Surgical Count Management

Quick Links to:

Site Applicability

- VCH: All VCH Operating Rooms, VGH Cath Lab
- PHSA: BCCH Operating Rooms, BCWH Operating Rooms, BC Cancer Agency – Vancouver Operating Rooms

Practice Level

Profession	Setting(s)	Basic Skill
RN, LPN	**Operating Rooms**	With advanced specialty education where performing a surgical count is an expectation of the role.
RN	**Cath Lab**	With additional unit-level education

Requirements

Surgical counts are performed in accordance with the VPP Surgical Count Policy and the Operating Room Nurses Association of Canada (ORNAC) Standards, Guidelines and Position Statements for Perioperative Registered Nurses.

Need to Know

Surgical counts are performed to prevent the unintentional retention of surgical items in the surgical wound/site. Unintentionally retained surgical items associated with surgical procedures are classified as “never events” which are considered preventable patient safety incidents.

Guideline

When to Count

Initial Count (prior to start of surgical procedure to establish a baseline)

- Perform a Full Surgical Count for all open incision and Minimally Invasive Surgery (MIS) surgical procedures, when the following body cavities will, or may be entered during the surgery:
    - Peritoneal;
    - Pelvic;
    - Retroperitoneal; and/or
    - Thoracic.
- Perform a Partial Surgical Count for all surgical procedures where a body cavity is not entered except those identified in Appendix A: Count Exceptions.

Closure of a Cavity within a Cavity (if applicable)

- Perform a Partial Surgical Count at closure of a cavity within a cavity (e.g. uterus, bladder)

Closure of a Cavity – Peritoneal, Pelvic, Thoracic or Retroperitoneal (if applicable)

- Perform a Full Surgical Count during cavity closure for:
    - all open incision surgical procedures,
    - MIS Assisted surgical procedures, and
    - MIS surgical procedures that convert to open incision surgical procedures intraoperatively

Skin Closure (final count at end of surgical procedure)

- Perform a Partial Surgical Count at closure of each skin incision

Change-Over Count (if applicable)

- All efforts should be made to complete a Full Surgical Count upon Permanent Relief of the scrub and /or circulating nurse.
- All efforts should be made to complete a Partial Surgical Count upon temporary relief of the scrub nurse (i.e. break coverage).
- Incoming perioperative nursing staff verify relief counts prior to the original staff exiting the room.

Additional Counts

- Any time the count is in question; and
- Any time a member of the surgical team requests a count.

Exceptions/Exclusions

An endoscopic and non-endoscopic instrument count is not required during closure when:

- A body cavity is not entered;

- The surgical incision or cavity is deemed to be of a size that does not present a risk of instrument loss or retention, as per site specific guidelines; or
- A surgical procedure is performed under continuous fluoroscopy, and a routine post-operative x-ray is performed prior to the patient leaving the OR suite.

Count Method

- Counts are visibly observed and audibly counted concurrently by the scrub and circulating nurses, one of whom is a Registered Nurse.
    - Items and instruments are clearly separated for visibility
- If the procedure does not require a scrub nurse, the circulating Registered Nurse performs the count with either the Surgeon, or a second perioperative nurse.
- Items to be counted remain together until the initial count is done.
    - Items may be taken out of pans and grouped together.
    - Set up, including Mayo tray, should not occur until count is completed.
- Once the count is initiated, items are not removed from the OR, including garbage and laundry, until the final count is complete.
- Items are recorded as they are counted before proceeding to the next item.
- Items given to the scrub nurse any time after the initial count are immediately counted, recorded, and initialed on the count sheet
- Sharps and Designated Miscellaneous Items (DMI) with multiple detachable parts are counted as single item with the number of parts in brackets (e.g. injection needle 1(2)).
- When there are multiples of single items which contain more than one part/piece (e.g. 3 injection needles with caps), items are counted as the sum of complete items with the pieces per item in brackets (e.g. injection needle 3(2) to indicate 3 needles/caps containing 2 pieces each).
- Instruments with multiple parts are counted as single items with the number of parts in brackets, excluding items identified as Designated Miscellaneous Items (e.g. MIS rubber caps, taps, screws).
- All parts or pieces of surgical items or instruments used in surgical procedures in their entirety are account for at the end of the procedure.
- Prep sponges for vaginal prep are radiopaque and are counted
- Counted items that are removed from the sterile field are contained and visibly displayed.
- Counting of items twice or performing additional counts may be done at the request of any member of the perioperative nursing and/or medical team.

