



Wrong-site surgeries and
best practices for prevention
—Utah 2023

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Wrong-site surgery continues to be a major sentinel event in the United States and in Utah despite many efforts to prevent it. A wrong-site surgery occurs when surgery is performed on the wrong side or site of the body, the wrong surgical procedure is performed, or surgery is performed on the wrong patient. This type of error is a direct result of human to human error. The purpose of this report is to outline wrong-site surgery data from the US and Utah, list and detail current best practices to prevent wrong-site surgery and challenges of those practices, and discuss other states' practices to prevent wrong-site surgery.

2022 US wrong-site surgeries

Not every state mandates wrong-site surgery reporting, therefore it is difficult to find comparable national data. Data for research often comes from voluntary reporting or claims databases. For example, a 2006 study estimated there are between 1,300 to 2,700 wrong-site, wrong-procedure, and wrong-patient events annually in the US.¹ According to a 2011 report from The Joint Commission, wrong-site surgeries occur about 40 times a week in the US.² In 2022, of the voluntary reports of surgical events to The Joint Commission's Sentinel Events, 68% were of wrong-site procedures.³ A study of medical claims from 2013 and 2020 found that the top 3 types of surgical wrong-site surgeries were orthopedic (35.3%), neurosurgery (22.1%), and urology (8.8%).⁴

2022 Utah wrong-site surgeries

In Utah it is mandatory for facilities to report instances of wrong-site surgery to the Department of Health and Human Services within 72 hours of the event occurring, however this is not enforceable logistically . Of the 26 wrong-site surgeries reported in Utah in 2022, 58% were orthopedic, which aligns with national data (see figure 1). Nevertheless, of those orthopedic surgeries, 53% were wrong side (left vs right) surgeries, an error that many preventive measures seek to correct (see figure 2). These facts present the need of continued support and guidance to keep wrong-site surgeries from occurring in Utah.

In 2022, the top 3 contributing factors of wrong-site surgery in Utah were human factors (15), process breakdown (12), and communication (9). After an examination of the narrative explanations provided by the facilities, the contributing factors can be attributed to not following The Joint Commission's universal protocol principles (see figure 3), such as not performing a pre-procedure verification, not marking the site correctly, or not completing an accurate timeout. While there were instances of other types of contributing factors such as distraction, student error, or a provider performing a habitual action, following set guidelines may help prevent a large number of wrong-site surgeries.

Figure 1: Utah wrong-site surgeries

2022 Utah wrong-site surgeries by count		
Type of surgery	Count	Percentage
Orthopedic	15	58%
Ocular	4	15%
Dental	3	12%
Urology	2	8%
Pulmonary	1	4%
Dermatology	1	4%
Total	26	100%

Figure 2: Utah orthopedic wrong-site surgeries

2022 Utah orthopedic wrong-site surgeries by count		
Type of ortho surgery	Count	Percentage
Wrong side (left vs right)	8	53%
Wrong spine level	4	27%
Correct body part, wrong joint	3	20%
Total	15	100%

Figure 3: Utah wrong-site surgeries contributing factors categorized by The Joint Commission’s Universal Protocol principles

2022 Utah wrong-site surgeries contributing factors categorized by the Universal Protocol, Distraction, and Other	
Contributing factor	Number of occurrences
Pre-procedure verification	5
<ul style="list-style-type: none"> • Additional information/documentation was not corroborated (e.g., the medical record). • Veterans Affairs (VA) patient—operating room (OR) team had no access to VA medical records. • Communication breakdown between OR and biopsy coordinators.,The correct information was not available in the order set • Orders do not currently contain discrete fields for specific lung nodules or targets for biopsy. • Order process/order specifications breakdown. 	
Mark the site	2
<ul style="list-style-type: none"> • Residents were overwhelmed and the attending did not question or independently mark (did not follow policy). • Lack of site marking verification. 	
Timeout	5
<ul style="list-style-type: none"> • Timeout was not performed correctly. • Timeout process—order was not verified against consent and the whiteboard was not updated. No notification of order change from provider. • The surgical time-out process was not followed including the surgeon reading consent (which was done by circulator), and visualizing the site marking. • Inattention during team time out to identify the correct site, drape was not marked with the correct site, and there was an inadequate team culture of accountability to follow time-out. • Time-out and verification process 	

Distraction	3
<ul style="list-style-type: none"> ● The surgeon was distracted with a procedure in the next room. The anesthesiologist was also distracted when the tech check process should have been done. ● Advanced practice provider was distracted by a conversation with the patient. ● Surgeon was distracted with a consult while completing surgery. 	
Other	9
<ul style="list-style-type: none"> ● There was a lag time from when the initial timeout process was completed to when the surgery actually started. The scrub tech was still orienting and left alone in the OR when the surgical case started. Scrub tech trainer was precepting multiple rooms/busy surgery day. Inconsistency in scrub techs from when the case started to when the case ended. ● Student error in identification of correct tooth to extract. ● Patient reported the right side, timeout complete, and right side was prepped. Should be opposite in spinal procedures. ● Lapse/habit intrusion/reflex with cognition. ● Student error (student dentist performed procedure). ● Surgeon experienced memory slip during the start of the operation and incised the wrong eye muscle. ● Restlessness of patient/site—reassessment needed. ● Opportunity identified to improve imaging equipment that could help optimize images and reduce risk of wrong site kyphoplasty. Awaiting corporate funding for capital requests. ● Patient healed from the biopsy and it was hard to determine where the biopsy margins were. 	

Evidence-based best practices for surgical safety

The following is a compilation of evidence-based best practices from accredited sources. Of special note is the Association of Perioperative Registered Nurses' Comprehensive Surgical Checklist, which combines both The Joint Commission's Universal Protocol and the World Health Organization's Surgical Safety checklist, both of which were and continue to be landmark guiding principles to achieve safe surgical practice. Also included are 2 other states' who have conducted research within their own states to learn more about wrong site surgery causes and solutions, and their practices on how to prevent wrong site surgery, with unique practices bolded and highlighted. For further guidance, included in Appendix A and B, are templates for best practices for perioperative handoffs between staff and a comprehensive multidisciplinary surgical checklist.

2004 The Joint Commission—The Universal Protocol: Speak Up⁵



The Universal Protocol

for Preventing Wrong Site, Wrong Procedure, and Wrong Person Surgery™

Guidance for health care professionals



Conduct a pre-procedure verification process

Address missing information or discrepancies before starting the procedure.

- Verify the correct procedure, for the correct patient, at the correct site.
- When possible, involve the patient in the verification process.
- Identify the items that must be available for the procedure.
- Use a standardized list to verify the availability of items for the procedure. (It is not necessary to document that the list was used for each patient.) At a minimum, these items include:
 - relevant documentation
Examples: history and physical, signed consent form, preanesthesia assessment
 - labeled diagnostic and radiology test results that are properly displayed
Examples: radiology images and scans, pathology reports, biopsy reports
 - any required blood products, implants, devices, special equipment
- Match the items that are to be available in the procedure area to the patient.

Mark the procedure site

At a minimum, mark the site when there is more than one possible location for the procedure and when performing the procedure in a different location could harm the patient.

