

# **Implantable RFID Chips: Usage and Perspectives in healthcare**

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Radio Frequency Identification, or RFID, is an emerging technology that provides enhanced, automated personnel identification capabilities and has been developed to the point that its role has turned into a requirement by some industry leaders, security companies and healthcare organizations as of late. The informatics revolution in Bioinformatics and Medical Informatics will eventually alter the current practice of medicine, including prognostics, diagnostics, and therapeutics through the use of implantable biochips. RFID's technology consists of an electronic identification system comprised of a reader/scanner/interrogator and a transponder that can store an identification number on a chip and read the data that correspond to this code from a relevant network using specified radio frequency. We discuss here the current uses and techniques of human microchip implants using radio frequency identification as well as the applications of information technology. The applications of implantable RFIDs are encountered in a broad field from health monitoring to emergency solutions, but there is a darker side with erosion of privacy and breach in the corporal integrity with implantation of such chips. Moreover, potential future medical utilities of human implants are identified, while discussing the impacts that each of these utilities could probably have on personal privacy. Finally, we review the social and ethical implications of human implant-based user identification concluding that the collateral social issues are composite and extensive and call for a diligent consideration to avoid becoming entangled in intractable technical, morale and legal issues far into the future.