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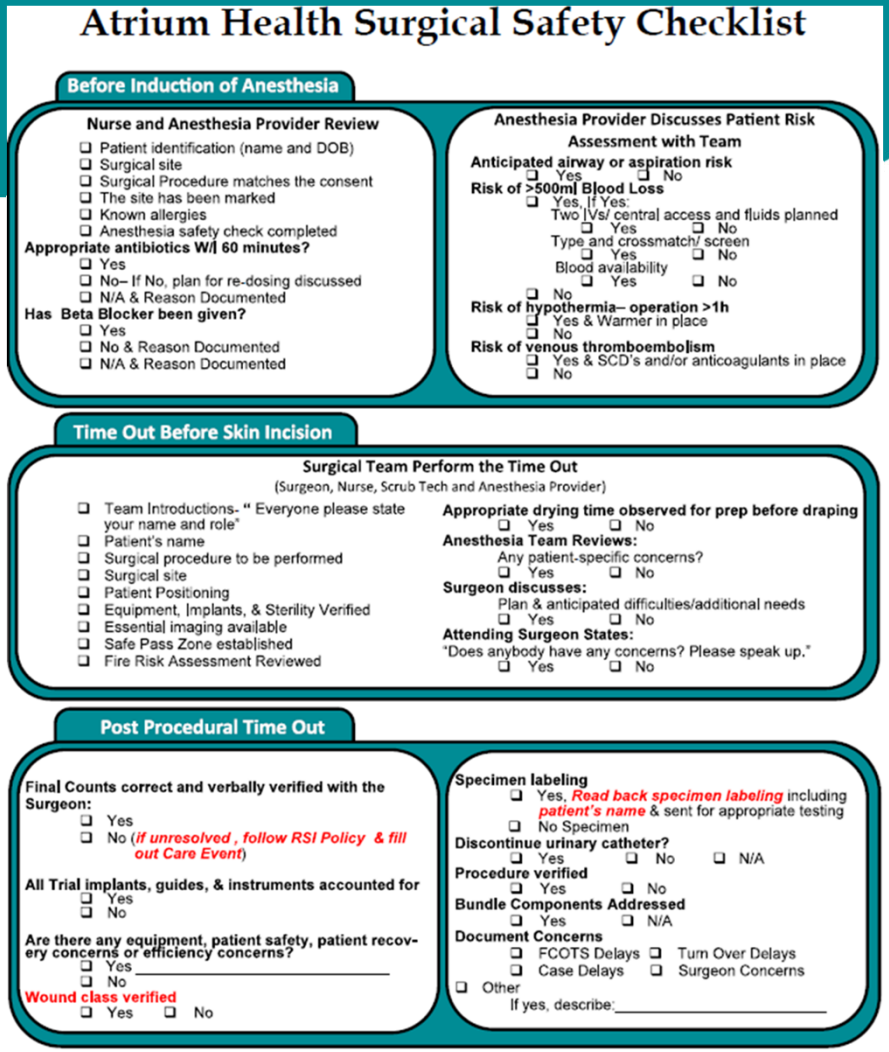
Surgical Safety Checklist

Preventing Errors and Optimizing Patient Care

Preventing Errors

- Wrong-patient, wrong-site and wrong-procedure surgeries can and must be prevented
- Risk prevention strategies will remove the risk of error.
- Atrium Health utilizes a Surgical Safety Checklist
  - Displayed in preoperative holding areas and operating rooms
  - Details discussed in subsequent slides



Atrium Health Surgical Safety Checklist

Before Induction of Anesthesia

Nurse and Anesthesia Provider Review

- ❑ Patient identification (name and DOB)
- ❑ Surgical site
- ❑ Surgical Procedure matches the consent
- ❑ The site has been marked
- ❑ Known allergies
- ❑ Anesthesia safety check completed

Appropriate antibiotics W/I 60 minutes?

- ❑ Yes
- ❑ No– If No, plan for re-dosing discussed
- ❑ N/A & Reason Documented

Has Beta Blocker been given?

- ❑ Yes
- ❑ No & Reason Documented
- ❑ N/A & Reason Documented

Anesthesia Provider Discusses Patient Risk Assessment with Team

Anticipated airway or aspiration risk
❑ Yes ❑ No

Risk of >500ml Blood Loss
❑ Yes, If Yes:
Two IVs/ central access and fluids planned
❑ Yes ❑ No
Type and crossmatch/ screen
❑ Yes ❑ No
Blood availability
❑ Yes ❑ No
❑ No

Risk of hypothermia– operation >1h
❑ Yes & Warmer in place
❑ No

Risk of venous thromboembolism
❑ Yes & SCD's and/or anticoagulants in place
❑ No

Time Out Before Skin Incision

Surgical Team Perform the Time Out
(Surgeon, Nurse, Scrub Tech and Anesthesia Provider)