- For spinal procedures: Mark the general spinal region on the skin. Special intraoperative imaging techniques may be used to locate and mark the exact vertebral level.
- Mark the site before the procedure is performed.
- If possible, involve the patient in the site marking process.
- The site is marked by a licensed independent practitioner who is ultimately accountable for the procedure and will be present when the procedure is performed.
- In limited circumstances, site marking may be delegated to some medical residents, physician assistants (P.A.), or advanced practice registered nurses (A.P.R.N.).
- Ultimately, the licensed independent practitioner is accountable for the procedure – even when delegating site marking.
- The mark is unambiguous and is used consistently throughout the organization.
- The mark is made at or near the procedure site.
- The mark is sufficiently permanent to be visible after skin preparation and draping.
- Adhesive markers are not the sole means of marking the site.
- For patients who refuse site marking or when it is technically or anatomically impossible or impractical to mark the site (see examples below): Use your organization's written, alternative process to ensure that the correct site is operated on. Examples of situations that involve alternative processes:
 - mucosal surfaces or perineum
 - minimal access procedures treating a lateralized internal organ, whether percutaneous or through a natural orifice
 - teeth
 - premature infants, for whom the mark may cause a permanent tattoo

Perform a time-out

The procedure is not started until all questions or concerns are resolved.

- Conduct a time-out immediately before starting the invasive procedure or making the incision.
- A designated member of the team starts the time-out.
- The time-out is standardized.
- The time-out involves the immediate members of the procedure team: the individual performing the procedure, anesthesia providers, circulating nurse, operating room technician, and other active participants who will be participating in the procedure from the beginning.
- All relevant members of the procedure team actively communicate during the time-out.
- During the time-out, the team members agree, at a minimum, on the following:
 - correct patient identity
 - correct site
 - procedure to be done
- When the same patient has two or more procedures: If the person performing the procedure changes, another time-out needs to be performed before starting each procedure.
- Document the completion of the time-out. The organization determines the amount and type of documentation.

This document has been adapted from the full Universal Protocol. For specific requirements of the Universal Protocol, see The Joint Commission standards.

Surgical Safety Checklist



World Health Organization
A World Alliance for Safer Health Care

Before induction of anaesthesia	Before skin incision	Before patient leaves operating room
(with at least nurse and anaesthetist)	(with nurse, anaesthetist and surgeon)	(with nurse, anaesthetist and surgeon)
<p>Has the patient confirmed his/her identity, site, procedure, and consent?</p> <input type="checkbox"/> Yes	<p><input type="checkbox"/> Confirm all team members have introduced themselves by name and role.</p>	<p>Nurse Verbally Confirms:</p> <input type="checkbox"/> The name of the procedure
<p>Is the site marked?</p> <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	<p><input type="checkbox"/> Confirm the patient's name, procedure, and where the incision will be made.</p>	<input type="checkbox"/> Completion of instrument, sponge and needle counts
<p>Is the anaesthesia machine and medication check complete?</p> <input type="checkbox"/> Yes	<p>Has antibiotic prophylaxis been given within the last 60 minutes?</p> <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	<input type="checkbox"/> Specimen labelling (read specimen labels aloud, including patient name)
<p>Is the pulse oximeter on the patient and functioning?</p> <input type="checkbox"/> Yes	<p>Anticipated Critical Events</p>	<input type="checkbox"/> Whether there are any equipment problems to be addressed
<p>Does the patient have a:</p>	<p>To Surgeon:</p> <input type="checkbox"/> What are the critical or non-routine steps? <input type="checkbox"/> How long will the case take? <input type="checkbox"/> What is the anticipated blood loss?	<p>To Surgeon, Anaesthetist and Nurse:</p> <input type="checkbox"/> What are the key concerns for recovery and management of this patient?
<p>Known allergy?</p> <input type="checkbox"/> No <input type="checkbox"/> Yes	<p>To Anaesthetist:</p> <input type="checkbox"/> Are there any patient-specific concerns?	
<p>Difficult airway or aspiration risk?</p> <input type="checkbox"/> No <input type="checkbox"/> Yes, and equipment/assistance available	<p>To Nursing Team:</p> <input type="checkbox"/> Has sterility (including indicator results) been confirmed? <input type="checkbox"/> Are there equipment issues or any concerns?	
<p>Risk of >500ml blood loss (7ml/kg in children)?</p> <input type="checkbox"/> No <input type="checkbox"/> Yes, and two IVs/central access and fluids planned	<p>Is essential imaging displayed?</p> <input type="checkbox"/> Yes <input type="checkbox"/> Not applicable	

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.

Revised 1 / 2009

© WHO, 2009

2014 Safety practices from The Joint Commission Center for Transforming Healthcare project—summary⁷
 For the full chart, see Appendix C

Main causes of wrong-site surgeries	Solutions
Scheduling	
Office schedulers do not verify presence and accuracy of booking documents.	<ul style="list-style-type: none"> ● Confirm the presence and accuracy of all primary documents—such as original surgical or procedure orders, patient chart, etc.—before the day of surgery. ● All information must be validated and signed the day before surgery, ● All paperwork must be completed 24 hours in advance, or the case is canceled.
Schedulers accept verbal requests for surgical bookings instead of written documents.	<ul style="list-style-type: none"> ● Discontinue verbal bookings and accept only written bookings. If schedulers attempt to schedule verbally, redirect them to submit written requests.
Unapproved abbreviations, cross-outs and illegible handwriting are used on booking forms.	<ul style="list-style-type: none"> ● Educate physician offices regarding nonacceptance of unapproved abbreviations and a requirement for consent to be clear and correct, legible, and without cross-outs. Return all consents that do not meet criteria to physician offices for correction.
Pre-op and holding	

<p>Primary documents—such as consent, history and physical, surgeon’s booking orders, operating room schedule— are missing, inconsistent, or incorrect.</p>	<ul style="list-style-type: none"> ● Require accurate primary documents 48 hours before surgery. When inconsistencies are found, flag operating room schedules to alert staff and treat cases as high risk. ● If paperwork is not complete and accurate, the case is canceled.
<p>Inconsistent use of sitemarking. Examples include someone other than the surgeon marks site; site mark is made with unapproved surgical site marker; stickers are used instead of marking the skin; and inconsistent site marks are used by surgeons.</p>	<ul style="list-style-type: none"> ● Create new protocol to require surgeons to use a single-use surgical-site marker with a consistent mark type (e.g., surgeon’s initials) placed as close as anatomically possible to the incision site. ● Standardize site-marking procedures and eliminate variations based on provider preference.
<p>Time-out process for regional blocks is inconsistent or absent.</p>	<ul style="list-style-type: none"> ● Verify patient, side, and site for all regional blocks using a standardized time-out process. ● Educate staff about the value of standardized processes. Hold all caregivers and staff accountable for their role in risk reduction; the organization should define roles.
<p>Inadequate patient verification by the team because of rushing or other distractions.</p>	<ul style="list-style-type: none"> ● Educate staff about the value of standardized processes, and ensure that standardized verification protocols are followed in all cases. Create an environment where staff members are expected to speak up when they have a patient safety concern. ● Eliminate unnecessary tasks that prevent the health care team from listening.

