U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

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Implementation Guide to Surgical Site Infection and Safe Surgery

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Table of Contents

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Reducing the Risk of Surgical Site Infections

Surgical site infections (SSIs) are associated with significant patient morbidity and mortality. It is estimated that between 750,000 and 1 million SSIs occur in the United States each year, extending hospital stays by 3.7 million extra days and generating more than $1.6 billion in excess hospital charges each year[1]. Surgical site infections are the third most frequently reported health care-associated infection (HAI) based on data derived from the Centers for Disease Control and Prevention's National Healthcare Safety Network[2]. In order for a program to be the most effective in reducing the incidence of SSIs, your program should combine SSI-prevention methods and the WHO Surgical Safety Checklist, which promotes teamwork and communication in the operating room.

The Surgical Care Improvement Project (SCIP) developed in collaboration with the Centers for Medicare and Medicaid Services (CMS) was designed as an evidence-based process initiative to be applied broadly across selected surgical disciplines with a stated goal of reducing the morbidity and mortality of postoperative surgical site infections. The core process measures of this initiative includes: appropriate hair removal (clipping rather than shaving); appropriate antimicrobial prophylaxis involving timing (within 60 minutes of skin incision), choice of agent, and discontinuation within 24-hours; normalizing core body temperature within a defined time period postoperatively; and implementation of glycemic control measures in selective surgical patient populations. While the SCIP initiative has been successful in focusing healthcare professionals and institutions to improve postoperative patient outcomes, current peer publications would suggest that additional evidence-based strategies are warranted to enhance the benefits of the current SCIP process measures[3]. Adjunctive evidence-based interventions such as increasing perioperative antibiotic dosing, preadmission skin antisepsis and increasing O_2 tissue perfusion in the immediate postoperative period are representative examples of SCIP-Plus strategies for reducing risk and improving patient outcomes. These and other evidence-based interventional strategies will be discussed as a composite effort to enhance the impact of SCIP process measures in the elective surgical patient population.

These SCIP-Plus strategies combined with the WHO Safe Surgery Checklist will provide the foundation for your comprehensive SSI prevention program.

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[1]Edmiston CE, Okoli O, Graham MB, Sinski S, Seabrook, GR. Improving surgical outcomes: an evidence-based argument for embracing a ChlorhexidineGluconate (CHG) preoperative shower (cleansing) strategy for elective surgical procedures. *AORNJ* 2010; 92:509-518.

[2] http://www.cdc.gov/nhsn

[3]Edmiston CE, Spencer M, Lewis BD, Brown KR, Rossi PJ, Hennen CR, Smith HW, Seabrook GR. Reducing the risk of surgical site infections: did we really think that SCIP would lead us to the promise land?" *Surgical Infection* 2011; 12:169-177.

Surgical Site Infection and Safe Surgery Overview

Background:

- Worldwide there are approximately 234 million surgeries annually, now exceeding birth rates.
- In industrialized countries, it is estimated that 3 percent to 16 percent of surgeries experience a major complication with a perioperative inpatient surgery death rate of 0.4 to 0.8 percent.
- Nationally, the rate of surgical site infection averages between two to three percent for clean cases (Class I/Clean as defined by CDC), with an estimated 40 – 60 percent of these infections being potentially preventable.
- Studies show that patients with SSI have a longer stay by seven to 10 additional postoperative days and an added cost of approximately $3,000 - $29,000 per SSI depending on the procedure and pathogen.
- Seventy-five percent of deaths among patients with surgical site infections are directly attributable to surgical site infections.

Suggested AIM:

- Reduce preventable surgical site infection rates by 20 percent by December 31, 2013

Potential Measures:

Outcome: Surgical site infection rate: (number of infections per 100 surgical procedures)
Process: Percent of cases in which the Surgical Safety Checklist is used in its entirety and appropriately

Primary Drivers	Secondary Drivers

Adopt Surgical Safety Checklist	✓ Conduct three pauses with surgical team at critical points:
	  - Before induction of anesthesia.
	  - Before skin incision.
	  - Before patient leaves the operating room.
	✓ Verbally confirm all items on the surgical checklist at each pause with appropriate surgical team members.
	✓ Ensure the use of a standard tool so as not to rely on memory for items in the surgical checklist.

