

Surgical Counting

*Many state public health departments across the country are reporting an increase in the amount of retained foreign objects in patients following surgery. The so-called “Never Event” of an accidental instrument, sponge, needle, electrode, etc. – being left inside a patient at the conclusion of a surgery is trending higher in many reports. In our role as operating room professionals, it is our job, duty, and prerogative to take on the task of reducing these instances. In addition to the patient risk involved with such happenings, fines levied, court cases and damage of reputation are among the consequences to the professionals and institutions that come as a result of these critical mistakes and errors. **This course is designed** to outline the process of surgical counting and help nurses and other surgical professionals eliminate the risk of retained foreign objects.*

Getting Started: Defining the Surgical Count

The surgical count plays a vital role in enabling the perioperative practitioner to enhance the surgical patient’s safety. Surgical items such as instruments, swabs and sharps

used by the surgical team to perform invasive procedures, are foreign bodies to the patient and must be accounted for at all times to prevent retention and injury to the patient. Many would argue that surgical counting is the single most important aspect of the circulating nurses' duties. Regardless of whether this is true or not, surgical counting is undoubtedly one of the most important tasks of the circulating nurse in the operating room. In this course, we will discuss counting procedures, items responsible for being counted, methods of accounting for sponges, personnel responsible for performing the counts, recommended time for each count, provide current policy and procedures for counting, discuss recommended strategies for incorrect count, and many other topics. This course will illustrate just how important the surgical count is to a safe operating room experience and how vital the circulating nurse is to providing a safe surgical experience.

What is a counting procedure?

A counting procedure is a method of accounting for items put on the sterile table for use during the surgical procedure. Sponges, sharps, and instruments should be counted and/or accounted for on all surgical procedures. This includes any materials introduced into the patient during the procedure,

such as rectal or vaginal packs or sterile towels used to pack off or retain viscera.

The counting of sponges, needles, sharps, instruments and any other item that could become lost in a patient are crucial to count. Items are counted before and after use. The types and numbers of sponges, needles and other sharps, and instruments vary for each surgical procedure.

The documentation of counts should include the items on the instrument table at the beginning of the procedure, as well as those added during the procedure. The count should be performed audibly and with each sharp visualized by both the scrub person and the perioperative nurse. The number of needles should be recorded.

During the procedure, the scrub person should be aware of the location of sharps on the sterile field. Needles should be accounted for by the scrub person as they are placed in the neutral zone on a one-for-one exchange basis when possible. Subsequent counts should be performed by the scrub person and perioperative nurse before closure of a body cavity or deep, large incision, after closure of a body cavity, and at skin closure. Additional counts should be an element of the hand-off process when either the scrub person or the perioperative nurse is permanently relieved by other personnel. In situations where personnel may be relieved on a temporary basis, the

verbal hand-off should include a discussion about counted items. In all situations, it is imperative that two individuals be involved in the count - one counting, and the other witnessing that the count is correct. All sharps are retained in the OR during the surgical procedure. Many institutions have printed forms to keep track of routinely counted items. Others use erasable count boards visible to all personnel. Recording the count is the responsibility of the perioperative nurse. Depending on institutional policy and practices, the count sheet may become part of the patient's record. To facilitate counting, needles are counted according to the number indicated on the package; the scrub person verifies this number with the perioperative nurse when the package is opened. Used needles should be kept on a needle pad or counter on the scrub person's table. Broken or missing needles must be reported to the surgeon and accounted for in their entirety.

Do you know your institutions' policy for incorrect counts?

Each institution should have established policies for dealing with incorrect counts. Unintentional retention of objects during surgery has been identified as a "Never Event". Institutions are required to adopt a comprehensive strategy to manage the complexity of this issue. Strategies include several elements, including: an emphasis of forced communication,

standard processes, and checklists. In situations where an incorrect count occurs, the surgeon should be immediately notified, and a recount should be initiated. Sterile team members and the perioperative nurse initiate a search of the sterile and unsterile fields. If the missing item is not revealed after a recount and search, the surgeon is asked to explore the wound. If the missing item is still not found, agency policy may dictate that an x-ray film be taken. Documentation of these activities should be completed according to institutional policy and procedure.

Put the “count” in accountability

Accountability during the surgical count is a professional responsibility that rests primarily on both the “scrub person” and the circulating nurse. The surgeon and patient rely on the accuracy of this accountability by the team. There are several reasons why it is important for the scrub and circulating nurse to count and be accountable for all items used during the procedure (**Table 1.1**).