- ❑ Team Introductions- " Everyone please state your name and role"
- ❑ Patient's name
- ❑ Surgical procedure to be performed
- ❑ Surgical site
- ❑ Patient Positioning
- ❑ Equipment, Implants, & Sterility Verified
- ❑ Essential imaging available
- ❑ Safe Pass Zone established
- ❑ Fire Risk Assessment Reviewed

Appropriate drying time observed for prep before draping
❑ Yes ❑ No

Anesthesia Team Reviews:
Any patient-specific concerns?
❑ Yes ❑ No

Surgeon discusses:
Plan & anticipated difficulties/additional needs
❑ Yes ❑ No

Attending Surgeon States:
"Does anybody have any concerns? Please speak up."
❑ Yes ❑ No

Post Procedural Time Out

Final Counts correct and verbally verified with the Surgeon:
❑ Yes
❑ No (*if unresolved , follow RSI Policy & fill out Care Event*)

All Trial implants, guides, & instruments accounted for
❑ Yes
❑ No

Are there any equipment, patient safety, patient recovery concerns or efficiency concerns?
❑ Yes _____
❑ No

Wound class verified
❑ Yes ❑ No

Specimen labeling
❑ Yes, *Read back specimen labeling* including *patient's name* & sent for appropriate testing
❑ No Specimen

Discontinue urinary catheter?
❑ Yes ❑ No ❑ N/A

Procedure verified
❑ Yes ❑ No

Bundle Components Addressed
❑ Yes ❑ N/A

Document Concerns
❑ FCOTS Delays ❑ Turn Over Delays
❑ Case Delays ❑ Surgeon Concerns
❑ Other
If yes, describe:_____

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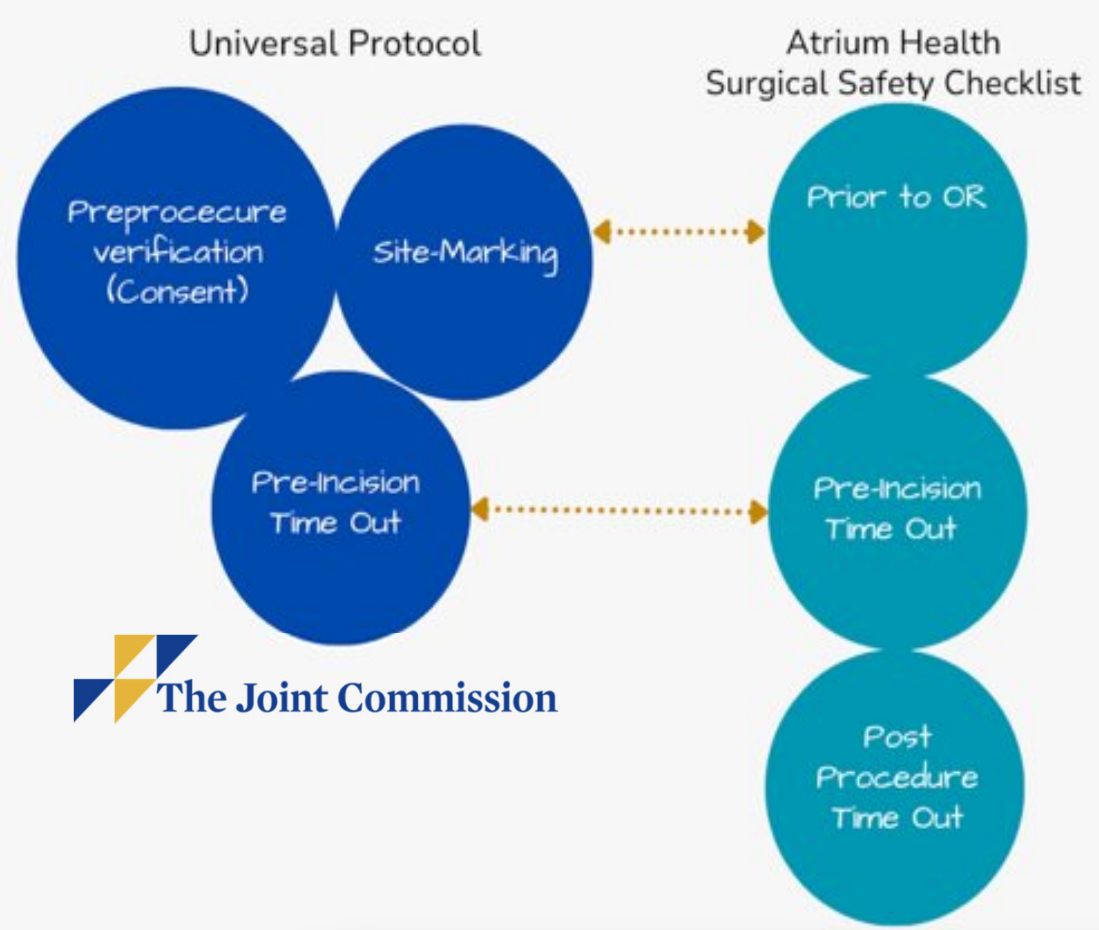
Atrium Health Surgical Safety Checklist

