MAYO CLINIC

Mayo Clinic News Network

Title: 100th Anniversary of Thyroxin Discovery / Date: December 2014

Intro: Some medical discoveries truly stand the test of time. The case of a dedicated Mayo Clinic chemist is a prime example. Feeling he was on the verge of a breakthrough that could help countless people, Edward Kendall spent Christmas Eve 1914 locked away in his lab. What he accomplished by Christmas morning was a gift to millions, one that is still improving lives 100 years later.

Video	Audio
Total running time [0:00]	**/// 150th Open Slide & Music**
Dr. John Morris III	**"Levothyroxine, the name for synthetically made thyroid hormone, is the most commonly prescribed medication in the United States. There are millions of patients that take thyroid hormone."**
Narrator	The thyroid. It's a butterfly shaped gland that resides just below the Adam's apple. Unless it acts up, you probably never give it a thought. Problem is, it acts up for a lot people.
Title: John Morris III, M.D. Mayo Clinic Endocrinology	"**About 8 to 10 percent of women in the United States will have thyroid disease or dysfunction at some point in their life and 2 or 3 percent of men, perhaps more."**
Narrator	Mayo Clinic's Dr. John Morris the Third is a gland specialist, called an endocrinologist. He says a thyroid's main purpose is making essential hormones.
Dr. John Morris III	**"A thyroid hormone is important in the metabolism of basically every… every cell, every tissue, every organ in the body."**
Narrator	A century ago, Dr. Morris says, a lot of patients coming to Mayo Clinic in Minnesota were seeking help for problems caused by thyroid hormone imbalances, often causing goiters, a swelling in the neck. He says performing surgery for thyroid goiters kept the Mayo brothers quite busy.
Dr. John Morris III	**"And it was in fact, that early business of the Mayo Clinic… that was the impetus to bring Edward Kendall to Mayo Clinic, because there was a lot of thyroid**

	disease here."
Narrator	Edward C. Kendall was a young chemist from New York, who was obsessed with unlocking the thyroid's secrets. So, in the south west corner of the brand new and aptly named 1914 Building - Kendall set up his lab, and made good progress during his first summer and fall at Mayo Clinic, purifying thyroid compounds.
Dr. John Morris III	**"And actually, as the story goes, he came in on Christmas Eve in 1914 to do one additional round of purification and to try to crystallize this newest preparation. On Christmas morning he went in to the laboratory and he had crystal powders of purified thyroid hormone, the first time the hormone from the thyroid, that we now call thyroxin, had been purified."**
Narrator	The discovery is the reason so many people have this potentially life-saving medication today.
Dr. Angela Dispenzieri	**"I mean, I could be dead actually, by now."**
Narrator	Angela Dispenzieri is one of Edward Kendall's very appreciative fans.
Title: Angela Dispenzieri, M.D. Thyroid Patient	**"Never really been sick a day in my life and about 5 years ago I started noticing I had a fast heart rate and feeling sweaty, feeling dizzy."**
Narrator	Dr. Morris diagnosed Angela with Graves' disease, an autoimmune disorder in which the immune system attacks the thyroid gland. Her problem wasn't too little thyroid hormone, referred to as *hypothyroidism*, but too much or *hyperthyroidism*.
Dr. John Morris III	**"It affects the heart and the nervous system. It causes weight loss. It increases the metabolism so that the patients need to eat more and more in order to just maintain their weight."**
Narrator	To shut off the out-of-control gland, Angela drank a radioactive iodine solution, basically killing her thyroid tissue. That means her body no longer produces ANY thyroxin. But, she has an inexpensive, take-once-daily solution, thanks to Kendall's discovery.
Dr. Angela Dispenzieri	**"Some days I take that pill and I'm like, Wow, this is modern medicine."**

Narrator	She should know. Angela is also Doctor Dispenzieri, a Mayo Clinic cancer researcher credited with a number of ground-breaking discoveries herself.
Dr. Angela Dispezieri	**"I mean discovery in medicine was amazing then; it's amazing now."**
Narrator	Edward Kendall wasn't through. He was awarded a Nobel Prize in 1950, for his contributions to isolate and identify cortisone. His Nobel certificate and gold medal now reside in the Mayo Clinic archives.
/// Natural sound video lab equipment	**/// NATS lab equipment**
Narrator	Considering Kendall had none of the highly advanced technology researchers rely on today, Dr. Morris says his accomplishments are even more impressive.
Dr. John Morris III	**"The equipment was very large and bulky, huge glass beakers and vials and flasks and long, tall columns filled with gels."**
Narrator	And yet, the mysteries Edward Kendall unlocked in his Mayo Clinic laboratories many decades ago will continue to help patients well into the future.
/// 150th Closing Slide & Music	**/// 150th Closing Slide & Music**

Anchor tag: Interestingly, Edward Kendall was also considered for the Nobel Prize for his work with thyroxin, although it was not awarded to him.