

DEPARTMENT OF THE ARMY  
HEADQUARTERS, UNITED STATES ARMY MEDICAL COMMAND  
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MEDCOM Regulation  
No. 40-49

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Medical Services  
**SURGICAL COUNTS**

Supplementation of this regulation and establishment of forms other than MEDCOM forms are prohibited without prior approval from HQ MEDCOM, ATTN: MCHO-CL-C.

- 1. **HISTORY.** This issue publishes a major revision of this regulation.
- 2. **PURPOSE.** To provide guidelines for accountability of items used during operative and other invasive procedures (inclusive of minimally invasive procedures) to ensure they are not retained in a patient undergoing an operative or invasive intervention. This regulation addresses which items will, at a minimum, be counted, as well as when, how, and by whom the surgical count will be performed.
- 3. **REFERENCES.** References are listed in appendix A.
- 4. **EXPLANATION OF ABBREVIATIONS AND TERMS**

AORN.....Association of periOperative Registered Nurses  
 MEDCOM..... U.S. Army Medical Command  
 MTF.....military treatment facility  
 NP ..... nurse practitioner  
 PA ..... physician’s assistant  
 RN..... registered nurse  
 RNFA ..... registered nurse first assistant

- 5. **APPLICABILITY.** This policy applies to all healthcare professionals in U.S. Army Medical Command (MEDCOM) facilities involved in inpatient and outpatient care where

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\*This regulation supersedes MEDCOM Regulation 40-49, 21 March 2005.

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operative and other invasive procedures (inclusive of minimally invasive procedures) are performed, irrespective of where in the military treatment facility (MTF) they are performed.

## **6. RESPONSIBILITIES**

a. The Commander, MEDCOM has overall responsibility for clinical quality management including all policies and procedures addressed by this regulation.

b. MTF commanders are responsible for execution and sustainment of all training and oversight activities required by this regulation.

c. The “act” of performing the count and documenting the status of the count is the responsibility of the circulating nurse; however, the overall process for accountability lies with the entire surgical procedural team (see para 7b).

## **7. BACKGROUND**

a. “Accurately accounting for sponges {sharps, needles, and instruments} should be a priority of the surgical team to minimize the risk of a retained” {object} (Association of periOperative Registered Nurses (AORN) Standards, Recommended Practices & Guidelines, 2008).

b. “The possibility of any incision being extended to allow for a more extensive procedure than anticipated or to enhance visibility supports the practice of performing an initial count for all procedures” (AORN, 2008).

c. The surgical/procedural team, as referenced in this regulation, consists of a circulating nurse, surgical assistant (that is, surgical technician, registered nurse first assistant (RNFA), physician’s assistant (PA), surgeon assistant), and surgeon/provider.

d. Examples of counted items include instruments, radiopaque sponges, sharps, sutures, needles, radiopaque-equipped hand towels, safety pins, scalpel blades, cautery tips, hypodermic needles, vessel loops, bulldogs, umbilical tapes, cottonoids, scratch pads, kitners, vessel clamps, ligaclips, fish hooks, tonsil and stick sponges, and other items deemed necessary by anyone on the surgical team.

## **8. POLICY**

a. Initial instrument counts will be performed on all operative/invasive and minimally invasive procedures to establish a baseline for subsequent counts (for

example, laparoscopy, thorocscopy). If circumstances preclude an initial count, follow the instructions in paragraph g(2) below.

*b.* Counts are fundamental to the surgical process and are the responsibility of the entire surgical/procedural team.

*c.* For all cases that occur in the operating room or cases where operative and other invasive procedures occur outside the operating room (inclusive of minimally invasive procedures), counts must be performed audibly and viewed concurrently by two individuals, one of whom should be a licensed and/or privileged provider (for example, a registered nurse (RN), RNFA, PA, nurse practitioner (NP)). The count will be verified audibly with the surgical assistant. In an emergency situation, a surgeon or anesthesiologist/nurse anesthetist may participate in completion of the count. Note: For invasive procedures performed outside the operating room, at a minimum, accountability for needles and sharps used during the procedures must be reconciled before the patient leaves the room.

