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INSTRUMENT COUNT SHEETS

LEARNING OBJECTIVES

1. Explain factors to consider when determining content information and layout for instrument count sheets
2. Review the use of an instrument count sheet in the Central Service department
3. Describe why and how an instrument count sheet is used in the Operating Room
4. Discuss factors to consider when determining the location of instrument count sheets when packaging and sterilizing instrument trays

Instrument Continuing Education (ICE) lessons provide members with ongoing education in the complex and ever-changing area of surgical instrument care and handling. These lessons are designed for CIS technicians, but can be of value to any CRCST technician who works with surgical instrumentation.

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INSTRUMENT COUNT SHEETS ARE VALUABLE TOOLS FOR CENTRAL Service (CS) and Operating Room (OR) personnel. A well-designed instrument count sheet makes it easier to assemble instrument trays in the CS department and to count instruments in the OR. The effective design and use of this tool requires the cooperation of personnel in the CS, OR and any other department where the instrument count sheet will be used.

OBJECTIVE 1: EXPLAIN FACTORS TO CONSIDER WHEN DETERMINING CONTENT INFORMATION AND LAYOUT FOR INSTRUMENT COUNT SHEETS

Instrument count sheets can increase the efficiency of staff members in CS, OR and other departments that use surgical instrumentation, and they also improve patient safety.

Well-designed instrument count sheets contain the following information:

- Instrument catalog number
- Name of instrument vendor
- Instrument description
- Quantity of the instruments required in tray
- Space to note the actual quantity of instruments in tray
- Space for OR personnel to record instrument counts
- Name of CS technician who assembled tray
- Date of tray assembly

Instrument count sheets must be well organized to make it easy for CS technicians and others to use them. Similar instruments should normally be grouped together on the count sheet, so CS technicians can accurately count

them to ensure none are missing. *Note: The number of missing instruments must be deducted from the Required Count, and the resulting Actual Count should be recorded. When the OR technician counts the instruments, his or her first count should equal the CS technician's Actual Count. If instruments are added after the OR technician's original count, they should be listed as "Added" and not be included as part of the original count.*

Properly-worded column headings on the count sheet help CS technicians assemble the instruments and ensure no instruments are missing. Concisely-developed headings also help OR technicians keep instruments organized and properly arranged for passing to the surgeon during the procedure. In general, ring-handled instruments are placed on stringers, and these are arranged on the count sheet in the sequence they will be used in surgery. The count sheet layout should be agreed upon by CS and OR personnel.

If the instrument count sheet contains the Vendor Name, Catalog Number and Instrument Description, the sheet can be used to order replacement instruments when needed. The complete count sheet can also be used as a template for