Antimicrobial Prophylaxis	✓ Develop standardized order sets for each procedure that include antibiotic, timing, dose and discontinuation. ✓ Develop pharmacist and nurse-driven protocols that ensure correct antibiotic selection based on type of surgery and patient characteristics (age, weight, etc.) ✓ Create a process to review all exceptions to protocols. ✓ Ensure that antibiotics are redosed appropriately in surgeries longer than four hours.
Perioperative Skin Antisepsis	✓ Develop standardized practices for application of skin antiseptic agents. ✓ Educate perioperative personnel on the safe application of selective skin antiseptic agents.
Preadmission Skin Cleansing	✓ Develop standardized order sets for preadmission skin cleansing. ✓ Develop a strategy for distribution of skin antiseptic agent to the patients. ✓ Educate patients as to how to apply the skin antiseptic agent prior to hospital admission.
Normothermia in the Operating Room	✓ Develop standardized procedure for pre-warming for every surgical patient without a contraindication. ✓ Develop standardized procedure for active warming in the operating room that could include warming blankets under patients on the operating table.
Perioperative Glucose Control	✓ Obtain glucometers for every anesthesia station. ✓ Develop a perioperative glycemic control team that includes surgeons, anesthesiologists, endocrinologists and nurses to ensure that responsibility and accountability is assigned for blood glucose monitoring and control.

Making Changes:

- This intervention is in the Collaborative with Reducing Infections **(Stay FIT Collaborative).** National meetings, webinars, monthly coaching calls, change packages and other tools will augment state hospital association activities. The Collaborative will leverage the IHI Model for Improvement (Plan-Do-Study-Act)

Key Resources:

- www.safesurgery2015.org

- *How-to Guide: Prevent Surgical Site Infections*. Cambridge, MA: Institute for Healthcare Improvement; 2012: http://www.ihi.org/knowledge/Pages/Tools/HowtoGuidePreventSurgicalSiteInfection.aspx

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Preparing the Skin Before Surgery

Preparing or "prepping" skin before surgery can reduce the risk of infection at the surgical site. To make the process easier, this facility has chosen disposable cloths moistened with a no-rinse, 2 percent Chlorhexidine Gluconate (CHG) antiseptic solution. The steps below outline the prepping process and should be carefully followed.

Night Before Surgery:

- Shower the night before surgery at least one hour <u>before</u> you prep your skin for the first time.
- <u>Do not</u> allow this product get into your eyes, ears, and mouth.
- Prep the skin as directed using 1st package of cloths.
- Stop use if redness or irritation occurs.
- <u>Do not</u> apply lotions, moisturizers or makeup after prepping.
- Dress in clean clothes/sleepwear.
- Remove the sticker from used package and apply to this form.

FRONT   **BACK**
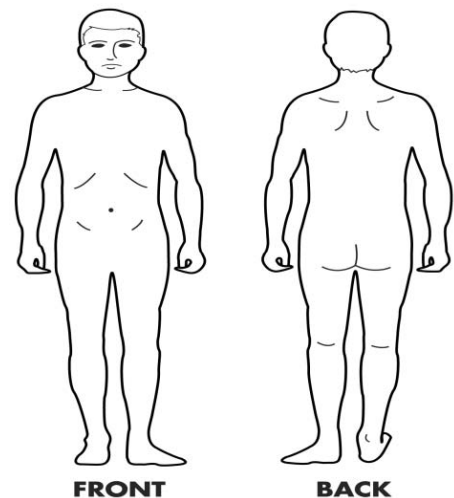
Morning of Surgery:

- You may shower, wait one hour to prep skin.
- Prep skin as directed using second package of cloths.
- Do not apply lotions, moisturizers or makeup after prepping.
- Dress in clean clothes/sleepwear.
- Remove the sticker from used package and apply to this form.
- Bring this form with you to your surgery.