*d.* Counts are taken–

(1) Prior to the beginning of a procedure (to establish a baseline),

(2) As additional items are presented during the procedure,

(3) Before closure of a cavity within a cavity (uterus or bladder),

(4) Before wound closure begins,

(5) Before skin closure,

(6) When there is a change of the scrub technician or circulating nurse (for example, lunch breaks and shift changes), or

(7) Anytime the count needs to be reassessed for accuracy by any member of the operative team.

*e.* The circulating nurse is responsible for recording each item added to the sterile field on the count sheet/count board. This board or count sheet must be visible to the entire surgical team. Relief personnel will initial all items they add to the field.

*f.* A separate count will be taken during each phase of a two-phase procedure (for example, laparoscopy – laparotomy).

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*g.* In emergent life or limb-threatening situations, where time is a critical factor, it may not be possible to perform a full count. Counts omitted due to a life-or limb-threatening emergency must be documented on the institution-specific form (that is, on a DA Form 5179-1 (Medical Record - Intraoperative Document)) for procedures occurring in the operating room and on the SF 509 (Medical Record Progress Notes) or equivalent form for those procedures occurring outside the operating room). If electronic charting is being utilized, this documentation will be entered in the appropriate field relating to counts. In those cases where the protocol was not followed and counts were omitted, the incorrect count protocol must be initiated and followed (as described in para 10 of this regulation) and documented on an institution-specific form.

*h.* The following situations require an x-ray of the surgical site:

(1) All procedures in which an incorrect or an incomplete count occurred due to the patient's condition. The x-ray of the surgical site will occur prior to final wound closure and prior to the patient leaving the operating room. (See additional requirements in para 10c.)

(2) If an initial count is not performed. In this case, the x-ray is done at the end of the case. Justification for the omission of the count must be documented on DA Form 4106 (Incident Report) or equivalent report. (See AR 40-68 for use of this form.)

(3) On patients transported for more definitive care from theatre to a designated medical treatment facility. (See para 9h for additional guidance.)

(4) In cases where needles are lost as described in paragraph 10d and at the discretion of the surgeon.

(5) When needles, sharps, instruments, or miscellaneous items are broken or cut during a procedure and efforts to retrieve the item(s) failed. The FDA defines an unretrieved device fragment as a fragment of a medical device that has separated unintentionally and remains in the patient after a procedure. The concern for the patient is that during magnetic resonance imaging (MRI) procedures, magnetic fields may cause metallic fragments to migrate, and radio-frequency fields may cause them to heat, resulting in internal tissue damage or burns. (See the Food and Drug Administration Public Health Notification: Unretrieved Device Fragments, U.S. Food and Drug Administration, Center for Devices and Radiological Health at <http://www.fda.gov/cdrh/safety/011508-udf.html>.)

*i.* In every instance where surgical counts are not performed according to policy, DA Form 4106 or equivalent report must be completed by a licensed and/or privileged

provider within the surgical team (for example, by an RN, RNFA, PA, NP, surgeon). Justification for the omission of a count must be documented on DA Form 4106 or equivalent report.

*j.* All counted items will remain within the operating room or procedure room until the conclusion of the procedure and after all items are accounted for and documentation completed.

*k.* Set assembly is the first step in supporting the instrument count process and begins within central materiel services. Annotation of this process consists of the identification of the instruments contained within the set and an identifier of the person(s) assembling the set (that is, printed name and signature of the person putting up the set) for accountability purposes only. If sets are put up incorrectly, DA Form 4106 or equivalent report must be generated, annotating the incorrect assembly of the instrument set for purposes of trending, and to provide additional training to improve the process when necessary.