- Incorporates the Universal Protocol
  - Established by the Joint Commission
- The 3 Components of the Universal Protocol are
  - Pre-procedure verification
    - Includes Consent
  - Site marking
  - Pre-incision timeout
- The Surgical Checklist adds a post-procedure Time Out



Role of Surgeon
Prior to the patient going to the OR

- Sign consent* - AH consent for treatment policy
  - Can be signed by primary surgeon, APP or resident participating in case
- Update H&P
- Site marking* - AH Verification of Procedure policy
  - Mark with a "yes"
- Appropriate preoperative orders
  - Assess need for preop antibiotics using Preop Orderset
  - DVT chemoprophylaxis
- Communicate any special needs
  - High anticipated blood loss (>500cc EBL)
  - Special equipment needed

*Universal Protocol

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Minimizing Distractions in the OR

During Critical Times of Cases, the OR team must ensure Distractions and Noise are kept to a minimum for Patient Safety.

This includes the following, but is not limited to

- Induction
- Emergence
- Time Outs
- Counting

All communication should be related to patient care only during these times.

https://atrium.policytech.com/dotNet/documents/?docid=70227

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Safe Pass Zone

- Designed to protect yourself, co-workers, and patients:
  - Limit certain areas for sharps only
  - Define the area, but allow flexibility for emergency situations
  - Allow one instrument at a time in the zone
  - Openly communicate what, when, and how the safe pass zone will work during the Time Out

"Knife down."

"Needle coming back."

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Pre-incision Time Out

The surgeon must initiate the Pre-incision Time Out before Skin Incision.
The Time Out must include all of the following components:

Time Out Before Skin Incision

Surgical Team Perform the Time Out

(Surgeon, Nurse, Scrub Tech and Anesthesia Provider)

- ❑ Team Introductions- " Everyone please state your name and role"
- ❑ Patient's name
- ❑ Surgical procedure to be performed
- ❑ Surgical site
- ❑ Patient Positioning
- ❑ Equipment, Implants, & Sterility Verified
- ❑ Essential imaging available
- ❑ Safe Pass Zone established ☆
- ❑ Fire Risk Assessment Reviewed ☆

Appropriate drying time observed for prep before draping
❑ Yes ❑ No

Anesthesia Team Reviews:
Any patient-specific concerns?
❑ Yes ❑ No

Surgeon discusses:
Plan & anticipated difficulties/additional needs
❑ Yes ❑ No

Attending Surgeon States:
"Does anybody have any concerns? Please speak up."
❑ Yes ❑ No

☆ Will address in subsequent slides

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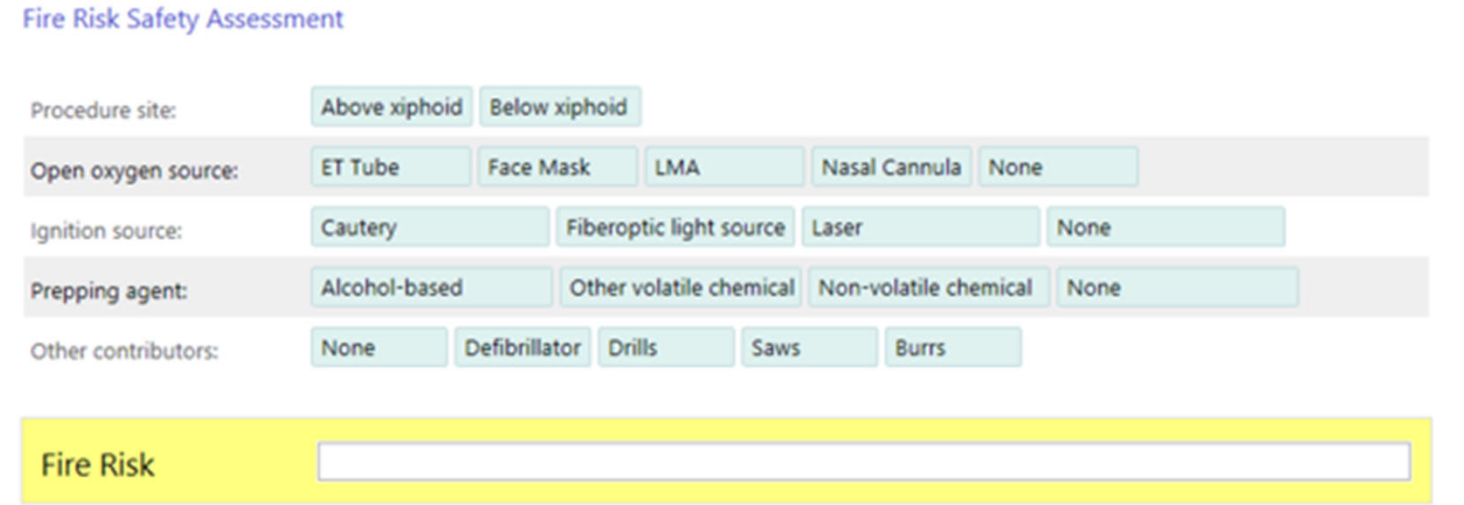
Fire Risk Safety Assessment

- As part of the pre-incision time out, the OR nurse will complete the Fire Safety risk in Epic by completing the following assessment



- Fire Risk Scores of 0, 1, and 2 are low.
- A Fire Risk Score of 3 is high.