Operating room	
When the same provider performs multiple procedures, there is no intraoperative site verification.	<ul style="list-style-type: none"> ● Stop between each procedure on a single case to ensure the procedure, site, and laterality of each procedure are performed accurately and according to the signed surgical consent.
Hand-off communication or the briefing process is ineffective.	<ul style="list-style-type: none"> ● Perform a preoperative briefing upon arrival in the operating room with patient involvement, if possible, to verify patient identity, procedure, site and side, along with any other critical information. ● Use “secret shoppers” to observe the process in the operating room before surgery, then revamp the process, including using a checklist based on the World Health Organization surgical safety checklist.
Primary documentation is not used to verify patient, procedure, site, and side immediately prior to incision.	<ul style="list-style-type: none"> ● Ensure use of primary documentation during time-out to verify patient, procedure, site, and side. ● The surgeon calls for time-out, and all members of the team stop what they are doing and follow a role-based script.
Site marks are removed during prep.	<ul style="list-style-type: none"> ● Switch to one-time-use indelible markers; keep a large supply of these markers in pre-op, holding, and the operating room; and test selected pens for satisfactory results with prep solutions used at the organization.
Distractions and rushing occur during time-out, or the time-out occurs before all staff members are ready or	<ul style="list-style-type: none"> ● Develop a role-based time-out process that works for all team members which is performed after the prep and drape.

<p>before prep and drape.</p>	<ul style="list-style-type: none"> ● Make timeout consistent and streamlined, and strictly about verifying the correct patient, procedure, side, and site. ● To reduce distractions, change policy to prevent anyone from entering the room during time-out and at other critical points during surgery (induction, emergence from anesthesia. etc.) ● Provide an additional nurse for every 2 operating rooms (without adding any full-time employees) to prevent nursing staff from being rushed.
<p>Time-out is performed without full participation.</p>	<ul style="list-style-type: none"> ● Perform a standardized time-out process and give every team member an active role. Create an environment where staff members are expected to speak up when all team members do not participate. ● Ensure time-out always occurs just before incision, a critical moment when everyone is paying attention. Focus on overcoming communication challenges and empowering team members to speak up.
<p>Organizational culture</p>	
<p>Organizational focus on patient safety is inconsistent.</p>	<ul style="list-style-type: none"> ● Develop a measurement system to identify inconsistencies in real time. ● Hold all caregivers and staff members accountable for their role in risk reduction.

<p>Staff are passive or not empowered to speak up.</p>	<ul style="list-style-type: none"> ● Share the data and allow team members to ask questions. Create an environment where staff members are expected to speak up when they have a patient safety concern; support participation by all team members. ● Have daily huddles with operating room staff that involve several disciplines. ● Use a huddle educational video shared with all groups and new employees. ● Speciality coordinators move in and out of the orthopedic rooms, leading the coaching and speaking to physicians individually.
<p>Policy changes are not followed up with adequate and consistent staff education.</p>	<ul style="list-style-type: none"> ● Use a team approach when teaching all staff how new processes should be executed. Celebrate success; everyone should be aware of improvement. Provide ongoing education and just-in-time coaching. ● Close operating rooms for one day of education for all staff, including leadership, to go through safety-culture training.

2019 AORN Comprehensive surgical checklist tool kit⁸

COMPREHENSIVE SURGICAL CHECKLIST			
Blue = World Health Organization (WHO) Green = The Joint Commission - Universal Protocol 2016 National Patient Safety Goals Teal = Joint Commission and WHO			
PREPROCEDURE CHECK-IN	SIGN-IN	TIME-OUT	SIGN-OUT
In Preoperative Ready Area	Before Induction of Anesthesia	Before Skin Incision	Before the Patient Leaves the Operating Room
Patient or patient representative actively confirms with registered nurse (RN):	RN and anesthesia professional confirm:	Initiated by designated team member: All other activities to be suspended (except in case of life-threatening emergency)	RN confirms:
Identity <input type="checkbox"/> Yes Procedure and procedure site <input type="checkbox"/> Yes Consent(s) <input type="checkbox"/> Yes Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by the person performing the procedure RN confirms presence of: History and physical <input type="checkbox"/> Yes Preanesthesia assessment <input type="checkbox"/> Yes Nursing assessment <input type="checkbox"/> Yes Diagnostic and radiologic test results <input type="checkbox"/> Yes <input type="checkbox"/> N/A Blood products <input type="checkbox"/> Yes <input type="checkbox"/> N/A Any special equipment, devices, implants <input type="checkbox"/> Yes <input type="checkbox"/> N/A Include in Preprocedure check-in as per institutional custom: Beta blocker medication given <input type="checkbox"/> Yes <input type="checkbox"/> N/A Venous thromboembolism prophylaxis ordered <input type="checkbox"/> Yes <input type="checkbox"/> N/A Normothermia measures <input type="checkbox"/> Yes <input type="checkbox"/> N/A	Confirmation of the following: identity, procedure, and procedure site, and consent(s) <input type="checkbox"/> Yes Site marked <input type="checkbox"/> Yes <input type="checkbox"/> N/A by person performing the procedure Patient allergies <input type="checkbox"/> Yes <input type="checkbox"/> N/A Pulse oximeter on patient <input type="checkbox"/> Yes Difficult airway or aspiration risk <input type="checkbox"/> No <input type="checkbox"/> Yes (preparation confirmed) Risk of blood loss (> 500 mL) <input type="checkbox"/> Yes <input type="checkbox"/> N/A # of units available _____ Anesthesia safety check completed <input type="checkbox"/> Yes Briefing: All members of the team have discussed care plan and addressed concerns <input type="checkbox"/> Yes	Introduction of team members <input type="checkbox"/> Yes All: Confirmation of the following: identity, procedure, incision site, consent(s) <input type="checkbox"/> Yes Site is marked and visible <input type="checkbox"/> Yes <input type="checkbox"/> N/A Fire Risk Assessment and Discussion <input type="checkbox"/> Yes (prevention methods implemented) <input type="checkbox"/> N/A Relevant images properly labeled and displayed <input type="checkbox"/> Yes <input type="checkbox"/> N/A Any equipment concerns <input type="checkbox"/> Yes <input type="checkbox"/> N/A Anticipated Critical Events Surgeon: States the following: <input type="checkbox"/> Critical or nonroutine steps <input type="checkbox"/> Case duration <input type="checkbox"/> Anticipated blood loss Anesthesia professional: Antibiotic prophylaxis within 1 hour before incision <input type="checkbox"/> Yes <input type="checkbox"/> N/A Additional concerns <input type="checkbox"/> Yes <input type="checkbox"/> N/A Scrub person and RN circulator: Sterilization indicators confirmed <input type="checkbox"/> Yes Additional concerns <input type="checkbox"/> Yes <input type="checkbox"/> N/A RN: Documented completion of time out <input type="checkbox"/> Yes	Name of operative procedure: _____ Completion of sponge, sharp, and instrument counts <input type="checkbox"/> Yes <input type="checkbox"/> N/A Specimens identified and labeled <input type="checkbox"/> Yes <input type="checkbox"/> N/A Equipment problems to be addressed <input type="checkbox"/> Yes <input type="checkbox"/> N/A Discussion of Wound Classification <input type="checkbox"/> Yes To all team members: What are the key concerns for recovery and management of this patient? _____ _____ _____ Debriefing with all team members: Opportunity for discussion of – team performance – key events – any permanent changes in the preference card
			January 2019

The Joint Commission does not stipulate which team member initiates any section of the checklist except for site marking. The Joint Commission also does not stipulate where these activities occur. See the Universal Protocol for details on the Joint Commission requirements.





