Tracking Surgical Instruments

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Tracking Surgical Instruments

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Problem

- Instruments and sponges are left inside patients mistakenly for more than a dozen times a day.
- Hospitalizations involving a lost sponge or instrument average more than $60,000.

Previous Methods

- Safety-Sponge™ System
- RF Surgical Detection System™
- SmartSponge™ System
- ORLocate™

Design Constraints

- Portable
- Low-cost
- Time efficient
- Proper sterilization
- Universal method
- Reduce risk of losing tools

Process Flow

Pre-surgery

1. Remove instruments from sterilizing unit
2. Zero scale and weight in the instruments tray and note the weight
3. Scan each instrument and verify
4. Proceed to operation room

Post-Surgery

1. Missing instruments?
2. Scale instruments and verify
3. Zero scale and check weight
4. Proceed to sterilization unit
5. Check with Doctor, Nurse, and patient

Effectiveness

Matrix barcode (QR code) technology is a quick, efficient way to scan surgical instruments into a computer database that track when instruments are checked in and out for surgery.

When a QR code is scanned, a checkmark will indicate when a surgical tool is checked in and checked out.

Matrix barcode technology will stand high temperature/pressure sterilization in chambers that reach up to 150 degrees Celsius and pressures of 15 psi.

Weighing scale allows for additional security in instrument tracking.

Conclusion

Flow process will decrease amount of misplaced surgical instruments and sponges.

Increases efficiency and decreases time wasted between surgery completion and sterilization.