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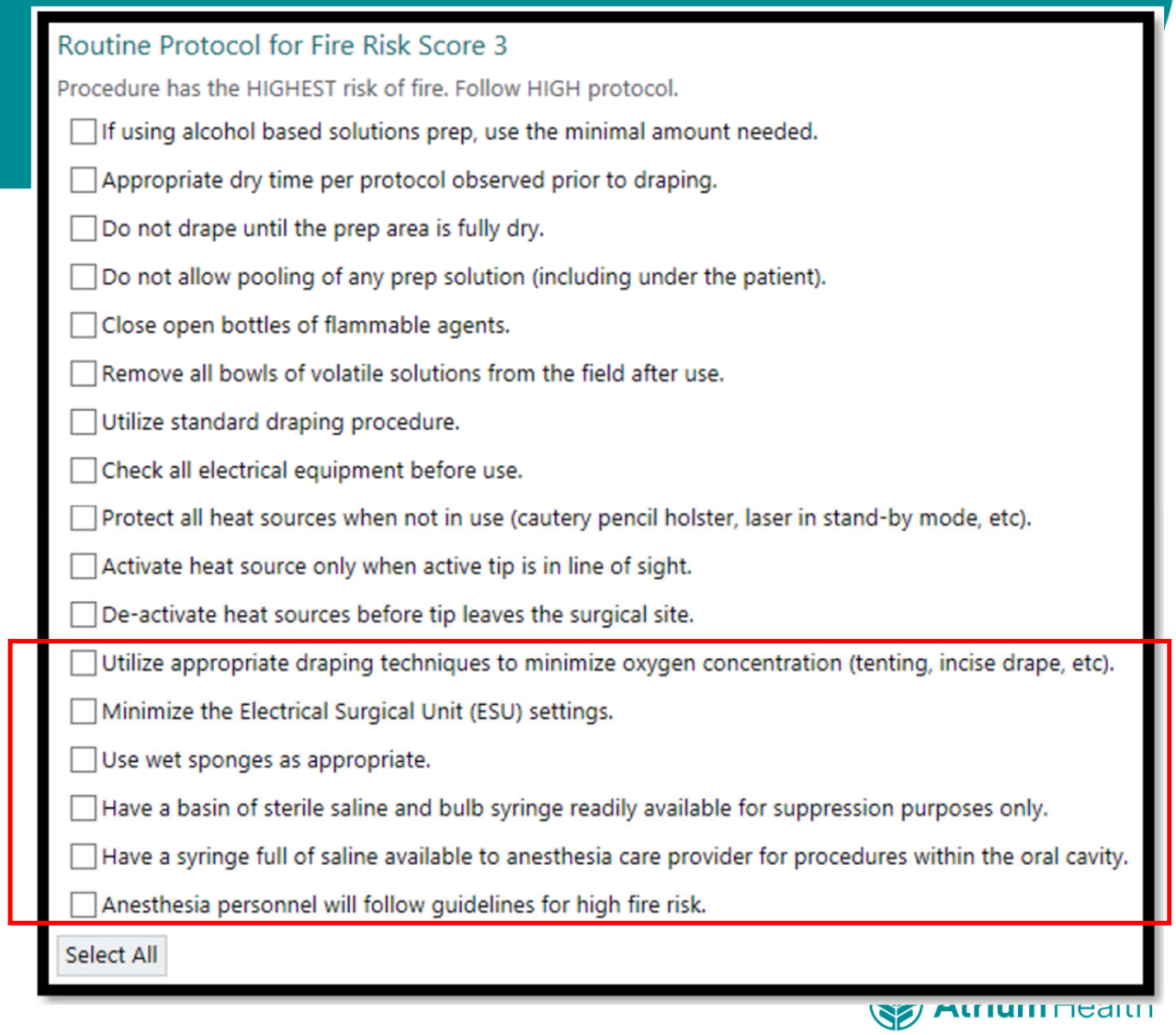
Fire Safety Risk

- Items above the Red Box are protocols for ALL Fire Risk Categories

- Items in the Red Box are additional protocols for a Fire Risk Score of 3



Intraoperative Patient Temperature Management Guidelines

- Up to 20% of all surgical patients experience unintended perioperative hypothermia

- Hypothermia has been shown to have adverse effects
  - Patient discomfort and shivering
  - Platelet dysfunction and coagulopathy
  - Increased risk of wound infection
  - Post-operative cardiac events occur at a higher rate in hypothermic patients
  - Effects of pharmacokinetics of anesthetic drugs

- A protocol has been established to address hypothermia

Hart, Stuart R., et al. "Unintended perioperative hypothermia." *Ochsner Journal* 2011; 11(3): 259-270.