Speak Up™ For Safe Surgery

Patients can help ensure that their surgery is safe and successful by being an informed and involved member of the care team. Here's how.

Plan for your surgery



Talk to your doctor about:

- Your regular medications and if and when you should stop taking them.
- When you need to stop eating or drinking.
- If you should be on a specific diet in the days or weeks leading up to the surgery.
- Removing nail polish and makeup. Your nails show how much oxygen you are getting, and your skin shows how well your blood is circulating.
- What devices or items you need to bring with you for your surgery, such as a walker. Be sure to leave jewelry and other valuables at home.
- Your options regarding anesthesia or sedation.
- Your pain control plan.

- Documents stating your advance directives and naming your health care proxy.
- Other questions you have.

Have a friend, relative or patient advocate who can:

- Take you to and from the hospital or surgery facility.
- Be with you at the hospital or surgery facility.
- Communicate your patient directives to the care staff when you cannot.
- Remind you to ask questions which helps ensure you are getting the best care possible.

Tip: Find out if the hospital or surgery facility is accredited by The Joint Commission by visiting the Quality Check website at www.qualitycheck.org.

Before your surgery



You will be asked to sign an Informed Consent form. This form includes:

- Your name and other information that can help staff make sure you are receiving the right care.
- The type of surgery you are having and the exact location on your body.
- Any implants or devices you may have as a result of the surgery.
- Confirmation that you spoke to your doctor about any risks involved, different care plans available to you, and your post-surgery care plan.
- Your agreement to have the surgery.

Tip: Make sure the information is correct. If you have questions or if you do not understand something on the form, speak up!

- Someone from your care team will mark the spot that is being operated on.

- If you are having spine surgery, the Informed Consent, X-rays and other information will be used to confirm the exact place on your spine in the operating room after you are asleep. Prior to your surgery, check to make sure that your surgeon has all necessary spine imaging.
- Ask your surgeon if the care team will take a "time out" right before your surgery to make sure they are doing the surgery you agreed to on your Informed Consent form.

Tip: Marking usually happens while you are awake. However, if that's not possible, your patient advocate, family member or friend can ensure that the care team has marked the correct spot.

- Ask your surgeon about any incisions, drains or lines that may be made or inserted during your surgery and where they may be located.

After your surgery



- Let your doctor or nurse know if you are in pain.
- For any new medications, find out the dosage, how often you should take them, and side-effects.
- Let your care team know if you have any allergies or reactions to medications before taking them.
- You may be given intravenous fluids. These are liquids that drip from a bag into your vein. Ask how long the liquid should take to run out. Tell the nurse if it seems to be dripping too fast or too slow.

- Let your care team know immediately if you develop any signs of infection, such as:
 - Fever, chills or fatigue.
 - Redness, warmth or pain near any surgical incision sites.
 - Discolored fluid exiting the surgical wound.
- Schedule your follow-up appointments, get prescriptions for new medications, and follow the instructions in your discharge plans.

Special considerations for COVID-19 pandemic



Find out about the hospital's or surgical facility's pandemic-related safety procedures, including:

- Wearing a face mask or covering when entering the facility.
- Cleaning and disinfecting protocols.
- What personal protective equipment will be used.
- How your care team will help protect you from the spread of the coronavirus.
- What to do if you develop a fever or cold symptoms the day before your surgery.

The goal of Speak Up™ is to help patients and their advocates become active in their care.

Speak Up™ materials are intended for the public and have been put into a simplified (i.e., easy-to-read) format to reach a wider audience. They are not meant to be comprehensive statements of standards interpretation or other accreditation requirements, nor are they intended to represent evidence-based clinical practices or clinical practice guidelines. Thus, care should be exercised in using the content of Speak Up™ materials. Speak Up™ materials are available to all health care organizations; their use does not indicate that an organization is accredited by The Joint Commission.



2023 Hospital National Patient Safety Goals

(Easy-To-Read)

Identify patients correctly

NPSG.01.01.01

Use at least two ways to identify patients. For example, use the patient's name *and* date of birth. This is done to make sure that each patient gets the correct medicine and treatment.

Improve staff communication

NPSG.02.03.01

Get important test results to the right staff person on time.

Use medicines safely

NPSG.03.04.01

Before a procedure, label medicines that are not labeled. For example, medicines in syringes, cups and basins. Do this in the area where medicines and supplies are set up.

NPSG.03.05.01

Take extra care with patients who take medicines to thin their blood.

NPSG.03.06.01

Record and pass along correct information about a patient's medicines. Find out what medicines the patient is taking. Compare those medicines to new medicines given to the patient. Give the patient written information about the medicines they need to take. Tell the patient it is important to bring their up-to-date list of medicines every time they visit a doctor.

Use alarms safely

NPSG.06.01.01

Make improvements to ensure that alarms on medical equipment are heard and responded to on time.

Prevent infection

NPSG.07.01.01

Use the hand cleaning guidelines from the Centers for Disease Control and Prevention or the World Health Organization. Set goals for improving hand cleaning.

Identify patient safety risks

NPSG.15.01.01

Reduce the risk for suicide.

Improve health care equity

NPSG.16.01.01

Improving health care equity is a quality and patient safety priority. For example, health care disparities in the patient population are identified and a written plan describes ways to improve health care equity.

Prevent mistakes in surgery

UP01.01.01

Make sure that the correct surgery is done on the correct patient and at the correct place on the patient's body.

UP01.02.01

Mark the correct place on the patient's body where the surgery is to be done.

UP01.03.01

Pause before the surgery to make sure that a mistake is not being made.