*l.* When a patient expires in the operating room suite, a final instrument count is performed for inventory control purposes.

*m.* The circulating nurse will document all counts and the names of the personnel completing them on the DA Form 5179-1 (for procedures in the operating room) or on the SF 509 or equivalent form (for those procedures occurring outside the operating room).

*n.* If there is an external device in place upon the patient entering the operative area and it will be removed during the operative procedure (for example, fetal scalp wire, external fixation device), it is a countable item and its presence will be identified by the surgeon and annotated on the count sheet or count board by the circulating nurse before beginning the surgical procedure.

*o.* At the conclusion of any operative or other invasive procedure (if the condition of the patient allows), the surgical team should pause for a “team focused final count” according to the procedures in paragraph 9g.

## **9. PROCEDURES**

*a.* All like items will be counted together.

*b.* All counts will proceed in the following order: start at the surgical field, progress to the mayo stand, then sterile back table, and off the sterile field.

c. Pre-printed count sheets used by individual central materiel service departments that are identical to the standardized instrument sets (detailing each item within the set) should be used to record the counted items within the instrument sets. Each MTF will have a procedure in place for generating these count sheets.

d. At the completion of each closing count, the surgeon and anesthesia provider will be informed of the count status.

e. Needles, sharps, instruments, or miscellaneous items broken or cut during a procedure must be accounted for in their entirety by the surgical team. If it is impossible to obtain the broken needle or item, all actions taken to retrieve the item will be documented on the appropriate DA Form 4106 or equivalent report by the circulating nurse. In this case, an x-ray of the surgical site will be taken.

f. If items are packaged in multiple numbers (for example, sponges packaged in 5s or 10s and needles packaged in a variety of groupings) and the number of the items in the prepackaged container is incorrect based on the manufacturer's standard for packaging, then the entire package contents should be removed from the sterile field, bagged, labeled, and isolated from the rest of the items in the operating room suite/procedure room.

g. A "team-focused final count" should be conducted verifying the accuracy of all counts before the patient leaves the operating/procedure room. The surgeon/provider will assist with the count of items on the sterile field; the surgical assistant will assist with the count of items on the mayo stand and sterile back table; and the circulating nurse will assist in the count of items off the sterile field. Once the "team-focused final count" is completed, this process will be documented on DA Form 5179-1. An incorrect count for any countable item may require suspending the surgical procedure, if the patient's condition permits, to allow time for a team-focused count whereby the entire surgical team is involved in the correct process. (See para 10 for additional information on incorrect counts.)

h. Due to the emergent nature of many procedures performed in theatre, counts are often not performed and when performed may be questionable. Additionally, complete records may not accompany the patient from theatre. For these reasons, all patients transported from theatre to the designated medical treatment facility for more definitive care, must have x-rays taken of their surgical site(s) to rule out/rule in retained foreign bodies (intentional or otherwise). These x-rays will be used to verify that no foreign bodies are present and/or to locate and validate the number of items/sponges that must be removed by those rendering the next level of care. The results of x-rays taken on all patients once back at the medical treatment facility who have had an operative or other invasive procedure in theatre must be documented in the patient's medical record.

Radiology personnel will provide those results to the attending surgeon “stat” and will immediately send the report to the patient’s medical record. During the “final time-out” process used to identify the correct patient, correct site/side, and correct procedure prior to the start of the surgical intervention (see MEDCOM Cir 40-17), the team will address the results of the radiology report for “team reconciliation” of the presence or lack thereof of foreign bodies in the surgical wound.

*i.* If the patient’s wound is packed with lap sponges, note the number and type of sponges left in the wound on the DA Form 5179-1 (for procedures in the operating room) or on the SF 509 or equivalent form (for those procedures occurring outside the operating room). The count is considered correct if this mandatory nursing documentation has been completed.

*j.* Sponges.

(1) All sponges used during surgical procedures will be x-ray detectable. Each sponge is checked for an x-ray-detectable element.

