

SURGICHIP®: the Smart Way to Surgical Safety

The first FDA approved RFID verification system helps prevent wrong-patient, wrong-procedure and wrong-site surgeries.



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According to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in the USA, tragic mishaps of operating-room mistakes occur at the rate of approximately five to eight instances a month. Mr Bruce Waxman, M.D., a renowned orthopedic surgeon in Palm Beach Florida, saw a need for another safety check prior to starting surgical procedures, and hence, the SURGICHIP® system was developed as a backup system which helps to avoid potential errors. SURGICHIP® encodes patient and procedure information into RFID tags, such as patient name, procedure, surgical site, etc., and the tag is placed on the patient during pre-op. The tags are read by Datalogic Jet™ PDAs prior to surgery to confirm patient and surgery information.

AMTSystems, a USA-based provider of automatic identification solutions in the healthcare industry, markets, distributes, installs and provides the technical support for the solution in addition to producing the software. Although the patient's name and surgical site and side are printed on the face of the tag, it is frequently not practical to print the surgical procedure description because of space constraints. These longer descriptions can, however, be readily encoded on an RFID chip, and AMTSystems chose the Datalogic Jet™ PDA equipped with RFID technology to read the tags in this application.

SURGICHIP® incorporates a three-step verification process designed to complement the existing protocols followed prior to surgical procedure. At each step along the way, positive patient identification and critical data pertaining to the surgical procedure, site, and side are verified for accuracy. All steps are electronically documented, providing a complete audit trail to the verification process.

Pre-Admitting

Patient demographic information along with surgical procedure data is

Customer
Healthcare Organizations

Industry
Healthcare

Application
Verification

Country
USA

Datalogic Business Solution
Other

Datalogic Product
Datalogic Jet™

Datalogic Partner
AMTSystems

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Dr. Cook, M.D.
Palm Beach Orthopedic Institution

entered in the scheduling module at the time of the preoperative outpatient visit, in the physician’s office, in the emergency room or on the hospital floor. Once the procedure is scheduled, a SURGICHIP® tag is printed and encoded, then read by using the Datalogic Jet™ PDA and verified for accuracy with the patient. Since the information on the tag is verified by the patient it is unlikely that incorrect information is encoded on the chip which is then placed in the patient’s file.

Pre-Operative Verification Process

Part of the pre-operative admission process involves the marking of the surgical site by either the patient, the surgeon or both. At this point the SURGICHIP® tag is taken from the patient’s chart/paperwork and read with the Datalogic Jet™ PDA. The tag information is then verified by the surgeon and/or the patient prior to sedation and then the tag is placed on the incision site. The chip is not removed until surgery is about to begin, therefore, the possibility of inadvertent switching of chips is minimized.

Operating Room Verification Process

In the operating room, prior to draping the patient and prepping the site, the SURGICHIP® tag is read with the Datalogic Jet™ PDA then removed. Before starting a surgical procedure the surgical team verifies the procedure, site, side and patient ID for accuracy to ensure that the tag matches the patient’s chart and ID wristband. If a discrepancy is noted, it is either resolved or the surgery is cancelled. It is not likely that a surgical team will forget to read the tag since it is placed on the intended incision site.

At each step of the way SURGICHIP® not only verifies the procedure at hand but also electronically documents the process by caregiver with time/date stamped outcomes for reporting purposes.

“SURGICHIP® helps to improve patient confidence that our medical staff is taking all the precautions and safety checks necessary to ensure the correct procedure is done, in the correct location, with no mistakes,” said Dr. Cook, M.D., one of the top surgeons at the Palm Beach Orthopedic Institution, a leading orthopedic healthcare facility located in Palm Beach, FL, USA, that is using the SURGICHIP® system. “The medical staff at the Palm Beach Orthopedic Institution has been very receptive to the three-step verification process of SURGICHIP® that ensures confirmation of patient and procedure information prior to surgery.”

“SURGICHIP® addresses a true market need in helping to decrease medical errors,” stated Todd Stewart, AMTSystems vice president of business development. “Once the FDA approved this technology, the market demand was very apparent. Since obtaining approval, we have received interest from 100’s of healthcare organizations from around the world.”

