

Hospital Security

Prevention of Infant abduction

Foil abduction, match mother and baby, locate wandering patients and track the baby



Infant abductions can be prevented when facilities deploy RFID tagging systems, institute best-practice guidelines, teach staff about patient-safety protocols and educate families of infants.

Radio Frequency Identification (RFID) Tags are fitted to a baby to accurately report Real-Time location and to avoid unauthorised removal of an infant from a ward. These RFID tags transmit a unique ID to the 'local network of readers' to confirm the location of the baby. A transmitter tag, attached to the baby's ankle, sends RF signals to discreetly placed receivers as the baby is moved throughout the facility. A Low Frequency (LF) Receiver inside the tag works with an LF Exciter to create an alert if a tag nears an exit. **Any movement beyond a 'secure area' will trigger alarms and notify staff.**

Radio-frequency identification (RFID).

RFID is the wireless non-contact use of radio-frequency electromagnetic fields to transfer data, for the purposes of automatically identifying and tracking tags attached to objects. RFID tags communicate with a networked system to track the object that has the tag. Like other wireless devices, RFID tags broadcast over a portion of the electromagnetic spectrum. The exact frequency is variable and can be chosen to avoid interference with other electronics or among RFID tags. The tags contain electronically stored information. Some tags are powered by and read at short ranges (a few meters) via magnetic fields. Others use a local power source such as a battery, or else have no battery but collect energy from the interrogating EM field, and then act as a passive transponder to emit microwaves or UHF radio waves. Battery powered tags may operate at hundreds of meters. **RFID tags communicate with an electronic reader which in turn is connected to a large network that sends information on the location of the tagged object to a central location.** Data stored on RFID tags can be changed, updated and locked.

RFID tags.

Newer innovations in the RFID industry ensures that the tags are less expensive to produce, and can be made small enough to fit comfortably around the ankle or wrist of the baby.

New, soft banding material incorporates cut-band detection and has the ability to determine if a transmitter has been removed from skin contact. This offers a high degree of security against tampering.

Miniaturization of integrated circuits as well as new advances in antennae and other radio-frequency-related technologies has enabled new tag designs to be smaller and lighter, and better suited for tagging babies. **With smaller batteries and longer battery life, new tags are smaller and last longer. The bands, the most tangible piece of infant abduction-prevention systems, are softer.**

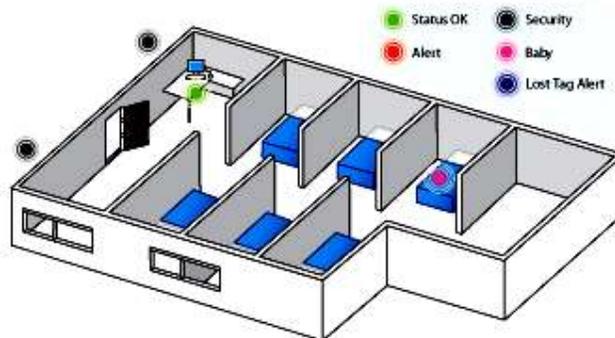


Infants wear a tamper proof infant tag with a comfortable hypoallergenic strap while mothers wear an RFID-enabled mother tag. The mother tag will automatically 'sound' when a baby with an infant tag is first brought to the mother.

The working of the Infant protection system.

The system comprises of the tag itself, a read/write device, and a host system application for data collection, processing, and transmission.

Fixed readers are set up to create a specific interrogation zone which can be tightly controlled. This creates a highly defined reading area for when tags go in and out of the interrogation zone.



Immediately after birth, a tag utilizing a unique code is applied to the ankle of an infant. This code is used to identify the baby as he/she enters or exits a monitored area. **The presence signal provides the system with information about the RFID tag, and will generate an alert if the signal is lost, a different alert for a low battery and an alarm when a strap is tampered with.** Each facility may have a designated "safe area" usually the maternity ward. Infants may be moved freely within this area, at all times. All exits from the safe area are monitored using a reader. As soon as a tag comes near an exit, an alarm occurs showing the specific RFID tag and the location. As long as the infant is wearing a tag, he or she cannot be passed through a monitored exit undetected. Most system manufacturers also provide special tamper-proof straps that trigger an alarm if anyone attempts to cut or unfasten the strap.

When an unauthorized person attempts to remove a monitored infant from the secured area, the software triggers an alarm and automatically locks the doors. It also shows the location of the infant.

This system becomes the eyes and ears of the security department.

Infant Security Best Practices

Abductors often carefully plan their abduction attempts. They become familiar with the hospital's layout, controls and procedures. Many pose as caregivers and dress in caregiver or nurse attire. They try to develop a relationship with the mother. Some pose as marketers offering "free" products for newborns.

RFID baby tagging system is an aide to the security staff and not an end in itself. Human intelligence, alert nursing and security staff together with the baby tagging system will make a secure system. **Hospitals must constantly be vigilant and must adopt the best practices listed below:**

- Form a multidisciplinary infant security committee involving all the stake holders.
- Issue badges to nurses and other caregivers authorized to transport infants.
- Train mothers: Train mothers to (i) not release their newborns to individuals who are not wearing the appropriate badge (ii) not leave their infants alone, even to use the restroom, take a shower or sleep (iii) not answer questions about their children's birth if they receive calls from unidentified individuals.
- Train staff: Train new staff on all technologies, policies and procedures.
- Conduct an infant abduction drills annually, if not more frequently.
- Use video surveillance: Install security cameras at all ingress/egress points, including elevators.
- Secure all stairwell doors: Ensure that all stairwell doors are locked and self-closing.
- Control access to the unit.

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