

Mayo Clinic News Network

Title: ECG’s 100th Anniversary at Mayo Clinic – Date: December 2014

Intro: It’s a classic image for heart health, the zigzag lines of an ECG, or electrocardiogram. Even though Mayo Clinic conducts hundreds of thousands of ECGs each year, it is a test that’s never taken for granted. And, would you believe, the ECG is celebrating its 100th birthday at Mayo Clinic this year?

Video	Audio
Total running time [4:25]	/// 150th Slide & Music
Peter A. Brady, M.D.	“It’s a simple test. It's an inexpensive test.”
Narrator speaking	ECG, stands for electrocardiogram. For the patient, it’s as simple as allowing a series of wires, called leads, to be attached to their skin.
Peter A. Brady, M.D.	“We typically use a 12-lead ECG with limb leads and chest leads that are able to record very intricate and complicated electrical activity within a beating heart, within the chest.”
Narrator speaking	Looking at an ECG’s results, most of us just see squiggly lines. But, to the trained cardiologist, this amplified integration of the heart’s electrical activity - holds a wealth of information.
Peter A. Brady, M.D.	“From my perspective, I look at the ECG as being a fundamental examination of that patient’s cardiac state.”
Narrator speaking	Dr. Peter Brady is the Medical Director of Mayo Clinic’s Electrocardiography, Heart Rhythm and Physiological Monitoring Laboratory. He says the ECG offers immediate confirmation of major events like heart attacks, as well as subtle clues about heart disease, tissue inflammation and blood chemicals.
Peter A. Brady, M.D.	“We can look at the activity, electrically speaking, in the different chambers of the heart, in the atria and the ventricles. We can tell if a patient is having an arrhythmia, some form of heart rhythm disorder.”

<p>Narrator speaking</p>	<p>Very impressive - even in our high-tech world. So, imagine what doctors and researchers thought when the first ECG was performed at Mayo Clinic – 100 years ago. The equipment filled an entire room. Each test took hours to administer and days to analyze. Some worried the ordeal could be too much for some heart patients to bear</p>
<p>Peter A. Brady, M.D.</p>	<p>“It was a technology that was actually available for some time. The problem was nobody quite knew what its value was. Back then it was really felt that there was no clinical purpose to having an ECG recording.”</p>
<p>Narrator speaking</p>	<p>Mayo’s founding fathers, however, could see the potential - even if it needed some fine tuning.</p>
<p>Peter A. Brady, M.D.</p>	<p>“I was given some correspondence actually, between Henry Plummer and the Mayo brothers and the engineers in Cambridge, England actually, which is where this first machine was built. The machine itself had such a large electrical antenna that it could pick up signals from outside of the room, a Model T driving by, the engine noise, the magnetic field generated by that.”</p>
<p>Narrator speaking</p>	<p>Mayo’s first ECG equipment was certainly an improvement over earlier models, which required patients to hold their hands in buckets of salt water to ground the circuit. Over the years, Dr. Brady says, the equipment got much smaller and far more portable. Today Mayo Clinic has hundreds of ECG Units in action, not just in hospital settings, but in Mayo One emergency medical helicopters. They’re standard equipment in ambulances.</p>
<p>Peter A. Brady, M.D.</p>	<p>“We have wireless technologies such that the ECG itself is downloaded from the cart immediately to our lab and over-read by technicians within minutes of it being done. Now, in the ECG Lab, we perform 240,000 ECG’s a year.”</p>
<p>Narrator speaking</p>	<p>The ECG’s arrival set heart doctors apart, establishing the first medical specialty, a milestone worth celebrating in the fall of 2014, at Mayo Clinic Cardiology’s 100th Anniversary Gala.</p>

	As a cardiologist specializing in treating heart rhythm disorders, Dr. Brady has a particular appreciation for the ECG's value. It allows him to fix electrical short circuits, inside a beating heart.
Peter A. Brady, M.D.	“We may see arrhythmias on the ECG and we can use those arrhythmias that we see on the ECG's to plan ablation procedures to help cure patients with those arrhythmias.”
Narrator speaking	Dr. Brady says the ECG has become a routine presence at every major surgical procedure, not just for heart patients. It's proven to be a vital tool for monitoring the heart's status in many situations.
Peter A. Brady, M.D.	“But, over all that time, the ECG hasn't changed. It's exactly the same as it was a hundred years ago.”
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Anchor tag: By the way, the ECG test is the same as an EKG. Depending on the region or the local medical culture, however, one term may be used more often than the other. Interestingly, the Dutch inventor credited with developing it, Willem Einthoven, originally used ECG, but changed it to EKG when first publishing his research in German. German language favored a “K” over a “C” in the spelling of elektrokardiogram.

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