(2) Individual sponges will be left in their original configuration and not cut.

(3) Each sponge will be opened (separated from the other sponges) and visualized individually during the count process to ensure there is only one.

(4) Surgical sponges will be placed in sponge counting bags.

(5) Radiopaque sponges will be placed separately in a location (for example, count bags) that can be readily seen by anesthesia personnel for calculating blood loss.

(6) The scrub technician will discard used sponges into an appropriately placed kick bucket or other location determined by the circulating nurse. The circulating nurse will then collect the discarded sponges and lap tapes using standard precautions.

(7) Sponge bag holders must be used on all major procedures. For major surgical cases, sponges passed off the surgical field should be placed in sponge bag holders that render each sponge visible for verification or in kick buckets for minor procedures.

(8) Because 4x8 radiopaque sponges are susceptible to retention, they should not be used within the peritoneum or deep cavities.

(9) Radiopaque stick sponges will be used on sponge forceps and kitners on an appropriate instrument (that is, Kelly or Rochester Pean, not on Criles or tonsil clamps).

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(10) Lap tapes and 4x8 radiopaque sponges will be separated on the sterile field. Non-radiopaque sponges will not be placed on the sterile field until completion of the procedure to eliminate the potential for their use during the procedure.

(11) Lap tapes and 4x8 radiopaque sponges will be kept away from other articles such as ligaclips and needles that could inadvertently hook onto a sponge and be transported into the wound.

(12) The use of counted sponges as post-operative packing is discouraged. However, if counted sponges are intentionally used as packing and the patient leaves the operating room with the packing in place, the number and type of sponges retained must be documented on the DA Form 5179-1 (for procedures in the operating room) or on the SF 509 or equivalent form (for those procedures occurring outside the operating room). The use of x-ray-detectable sponges is required should packing become necessary. In this case, the surgeon will verbalize their placement and location to the surgical team for purposes of tracking to ensure their removal at the end of the procedure. (Note: In a deployed theatre of operation, traumatic wounds are contaminated prohibiting wound closure and, thus, are packed in preparation for patient transport to the next echelon of care.)

(13) X-ray-detectable sponges will never be used for dressing sponges.

(14) Counted sponges should not be used for the prep. Upon completion of the prep, remove and close the kick bucket liner with prep sponges and place in a bag for trash in the room.

*k.* Surgical hand towels.

(1) If towels are used in the procedure, they will be impregnated with radiopaque markers and included in the count documentation. The radiopaque impregnated surgical hand towels will be counted in the same way that sponges are counted. Towels impregnated with radiopaque markers must be a different color than the towels used as wrappers, liners, and drying cloths. This will minimize the potential for using non-x-ray-detectable towels in the procedure.

(2) Only radiopaque-equipped surgical hand towels will be passed to the surgeon for use as packing or for placement under a retractor (for example, O'Connor - O'Sullivan retractor). When used, these radiopaque-equipped surgical hand towels are accounted for at all times. If an x-ray-detectable towel is used for purposes of packing to enhance visibility during the procedure, the surgeon will verbalize their placement and location to the surgical team for purposes of tracking those items to ensure their removal prior to closure at the end of the procedure.

*l. Sharps.*

(1) Surgical assist personnel should provide all “sharps” (for example; needles, blades, sharp retractors) to the surgeon on a one-for-one exchange basis using a “neutral zone” or “hands free” technique unless it interferes with the conduct of the procedure, or during times in which the surgeon is operating under the microscope, using surgical loops, or in trauma situations. A neutral zone or hands-free technique should be used for all high risk patients (for example, known HIV patients).

(2) All needle packets must be opened, counted, and verified prior to actual use.

(3) The surgical assistant (that is, the surgical technician, RNFA, PA, surgeon assistant) will be held accountable for all loose needles on the surgical/sterile field and will ensure that for every suture or needle packet opened, there is a corresponding needle or needles.