Table 1.1

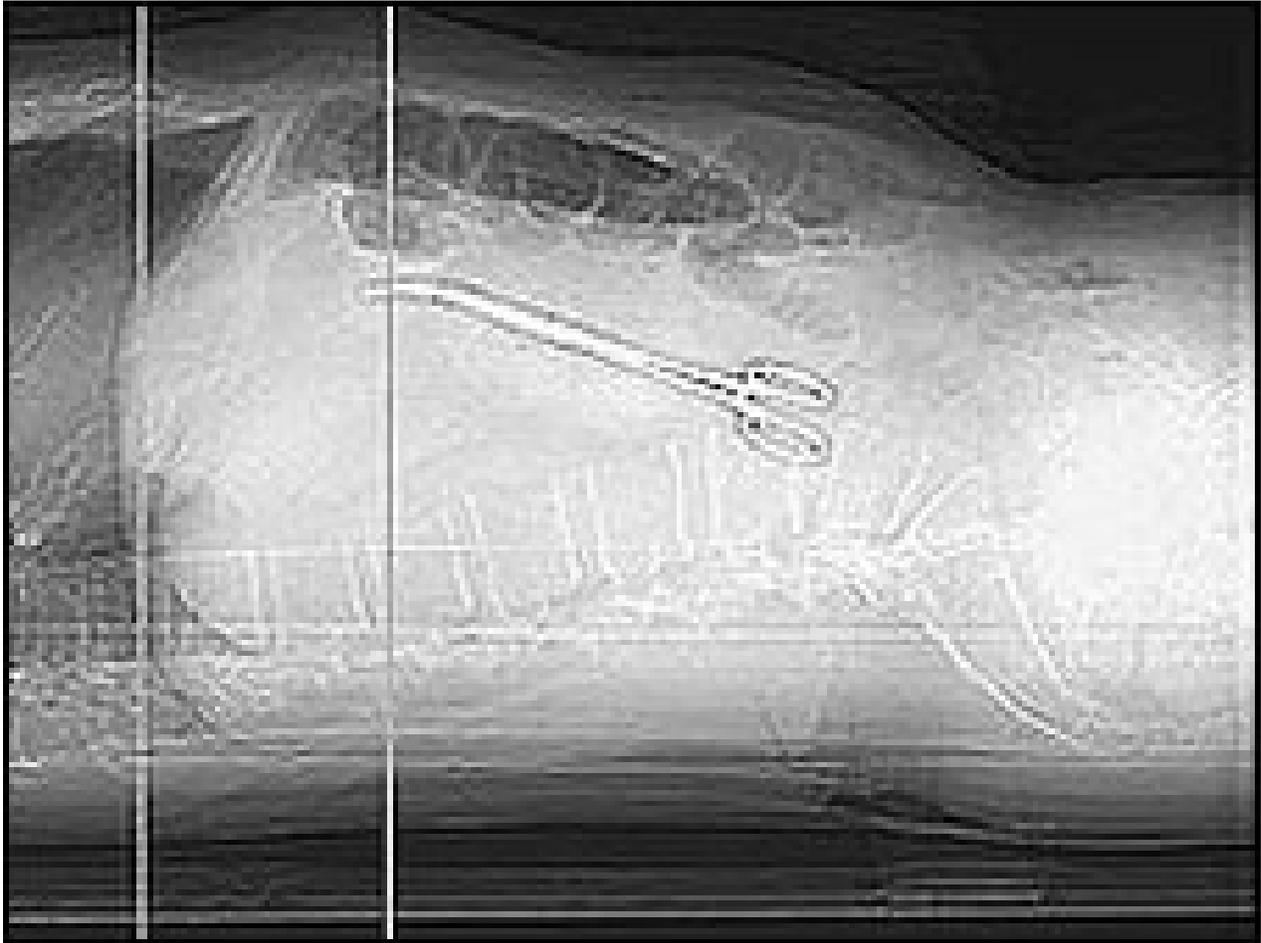
Reasons to count - and be accountable - for items used during surgical procedures

Incident	Result
Item can be lost in patient's body	Need for additional surgery
Item can be lost in trash or linen	Potential harm to other personnel
Item can be lost from inventory,	High cost of replacement

Counts are performed for patient and personnel safety, infection control, and inventory purposes. A needle, instrument, sponge, tape, or towel left in the wound after closure is a possible cause for a lawsuit after a surgical procedure. Containment and control are also important for infection control.

A retained foreign object made of woven textile is referred to as a gossypiboma or a textiloma. A foreign body unintentionally left in a patient can be the source of wound infection or disruption. The longer the object remains in the body, the more it incorporates ingrowth of tissue. An abscess can form, and fistulas may develop between organs. The foreign body reaction may be immediate or may be delayed for years. Diagnosis is sometimes difficult and costly, and removal of the object usually requires major surgery. The literature reports the removal of some retained sponges through laparoscopic surgery if they are discovered before adhesions develop. For an example of a foreign body left in a patient, see **(Photo 1.1.)**

Photo 1.1



A contaminated sponge or needle that is unaccounted for at the close of procedure could also inadvertently come into contact with the personnel who clean the room, process instruments, launder the linens, or transport the trash. Blood or body fluids are sources of pathogens such as human immunodeficiency virus (HIV) or hepatitis B virus (HBV). For

additional learning on bloodborne pathogens, please see the www.CuttingEdgeCE.com course on “Humans vs. Superbugs”

Inventory control is monitored by accounting for the instrument set in its entirety. Counting ensures that expensive instruments including towel clips and scissors are not accidentally thrown away or discarded with the drapes. Injury to laundry and housekeeping/environmental services personnel by the contaminated sharp edges of surgical instruments, blades, and needles is a risk.

