

What Are The Benefits And Risks Of Fitting Patients With Radiofrequency Identification Devices?

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In 2004, the United States Food and Drug Administration approved a radiofrequency identification (RFID) device that is implanted under the skin of the upper arm of patients and that stores the patient's medical identifier. A debate in this week's *PLoS Medicine* discusses the pros and cons of patients getting fitted with such an RFID chip.

When a scanner is passed over the RFID device, the identifier is displayed on the screen of an RFID reader. An authorized health professional can then use the identifier to access the patient's clinical information, which is stored in a separate, secure database.

In the *PLoS Medicine* debate, Mark Levine, Chair of the Council of Ethical and Judicial Affairs at the American Medical Association (Chicago, IL, USA), argues that such devices have the potential "to make significant advances in the effectiveness, efficiency, and safety of medical care by improving patient identification, promoting patient safety, and expediting access to patients' medical records." Yet, as with all new technologies, he says, "their adoption must be tempered by attention to potential unintended consequences." Ethical concerns regarding the use of RFID devices arise, he says, from issues pertaining to informed consent, the privacy and accessibility of stored information, and the purposes for which the transmitted data will be used.

Because of the risks of unintended consequences, the implantation of RFID devices "merits a healthy dose of skepticism," argue Ben Adida (Children's Hospital Informatics Program, Boston, MA, USA) and colleagues. If such devices become widely deployed, say Adida and colleagues, they may provide an incentive for both well and ill-intentioned parties to set up readers for these "license plates for people." A store owner, for example, might set up a reader to track frequent customers, linking the unique identifier to the customer record upon first purchase. Law enforcement might leverage RFID as a means of ubiquitous surveillance. At the very least, say the authors, the informed consent process must "transparently convey the significant societal side effects of RFID devices."

John Halamka (Chief Information Officer of Harvard Medical School and of Beth Israel Deaconess Medical Center, Boston, MA, USA) adds his voice to the debate by sharing his personal experiences of having an RFID device fitted in December 2004. "After using the device for three years," he says, "I am not an evangelist for implanted RFID, but I believe it can be valuable for some patients who understand the risks and benefits." RFID devices, he argues, "may be particularly helpful for a patient with Alzheimer disease who cannot give a history, a patient prone to syncope who may not be initially conscious during an emergency department visit, or a very active person who engages in extreme sports activities and could be noncommunicative due to injury."

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