Two or More Set Ups

When there is more than one surgical set up for a single patient undergoing multiple/staged procedures during a single OR case:

- Use separate count sheet records for each set up,
- Do not exchange items from one set-up to another,
- Complete separate closure counts for each incision, and
- Do not confirm the final count with the surgeon until the last incision is closed.

Exception: VGH OR will follow site-specific, guidelines for using a single count sheet for identified surgical procedures or specialties (e.g. gender affirmation procedures).

Direction of Count

Perform counts in a logical and consistent manner, moving systematically across the target area in one consistent direction.

VCH/BCWH/BCCA	BCCH
1. Items off the sterile field 2. Back table 3. Mayo stand 4. Operative field	1. Operative field 2. Mayo stand 3. Back table 4. Items off the sterile field

Counting for Emergency Situations

During emergency situations, every reasonable effort should be made to perform an initial count

- When an initial count cannot be completed, the nurse should attempt to account for sponges, sharps, and miscellaneous items
- In the event that any surgical count is not performed, either initial count or any level of closure count:
    - An x-ray of the surgical site is performed
    - The X-Ray results are interpreted by the surgeon and/or physician designate as per site processes prior to the patient leaving the room, as the patient's condition permits and in consultation with the surgeon and anesthesiologist;
    - An incorrect count or "count not done" is documented on the count record and/or appropriate EHR segment.
    - A Patient Safety Learning Systems (PSLS) report is completed.

VCH: Please refer to Surgical Count Discrepancy and RN Initiated Radiography Requests (X-ray) for Count Reconciliation for more information.

Intentionally Retained Surgical Items (IRSI) (Therapeutic Packing)

- Items that are intentionally retained in a surgical incision (IRSI) as therapeutic packing (eg. sponges) are identified by type
- Count and documentation as per site processes:
    - VA – see JPOR Guideline: Intentionally Retained Items
    - RH – documented on OR Record
    - LGH – Cerner Periop Doc – packing segment
    - BCCH – Cerner Periop Doc - packing segment
    - BCWH – documented on OR Record, articles inserted
- If a counted item is used as an IRSI, the final surgical closure count is documented as incorrect
- IRSI (e.g. Sponges) removed from a pre-existing incision on subsequent return to the OR are counted and noted in the appropriate section of the paper and/or electronic operative record.
- Vaginal packing material is considered a dressing and is not included in the surgical count unless used for purposes other than vaginal packing (e.g. temporary femoral canal insertion)
    - Vaginal packing should contain a radiopaque marker and be documented on the patient's operative record as therapeutic packing.

VCH: Please refer to Intentionally Retained Surgical Items (IRSIs) Policy for more information.

Procedure

Sponges

1. Count sponges in units of issue (e.g. two packs of 5 sponges are counted as 5 + 5).
2. Pull tabs to ensure security.
3. Count sponges and raytex gauze twice (e.g. one pack of sponges is counted 1,2,3,4,5 once, then 1,2,3,4,5 again).
4. Count additional packages away from already counted sponges on the back table; once counted, keep all like sponges together.
5. Bag packages containing incorrect numbers of sponges with the outer wrapper and remove from the OR immediately.
6. During surgery, count discarded sponges in the units of issue, and isolate in a separate bucket, bags or sponge counter.
7. For management of sponges used as therapeutic packing, refer to Intentionally Retained Surgical Items (IRSI) (Therapeutic Packing) section above.

Needles

1. Manage needles in alignment with the NoThingLeftBehind® recommendations for the Prevention of Retained Surgical Needles - A Needle Algorithm (Appendix B).

1. Keep numbers of needles on back table low (Less than or equal to 40 if possible), use needle counter boxes
2. Separate small from large (greater than 15mm) needles whenever possible
3. If a MISCOUNT occurs: look for needle then depending on operative site:
    a. If needle greater than 15mm get xray
    b. If needle less than 15 mm consider no xray (assess to consider if risk of attempting retrieval outweighs risk of no action or intervention):
        i. Unlikely will see needle on xray, unlikely will be able to find it, unlikely to result in injury
4. Document the incorrect needle count and decisions if the needle isn't found
5. Disclose to the patient

2. Count suture needles, free (eyed) needles, and injection needles separately and document accordingly
3. Count and record suture needles according to the number marked on the outer package; this is verified by the scrub nurse when the package is opened.