Adverse effects on patients

Based on an ECRI Institute study (2003) that examined Controlled Risk Insurance Company closed-claims data from 1985-2001, patient deaths due to retained surgical objects were rare. More common adverse outcomes included:

- Readmission to hospital or prolonged length of stay (59% of cases)
- Second surgery to remove retained object (69%)
- Sepsis or infection (nearly 50%)
- Fistula or small-bowel obstruction (15%)
- Visceral perforation (7%)

One of the patient outcomes identified in the Perioperative Nursing Data (PNDS) is that “the patient is free from signs and symptoms of injury due to extraneous objects” (Peterson, 2007). One of the many perioperative nursing activities

undertaken to achieve this patient outcome is the performance of counts to ensure that the patient is free from injuries related to retained sponges, sharps, or instruments (Patient Safety). Institutions vary in their policies regarding needle and sharps counts during operative procedures, but most follow established procedures based on the Association of Perioperative Registered Nurses (AORN) Recommended Practices for Sponge, Sharp and Instrument Counts (AORN, 2009b). (See example 1.1).

Example 1.1

Example of Counting Policy and Procedure

I. OUTCOME STANDARD

- A. To ensure that the patient is not injured as a result of a retained foreign body.
- B. To standardize the surgical count process.
- C. To account for instruments, reusable and disposable.
- D. To assure this surgical count standard also applies to cases of organ/tissue procurement.

II. POLICY

- A. Sponges, sharps and miscellaneous items will be counted pre-operatively on ALL procedures performed in the operating room, establishing a baseline for subsequent counts.

- B. An instrument count is indicated when:
 - a. The surgical wound encompasses a body cavity, such as abdomen, pelvis, or chest.
 - b. All procedures in which there is a possibility that an instrument/sponge could be retained.
 - c. All procedures in which there is a possibility of progressing to an open procedure or of extending an incision to allow for an instrument to be left behind. This includes all laparoscopic, thorascopic and pelvioscopic procedures.
 - d. All policies also pertain to pediatric cases.
- C. Every OR will have an identical, pre-printed count board mounted on the wall.
 - a. The count boards will reflect the required elements (sponges, sharps, miscellaneous and packed/tucked items. Pre-printed items include laps, raytecs, rondics, peanuts, knife blades, atraumatics, free needles, hypodermic needles, bovie tips and bovie scratchers. All other sponge, sharp and miscellaneous items will be printed onto small magnets that can be placed on the board as is appropriate to the procedure.
- D. At shift change or at time of permanent relief, at least one member, but preferably both members from the oncoming team will conduct an accounting of the counted items, with at least one member of the outgoing team, preferably the scrub person, for a hand-off/relief count.

- E. The RN circulator and scrub person should not be interrupted during any part of the counting procedure. If they are interrupted, they must start the count again in the category of items they were counting when interrupted (e.g., lap tapes, mayo clamps, etc.).
- F. Only X-Ray detectable materials will be used in surgical wounds or body cavities during surgery. (i.e., Kerlix rolls or non-radiopaque towels will not be placed/packed in a body cavity during a procedure).
- G. Linen or waste containers will not be removed from the OR until all counts are completed, resolved and the patient has been transferred from the operating room.
- H. A standardized procedure will be used by all staff members to record the counts on the count boards, this practice must be consistent from room to room.

III. PROCEDURE

- A. Sponge counts
 - a. Sponges include but are not limited to Raytec (4x4), Lap tapes, and Vag tapes, Rondics, Peanuts, Tonsil Sponges and Cottonoids. Sponges will be counted in order from largest to smallest.
 - b. Sponge counts require the full attention of the scrub person and the RN circulator.

- c. Sponges will be separated, counted audibly and concurrently viewed together during all counts. Radiopaque tags should be visualized by both parties.
- d. Sponges will be counted in all procedure where sponges are on the field. The sponge count will be recorded on the count board.
- e. The scrub person will observe the number of sponges added on the count board and acknowledge verbally that the written numbers and the total are correct.
- f. Subsequent sponge counts will be performed:
 - i. When items are added to the field
 - ii. Before the closure of a cavity within a cavity (e.g., uterus, bladder)
 - iii. Before wound closures begin (closing count; if more than one wound, closing counts must be done independently for all wounds, if not closed simultaneously).
 - iv. At skin closure
 - v. At the time of permanent relief of the RN circulator or the scrub person; a handoff accounting for the counted items must be done (change/relief count)
 - vi. Upon the request of any team member
- g. Any package containing an incorrect number of sponges will be removed from the OR and not used in the procedure.
- h. The RN circulator will contain and confine discarded, used sponges in designated sponge holder bags.

- i. The sponge holder bags must be visible so that all team members can view them during the case for the purposes of blood loss estimation and the verification of counts.
- ii. Sponges will be placed in the sponge count bags by type, i.e., laps in one, raytex in another, with only 5 lap tapes (one/pocket) or 10 raytex (one/pocket) in each holder.
- iii. The scrub person will designate a space on the back table to maintain all small sponges or miscellaneous items for counting purposes.
- iv. Final accounting of sponges by surgeon, circulator and scrub will be done during the debriefing. This will be done before the patient leaves the OR; at that time, all used and unused sponges should be in the sponge holder bags for verification.
 - i. Non-radiopaque gauze dressing materials should be withheld from the field until the wound is closed or the case is completed. Dressing sponges that come in the pack should be left in their plastic zip lock bags and isolated on the back table away from all other sponges.

