.ncmarkers.com/Markers.aspx?MarkerId=L-108> [3]

Horton, Clarence. "X-Ray Experiments." NC Pedia, 2006. <https://dev.ncpedia.org/x-ray-experiments> [4]

Civil Rights Digital Library. "Goodwin, Margaret Kennedy, 1918-." [http://crdl.usg.edu/people/g/goodwin\\_margaret\\_kennedy\\_1918/](http://crdl.usg.edu/people/g/goodwin_margaret_kennedy_1918/) [5]

Hornsby-Gutting, Angela. "Oral history interview with Margaret Kennedy Goodwin, September 26, 1977." Southern Oral History Program, UNC-Chapel Hill. <https://docsouth.unc.edu/sohp/R-0113/menu.html> [6]

Reynolds, P. Preston. 2001. *Durham's Lincoln Hospital*. Charleston, SC: Arcadia.

### Additional Resources

"Almanac: The first American X-ray." *CBS News*. January 12, 2014. <https://www.cbsnews.com/news/almanac-the-first-american-x-ray/> [7]

"Dr. Henry Louis Smith Conducted first x-ray experiments in America." Greensboro History Museum. 1955. <http://libcdm1.uncg.edu/cdm/ref/collection/GoodMed/id/5587> [8]

### Image Credits:

"Henry Louis Smith." Photograph. In Davidson College [The Students], *Quips and Cranks*, Vol. XIII, 1909-1910. [Davidson, NC: Davidson College]. [1910]. 8.

### Subjects:

[Medicine](#) [9]

[Scientists & Inventors](#) [10]

### From:

[NCpedia K-8 Collection](#) [11]

18 March 2020

---

Source URL: <https://www.ncpedia.org/x-rays-k-8>

### Links

[1] <https://www.ncpedia.org/x-rays-k-8> [2] <https://chaamp.virginia.edu/file/1179> [3] <http://www.ncmarkers.com/Markers.aspx?MarkerId=L-108> [4] <https://dev.ncpedia.org/x-ray-experiments> [5] [http://crdl.usg.edu/people/g/goodwin\\_margaret\\_kennedy\\_1918/](http://crdl.usg.edu/people/g/goodwin_margaret_kennedy_1918/) [6] <https://docsouth.unc.edu/sohp/R-0113/menu.html> [7] <https://www.cbsnews.com/news/almanac-the-first-american-x-ray/> [8] <http://libcdm1.uncg.edu/cdm/ref/collection/GoodMed/id/5587> [9] <https://www.ncpedia.org/category/subjects/medicine> [10] <https://www.ncpedia.org/category/subjects/scientists-inventors> [11]