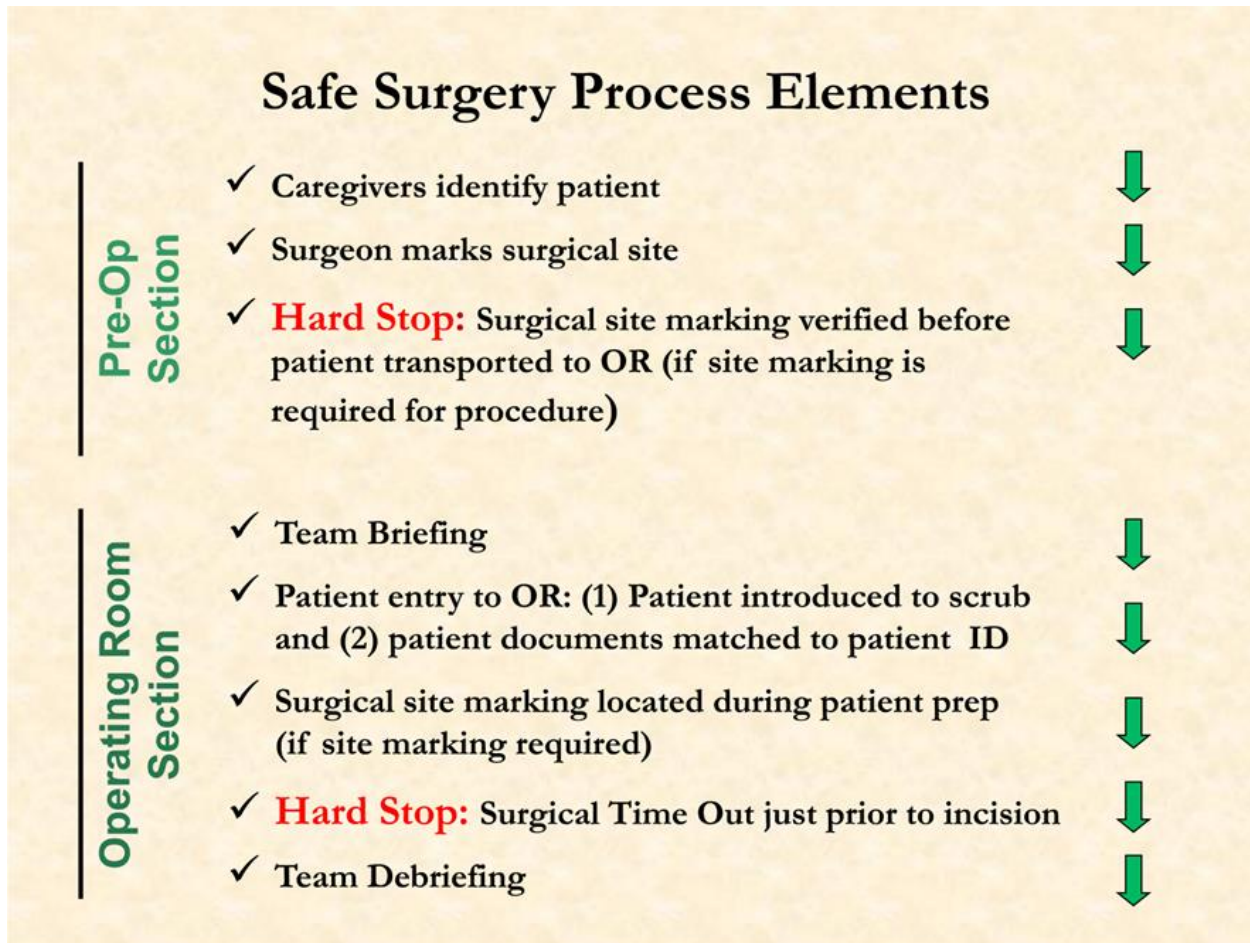


**MAKE SURE YOUR TEAM IS FULLY ENGAGED IN TIME OUT.
AVOID DISTRACTIONS DURING THIS FINAL SAFETY CHECK FOR
THE RIGHT PATIENT, THE RIGHT SITE, THE RIGHT PROCEDURE.**



Minnesota safety surgery measures

Safe Surgery Process Steps and the Minnesota Time Out¹²



Pre-op:

- All caregivers identify patient in pre-op—patient name and date of birth
- Before marking the site, the surgeon:
 - Checks the physician's order.
 - Checks patient's informed consent form for the procedure, site, and/or levels (as appropriate).
 - Asks the patient or patient's representative to verify the procedure, site, and levels (as appropriate).
 - Checks the image or radiologist's report to confirm the procedure, site, and levels (as appropriate).
- Resolves any site discrepancies before marking site.

- The surgeon marks the surgical site in pre-op with an indelible marker.
 - Not possible to mark the surgical site (for example, teeth) or the surgical site will not be visible after prepping and draping?
 - Surgeon marks the site on an anatomical diagram.
 - Diagram accompanies the patient to the OR.
- Prior to moving a patient to OR, the person (circulating nurse or anesthesia care provider) moving the patient to the OR verifies that the site is correctly marked by checking the informed consent form.
 - If the site is not marked on the body, then that person verifies the site is correctly marked on anatomical diagram. The anatomical diagram accompanies the patient to the OR.

Operating room:

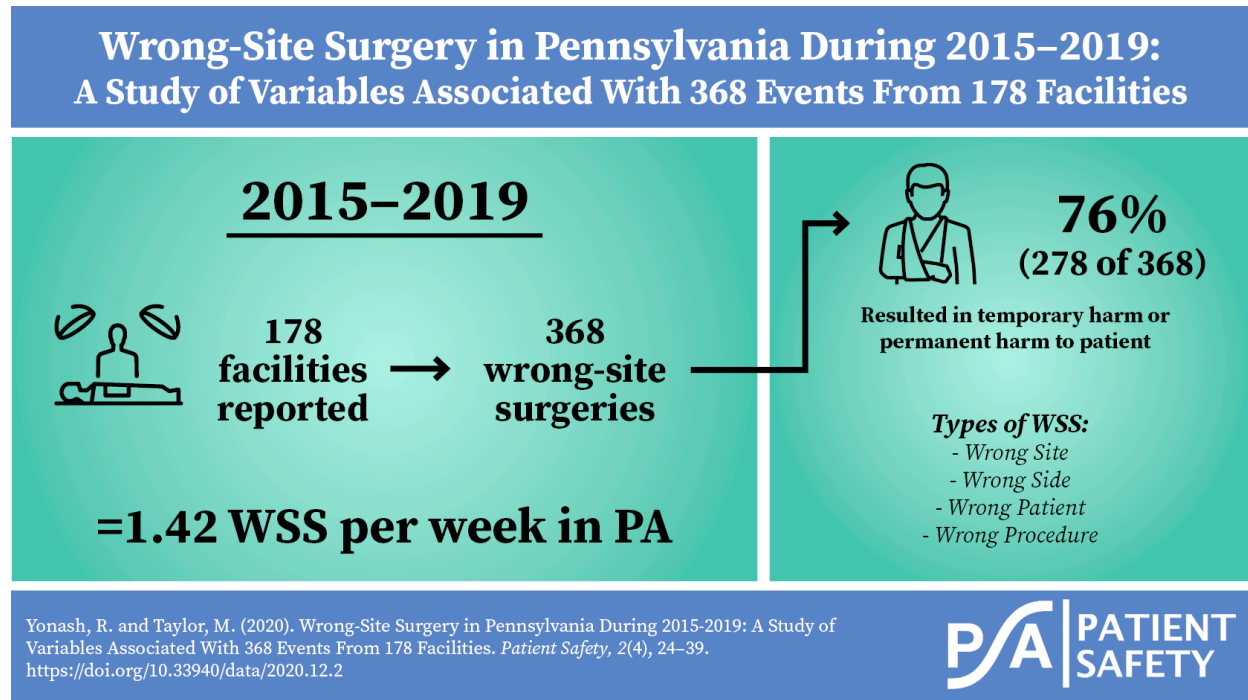
- Conduct team briefing
- Cover the Mayo stand with a towel with “TimeOut” in black lettering.
 - Visual reminder to conduct time-out
 - Helps to support scrub tech and other team members if time-out isn’t done and they are reluctant to speak up
- Introduce patient: Anesthesia care provider and/ or circulating nurse who transported the patient to the OR introduces the patient to scrub (and any other OR personnel in OR).
 - Helps to ensure the patient is in the correct OR.
 - AND helps the patient feel welcome and more comfortable in OR.
- Match patient’s ID band against patient documents:
 - The anesthesia care provider identifies the patient by audibly reading the patient's name and date of birth (prefer medical record number) from patient’s ID band—circulating nurse silently reads same information from patient’s informed consent and anesthesia record.
 - Circulating nurse verifies the information on informed consent matches the patient's electronic record or paper record in OR.
 - Helps to ensure the correct documents arrived with patient in OR.
- When prepping the patient for surgery, locate site marking—either on the patient's body or on anatomical diagram.