McSwain, Julie R., et al. "Perioperative hypothermia: Causes, consequences and treatment." *World J Anesthesiology* 2015; 27(4): 58-65.

Sessler, Daniel. "Perioperative temperature management." UpToDate,12/31/19

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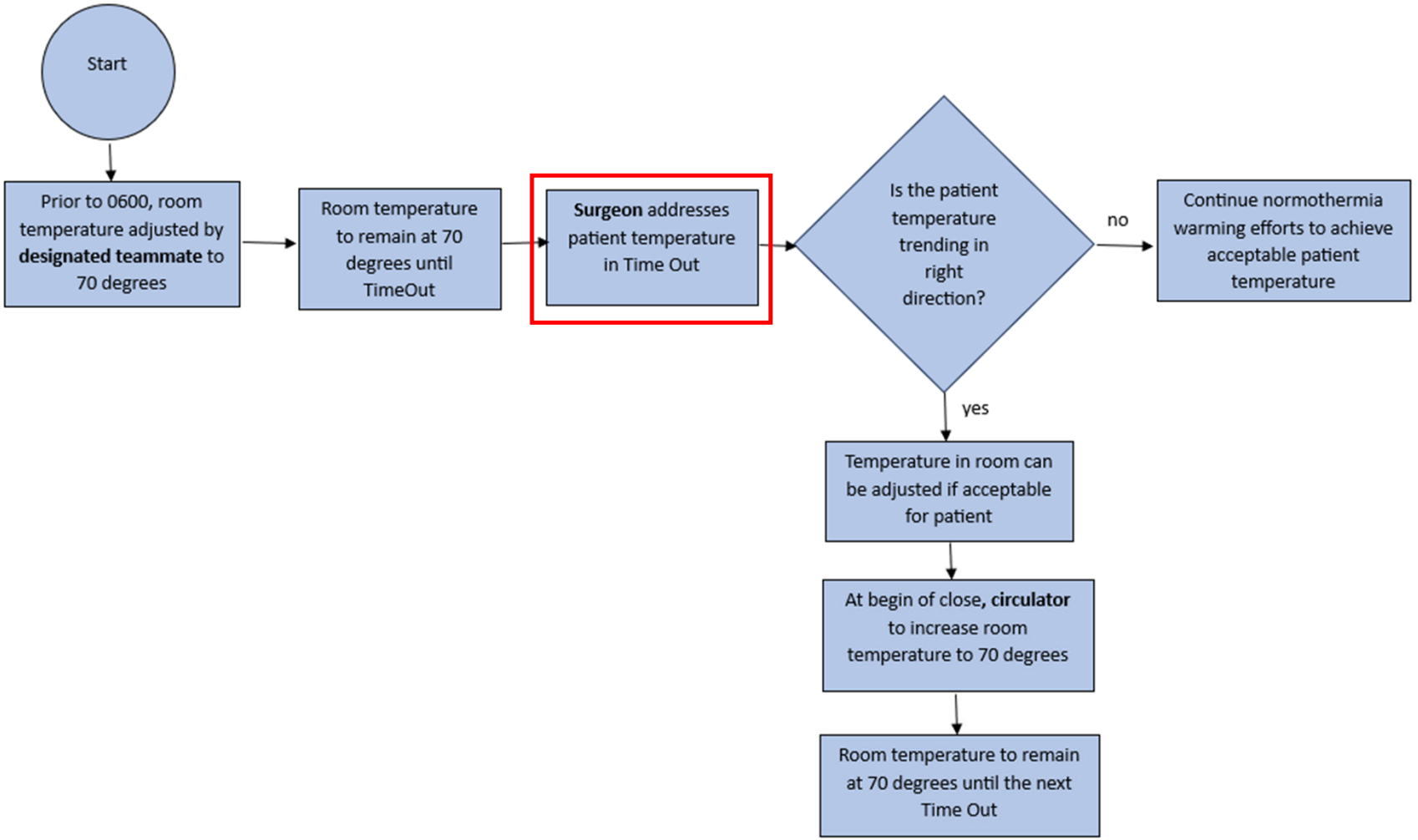
Hypothermia protocol



