

# Poor health literacy poses risks for pacemaker and defibrillator patients

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Many patients with pacemakers and defibrillators don't know how the devices work or what to do when they experience an irregular heart beat. Credit: Columbia University School of Nursing

Patients who rely on pacemakers and defibrillators to maintain a normal heart rhythm run the risk of serious health complications if they don't fully understand how the devices work and what to do when they experience an irregular heartbeat. But a study from Columbia University

School of Nursing published this month in the *Journal of Cardiovascular Nursing* found that 40 percent of patients with these devices had little to no ability to understand information about their cardiac health.

"As a nurse practitioner, I use every patient encounter as an opportunity for education," says lead author Kathleen Hickey, EdD, ANP-BC, FNP-BC, assistant professor at Columbia Nursing. "Health literacy is a particular concern for [patients](#) with pacemakers and defibrillators because these patients need to know how to respond if they get a shock from their device. Even when the device is quiet they often need to know how to manage co-existing health conditions like diabetes, heart failure, and [high blood pressure](#)."

Risks can stem from some common misunderstandings between patients and clinicians, Hickey says. A patient might ignore advice to avoid rigorous exercise and then be surprised when experiencing an [irregular heartbeat](#), for example. Or, patients instructed to check their pulse regularly and report any abnormal activity might not understand how to do this or what [heart rate](#) is cause for alarm. "It's not enough just to explain the same thing again in the same way," she says. "You have to stop to ask more specific questions like what activities they do in a typical day and offer simple instructions so they understand, for example, the appropriate heart rate zone for exercise."

To understand the scope of potential communication problems at the clinic where she practices in New York City, Hickey and a team of researchers evaluated the health literacy of 116 patients using a standard measure of reading and math comprehension, the Test of Functional Health Literacy in Adults. The study population was ethnically diverse: 37.1 percent white, 39.7 percent Hispanic, and 22.4 percent African American; 77.4 percent of the population reported finishing high school. The average age of the study population was 68. Evaluations were done in English or Spanish. Almost 30 percent of participants had inadequate

health literacy, and an additional 10 percent were marginal.

The study also examined literacy among patients with medical conditions that are common among patients with pacemakers and defibrillators. Individuals with hypertension or high cholesterol were more than twice as likely to have limited health literacy as individuals without those conditions. Diabetics were almost twice as likely to have low health literacy.

"The good news here is that people are living longer with these devices," Hickey says. "The problem is that co-morbidities like diabetes and hypertension can worsen with age, at the same time that cognitive function declines. This makes it more urgent, and more difficult, to improve health literacy."

The Centers for Disease Control and Prevention define health literacy as the degree to which an individual has the ability to obtain, communicate, and comprehend basic health information and treatments to make appropriate decisions about care. Limited [health literacy](#) is associated with poorer health outcomes, higher rates of hospitalizations, increased use of the emergency department, improper use of medications, and higher health care costs.

**More information:** The study is titled "Assessing Health Literacy in Urban Patients with Implantable Cardioverter Defibrillators (ICDs) and Pacemakers."

Provided by Columbia University Medical Center

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