Cognitively engaging surgical time out—the Minnesota time out:

- Occurs after surgeon has scrubbed and gowned—just prior to incision
- Surgeon initiates—“Let’s do the Time Out.”
 - Surgeon needs to take ownership
 - Timing matters! Avoid memory interference.
 - Hierarchies and perceptions of power
 - Tendency to agree with the surgeon
 - Important to visualize site mark immediately prior to incision
- All activity stops
 - No music or other noise
 - Focus is on the time-out—distractions pull focus away
 - Everyone has a role to play, and all need to pay attention to what others say
- Circulating nurse:
 - Reads the following from the patient’s informed consent:
 - Patient name
 - Procedure
 - Laterality of procedure (and level) as appropriate
 - Notes position of patient
- Anesthesia care provider:
 - Reads the patient's name from the anesthesia record and states the shorthand version of the procedure.
 - States antibiotic name, dose, and minutes from administration time.
- Scrub:
 - States shorthand version of procedure for which he/she has set up.
 - Verbally confirms he/she sees the surgical site marking (if there is a site marking).
 - If anatomical diagram is used in lieu of physical site marking, the circulating nurse and team use the diagram to verbally acknowledge the surgical site .
- Surgeon:
 - States patient’s name, complete procedure, and site—from memory.
- Making everyone an active participant with a specific role increases the likelihood of all steps being done correctly.

- Discrepancies are resolved before procedure starts.
- Conduct team debriefing following surgical procedure before the surgeon leaves the room.

Pennsylvania safety surgery measures



Final recommendations to ensure correct surgical procedures and correct nerve blocks¹³

Preoperative verification and reconciliation

- The site and side of the procedure should be specified when the procedure is scheduled.
- The procedure, site, and side should be noted in the medical record on the history and physical, exam record, or the procedure note.
- The procedure, site, and side should be discussed and documented on the informed consent form.
- The individuals, including scheduling staff, registration clerks, ancillary staff, nursing staff, the operating provider, and the patient, have an obligation to speak up if they note a discrepancy in any information on the schedule, consent, history and physical, and any office notes. Reconciliation of discrepancies is the responsibility of the operating provider before the procedure.
- The information to verify the correct patient, procedure, side, and site, including the patient's or family's verbal understanding, when possible, must

be verified by the circulating nurse/designee, anesthesia provider, and operating provider. This verification shall be documented in a manner determined by the healthcare facility.

- Verbal verification with the patient or their representative should be conducted whenever possible. The verbal verification must be done using questions that require active response of specific information rather than passive agreement.
 - Example: Can you tell me your full name? What is your date of birth? What procedure are you having performed today?
- Patient identification must require at least 2 unique identifiers, for example, name and date of birth.
- Discrepancies must be reconciled and documented by the operating provider before the procedure.

Site marking

- The site must be marked by the provider responsible for the procedure. For example, by the surgeon, proceduralist, or interventional radiologist, before the patient enters the procedure area. The mark must be confirmed by the attending nurse/designee. The mark must also be confirmed by an alert patient or patient representative when possible. The mark must coincide with the schedule, history and physical, and consent.
- The site must be marked with the provider's initials with an indelible marker.
- The mark must be made as close to the incision site as possible, so it is visible in the prepped and draped field.

Time-out and intraoperative verification

- Prior to the induction of anesthesia, the circulating nurse and the anesthesia provider, verify the patient's identity, procedure, site, side, consent, and site marking. The patient is included in this verification whenever possible.
- The provider performing the procedure should announce the time-out. This occurs after the patient is prepped and draped, and immediately prior to skin incision/puncture.
- Separate formal time-outs must be done for separate procedures, including anesthetic blocks, by the person performing that procedure.
- The noncritical activities in the procedure area must stop during the time-out, including music and nonessential talking that could distract team

members.

- The relevant patient documents should be available and actively confirmed during the timeout process. Relevant documents include a history and physical, consent, operating room schedule, and radiographic studies when applicable.
- The site mark should be referenced in the prepped and draped field during the time-out.
- The members of the surgical team should actively and verbally verify agreement with the surgical site, side, and relevant documents. Active participation should be used at all times.
 - For example, "Which side is the surgery on?" instead of, "The surgery is on the left side. Do you agree?"
- Staff should be engaged in the process and the operating provider should specifically encourage team members to speak up with any concerns during the time-out. The operating provider is responsible to resolve any questions or concerns based on primary sources of information and to the satisfaction of all members of the team before proceeding.
- Utilize intraoperative imaging whenever possible for procedures where the exact site is not easily determined through external visualization. For example, X-ray and fluoroscopy to verify spinal level, rib section level or ureter to be stented.

Accountability

- Incorporate accountability for these recommendations into the facility's quality assurance and formal evaluation process. This includes both individual and team performance evaluations, ongoing professional practice evaluations and focused professional practice evaluations.

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Appendix A

Perioperative PEARLS¹⁴

While the SBAR (situation, background, assessment, recommendation) handoff is a useful tool, the PEARLS checklist was developed to be specific to the complicated perioperative setting. It was created through a review of the American Society of PeriAnesthesia Nurses (ASPAN) standards, a literature review, and input from an acute care surgical team.