How to Use Cloths:
1. Prep only the circled areas above
2. Scrub the skin back and forth for 3 minutes with 1 cloth
3. Do not rinse
4. Allow to air dry
5. Discard each cloth after a single use
6. **Repeat** process with second cloth

Place sticker here   Place sticker here

PEEL

√Prep CHECK
PREOPERATIVE SKIN PREPARATION
VERIFICATION LABEL

√Prep CHECK
PREOPERATIVE SKIN PREPARATION
VERIFICATION LABEL

Operating Room and Pre-Op Holding Insulin Infusion Protocols Orders

SERVICE	ATTENDING	RESIDENT	SEE FOR ALLERGIES

OPERATING ROOM AND PRE-OP HOLDING INSULIN INFUSION PROTOCOL ORDERS
Goal BG Range = 100-140 mg/dL

☑ Discontinue All Previous Subcutaneous Insulin Orders
☑ Standard insulin infusion: 100 units/100 mL 0.9% Sodium chloride via an infusion device
☑ Confirm piggyback of 5% Dextrose at 100mL/hr is infusing
☑ Check blood glucose (BG) hourly

Treatment of Hypoglycemia (BG <70 mg/dL) or symptoms of hypoglycemia

    ☑ **Turn off** insulin infusion for any BG below goal **AND**
    ☑ Give 25 mL (1/2 amp) of 50% dextrose IV if BG 50-69 mg/dL **OR**
    ☑ Give 50 mL (1 amp) of 50% dextrose IV if BG < 50 mg/dL.
    ☑ Recheck BG every 20 minutes until BG $\geq$100 mg/dL
        → IF BG is <70 mg/dL repeat 25 mL (1/2 amp) 50% dextrose
        → WHEN BG is $\geq$100 mg/dL, restart the insulin infusion at a lower dose by using one algorithm **LEFT** from previous algorithm (see "Evaluating Trends & Using Algorithms" section).

Algorithm 1 Start here for Type 1 DM		Algorithm 2 Start here for Type 2 DM		Algorithm 3 Do NOT Start here		Algorithm 4 Do not start here	
BG	Units/hr	BG	Units/hr	BG	Units/hr	BG	Units/hr
<70 = Hypoglycemia (See page 1 for treatment)							
70-99: Off x 20 minutes & recheck BG							
100-120	0.5	100-120	1	100-120	2	100-120	3
121-140	0.8	121-140	1.5	121-140	2.5	121-140	4
141-160	1.2	141-160	2	141-160	3	141-160	5.5
161-180	1.5	161-180	2.5	161-180	4	161-180	7
181-210	2	181-210	3	181-210	5	181-210	9
211-240	2.5	211-240	4	211-240	6	211-240	12
241-270	3	241-270	5	241-270	8	241-270	16
271-300	3.5	271-300	6	271-300	10	271-300	20
301-330	4	301-330	7	301-330	12	301-330	24
331-360	4.5	331-360	8	331-360	14	>330	28
>360	6	>360	12	>360	16		

Evaluating Trends & Using Algorithms:

Move right or left only <u>one</u> algorithm per BG check. Subtract current BG reading from previous BG reading for the change in BG.

☑ BG **in** goal range:
    ○ If BG has decreased $\geq$100 mg/dL in one hour, move **LEFT** one algorithm and use appropriate rate from table
    ○ If BG has decreased <100 mg/dL in one hour, maintain patient within current algorithm and adjust rate until patient is in goal range for 4 hours
    ○ Once patient is within goal range for 4 hours, do NOT adjust rate unless BG exits goal range

☑ BG **above** goal range:
    ○ If BG has <u>not</u> decreased by at least 60 mg/dL, move **RIGHT** one algorithm and use appropriate rate from table
    ○ If BG has decreased by 60-100 mg/dL, stay within current algorithm and use appropriate rate from table
    ○ If BG has decreased $\geq$100 mg/dL in one hour, move **LEFT** one algorithm and use appropriate rate from table

☑ Hypoglycemic event OR BG below goal range
    ○ Turn off insulin infusion. Treat hypoglycemia if BG<70mg/dL Recheck BG in 20 minutes.