Instruments

1. Inspect instruments to ensure that all parts are present and functional.
2. Identify the instruments with visible adjustable screws as and count the screws separate from the instrument.
    - Do not count rivets and fixed screws

Count Discrepancy

Refer to Count Discrepancy Algorithm (Appendix C).

VCH: Please refer to Surgical Count Discrepancy and RN Initiated Radiography Requests (X-ray) for Count Reconciliation.

PHSA:

1. Attempt to resolve the count discrepancy:
    a. Verbally notify the surgeon and anesthesiologist;
    b. Advise the surgeon to suspend closure;
    c. Perform a re-count;
    d. Request the surgeon to check the incision(s) and all open cavities;
    e. Scrub nurse searches the surgical site, drapes, sterile set up;
    f. Circulating nurse and other available non-scrubbed personnel search laundry, garbage, drapes, floor, etc.; and
2. Notify the charge nurse of a potential delay in room due to count discrepancy.
3. If the count discrepancy remains unresolved:

a. A flat plate "still" x-ray should be ordered by the surgeon or anesthesiologist;
    i. A flat plate "still" x-ray is preferred over fluoroscopy for superior image quality
    ii. The x-ray will be interpreted by the radiologist; fluoroscopy images are not interpreted by the radiologist
b. Confirm X-Ray results/interpretation from the surgeon and/or physician designate as per site processes prior to the patient leaving the room, as the patient's condition permits and in consultation with the surgeon and anesthesiologist;
c. Document an incorrect count or "count not done" on the count record and/or appropriate EHR segment; and
d. Complete a Patient Safety Learning Systems (PSLS) report.

4. If an item is missing and there is concern the item may be too small to be seen on X-Ray, ensure a team discussion occurs to weigh risk/benefits of X-Ray and/or item retrieval.
5. If the surgeon does not support an x-ray order, document as per the facility's practice.
6. The surgeon should disclose the event to the patient, and also document in the patient care record that this disclosure has taken place

Documentation

For sites using paper documentation, document all surgical counts performed on a count record, including initials and/or signature of all personnel performing the counts

- A site-/region-specific signature record should also be completed

For sites using Electronic Health Record (EHR), document "count required" and "count completed" within the appropriate segment.

A separate count record (paper form) is used for each surgical procedure (see Hospital-Specific Count Records).

1. Document items legibly in black or blue pen, not felt tip pen.
2. Document items in units of issue.
3. Initialize all additions to the count.
4. Mark a (/) or 'X' through, and initialize an item to indicate that the item has been handed off the sterile field and is no longer an active part of the count.
5. Use an asterisk to indicate items that cannot be visualized during a handover count, and document the count as "incomplete"
6. For sites using EHR, scan the completed paper count sheet into the electronic chart upon discharge.
7. For Count Discrepancy, document the following additional information:
    - Documentation of the incorrect count is documented on the count record and/or the appropriate EHR segment must indicate an "incorrect" count
    - The measures taken to locate any missing items are documented.
    - The results of the operative site x-ray, including the name of the person interpreting the image

Related Documents

- VPP Policy: Surgical Count Policy
- VPP Policy: Surgical and Procedural Safety Checklist (S-PSCL)
- VCH Policy: Intentionally Retained Surgical Items
- VCH Policy: Disclosure of Patient Safety Incidents
- PHSA Policy: Disclosure of Patient Safety Events Policy - PHSA
- VCH DST: Surgical Count Discrepancy and RN Initiated Radiography Requests (X-rays) for Count Reconciliation

Hospital-Specific Count Records

VCH:

- VA/UBCH- OR 4 Instruments/Needle/Sponge/Small Item/Count Record
- LGH – VCH.CO.0005 Operating Room Count Record
- RH - 00051804 Form RH Operating Room Record and VCH.RD.RH.0195 (00051811) Instrument Count Sheet

PHSA:

- BCCH Complete Count Sheet – BCCH071
- BCCH Dental OR Count Sheet – BCCH087
- BCWH Operating Room Record – BCWH1433
- BCCA Count Record – BCC244

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Appendices

- Appendix A: Count Exceptions
- Appendix B: Incorrect Needle Count, Patient Disclosure and MRI Risk
- Appendix C: Count Discrepancy Algorithm

Definitions

Count Discrepancy: means one or more items was recorded but not found, or one or more items was identified on the set-up but not recorded.