(4) Opened and unopened suture packets will be retained on the sterile field to aid in validating counts and identifying the type of needle unaccounted for if any are missing.

(5) Used needles on the sterile field should be kept in a disposable, puncture-resistant needle container to ensure safe sharps containment, minimize the risk of injury to the scrubbed person, and increase efficiency and accountability of sharps management on the sterile field.

*m. Cottonoids.*

(1) Cottonoids will be counted individually and annotated by size (for example,  $\frac{1}{4} \times \frac{1}{4}$ ).

(2) Cottonoids will be left in their original configuration and not cut.

*n. Instruments.*

(1) Individual pieces of assembled instruments (for example, suction tips, trocar and sleeve, wing nuts, blades, sheathes) should be accounted for as a separate line item on the count sheet. Disposable items with removable pieces used in the surgical wound should also be accounted for as separate line items on the count sheet (for example, thoracic/vascular/gastrointestinal stapling devices).

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(2) Any instrument removed from the operating room to be autoclaved must be returned to the room. If the instrument is removed permanently from the room, a note should be made on the count sheet explaining why, where taken, and who removed the instrument from the room.

(3) Instrument sets should consist of the minimum essential number of instruments required to perform the procedure.

o. At the conclusion of any procedure involving the insertion of a device, sponge, and/or packing material into an orifice (for example, into the vagina, oral pharyngeal cavity), the provider must perform a visual exploration of that cavity at the completion of the procedure to verify the removal of the item(s). This “post procedure pause” and subsequent results will be documented in the procedure notes. If objects are intentionally left in the orifice (for example, vaginal packing), the provider will document this information in the provider note along with an estimated date for removal of the object. Examples of instances where a post-procedure examination will occur are listed in (1)-(3) below. (Note: The listed examples represent a sampling, and not an all-inclusive listing, of circumstances in which this post-procedure examination must occur.)

(1) Vaginal deliveries. The provider will include a “post-delivery pause” or “pause for the gauze” after delivery of the placenta when all repairs are completed. The pause will include a vaginal sweep to ensure that no sponges, gauze, or any other foreign object remains in the vagina.

(2) Vaginal insertions. Any time a procedure requires the insertion of a device into the vagina, a “post-procedure pause” examination will be done to verify the removal of that item (for example, after hysterosalpingograms).

(3) Throat packs. In cases involving the use of throat packs, a “pause for the gauze” will also occur after the procedure is completed or prior to extubation, before patient transfer to phase I recovery.

## **10. PROCEDURES FOR INCORRECT COUNT**

a. An incorrect count for any countable item will be reported to the surgeon and operating room floor coordinator (in the case of the operating room) or to the provider and supervisor (in those cases outside of the operating room). This notification process will be completed immediately so that appropriate corrective actions can be initiated.

(1) If available, an additional individual will be sent to help search for the missing item.

(2) When a discrepancy in the count(s) is identified, the surgical team is responsible for carrying out appropriate steps to locate the missing item.

b. An Item that can not be located is subject to additional searches/x-ray as follows:

(1) The circulating nurse will make a thorough search of the room, including but not limited to trash receptacles, linen hampers, and the area underneath the operating room tables.

(2) The surgical assistant will make a thorough search of the sterile field.

(3) The surgeon will recheck the operative field, cavity, and wound.

(4) An x-ray must be taken if the searches are unsuccessful before the wound is surgically closed. If the surgeon refuses to have an x-ray taken after the missing item is reported, the chief of surgery will be verbally notified. This refusal and subsequent notification of the chief of surgery will be documented on DA Form 4106 or equivalent report.