Move **LEFT** one algorithm and use appropriate rate from table when BG returns to goal range.

PHYSICIAN SIGNATURE	PRINT NAME	PAGER	UPIN/NPI	DATE	TIME

Additional Resources

Antimicrobial Prophylaxis and Dosing (Additional Readings)

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Safe Surgery Driver Diagram

2012-2013

AIM: Reduce Preventable Surgical Site Infections by 20 percent by December 31, 2013.

Primary Drivers	Secondary Drivers	Tertiary Drivers (refer to companion guide, Safe Surgery Toolkit, for each step which contains templates, educational videos, presentations and slide sets)
STEP 1: Understand the background and the evidence behind the WHO Surgical Safety Checklist	✓ Learn the evidence behind the WHO Surgical Checklist. ✓ Learn the development and evolution behind the checklist creation. ✓ See a video demonstration of the checklist. ✓ Review the HRET Surgical Safety Checklist template.	✓ Review the core principles behind this work. ✓ Review the topics of checklist creation, testing, impact and spread. ✓ View checklist demonstration video and testimonials from hospitals across the world. ✓ Download the HRET Surgical Safety checklist to serve as a starting point before customizing for your facility.
STEP 2: Engage in critical preparation before implementing the checklist	✓ Build a checklist implementation team ✓ Identify clinical champions. ✓ Schedule regular meetings with your checklist implementation team. ✓ Have the implementation team address OR personnel about using the checklist. ✓ Engage hospital leadership in this effort.	✓ The team should consist of at least one administrator, anesthesia provider, circulating nurse, scrub tech and surgeon. ✓ Choose clinical champions that are well respected. ✓ Hold implementation team meetings once a week or every other week. Schedule a time and a venue for a meeting or repurpose an existing meeting where the implementation team can address as many OR personnel as possible. ✓ Think about which members of hospital leadership to engage; the most successful hospitals have support from all levels.
STEP 3: Modify and customize the checklist for your facility	✓ Each facility should modify or customize some sections of the checklist. ✓ Understand the considerations one must keep in mind while customizing the checklist. ✓ Ensure that modifications do not compromise the utility of the checklist. ✓ Ensure your checklist contains the critical elements. ✓ Review checklist templates for rapid turnover and cardiac surgery cases.	✓ Learn the basic guidelines for checklist modification to help ensure that your modified checklist has the spirit of the WHO and South Carolina Checklists. ✓ Learn the process that your implementation team should follow when modifying the checklist for your hospital. ✓ Understand which sections can be modified and which sections should not be changed. ✓ Rapid turnover and cardiac surgery are two areas that may need unique checklists; to obtain copies of these checklist templates send an e-mail to safesurgery2015@hsph.harvard.edu.

Primary Drivers	Secondary Drivers	Tertiary Drivers (refer to companion guide, Safe Surgery Toolkit, for each step which contains templates, educational videos, presentations and slide sets)
STEP 4: Test the checklist	✓ Test your checklist with a "table-top simulation" with the implementation team. ✓ Have one surgical team use the checklist for one case. ✓ After one surgical team has used the checklist once, have one team use the checklist for every case for one day.	✓ Collect feedback from table-top simulation test and incorporate into the next version of your checklist. ✓ Have one surgical team use the checklist for one case. If this is not the implementation team, talk to everyone that will be in the OR ahead of time about what the checklist is and test it with enthusiastic people. Collect feedback from this test and incorporate into your next version of the checklist. ✓ After one surgical team has used the checklist for every case for one day, modify the checklist as needed.
STEP 5: Engage surgical team members in this work	✓ Engage surgical team members in one-on-one conversations. ✓ Engage your colleagues by holding or repurposing meetings. ✓ Provide presentations to all surgeons.	✓ Complete the OR personnel spreadsheet with everyone who will be touched by the checklist. ✓ Assign implementation team members to talk to everyone individually on the OR personnel spreadsheet. Pay attention to people you identified as skeptics. Talk one on one before a group meeting. ✓ Hold group meetings on the checklist and continue to talk one-on-one.
STEP 6: Plan the implementation	✓ Finalize your hospital's checklist. ✓ Decide if the checklist will be used in poster or paper form in your ORs. ✓ Advertise the checklist project in your hospital. ✓ Consider creating your own checklist video with surgical teams in your hospital using the checklist.	✓ Review Toolkit Implementation Planning Basics, which include: ✓ How to accommodate feedback. ✓ Special things to keep in mind when planning checklist expansion in small hospitals. ✓ Special things to keep in mind when planning checklist expansion in medium to large hospitals. ✓ Getting your checklist ready for the rollout hospital wide.