B. Sharp Counts:

- a. Sharps include but are not limited to scalpel blades, cautery tips, atraumatic (suture) needles, free needles and hypodermic needles.
- b. Sharp counts require the full attention of the scrub person and the RN circulator, i.e., the scrub shows the circulator each

- and every sharp item on the field and the circulator documents the total numbers on the count board accordingly.
- c. The scrub person will observe the number of sharps added on the count board and acknowledge verbally that the written number and total are correct.
 - d. Subsequent sharp counts will be performed:
 - i. When sharps are added to the sterile field
 - ii. Before the closure of a cavity within a cavity (e.g. bladder or uterus)
 - iii. Before wound closure begins (closing count)
 - iv. At skin closure (final count)
 - v. At the time of permanent relief or change of shift, a handoff accounting for the counted items must be done
 - vi. Upon the request of any team member
 - vii. Packages of multi-pack needles will be opened, viewed and counted with both scrub person and circulator, during the initial count and at the time they are opened until they are replaced in a sharps container, to avoid inadvertent injury to a patient or member of the Perioperative team.
 - viii. The scrub person will maintain an accurate account of all sharps on the sterile field frequently comparing the field numbers to those documented on the count board.
 - ix. All counted sharps should remain within the operating room and / or sterile field during the procedure.

x. Sharps that are contaminated or inadvertently fall from the field should be retrieved by the circulator, shown to the scrub person, and isolated from the sterile field. They should not be disposed of in the sharps container until the final counts are completed. Sharps that are removed from the field should be secured safely on a needle magnet or other appropriate container, so they can be accounted for and visualized during the final counts.

xi. Pieces of broken sharps must be accounted for in their entirety

xii. The scrub person will not discard suture packages during a procedure; all packages will be saved either on the back table or in the “sterile” paper trash bag on the field. No packages are to be thrown into the general trash. Matching empty suture packages to rectify a discrepancy in a closing needle count is an acceptable method to verify the closing/final counts, only if all packages have been saved. If there is any uncertainty, then a radiograph must be taken. The only exception would be if the needle in question is known to be 6-0 or smaller, as these may not be visible on x-ray.

C. Count of Miscellaneous Small Items/Devices

a. Miscellaneous small items/devices are generally disposable items but may be reusable items that could be retained in a wound or body cavity if not counted pre-

operatively and at the time of closing counts. Most of these items are not radiopaque.

b. Miscellaneous small items/devices include but are not limited to: Penrose drains, fogarty/novare inserts, bulldogs, irrigation tips/adapters, vessel loops, umbilical tapes, suture bots, tunneller tips/bullets, micro wipes, valvutomes and tips, silastic tubing, safety pins, rubber bands, GYN prep sponges, Capio bullets, Lone Star hooks, fish hooks, eye plugs, visibility background, defogger sponge, hemoclip cartridges, stapler loads, visceral retainers (fish) and laparoscopic sealing caps.

c. Miscellaneous items require the full attention of the scrub person and circulator. The scrub person verbally confirms the number and the type of items that the circulator acknowledges and documents on the count board (labeled magnets or hand written labels may be used.)

d. The scrub person will observe the number for miscellaneous items added on the count board and acknowledge verbally that the written total number is correct for each item.

D. Subsequent counts of miscellaneous items will be performed:

a. When items are added to the sterile field

b. Before the closure of a cavity within a cavity (cavity closure count)

c. Before wound closure begins (closing count: see sponge count re: multiple wounds)

- d. At skin closure (final count)
 - e. At the time of permanent relief or change of shift, a hand-off accounting for the counted items must be done
 - f. Upon the request of any team member
- E. Instrument Counts
- a. Instrument counts include all instruments and miscellaneous pieces associated with that instrument that can detach/come apart (i.e. wing nuts, suction tips, 2 pieces Poole suctions, balfour pieces, etc.), contained in an instrument tray as well separately wrapped instruments that are added to the sterile field to or during the procedure.
 - b. Instrument counts require the full attention of the scrub person and the circulator. They will audibly count and concurrently view together all instruments and verify the quantity listed on the instrument count sheet.
 - c. The practice of counting total number of instruments in the set is not acceptable.
 - d. Pre-printed instrument count sheets provided in the set from central processing will be used to verify the instrument counts.
 - e. Instruments added to the sterile field subsequent to the initial count will be written on the count sheet by the circulator.
 - f. The instrument count sheets will be kept in a designated place in the OR during the case.

g. All pieces of a broken instrument will be retained in the OR during the case.

h. Subsequent instrument counts will be performed:

i. At the time of an addition to the sterile field.

ii. Before each wound after a body cavity is closed
(closing count)

iii. If a closed wound must be re-opened for any reason, a second closing count will be done at a time of secondary closure.

iv. At the time of permanent relief or change of shift, a handoff accounting the counted instruments must be done.

v. At the request of any team member.

