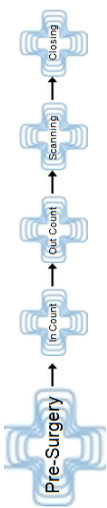


Technology Comparison: RFID, Bar-Code, EAS (RF)

A Pre-Surgery through Close of Surgery Analysis

	<b>RFID</b>	<b>Bar-Code</b>	<b>EAS (RF)</b>
<p><b>Overview</b></p> 	<ul style="list-style-type: none"> <li>- Sponge Counting and Detection System</li> <li>- Utilizes small, passive RFID tags embedded in surgical sponges</li> <li>- Tags contain tiny microchips and no battery</li> <li>- Tags do not transmit any digital information until they are within a predetermined range of the reader's antenna</li> <li>- Once scanned in, data from each sponge is validated and displayed on monitor</li> <li>- Sponges are automatically scanned out when discarded into plastic lined receptacle</li> <li>- Hand-held wand equipped with LEDs, and audible and visual indicators on the receptacle alert user of detected sponge(s) in case of patient scan</li> </ul>	<ul style="list-style-type: none"> <li>- Sponge Counting and Documentation System</li> <li>- Utilizes sponges labeled with individual serial numbers embedded in a data matrix bar code</li> <li>- Bar codes are scanned by a reader to record codes during counts</li> <li>- Scans in multiple sponges at one time using a separate tag embedded on the band of wrapped sponges</li> <li>- Generates reports to display sponge counts/patient and staff information/staff notes and changes</li> </ul>	<ul style="list-style-type: none"> <li>- Sponge Detection System</li> <li>- Utilizes surgical sponges and gauze tagged with an RF sensor</li> <li>- Non-Identification based tags</li> <li>- Uses disposable wand to detect tag frequency in the event of patient scan case</li> </ul>
<b>Pre Surgery</b>	<ul style="list-style-type: none"> <li>- Enables manufacturers to verify the correct number of sponges in packaging.</li> <li>- Reduces the chance of miscounts.</li> <li>- Minimizes time spent on defective packs.</li> </ul>	<ul style="list-style-type: none"> <li>- Requires line-of-sight to be scanned by reader.</li> <li>- Unable to validate the number of items inside a sealed package.</li> </ul>	<ul style="list-style-type: none"> <li>- Does not transmit unique identifiers when scanned.</li> <li>- Readability breaks down when multiple tags are close together.</li> <li>- Not suitable for validating the number of items in a sealed package.</li> </ul>
<b>In Count</b>	<ul style="list-style-type: none"> <li>- Enables the system to confirm that all tags in a pack of sponges are functional.</li> <li>- The system reads and records a unique identification number for each sponge.</li> <li>- Verifies the proper quantity of items in the pack.</li> <li>- All validation steps are performed within one second of presenting a pack of sponges to the device</li> </ul>	<ul style="list-style-type: none"> <li>- Utilizes a master tag scan to speed up the in- count process.</li> <li>- The master tag is printed on a band wrapped around a number of surgical sponges.</li> <li>- Relies on an assumed count as starting inventory since individual sponges are not scanned.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides no method for counting sponges into surgery.</li> <li>- Does not offer verification of tag functionality prior to surgery.</li> <li>- No data is transmitted from EAS tags and manual counting is required.</li> </ul>

	<p>regardless of orientation.</p> <ul style="list-style-type: none"> <li>- Starting inventory is highly reliable.</li> <li>- The system meets and exceeds AORN guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>- The functionality of each barcode is not checked prior to surgery.</li> <li>- Does not conform to AORN guidelines if sponges are not counted individually.</li> </ul>	
<b>Out Count</b>	<ul style="list-style-type: none"> <li>- The system counts any number of sponges discarded in receptacle regardless of orientation.</li> <li>- Provides a 1 to 1 reconciliation by matching unique ID numbers to counted in sponges.</li> <li>- Device performs an inventory of receptacle once per second, averaging in over 10,000 inventory counts per procedure.</li> <li>- Reduces chance of miscount.</li> <li>- No separation or orientation of sponges required.</li> </ul>	<ul style="list-style-type: none"> <li>- Sponges are counted out of the procedure manually, one at a time.</li> <li>- The barcode must be wiped clean and oriented properly with the line-of-sight reader.</li> <li>- Multiple (redundant) reads are not part of the barcode process.</li> <li>- Results in a more labor intensive count than manual counting.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides no method for counting sponges out of a surgical procedure.</li> </ul>
<b>Scanning / Detection</b>	<ul style="list-style-type: none"> <li>- Provides a two part patient scanning solution consisting of the SmartWand<sup>TM</sup> working in conjunction with a SmartTag<sup>TM</sup>.</li> <li>- Feedback that the SmartWand is functional and reading through the patient provides optimal safety.</li> <li>- When items are detected, the quantity and description of items are displayed.</li> <li>- Faster than the current practice of X-Ray detection and there is no interpretation required.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides no method for scanning the patient in the event of a non-reconciliation.</li> </ul>	<ul style="list-style-type: none"> <li>- Not capable of providing users with feedback of wand functionality or read range.</li> <li>- When items are detected, EAS technology is not capable of identifying the quantity or type.</li> <li>- Susceptible to false positives as well as degradation of performance, due to readability breaks-downs when multiple tags are close together.</li> </ul>
<b>Closing</b>	<ul style="list-style-type: none"> <li>- The SmartSponge System software enforces 100% compliance by requiring that counts are reconciled before a case can be ended.</li> <li>- An Administrator-level override is required if a case must be ended with an unreconciled count.</li> <li>- Reduces risk of ending</li> </ul>	<ul style="list-style-type: none"> <li>- Provides no method for ensuring counts are reconciled before the case is ended.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides no method for ensuring counts are reconciled before the case is ended.</li> </ul>

	surgery with a retained sponge. - Enforces standardized sponge counting practices.		
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