Designated Miscellaneous Items: refers to items to be counted not covered by the three main groups of needles, sponges, or blades. This will differ according to each hospital's list of site-specific designated miscellaneous items.

Full Surgical Count: refers to a count of all sponges, sharps, Designated Miscellaneous Items, endoscopic and non-endoscopic instruments

Items: refers to all sponges, sharps, designated miscellaneous items and instruments generally used on the sterile field.

Minimally Invasive Surgery (MIS): refers to a surgical procedure where the procedure is performed through tiny incisions instead of a large openings. This includes robot-assisted surgery. These incisions allow access to anatomical structures within body cavities using trocars (tunnel devices) and endoscopic instrumentation. For the purposes of differentiating surgical count requirements, MIS designation indicates that trocar incisions were not extended nor was a separate incision created for removal of a specimen.

Minimally Invasive Surgery (MIS) Assisted: is any other type of MIS procedure where the trocar incision may be extended or a separate incision created when greater access is required, usually to allow for specimen removal (e.g. as in a Laparoscopic Assisted Vaginal Hysterectomy).

Partial Surgical Count: refers to a count of all sponges, sharps and Designated Miscellaneous Items

Perioperative Nursing Staff: includes Registered Nurses and Licensed Practical Nurses in the scrub and circulating nurse roles in the operating rooms of all VPP sites.

Permanent Relief: means the scrub and/or circulating nurse is exiting the procedure and will not be returning.

Physician Designate: means the anesthesiologist, fellow or senior resident who is part of the procedural or surgical team assigned to the client, or a consulting radiologist.

Surgical Team: is a dynamic team that generally consists of the anesthesiologist/anesthesia care providers, surgeon, radiologist, fellow, resident, medical student intern, OR nurse or staff and technicians who are involved in the care of the patient while undergoing a surgical procedure.

Appendix A: Count Exceptions

	LGH/SGH		SH/PRGH		RH		VGH/UBCH		BCCH	
Surgery	SSM*	Inst+	SSM*	Inst+	SSM*	Inst+	SSM*	Inst+	SSM*	Inst+
Harvesting of organs from a deceased donor	Sharps only	Yes			No	Yes	No	Yes	Yes	Yes
Arthroscopy	Yes	No			No	No	Yes	No	Yes	No
Trans Uretheral Scope Procedure	No	No			No	No	No	No	Stand-alone cystoscopy procedures: No	No
Eye Procedures	No	No			No	No	Orbital / Plastics- Yes, (retina – only needles, plugs, ports, weck spears)	No	Enucleation & Socket Revisions: Yes Ophthalmology Procedures – Sutures, Blades, Plugs/Ports, Chimneys	No
Debridement of Burns (superficial)	n/a	n/a			n/a	n/a	No	No	Debridement of Burns +/- Skin Graft: Sharps only	No
External Fixations	Yes	No			No	No	No	No	Yes	No
Hands/ Feet/ Digits (minor superficial)	Yes	No			Yes	No	No	No	Yes	No
Internal Ear Procedures	Yes	No			Yes	No	Yes	No	Yes	No
Scar Revision	Yes	No			Yes	No	Yes	No	Yes	No
Skin Graft	Yes	No			Yes	No	No	No	Yes	No
Percutaneous	Yes	No					Yes, initial count; Yes if open	Femoral or Tibial Angio: no EVAR or Iliac Angio: Yes, Initial count Closing Count: Yes, if open No, if not open	Yes	No

*SSM – Sponges, Sharps, Designated Miscellaneous Items

BCCA - Exceptions

- A sponge, sharps, designated miscellaneous item (SSM) count is not performed when the incision is deemed to be of a size that does not present a risk of SSM loss. This includes VCC OR procedures like Transperineal Prostate Implant Procedure (TPIP), Bone Marrow Harvest and Penile Brachytherapy Procedures.
- An instrument count is not performed when a cavity is not entered or the incision/cavity is deemed to be of a size that does not present a risk of instrument loss.