P	Patient name: _____ Age: _____ Allergies: _____ Procedure performed _____ Primary language spoken: <input type="checkbox"/> English <input type="checkbox"/> other: _____ Past medical history: <input type="checkbox"/> Diabetes <input type="checkbox"/> HTN <input type="checkbox"/> COPD <input type="checkbox"/> Asthma <input type="checkbox"/> OSA <input type="checkbox"/> Renal Disease <input type="checkbox"/> Seizures <input type="checkbox"/> Cardiac <input type="checkbox"/> CAD <input type="checkbox"/> PVD <input type="checkbox"/> CVA <input type="checkbox"/> Liver Disease <input type="checkbox"/> ETOH <input type="checkbox"/> Smoking (ppd _____) <input type="checkbox"/> Arthritis <input type="checkbox"/> MRSA <input type="checkbox"/> VRE <input type="checkbox"/> TB <input type="checkbox"/> C Diff <input type="checkbox"/> Deaf <input type="checkbox"/> HOH <input type="checkbox"/> Blind Position during surgery: <input type="checkbox"/> supine <input type="checkbox"/> prone <input type="checkbox"/> lithotomy (type of stirrups: <input type="checkbox"/> candy cane <input type="checkbox"/> Allen) <input type="checkbox"/> jack knife <input type="checkbox"/> Other _____ Precautions: <input type="checkbox"/> falls <input type="checkbox"/> Seizure <input type="checkbox"/> Aspiration <input type="checkbox"/> Decubitus <input type="checkbox"/> Isolation: <input type="checkbox"/> Contact <input type="checkbox"/> Droplet Personal Items: <input type="checkbox"/> Dentures <input type="checkbox"/> Glasses <input type="checkbox"/> Hearing Aids <input type="checkbox"/> Prosthesis :(_____) Pain management: <input type="checkbox"/> PCA pump <input type="checkbox"/> Epidural <input type="checkbox"/> On-Q pump <input type="checkbox"/> Other: _____
E	Extremities: <input type="checkbox"/> Ted hose <input type="checkbox"/> SCD's <input type="checkbox"/> Pulses Adverse events intraoperative: _____ Equipment needs: <input type="checkbox"/> CPM <input type="checkbox"/> Ventilator <input type="checkbox"/> Wound Vac <input type="checkbox"/> NGT <input type="checkbox"/> Cell saver Elimination: <input type="checkbox"/> Foley <input type="checkbox"/> Suprapubic tube <input type="checkbox"/> I&O <input type="checkbox"/> Straight cath
A	Assessment: <input type="checkbox"/> Skin <input type="checkbox"/> Incision <input type="checkbox"/> Packing <input type="checkbox"/> Musculoskeletal <input type="checkbox"/> Neuro Drains: <input type="checkbox"/> JP <input type="checkbox"/> Hemovac: location _____ <input type="checkbox"/> Penrose <input type="checkbox"/> Blake tube <input type="checkbox"/> Chest tubes: <input type="checkbox"/> Rt <input type="checkbox"/> Lt <input type="checkbox"/> Urology stents: <input type="checkbox"/> Rt <input type="checkbox"/> Lt <input type="checkbox"/> G tube Dressings: Location _____ Number ___ Drainage: <input type="checkbox"/> Yes: Type _____ <input type="checkbox"/> No Antibiotic: <input type="checkbox"/> Yes: Time last dose _____ <input type="checkbox"/> No
R	Relationships: Family location: _____ Contact phone #: _____ Radiology: <input type="checkbox"/> CXR <input type="checkbox"/> Other _____
L	Labs due: <input type="checkbox"/> H&H <input type="checkbox"/> BMP <input type="checkbox"/> CBC <input type="checkbox"/> PT/PTT <input type="checkbox"/> T&C <input type="checkbox"/> Accucheck <input type="checkbox"/> Blood sugar <input type="checkbox"/> ABG <input type="checkbox"/> Critical values: _____ Lines: <input type="checkbox"/> Central <input type="checkbox"/> Arterial <input type="checkbox"/> Peripheral: location: _____ <input type="checkbox"/> Swan-Ganz <input type="checkbox"/> CVP <input type="checkbox"/> PICC line <input type="checkbox"/> Port: location: _____ Blood products: _____
S	Special devices: <input type="checkbox"/> Pacemaker <input type="checkbox"/> AICD <input type="checkbox"/> Insulin pump <input type="checkbox"/> Other _____ Special needs: <input type="checkbox"/> DVT protocol <input type="checkbox"/> Specialty bed: _____ Spiritual needs: _____ Special communication needs: <input type="checkbox"/> Sign language interpreter <input type="checkbox"/> Interpreter Surgical Unit: <input type="checkbox"/> SCU <input type="checkbox"/> OSU <input type="checkbox"/> CVICU <input type="checkbox"/> PCU <input type="checkbox"/> IMCU <input type="checkbox"/> MSU <input type="checkbox"/> TMU

Appendix B

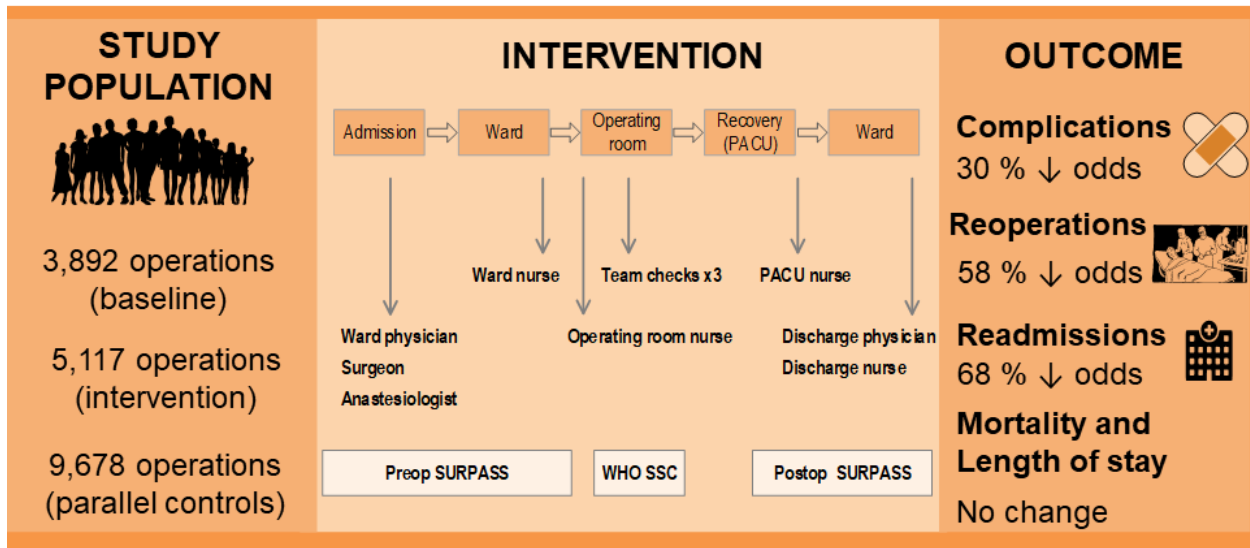
SURgical Patient Safety System (SURPASS) checklist¹⁵

Developed in the Netherlands, the SURPASS checklist is the most comprehensive multidisciplinary surgical checklist that includes all perioperative stages. Different versions of the checklist can be downloaded depending on whether a patient is coming from the emergency department, being admitted after surgery, or is being

discharged home the same day (<https://www.surpass-checklist.nl/en/download.html>). A 2020 study found that combining both the WHO checklist and the SURPASS checklist resulted in reduction in surgical complications, reoperations, and readmissions.¹⁶

Clinical efficacy of combined SURgical PATient Safety System and World Health Organization checklists in surgery.