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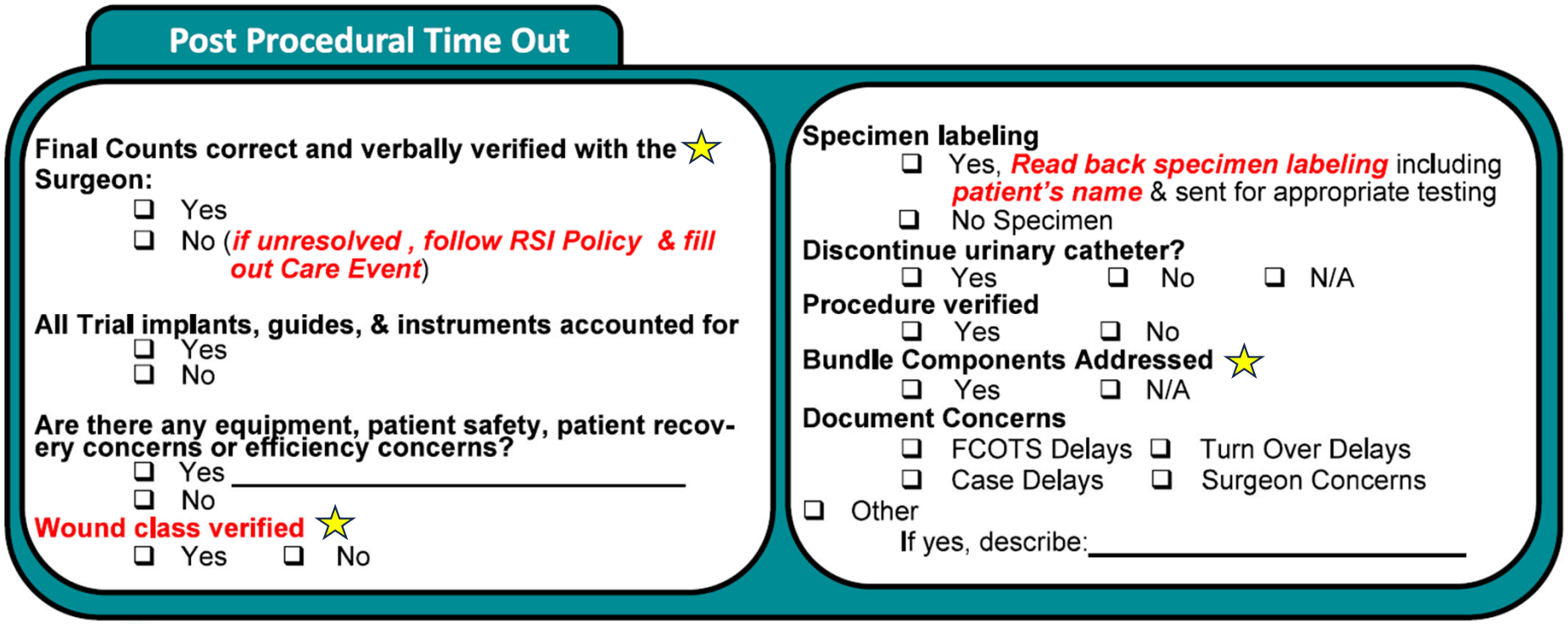
Post Procedural Time Out (Sign Out)

*Performed toward the end of the case and includes the surgeon in charge



☆ Will address in subsequent slides

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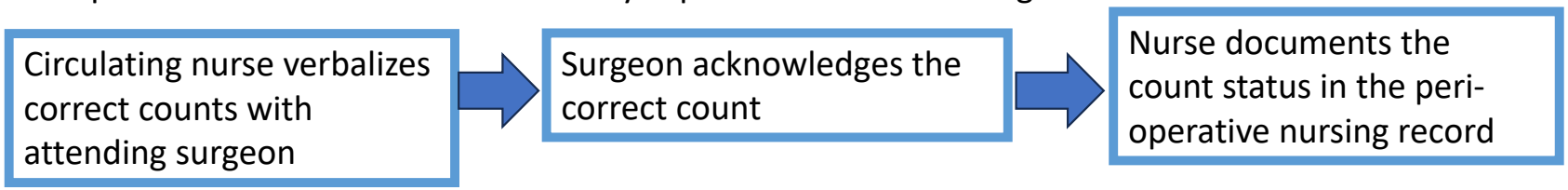
Surgical Counts:
Retained Surgical Items (RSI) Policy

- Surgical counts are to be performed on all cases to prevent unintentional retained foreign body.

First closing count	Before fascial closure begins	At the first layer of closure of any body cavity or wound
Final count	At the start of the final layer of skin or equivalent closure	At the end of the procedure when counted items are no longer used

- Counts are a shared professional responsibility between members of the perioperative team.
  - Surgeons and assistants MUST
    - communicate placement of surgical items in the wound
    - perform methodical wound or cavity exploration before closing



- *The final count should not be documented/considered complete until all items are removed and visualized by the team