Figure 1. Instrument Count Sheet

MINOR TRAY							
CATALOG NUMBER	VENDOR	ITEM DESCRIPTION	REQUIRED QUANTITY	ACTUAL QUANTITY	OR 1ST COUNT	OR ADDED TO COUNT	OR FINAL COUNT
RING HANDLED INSTRUMENTS							
PLACE ON STRINGER							
HEMOSTATIC CLAMPS							
SU2700	V Mueller	MOSQUITO FORCEPS 5" STR	4				
SU2702	V Mueller	MOSQUITO FORCEPS 5" CVD	10				
SU2720	V Mueller	KELLY FORCEPS 5 1/2" STR	2				
SU2722	V Mueller	KELLY FORCEPS 5 1/2" CVD	10				
SU4055		ALLIS FORCEPS 6"	6				
SU3960	V Mueller	LAHEY GOITER FORCEPS 3X3 TEETH 6"	2				
TOWEL CLIPS							
SU2900	V Mueller	SMALL TOWEL CLIPS 3 3/4"	6				
SU2938	V Mueller	LARGE TOWEL CLIPS 5 1/2" (DULL)	6				
SU2905	V Mueller	LARGE TOWEL CLIPS 5 1/2" (SHARP)	2				
NEEDLE HOLDERS							
RH2560	V Mueller	WEBSTER NEEDLE HOLDER 5"	2				
SU16005	V Mueller	CRILE WOOD VITAL NEEDLE HOLDER	2				
SU16061	V Mueller	MAYO HEGAR VITAL NEEDLE HOLDER 7"	2				
SCISSORS							
OP5540	V Mueller	KNAPP IRIS SCISSOR CVD	1				
OP5943	V Mueller	STEVENS TENOTOMY SCISSOR 4 1/2" CVD	1				
RH1650	V Mueller	METZENBAUM SCISSOR 5 1/2" STR	1				
MP1600	V Mueller	METZENBAUM SCISSOR 7" CVD	1				
SU1801	V Mueller	MAYO SCISSOR 6 3/4" STR	1				
TISSUE FORCEPS							
NL1430	V Mueller	ADSON DRESSING FORCEPS 4 3/4"	2				
NL1400	V Mueller	ADSON TISSUE FORCEPS 4 3/4"	2				
SU2504	V Mueller	ADSON BROWN TISSUE FORCEPS 4 3/4"	2				
SU2333	V Mueller	TISSUE FORCEPS 6"	2				
SU2303	V Mueller	DRESSING FORCEPS 6"	2				
CH5902	V Mueller	DEBAKEY TISSUE FORCEPS 7"	2				
MISCELLANEOUS INSTRUMENTS							
1403001	V Mueller	#3 KNIFE HANDLE	2				
1404001	V Mueller	#4 KNIFE HANDLE	2				
NL1902	V Mueller	#3 FRAZIER SUCTION W/OBTURATOR	1				
SU3660	V Mueller	ARMY-NAVY RETRACTORS	2				
SU3785	V Mueller	SENN RETRACTORS (SHARP)	2				
RH1100	V Mueller	ONE PRONG SKIN HOOK STR	2				
SU3662	V Mueller	FOUR PRONG RAKE RETRACTOR (SHARP)	2				
SU10810600	V Mueller	PROBE W/EYE 6"	1				
SU10830600	V Mueller	GROOVE DIRECTOR	1				
TOTAL INSTRUMENTS			86				
ASSEMBLED BY:				DATE:			
Original: 03/10/12 FA							
Revised: 11/11/XX RB							

requesting a quote on a new instrument set. Figure 1 shows an instrument count sheet that enables these activities.

OBJECTIVE 2: REVIEW THE USE OF AN INSTRUMENT COUNT SHEET IN THE CENTRAL SERVICE DEPARTMENT

CS personnel use count sheets to ensure all instruments in a set are accounted for when the tray is returned to the CS decontamination area and when the tray is assembled in the preparation and packaging area. It is important to confirm a tray is complete when it is received in the decontamination area. If any instruments are missing from the tray, the user department should be notified immediately. Then, user department personnel can search for the missing instrument(s) before they are discarded in the garbage or linen. This is important because if significant time lapses before instruments are reported missing, they may not be found, and instrument loss is a significant issue in most facilities. *Note: Barcodes attached to individual instruments in applicable tracking systems enable instruments to be scanned and counted when they are returned to the CS department. These systems help with the count of incoming and outgoing instruments.*

After washing, the instruments are sent to the preparation and packaging area. There, each tray is inspected and assembled in instrument count sheet sequence to maintain standardized tray set-up and ensure the proper instrument quantities. When all trays are organized the same way, it is easier for CS technicians to assemble the instrument sets, and more efficient tray assembly and higher productivity results.

The CS technician checks off each instrument on the count sheet as the instrument set is assembled. A missing instrument is noted by marking the



actual count in the appropriate column. Upon completing a set, the CS technician should sign and date the count sheet to enable follow-up if there is a problem with the tray.

Instrument count sheets are frequently used as part of a comprehensive quality program. If OR personnel encounter a tray problem, they can note it on the instrument count sheet and give it to the CS manager or supervisor. The count sheet will contain all information needed to investigate the problem. This information can also be used to track quality problems and analyze them for trends and improvement tracking.

OBJECTIVE 3: DESCRIBE WHY AND HOW AN INSTRUMENT COUNT SHEET IS USED IN THE OPERATING ROOM

A new surgical scrub technician can learn the correct instrument names when a count sheet is used. Surgeons often do not call for an instrument by its correct name; instead, they may ask for it with a generic name such as “clamp.”

Knowledge of an instrument’s correct name is important when reporting problems. For example, if a “clamp” is not holding well and needs repair, the surgical technician must know the instrument’s correct name to report the problem. A report that “one clamp” needs repair is not sufficient. The instrument needing repair might be tagged; however, tags may fall off, and many tags cannot be processed through the instrument washing process.