F. Closing instruments counts are not required on laparoscopic, pelvioscopic, thorascopic or mediastinoscopies that do not progress to “open” procedures, despite an initial count being done.

a. Circulator will document in that closing instrument counts were not indicated/not applicable because procedure did not proceed to open.

G. Instrument Count Sheets:

a. The instrument count sheet will be used to record all instruments and pieces thereof, used in the procedure. Deviations from the instrument count sheet as well as

instruments added to the field will be documented on the sheets.

b. The OR team will complete the instrument count sheet by writing names of circulator and scrub person, date, OR# and time. If the instruments match the count sheet, no comment is needed. If there are missing instruments, write the number missing (e.g. -2 Kelly clamps). If additional instruments are added during the case, write those additions in the “add” columns on the count sheet.

c. The original count sheets are to remain in the OR with the instrument sets during the case and returned with the instrument tray to central processing with any changes noted.

H. Special Considerations:

a. Any item that is tucked or packed into the wound will be verbally announced by the surgeon and written on the count board. As items are removed from the wound, they will be crossed off the “packed” items count.

b. Initial counts will be done completely on the back table. Counted items should not be brought up to the Mayo or surgical site until they have been counted.

c. The closing and final count sequences will begin at the surgical site/patient and the immediate surrounding area. Proceed to the Mayo stand, to the back table and finally to items that have been discarded or removed from the field.

- d. All counts will follow not only a “geographic” sequence but will follow an “item sequence” as well, following a pre-determined order:
 - i. Sponges will be counted from largest (e.g. lap tapes) to smallest (e.g. peanuts)
 - ii. Next, sharps will be counted
 - iii. Third, miscellaneous small items/devices will be counted
 - iv. Finally, instruments will be counted. Instrument count will follow the pre-printed count sheet in terms of order.
- e. All counted items will remain in the OR for the duration of the surgical procedure and will either be discarded or removed from the OR when the patient leaves the room. (No extraneous sponges or needle packages should be left in the OR after the patient leaves the room and none should be present prior to the next patient arriving.)
- f. The surgeon or scrub person will announce the start of the wound closure.
- g. The surgeon will conduct an exploratory search of the abdominal and thoracic cavities for counted items before wound closure begins.
- h. If counted items are intentionally left in the wound, the type of item and the number will be recorded on the operative record/OPTIME.
- i. Contaminated sponges, sharps, miscellaneous items and instruments must be handled and disposed of according to the

Blood borne pathogens standard of the Occupational Safety and Health Administration (OSHA), facility blood borne pathogen exposure control plan and any other applicable regulations.

j. The surgeon will verify the counts with the circulator and the scrub person before exiting the OR by viewing the sponge count bags to ensure that each pocket of the bag contains a sponge. This is part of the debriefing to be done at the end of the procedure.

k. Special attention to instruments must occur during orthopedic cases utilizing regular or cannulated drills, drill guides or guide pins. Steps must be taken to ensure these items or broken pieces of these items are not implanted in the patient.

i. Orthopedic drills and guide pins will be inspected to ensure they are intact and not broken. Inspection will occur prior to insertion and after removal.

ii. Guide pins not intended or approved as an implant will be removed after use. The cannulated drill/drill guide will be inspected to verify that nothing remains in the inner channel. All guide pins inserted into the patient will be verified as totally removed.

iii. A verbal verification that the above inspections were done will occur between the surgeon and the scrub both during and at the end of the case.

- iv. Any team member can call for an off count at any time.
- l. The OR team will ensure that all pieces of instruments requiring assembly are accounted for prior to the completion of the surgical procedure. Special care will be taken when these instruments are used within an orifice or a deep cavity to ensure all pieces are secured.
- m. Incorrect Counts
 - i. The circulator will notify the attending surgeon and the anesthesia care provider when an incorrect count occurs. The appropriate documentation will be completed per policy.
 - 1. The nursing staff will immediately make a thorough search of the room, including the floor, linen, trash, kick buckets, case cart shelves and empty instrument containers.
 - 2. The surgeon will immediately stop closing and explore the wound for any retained items.
 - 3. The scrub person will again search the field and begin a recount of the missing item.
- n. If the missing item (sponge/sharp/miscellaneous item or instrument) is not accounted for, an X-ray of the wound will be performed in the operating room before the reversal of anesthesia. The only exceptions to this would be if the

missing item is a small (6-0 or smaller) needle which is not visible on x-ray.

o. X-rays will be taken for procedures when initial baseline counts were not obtained (unanticipated open procedures or emergency procedures when there was not time to count.

The primary responsibility for accounting for all sponges, sharps, and instruments before, during, and after every surgical procedure rests with the circulating nurse and scrub person. Laziness and a cavalier attitude surround the statement, “the incision is too small to lose anything.” Don’t ever be fooled by this. It can happen. There are several reasons to count and be accountable for items used in a surgical procedure.