BCCH Exceptions

- An instrument count is not performed when a cavity is not entered, or upon closure the incision/cavity is deemed to be of a size that does not present a risk of instrument loss (2 inches or smaller)

Appendix B: Incorrect Needle Count, Patient Disclosure and MRI Risk

INCORRECT NEEDLE COUNT, PATIENT DISCLOSURE AND MRI RISK

A Needle Algorithm

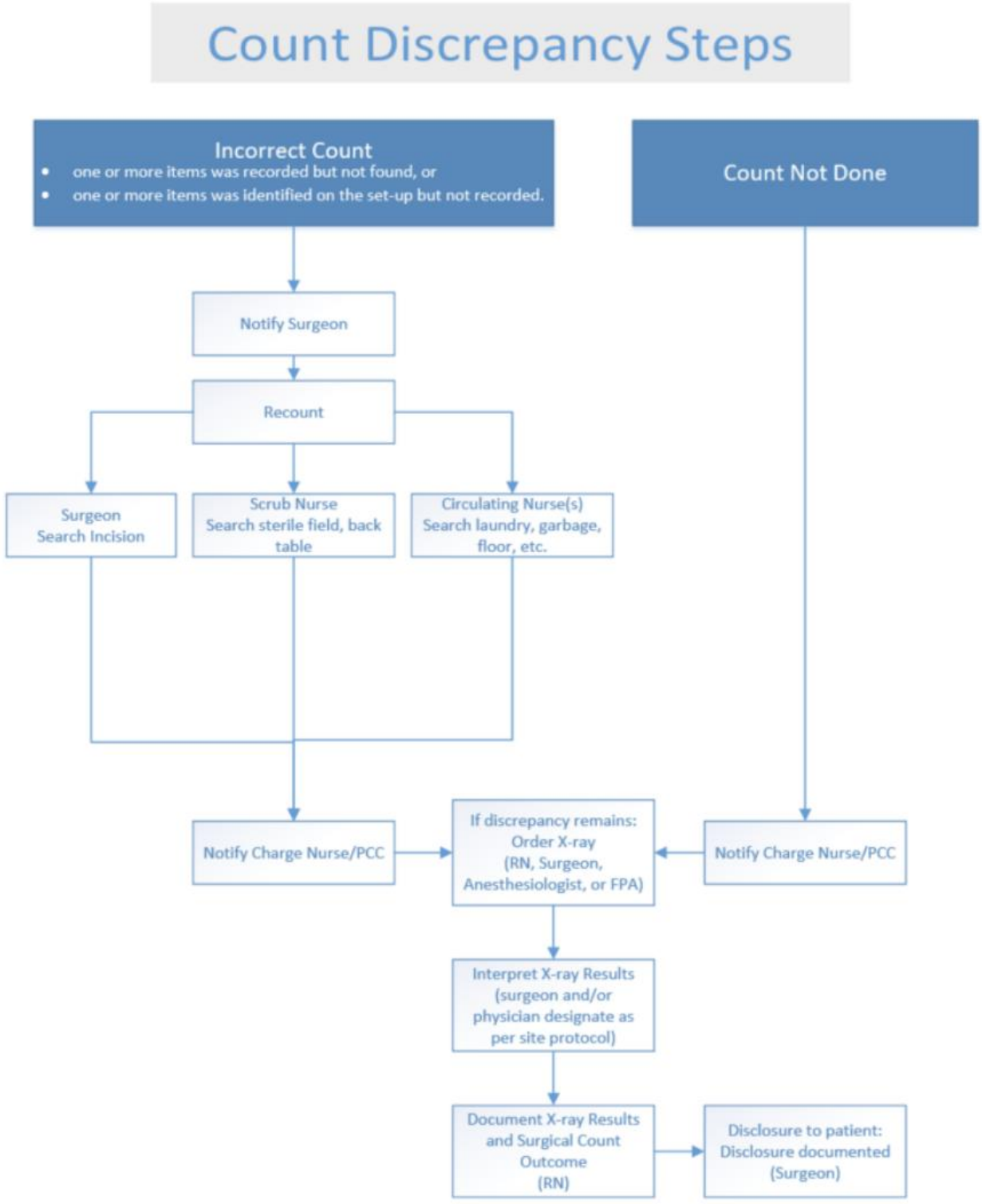
- Keep numbers of needles on back table low(≤40), use needle counter boxes
- Separate small from large (>15mm) needles
- If a MISCOUNT occurs: look for needle then depending on operative site:
  - → If large needle(>15mm) get xray
  - → If small needle no xray:
    - Unlikely will see needle on xray, unlikely will be able to find it, unlikely to result in injury
- Document the incorrect needle count and decisions if the needle isn't found
- Disclose to the patient