A Stepped Wedge Cluster Nonrandomized Controlled Trial



Storesund et al. *JAMA Surg.* May 13, 2020

JAMA Surgery

Appendix C⁷

Safety practices from The Joint Commission Center for Transforming Healthcare project		
Main causes of wrong-site surgeries	Solutions	Examples
Scheduling		
Office schedulers do not verify presence and accuracy of booking documents.	Confirm the presence and accuracy of all primary documents—such as original surgical or procedure orders, patient chart, etc.—before the day of surgery.	<p>La Veta Surgical Center now requires offices that are scheduling surgery to verify that all information is appropriate and correct. All information must be validated and signed on the day before surgery; previously, this was done when a patient arrived.</p> <p>At Rhode Island Hospital, if documents are not in agreement or are incomplete, the physician’s office is notified 48 hours in advance. All paperwork must be completed 24 hours in advance, or the case is canceled.</p>
Schedulers accept verbal requests for surgical bookings instead of	Discontinue verbal bookings, and accept only written bookings. If	At Holy Spirit Hospital, scheduling for most surgeries was previously

written documents.	schedulers attempt to schedule verbally, redirect them to submit written requests.	done verbally by phone, in many cases without using written documentation as follow-up. Now, verbal bookings are accepted only when verified by written documents.
Unapproved abbreviations, cross-outs, and illegible handwriting are used on booking forms.	Educate physician offices regarding nonacceptance of unapproved abbreviations and the requirement for consent to be clear and correct, legible, and without cross-outs. Return all consents that do not meet criteria to physician offices for correction.	The scheduling process at Holy Spirit Hospital now includes extra checks and verification, such as requiring correction of illegible handwriting and cross-outs.
Pre-op and holding		
Primary documents—such as consent, history and physical, surgeon’s booking orders, operating room schedule—are missing, inconsistent or incorrect.	Require accurate primary documents 48 hours before surgery. When inconsistencies are found, flag operating room schedules to alert staff and treat cases as high risk.	A new policy at Rhode Island Hospital now stipulates that if paperwork is not complete and accurate, the case is canceled.
Inconsistent use of sitemarking. Examples include someone other than surgeon marks site; site mark is made with unapproved surgical site	Create new protocol that requires surgeons to use a single-use surgical-site marker with a consistent mark type (e.g., surgeon’s	The Center for Health Ambulatory Surgery Center has approximately 100 different providers on its active medical staff, with 50 who

<p>marker; stickers are used instead of marking the skin; and inconsistent site marks are used by surgeons.</p>	<p>initials) placed as close as anatomically possible to the incision site.</p>	<p>participate in 80% of its cases. Staff found inconsistencies in surgical site marking, including how it was done, where it was done, and when it was done. The center standardized site-marking procedures and eliminated variations based on provider preference to reduce the chance of wrong-site surgery.</p>
<p>Time-out process for regional blocks is inconsistent or absent.</p>	<p>Verify patient, side, and site for all regional blocks using a standardized time-out process.</p> <p>Educate staff about the value of standardized processes. Hold all caregivers and staff accountable for their role in risk reduction; the organization should define roles.</p>	<p>La Veta Surgical Center added a time-out to the process for all cases requiring an anesthesia block.</p> <p>Holy Spirit Hospital has implemented a role-based time-out.</p>
<p>Inadequate patient verification by the team because of rushing or other distractions.</p>	<p>Educate staff about the value of standardized processes, and ensure that standardized verification protocols are followed in all cases. Create an environment where staff members are expected to speak up when they have a patient safety concern.</p>	<p>Thomas Jefferson University Hospital now uses “just-in time” education, with coaches available to provide feedback in order to improve patient verification.</p> <p>The Center for Health Ambulatory Surgery Center eliminated</p>

		unnecessary tasks that prevented the health care team from listening.
Operating room		
When the same provider performs multiple procedures, there is no intraoperative site verification.	Stop between each procedure within a single case to ensure that the procedure, site, and laterality of each procedure is performed accurately and according to the signed surgical consent.	At La Veta Surgical Center, when multiple procedures are done on one patient, a time-out now occurs between procedures.
Hand-off communication or the briefing process is ineffective.	Perform a preoperative briefing upon arrival in the operating room with patient involvement, if possible, to verify patient identity, procedure, site and side, along with any other critical information.	AnMed Health used “secret shoppers” to observe the process in the operating room before surgery and found that the circulating nurse was not communicating important information from patients’ charts. The process was revamped, including using a checklist based on the World Health Organization surgical safety checklist.
Primary documentation is not used to verify patient, procedure, site, and side immediately prior to	Ensure use of primary documentation during time-out to verify patient, procedure, site, and	At Rhode Island Hospital, once the patient is in the operating room, the team initiates the verification

incision.	side.	process using primary documents to confirm the correct patient, site, side, and procedure. The surgeon calls for time-out, and all members of the team stop what they are doing and follow a role-based script.
Site marks are removed during prep.	Switch to one-time-use indelible markers; keep a large supply of these markers in pre-op, holding, and operating room; and test selected pens for satisfactory results with prep solutions used at the organization.	Thomas Jefferson University Hospital discovered that a particular skin preparation product was washing off site markings. In response, the hospital changed to markers that make a permanent mark.
Distractions and rushing occur during time-out, or the time-out occurs before all staff members are ready or before prep and drape.	Develop a role-based time-out process that works for all team members and that is performed after the prep and drape.	<p>The Center for Health Ambulatory Surgery Center eliminated some elements of its time-out, narrowing its intent to make it consistent and streamlined. Time-out is now strictly about verifying the correct patient, procedure, side, and site.</p> <p>Thomas Jefferson University Hospital, the participating organization with the most annual</p>

		<p>surgeries and most operating rooms, identified revamping time-out among its most important improvement opportunities during the project. To reduce distractions, the hospital changed its policies to prevent anyone entering the room during time-out and at other critical points during surgery (induction, emergence from anesthesia, etc.). By making staffing adjustments, the hospital provided an additional nurse for every 2 operating rooms (without adding any full-time employees) to prevent nursing staff from being rushed.</p>
<p>Time-out is performed without full participation.</p>	<p>Perform a standardized time-out process and give every team member an active role. Create an environment where staff members are expected to speak up when all team members do not participate.</p>	<p>Seven Hills Surgery Center involved all team members in the room to increase everyone's attention. The surgery center developed a robust process for time-out with a script that includes every team member.</p> <p>At La Veta Surgical Center, the process was improved so time-out</p>

		<p>always occurs just before incision, a critical moment when everyone is paying attention. The surgical center focused on overcoming communication challenges and empowering team members to speak up.</p>
<p>Organizational culture</p>		
<p>Organizational focus on patient safety is inconsistent.</p>	<p>Develop a measurement system to identify inconsistencies in real time.</p> <p>Hold all caregivers and staff members accountable for their role in risk reduction.</p>	<p>AnMed Health emphasizes the importance of focusing on patient safety and continual service readiness, using national patient safety tools. The medical center emphasizes the physician’s role and shows them the benefits of examining and improving processes, including developing a minimum checklist and then expanding it.</p> <p>At Seven Hills Surgery Center, staff is now actively engaged in improving patient safety. Physicians have called out areas for improvement. The nursing director has observed “passionate discussion on important issues like time-out</p>

		and marking.”
Staff are passive or not empowered to speak up.	Share the data and allow the team to ask questions. Create an environment where staff members are expected to speak up when they have a patient safety concern; support all team members’ participation.	Daily huddles with the operating room staff at Holy Spirit Hospital meet the challenge of involving several disciplines. The team uses a huddle educational video, shared with all groups and new employees. Speciality coordinators move in and out of the orthopedic rooms, leading the coaching and speaking to physicians individually.
Policy changes are not followed by adequate and consistent staff education.	Use a team approach when teaching all staff how new processes should be executed. Celebrate success; everyone should be aware of improvement. Provide ongoing education and just-in-time coaching.	Rhode Island Hospital closed its operating rooms for one day for education, assembling 1,200 staff and physicians in 2 hospitals. During that day, all staff, including leadership, went through safety-culture training.