1. Patients have been known to retain items from a surgical procedure regardless of the size or location of the surgical site. This is a serious safety breach that is not excusable.
2. Instruments are costly and should not “vanish into thin air.” It is a shame that some hospitals x-ray all the trash and have metal detectors on the doors of the OR. Instruments stuck in washing machines cause damage to the mechanisms. Accountability significantly decreases this loss.
3. Many instruments have sharp tips or cutting surfaces. If an instrument is in the trash or laundry, it can become a source of injury to unsuspecting housekeepers or laundry workers. This can result in prolonged illness and possible inability to work.

Any item put into the patient should be documented as part of the count and reconciled at the end of the procedure. The surgeon and first assistant facilitate the count of the items on the surgical field before closure, however, it is not their job to perform the actual counts. Because accountability for sponges, sharps, and instruments is recognized as essential to safe practice and the Standard of Care, omission of appropriate counts or a facility's lack of established procedures for counting and accountability could result in a serious threat of liability. There is no excuse for any retained foreign object if the systems for accountability are followed by the entire team.

The circulating nurse should document in writing the outcome of the final counts as correct or incorrect and any unusual incidents concerning them, including the need for a radiograph to look for a lost item. If a radiograph is taken, the name of the radiologist and their findings also should be documented. An incident report should be filed on all counts that remain unresolved. It is not necessary to indicate the actual number of sponges or needles used on the OR record. The documentation of correct or incorrect counts is sufficient. Any questionable count should be documented as resolved or unresolved act to whom the event was reported.

The initial count will be done when the tray is assembled. The person who assembles and wraps items for sterilization will

count them in standardized multiple units. Some facilities enclose a copy of this tray inventory count sheet in the instrument set. In commercially prepackaged sterile items (e.g., sponges, disposable towels), this count is performed by the manufacturer.

The baseline count will be performed during the setup for the surgical procedure. The scrub person and the circulating nurse together count all items before the surgical procedure begins and during the surgical procedure as each additional package is opened and added to the sterile field. These initial counts provide the baseline for subsequent counts. Any item intentionally placed in the wound, such as a towel, is recorded. A useful method for counting is as follows:

1. As the scrub person touches each item, he or she and the circulating nurse number each item aloud until all items are counted. There is no need to be disruptive when performing this task. Each pack of sponges will be bound with a paper band that is broken only as each bundle is counted. The presence of an intact paper band indicates that bundle has not been counted yet. Count them one bundle at a time.
2. The circulating nurse immediately records the count for each type of item on the count record or wipe-off board. Preprinted forms are helpful for this purpose.

3. Additional packages should be counted away from counted items already on the table in case it is necessary to repeat the count or to discard an item.
4. Counting should not be interrupted. The count should be repeated if there is uncertainty because of interruption, fumbling, or any other reason.
5. If either the scrub person or the circulating nurse is permanently relieved by another person during the surgical procedure, the incoming person should verify all counts before the person being relieved leaves the room. Personnel who perform the final counts are held accountable for the entire count.

The **closing count** is taken in three areas before the surgeon starts the closure of a body cavity or a deep or large incision:

1. **Field count:** Either the surgeon or the assistant assists the scrub person with the surgical field count. Additional items (e.g., vaginal or rectal packing, sterile towels used as intraabdominal packing) are accounted for at this time. This area should be counted first. Counting this area last could delay closure of the patient's wound and prolonged anesthesia.
2. **Table count:** The scrub person and the circulating nurse together count all items on the Mayo stand and instrument table. The surgeon and assistant may be suturing the wound while this count is in process.

3. **Floor count:** The circulating nurse counts sponges and any other items that have been recovered from the floor or passed off the sterile field by the scrub person.

The **final count** is performed to verify any counts and/or if institutional policy and procedures stipulates additional counts before any part of a cavity or a cavity within a cavity is closed. A final count may be taken during subcuticular or skin closure. The circulating nurse totals the field, table, and floor counts. If the final counts match the totals on the tally sheet, the circulating nurse informs the surgeon that the counts are correct. A count should be reported to the surgeon as correct only after a physical count by number actually has been completed. Intentionally exposing the patient to x-rays is not a replacement for the physical count.

The circulating nurse documents on the patient's record what was counted, how many counts were performed and by whom, and if the counts were correct or incorrect. There is no need to write all the tallies on the permanent record. A Registered Nurse should participate to verify that all counts are correct, but the personnel actually performing the counts are responsible for the accuracy of the counts. The counting procedure, the outcome, and participating personnel should be documented according to institutional policy and procedure.

Omitted counts because of an extreme patient emergency should be recorded on the patient's record, and the event should be documented according to institutional policy and procedure. If a sponge or sponges are intentionally retained for packing, or if an instrument intentionally remains with the patient, the number and type should be documented on the patient's record. Any time a count is omitted, refused by a surgeon, or aborted, the reason should be fully documented.

Records can be subpoenaed and admitted as evidence in court. The accountability for all items used during the surgical procedure is placed in the scrub person and the circulating nurse, who jointly perform the counting procedures as defined by institutional policy and procedure. The surgeon and the first assistant facilitate the counting process. It is not the job of the surgeon or the first assistant to actively perform the counts or sign the count reconciliation sheet.

What do you do if you have an incorrect count?