If at the end of an operation, a small (<15mm) needle is missing in a large body cavity (e.g. chest) and a thorough search has been made but the needle has not been found, the needle count in the operative record should be recorded as incorrect. It is good practice to document in the operative report any and all actions taken in the setting of the incorrect count. Another action is to disclose to the patient the fact that a small needle was missing. Ethically this is sound because missing a needle is not an anticipated outcome of the operation and actions were taken in the OR to look for the needle but it is not known with certainty where the missing needle is. If intraoperative Xrays identify the needle, it is a clinical decision whether or not to remove it. It may be that removal may not be possible or cause more harm than leaving the needle alone. If the needle is "found" but not removed the final count is recorded as incorrect and it is best practice to disclose to the patient that the needle is inside of them. It is useful to show the patient what the missing needle looks like and discuss why it is unlikely to cause harm. Surgical metal clips and staples of larger sizes are used routinely and remain in patients. If there remains any question or uncertainty about the needle's whereabouts, a CT scan may be obtained. CT scans can identify needles of any size. Disclosure around the time of the operation is a good strategy because many patients have a CT scan sometime in their future. It is better to hear about a retained needle from the surgeon rather than months or years later if the patient has a CT scan for some other reason and is told there is a needle inside of them of which they had no prior knowledge.

With regards to leaving a small needle in a large space and the patient undergoing a MRI there should be no danger with these small needles. Concerns with metallic objects in MRI are related to the heat generation in the magnetic field and is a danger related to the length of the object. Another concern is the question of wobble or movement of the object but after objects have been in spaces for a time they develop a fibrous reaction which prevents them from moving (and in the case of guidewires in the heart this fibrous reaction can also hinder complete removal of the wire because it becomes adherent to the heart tissue). A small needle in a small or sensitive space, such as the eye might however be a cause of concern in MRI.

Source: NoThing Left Behind®: A National Surgical Patient Safety Project to Prevent Retained Surgical Items, accessed October 9, 2020.

Appendix C: Count Discrepancy Algorithm



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	Professional Practice Executive Committee – Approved 2/17/2022	**Endorsed By:** (Regional SharePoint 2nd Reading) Health Authority Profession Specific Advisory Council Chairs (HAPSAC) Health Authority and Area Specific Inter professional Advisory Council Chairs (HAIAC) Operations Directors Professional Practice Directors VCH Professional Practice Directors **Final Sign Off:** Vice President, Professional Practice and Chief Clinical Information Officer, VCH
Owners: *(optional)*	**Developer Lead(s):** • Regional Perioperative Nursing Practice Lead, Professional Practice, VCH **Development Team members:** • VPP Regional Operating Room Educators Group ○ OR CNE (UBC) ○ OR CNE (LGH) ○ Head Nurse-Education, JPPOR (VA) ○ former OR CNE (BCCA – Vancouver) ○ OR CNE (BCWH) ○ OR CNE (RH) ○ OR CNE (BCCH) ○ OR Clinical Nurse Instructor (BCCH) ○ OR CNE (SPH) ○ OR CNE (SPH) ○ OR CNE (SPH) interim ○ OR CNE (BCCA - Vancouver) ○ OR CNE (MSJ) ○ CNE (RPEP – Regional Perioperative Education Program)	

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Revisions	Feb 1, 2023 – amendment to appendix A : addition of count exceptions information for BCCH OR Dec 4, 2023 – Added VGH Cath Lab, new links for VCH Count Discrepancy process and IRSIs policy. Updated Count Discrepancy algorithm.