Instrument count sheets are used as patient safety tools in the OR to help prevent loss and/or retention of an instrument in a patient cavity. Three separate instrument counts can routinely occur during a surgical procedure. The first count is done at the beginning of the case, before an incision is made. Any instruments added during the case are noted on the count sheet. A second count

is performed before wound closure. *Note: If the surgical technician or circulating nurse is permanently relieved during the case, another count should be done.* At the end of the case, the final count is compared to the actual count plus any instruments added during the case. The final count should equal the beginning-of-case actual count plus any instruments added during the case. *Note: Instruments might be added during a case to replace one that is dropped, or additional instruments, including those missing from the tray, might be obtained from the OR peel pack inventory.*

If an instrument is missing during the final count, the surgical team must search for it, and the wound should not be closed until the instrument count is balanced. If necessary, an x-ray will be taken to ensure that an instrument was not retained in the patient’s body.

Retained foreign objects can lead to serious complications. Examples include sepsis (presence of bacteria and their toxins in tissue), fistula (abnormal connections between an organ, vessel, intestine, or another structure), and small bowel obstructions. Other possible problems created by retained instruments include visceral perforation (an abnormal opening in a hollow internal organ), and granuloma formation (an inflammation caused by the body’s immune system response to a foreign object).

Retention of a foreign object during surgery is considered a preventable event and a hospital-acquired event for which The Centers for Medicare & Medicaid Services (CMS) will not reimburse the healthcare facility. Retention of a foreign object during surgery is considered a sentinel event by The Joint Commission (TJC). The cost of a retained object can be significant in terms of additional patient treatment and the potential litigation that can result.

Some facilities perform a breakdown

count after the patient has left the OR, and before the garbage and linen are removed from the room. This count ensures all instruments are accounted for and returned for reprocessing. If this instrument count is incorrect, a thorough search, including of wastebaskets, linen hampers, floors, and furniture, is conducted. Instrument count sheets can also be used as part of a department’s quality assurance program.

OBJECTIVE 4: DISCUSS FACTORS TO CONSIDER WHEN DETERMINING THE LOCATION OF INSTRUMENT COUNT SHEETS WHEN PACKAGING AND STERILIZING INSTRUMENT TRAYS

CS personnel in many facilities place the instrument count sheet inside the surgical tray’s sterilization container or wrapper. Instrument count sheets can also be attached to the outside of the wrapper or sterilization container. Placement decisions should be made by facility personnel after considering several factors.

It is not necessary for instrument count sheets to be sterile when used in the OR. In fact, the circulating nurse who is not part of the sterile surgery environment typically completes the actual count information on the count sheet.

Placing the sheet inside the tray or container might create concerns that should be addressed when deciding if an internal location is preferred. For example, instrument count sheets are usually printed on regular copy paper with a laser or impact printer. The paper could shed fibers into the tray, which could then transfer to the patient’s wound and cause a foreign body reaction or occlusion.

The ink on count sheets will transfer to surgical instrument surfaces, and it is not known if the ink may be toxic to patients when instruments are used.



Typically, paper and ink manufacturers do not validate the use of their products for sterilization or biocompatibility with human tissue.

There are no known reports of adverse events from count sheet placement inside instrument sets; however, there is little research that addresses the safety of toners, inks or copy papers, and there is a theoretical risk that they could cause a reaction in some sensitive patients. *Note: It is known that it is virtually impossible to remove ink after it is transferred to an instrument's surface.*

An additional potential problem with internal count sheet placement relates to questions about whether multiple layers of count sheets retain air. If they do, this could inhibit air removal and steam penetration during sterilization.

Some experts recommend that CS technicians in facilities where count sheets are placed inside trays should minimize the potential for ink transfer and paper or ink contact with patients. This can be accomplished by placing the count sheet(s) inside a medical grade paper bag validated for use in a sterilizer.

Facilities using an automated instrument tracking system might generate instrument count sheets at the point of use or perform the instrument count within the computer. When this tactic is used, there would not be a need to print a hard copy count sheet.

Before deciding where to place instrument count sheet, facility personnel should analyze all possibilities and make a decision based on what is best for the staff and patients.

IN CONCLUSION

Use of instrument count sheets addresses several quality issues for CS and user departments. They are valuable tools that help CS technicians to more quickly and efficiently clean and assemble instrument sets. OR personnel use count

sheets to help prevent the retention of a foreign object in a patient's cavity and help surgical technicians learn instrument names and report instrument set problems. CS and OR managers can also utilize count sheets to follow up on quality problems and to order additional instruments.

ADDITIONAL READING

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