c. All procedures in which an incorrect or an incomplete count occurred due to the patient's condition require an x-ray of the surgical site prior to final wound closure and prior to the patient leaving the operating room. The x-ray results must be documented (on DA Form 5179-1 (for procedures in the operating room) or on the SF 509 or equivalent form for those procedures occurring outside the operating room) prior to the patient leaving the operating room or procedure room except when, in the surgeon's opinion, the additional time required to wait for the x-ray results would be detrimental to the patient (for example, the patient needs to go to the intensive care unit for rewarming or to angio for embolization). In this case, the surgeon is responsible for clearing the operative site with x-ray results and re-exploration if the results warrant this action. The surgeon is also responsible for providing justification to the circulating nurse for this deviation from protocol so that the justification for closing the site before an accurate accounting has been performed can be documented on DA Form 4106 or equivalent report.

d. In the event of a lost needle(s), a careful search of the surgical field must be done. Needles carrying > or equal to 7-0 suture may be difficult to detect by plain x-ray. Decisions to x-ray the wound in this situation will be left to the surgeon and the decision documented by the circulating nurse on DA Form 4106 or equivalent report.

e. In every instance where counts are incorrect, DA Form 4106 or equivalent report must be completed by a licensed and/or privileged provider within the surgical team (for

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example, by an RN, RNFA, PA, NP, surgeon) annotating the incorrect count and actions taken.

*f.* If the staff change-over count is incorrect, the nurse and/or technician who is being relieved will not leave until appropriate incorrect count procedures outlined in this paragraph have been completed.

**11. DOCUMENTATION SUMMARY.** This regulation requires documentation in response to various activities/incidents during the surgical count process. The following summarizes documentation requirements:

*a.* DA Form 4106 is initiated and appropriately annotated as follows:

(1) Every instance where counts are incorrect and actions are taken in response to incorrect counts (para 10e).

(2) When an initial (baseline) count is not done (para 8h(2)).

(3) Deviation from surgical count policy occurred (para 8i).

(4) Central materiel set assembly was incorrect (para 8k).

(5) Patient's condition precluded waiting on x-ray results (para 10c).

(6) Lost needle and decision on whether or not to x-ray (para 10d).

(7) Inability to account for broken/cut items (para 9e).

(8) Surgeon refuses to x-ray when missing item is not found (para 10b(4)).

*b.* When a deviation occurs with the count policy, the following documentation is included on the DA Form 5179-1 (for procedures in the operating room), on the SF 509 or equivalent form (for those procedures occurring outside the operating room), or within the electronic documentation:

(1) Counts omitted due to a life or limb threatening emergency (para 8g).

(2) All counts and names of those performing them (para 8m).

(3) Number and type of lap and packing sponges retained in the wound (paras 9i, 9j(9)).

(4) X-ray results in response to an Incomplete/incorrect count (para 10c).

(5) "Team-focused final count" process (para 9g).

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## **Appendix A References**

### **Section I Required Publications**

There are no entries in this section.

### **Section II Related Publications**

A related publication is a source of additional information. The user does not have to read it to under this publication.

Alexander's Care of the Patient in Surgery; 13<sup>th</sup> edition; J.C. Rothrock, Author; (St. Louis: Mosby, Inc.; 2006).

AORN Standards, Recommended Practices, and Guidelines (2008 ed), Denver: AORN, Inc.

AR 40-68  
Clinical Quality Management

MEDCOM Circular 40-17  
Preventing Wrong Site Surgeries and Procedures

M. Macilquham, R. Riley, P. Grossberg; AORN Journal 78 (July 2003); "Identifying Lost Surgical Needles Using Radiographic Techniques,"pp. 73-78.

### **Section III Prescribed Forms**

There are no entries in this section.

### **Section IV Referenced Forms**

**DA Form 4106**  
Incident Report

**DA Form 5179-1**  
Medical Record - Intraoperative Document

**SF 509**  
Medical Record Progress Notes

**The proponent of this publication is the Office of the Assistant Chief of Staff for Health Policy and Services. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, U.S. Army Medical Command, ATTN: MCHO-CL-C, 2050 Worth Road, Fort Sam Houston, TX 78234-6010.**

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