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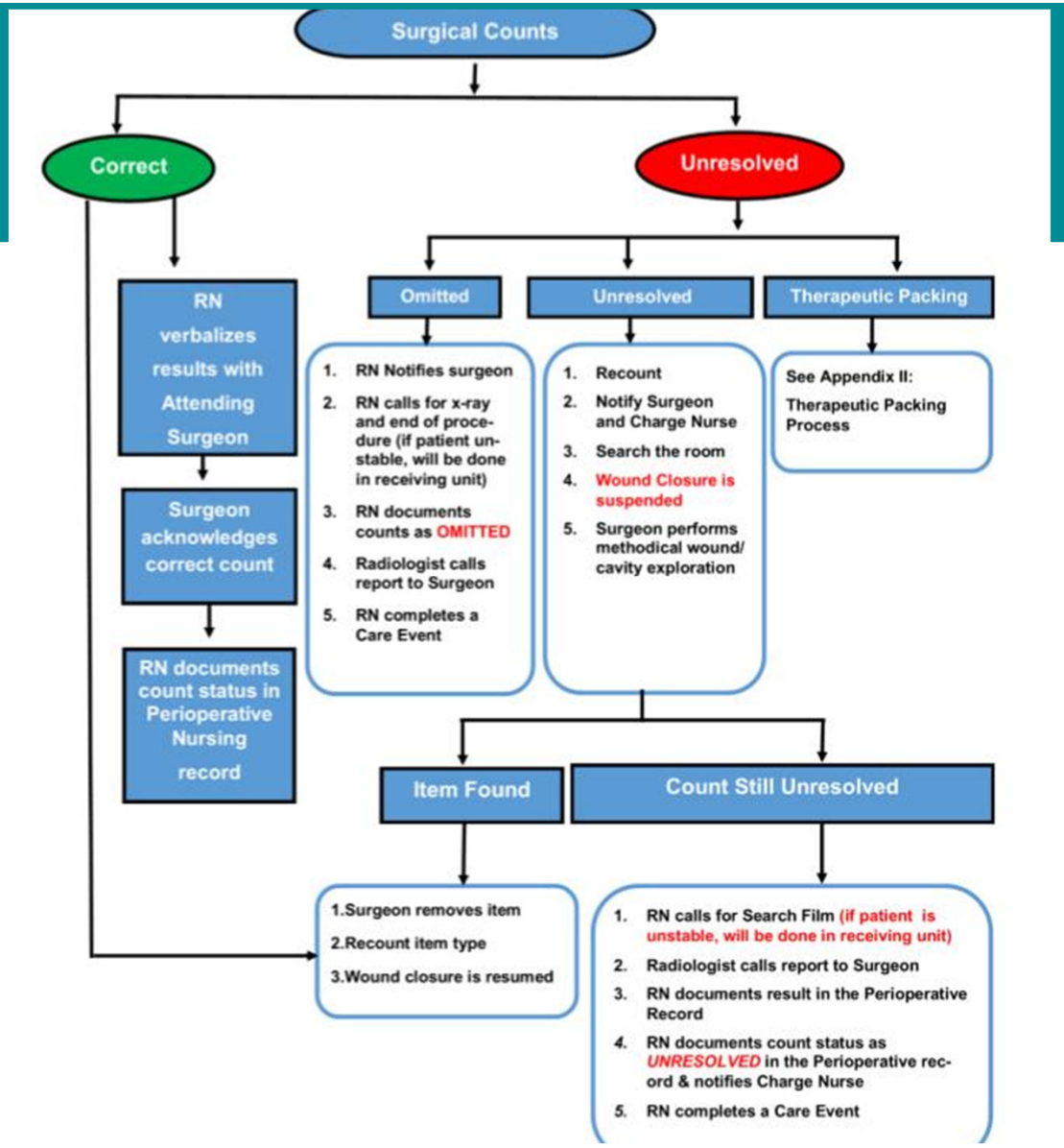
Surgical Count Reconciliation Process



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CMC RSI Policy – High Risk Cases

INTERVENTION

A postoperative x-ray will be performed when 3 factors for RSI are present

1. Multiple surgical teams
2. Add on/Emergent procedures
3. >300 minutes (5 hours) in room
4. > 500 ml blood loss
5. BMI > 40

POLICY

Patients with surgical procedures, performed in the Main Operating Room (MOR) at Carolinas Medical Center, that meet 3 of the 5 criteria will have a mandatory postoperative x-ray prior to skin closure- *no matter if counts are correct or incorrect.* Patients who are deemed clinically or physiologically unstable by the surgeon or anesthesiologist and need to be emergently transported to the receiving unit (Damage control situations) are excluded.

SUMMARY

Research shows that there are known risk factors associated with increased risk of RSI (Retained Surgical Items). These factors are more than one surgical team, greater than 500ml blood loss, length of surgery is greater than 5 hours, patient BMI greater than 40 kg/m^2, and emergency cases.