Specific policies and procedures for any count that is incorrect should be defined by each institution and should include - but not be limited to - the following:

1. The surgeon is informed immediately
2. The entire count is repeated

3. The circulating nurse searches the trash receptacles, under the furniture, on the floor, in the laundry hamper, and throughout the room
4. The scrub person searches the drapes and under items on the table and Mayo stand
5. The surgeon searches the surgical field and wound
6. The circulating nurse should call the immediate supervisor to check the count and assist with the search.
7. After all search options have been exhausted, policy should stipulate that a radiograph film be taken before leaving the OR. The surgeon may wish a radiograph be taken at once, with a portable machine, to determine whether the item is in the wound. Alternatively, the surgeon may prefer to complete the closure first because of the patient's condition or because there is reasonable assurance, based on wound exploration that the item is not in the patient. Unfortunately, patients' incisions have been reopened after complete closure to retrieve objects, such as sponges.
8. The circulating nurse should write an incident report and document on the OR record all efforts and actions to locate the missing item, even if the item is located on the radiograph. This report has legal significance for verification that an appropriate attempt was made to find the missing item. If the item is not found on the radiograph, the report is brought to the attention

of the personnel the need for more careful counting and control of sponges, sharps, and instruments.

Sponges are used for absorbing blood and fluids, protecting tissues, applying pressure or traction, and for blunt dissection. Many different types of sponges are available. All sponges on the sterile table and field should be radiopaque. A radiopaque thread or marker made of a barium substance is incorporated into commercially manufactured sponges.

1. Gauze sponges are supplied sterile, precounted, and folded. These are also called Raytec or Raytex sponges. All are packed in groups of 10 and bound with a paper band.
2. Laparotomy tapes, usually called “lap tapes”, are used for retaining the viscera and keeping them moist and warm. The lap tapes have a loop of blue twill sewn on one corner. A small radiopaque marker is sewn into one corner of the tape. Lap tapes are packaged in groups of five.
3. There are a few different types of dissecting sponges. Peanut sponges are very small and are used for blunt dissection or absorption of fluid in delicate procedures. They are packaged in groups of five. Tonsil sponges are soft, round gauzes. Tonsils are packaged in groups of five.
4. Cottonoids or “patties” are compressed absorbent rectangles/squares. They are packaged in groups of ten.

**Because of the importance of the topic,
let's reiterate the steps in counting sponges!**

Radiopaque, radiograph-detectable gauze sponges, tapes, towels, dissecting sponges, and cottonoid patties are counted in multiples of 5 to 10 per package. The types of sponges and number of different sizes should be kept to a minimum. To count them, the scrub person will do the following:

1. Hold the entire pack of sponges of whatever type, including tapes, in one hand. The thumb should be over the edges of the folded sponges.
2. Break the paper band. Breaking the band is a good way to designate which stacks have been counted and which ones have not.
3. Shake the pack gently to separate the sponges and loosen the twill-tape tails on tapes.
4. Pick each sponge separately from the pack with the other hand, and number it aloud while placing it in a pile on the sterile instrument table.

If a pack contains an incorrect number of sponges, the scrub person should hand the entire pack to the circulating nurse for removal from the room. There should be no attempt to correct errors or to compensate for discrepancies. The pack should be removed from the room and not used.

What can the scrub person do to ensure that a sponge is not misplaced or left in the patient?

- Keep sponges, tapes, peanuts, and other such materials separated on the instrument table and far away from each other and from any draping material, especially towels.
- Keep sponges far away from small items (e.g., needles, hemostatic clips) that might be dragged into the wound by a sponge or tape.
- Do not give the surgeon or assistant a sponge to wipe the powder off his or her gloves. It may end up in the laundry hamper or trash. Use a sterile towel instead, if at all possible.
- Do not cut sponges or tapes. It may be hard to account for the item in its entirety.
- Do not remove radiopaque thread or marker. Either the marker or the sponge could be lost.
- Never mix sponges and tapes in a solution basin at the same time; this prevents the danger of dragging a small sponge unknowingly into the wound along with a tape.
- Do not give the pathologist a specimen on a sponge to take from the room; instead, put the specimen in a basin or on a towel.
- Discard all soiled sponges into the “kick bucket” after completely opening them and leave no more than two clean sponges on the sterile field at a time. Put up clean ones before

removing soiled ones on an exchange basis as part of a systems approach to error prevention.

- Do not be wasteful of sponges. Besides the economy factor, the more sponges that are used, the more there are to count - and the greater the chance for error.
- Once the peritoneum is opened or the incision is made and extends deep into a body cavity (where a sponge could be lost), four alternative precautions can be taken:
 - a. Remove all Raytec sponges from the field, and use only tapes. Rings, if used, hang outside, over the edges of the wound.
 - b. Use folded Raytec sponges on sponge forceps only. Completely unfold and open each one before dropping into the sponge bucket.
 - c. Give laparotomy sponges to the surgeon one-at-a-time on an exchange basis.
 - d. Dissectors are given one at a time clamped inside the tip of an instrument on an exchange basis.
 - e. With the circulating nurse, count sponges and tapes added during the surgical procedure before moistening or using them. Break the paper band to signify they have been counted.
 - f. Do not add or remove sponges from the surgical field during a sponge count until the count is verified as complete and correct. Before hanging the final count, place one or two

tapes or sponges on the field for use while the count is being taken.

