

Patient Story

How artificial intelligence helps people with atrial fibrillation

Video	Audio
	"Stethoscope on your chest like so."
	This small device may change how doctors identify and manage patients with atrial fibrillation — an irregular heart rhythm that increases risk of stroke.
	"It's looking into the future."
	And the past. The device uses artificial intelligence, or AI, to not only determine if a person is in the midst of an episode of atrial fibrillation, but also it can reveal if they've had the irregular rhythm before or will have it in the future.
Paul Friedman, M.D. Cardiovascular Disease Mayo Clinic	"It gets very good at seeing very subtle patterns, at times hidden in plain sight."
	And, this is where it records sound."
	Dr. Paul Friedman and his team trained the device to detect subtle changes in the heart's electrical signals. Then in a study, they found it can identify patients with episodic atrial fibrillation. Even when they record the heart while the rhythm is normal – something no current wearable heart monitor can do.
	"If you're recording an ECG at the time of an abnormal heart rhythm like atrial fibrillation, then either a human or a machine can read the ECG and say, 'Atrial fibrillation is here.' And when we know it's here, then we know there are a number of specific treatments like blood thinners that prevent stroke. And the real trick has been that in people in whom it's intermittent, you may not detect it easily."

	That's because a heart monitor won't detect atrial fibrillation unless you have an episode while wearing it. But in a matter of moments, the AI device can identify people with atrial fibrillation, even if their heart is in normal rhythm. Then they can get on the right treatment to help prevent life-threatening strokes from happening.
	"As with most medical tests and tools, we start in the highest risk groups because that's where we can more clearly see the benefit and how well it's working. And then once we're comfortable that it's working, then we start to adopt it in other populations."
	"Relax your shoulders, your chest."
	"I always liked tai chi."
	Iwona Srenc has atrial fibrillation.
	"Exhale."
	Before treatment, symptoms — a racing heart, weakness, lightheadedness and shortness of breath — disrupted her life.
Iwona Srenc Has Atrial Fibrillation	"My blood pressure was dropping and I would have to shake my head to get out of it. And I was always praying that I wouldn't faint."
	Iwona was lucky. She started treatment for atrial fibrillation and has not had a stroke. She believes that had the new AI technology been available sooner, it could have possibly saved her mom.
	"My mother had AFib and she finally ended up with a stroke. And, you know, and another five years later she died because we didn't have this technology to discover what is going on inside us than we can do now."
	"And now, you can see it says normal ejection fraction."
	A device, trained by experts, to see into a patient's past and future heart health.

	"Just think about the complexity of that task. That's as if I asked you to look at the ocean today on a calm day and tell me were there big waves yesterday. It is amazing. It's absolutely stunning."
	For the Mayo Clinic news Network, I'm Vivien Williams