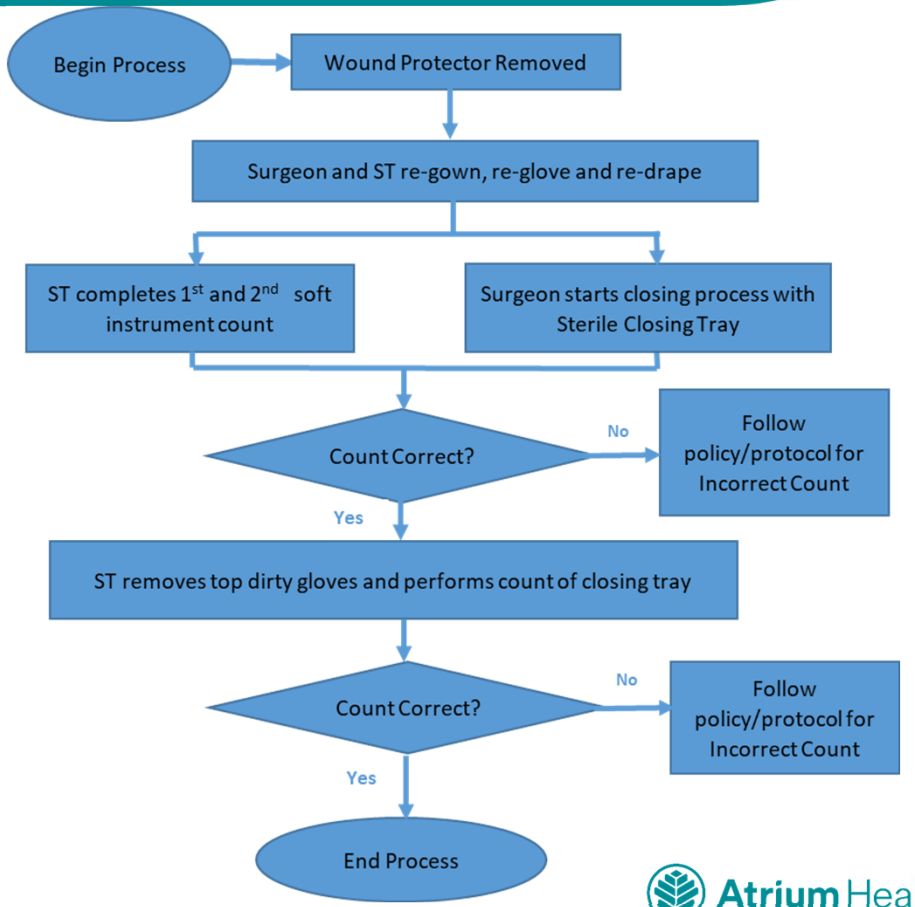
Wound Class

Wound Class	
Class I **Clean**	Uninfected operative wounds in which no inflammation is encountered and the respiratory, alimentary, genital, or uninfected urinary tracts are not entered. In addition, clean wounds are primarily closed, and if necessary, drained with closed drainage. Operative incisional wounds that follow non-penetrating (blunt) trauma should be included in this category if they meet the criteria.
Class II **Clean-Contaminated**	Operative wounds in which the respiratory, alimentary, genital or urinary tract is entered under controlled conditions and without unusual contamination. Specifically, operations involving the biliary tract, appendix, vagina, and oropharynx are included in this category, provided no evidence of infection or major break in technique is encountered.
Class III **Contaminated**	Open, fresh, accidental wounds. Also, operations with major breaks in sterile technique or gross spillage from the gastrointestinal tract. Incision in which acute, nonpurulent inflammation is encountered.
Class IV **Dirty or Infected**	Old traumatic wounds with retained devitalized tissues and wounds that involve existing clinical infection or perforated viscera.

Bundle Components

- Utilized to reduce surgical site infections
- For use in all abdominal procedures with Wound Class 2-4
  - Use wound protector

  - Re-gown/re-glove
  - Re-drape (4 blue towels)
  - Clean Instrument set (wound closure tray)



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Relevant Atrium Policies

- Atrium Health Consent to Treatment Policy
- AH Verification of Procedure Policy
- AH Guidelines for Decreasing Noise and Distractions in the Operating Room v.1 (policytech.com)
- Atrium Health-Prevention of Retained Surgical Items v.4 (policytech.com)
- Atrium Health-Womens and Infant's Prevention of Retained Surgical Items v.4 (policytech.com)
- Obstetrical Surgical Safety Checklist v.2 (policytech.com)

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Conclusions

- Atrium Health Surgical Safety Checklist and Universal Protocol are vital processes used by the surgical team for patient safety.
- The Universal Protocol includes consent, site-marking and pre-incision time-out.
- The Surgical Safety Checklist includes the pre-induction time-out, pre-incision time-out and post-incision time out.
- Distractions should be minimized during critical OR components to include induction and emergence, timeouts and counting.
- Adherence to these processes enhance communication among teammates and promote patient safety.

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References

- Centers for Disease Control (2023). Surgical Site Infection (cdc.gov)
- CHS Surgical Safety Checklist
- Team Communication Guideline, AORN Guidelines 2019
- Surgical Safety Checklist, World Health Organization, 2009
- Universal Protocol Policy, National Patient Safety Goals, Joint Commission Accreditation Manual, 2023