What can the circulating nurse do to ensure that a sponge is not misplaced or left in a patient?

1. Each discarded sponge should be examined briefly to be sure that no saturated sponges are tangled with them. To avoid the transmission of bloodborne pathogenic organisms, wear gloves and protective eyewear to separate sponges for counting, stacking, and bagging.
2. Count the bagged sponges in the same increment in which they are supplied, such as groups of 5 or 10 of like sponges. These numbers should be recorded on the sponge count record and counted. The bagged units are not tied shut or discarded into the trash. The bags are placed aside in full view of the scrub person and the anesthesia provider until the end of the case and all the numbers are reconciled. The anesthesia provider will be observing the sponges for loss of blood.
3. Give additional sponges or tapes to the scrub person when it is convenient for them. The scrub person separates each sponge and counts them, and the circulating nurse records the numbers immediately.
4. Do not discard or remove counted sponges from the room for any reason until the patient is out of the room.

Sharps include surgical needles, hypodermic needles, knife blades, electrosurgical needles and blades and safety pins, to mention a few. Each item must be accounted for. Surgical needles are the most difficult to track, and are used in the largest quantity. All surgical needles and other sharps are counted as they are added to the sterile table and/or separated from other instruments in the instrument tray.

What can the scrub person do to ensure that a sharp is not misplaced or left in a patient?

1. Leave needles in their inner folder or dispenser packet until the surgeon is ready to use them.
2. Give needles to the surgeon on an exchange basis.
3. Use needles and needle holders as a unit. No needle on the Mayo without a needle holder, and no needle holder without a needle.
4. Secure used needles and sharps in a needle counting box until after the final count. Many methods for efficient handling are available:
 - a. Sterile adhesive pads with or without magnets facilitate counting and safe disposal. When a large number of swaged needles will be used, the scrub person and circulating nurse may determine the number of needles a pad will hold and work out a unit system. When this maximum number is reached and counted by both, the pad or box is closed and

handed off to the gloved circulating nurse, who will place the container with the other countable items off the field. This method eliminates the hazard of handling extreme amounts of loose needles on the instrument table. Disposable plastic boxes of various sizes for the containment of sharps are commercially available.

b. Used eyed needles can be returned to the needle rack. The use of reusable suture needles is not encouraged because they become dulled with use and could harbor microorganisms if not properly cleaned.

How can the circulating nurse ensure that a sharp is not misplaced or left in a patient?

1. Open only the necessary number of packets of sutures with swaged needles. Overstocking the instrument table is not only wasteful, but also complicated the needle count.
2. Counted sharps should not be taken from the OR during the surgical procedure. If a scalpel with a counted knife blade is given to a pathologist to open a specimen, the scalpel must remain in the room after gross examination of the specimen; it is not to be taken to the laboratory with the specimen.
3. A sharp is passed off the sterile field if it punctures, cuts, or tears the glove of a sterile team member. These sharps are retained and added to the table and field counts to reconcile

the final sharp count. An empty specimen cup is generally regarded as good container for a loose sharp.

4. A magnetic roller may be used to locate a surgical needle or blade that has dropped to the floor.

Instruments are surgical tools and devices that are designed to perform specific functions that include cutting or dissecting, grasping and holding, clamping and occluding, exposing, or suturing. For each basic maneuver, an instrument of suitable size, shape, strength, and function is needed.

Just like sponges and sharps, instrument counts are recommended for all surgical procedures. Specific written policies and procedures are followed without deviation. To count instruments, the scrub person should do the following:

1. Remove the top rack of instruments from the instrument tray or container and place it on a rolled towel or over the lip of a tray or container. Instruments are counted as they are assembled in standardized sets. Groups of even numbers of each of the basic clamps facilitate handling and counting.
2. Expose all instruments left in the tray for counting. Remove knife handles, towel clips, tissue forceps, and other small instruments from the tray, and place them on the instrument table. Do not put instruments on the Mayo stand until they are counted; they can be put on the stand as they are being counted.

3. Account for all detachable and disassembled parts. These must be counted or accounted for during assembly and once again during disassembly at the end of the case.
4. Recover and retain all pieces of an instrument that breaks during use. A replacement instrument is added to the count sheet.
5. After the initial count is taken, count any instruments added to the table, with one exception. If the circulating nurse decontaminated and sterilizes an instrument that has been dropped to the floor or has been passed off the table, an adjustment in the count is unnecessary. Instruments that are recovered from the floor or passed off the table and not sterilized are retained by the circulating nurse and reconciled at the closing count.

As operating room personnel, we all have our story of the “near miss” related to counting. Any item put into the patient should be documented as part of the count and reconciled at the end of the procedure to avoid any “near misses”. Because accountability for sponges, sharps, and instruments is essential to the safe practice and the standard of care, the scrubbed personnel and the circulating nurse have a huge responsibility. There is no excuse for any retained foreign object if the systems for accountability are followed by the entire team. I hope that

this course increases your awareness of the importance of counting to a safe operating room experience, and how vital the circulating nurse is to a safe surgical experience.

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