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Safe Surgery Toolkit

Please contact the Safe Surgery 2015 Team for help or if you have any questions:

Email: safesurgery2015@hsph.harvard.edu

Surgical care is responsible for a major portion of hospital admissions and expenditures. We are aware that more than 64,000,000 surgeries are performed every year in the United States.[1] Improving surgical care is vital and can make a significant impact on our patients' lives. Over the last 200 years major advances have been made in improving surgical safety, including advances in anesthesia and control of infection. Much less work has been done on improving communication and teamwork in the operating room. In spite of considerable understanding of best practices around infection prevention we often fail to bring those practices to our patients. Failures in communication and teamwork also play prominently when things in the operating room don't go as planned and result in patient injury. This Safe Surgery Program is a logical blend of work focused on both reducing infection and improving teamwork and communication in the operating room.

The WHO Surgical Safety Checklist is a simple tool that promotes communication and teamwork in the operating room. The checklist requires surgical team members to stop at three critical points during the case to discuss patient care as a team. Effective use of the checklist has been shown to demonstrably reduce avoidable surgical complications and death globally. The checklist was originally studied in an eight center multi-country pilot study and the results were published in the January 2009 New England Journal of Medicine Article, *A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population.* The use of the checklist reduced the rate of deaths and complications by more than one third. The rate of major inpatient complications dropped from 11 percent to 7 percent, and the inpatient death rate following major operations also fell from 1.5 percent to 0.8 percent after implementation of the checklist[2]. More recently, articles have been published showing similar results in operating rooms in the United States and the Netherlands when operating room teams utilized a surgical checklist.[3,4]

Today, the WHO Surgical Safety Checklist or a modified version of this tool is used in thousands of operating rooms in the United States and throughout the world. When the checklist is used effectively it benefits patients, improves communication and teamwork, strengthens the partnership between physicians and the hospital, increases staff retention, and improves staff satisfaction. Proper use of the checklist has also been shown to decrease the rate of surgical site infections.

While the checklist is a simple tool, putting it into place requires cultural and behavioral changes. The checklist is not simply a piece of paper, but it is a mechanism to improve teamwork in the operating room. If the checklist is used correctly it can help create an environment where all team members feel safe to voice concerns and contribute to patient care. This type of change requires input and involvement from every member of the surgical team. This cannot be accomplished by the nurses alone and will require the active involvement of physicians.

[1]Weiser TG.Regenbogen SE. Thompson KD. Haynes AB. Lipsitz SR. Berry WR. Gawande AA. An estimation of the global volume of surgery: a modelling strategy based on available data. The Lancet. 2008; 372: 139-144.
[2] Haynes AB et al. A surgical safety checklist to reduce morbidity and mortality in a global population. N Engl J Med. 2009 Jan 29;360(5):491-9. Epub 2009 Jan 14.
[3]Neily J, Mills PD, Young-Xu Y, Carney BT, West P, Berger DH, Mazzia LM, Paull DE, Bagian JP. Association between implementation of a medical team training program and surgical mortality.JAMA. 2010 Oct 20; 304(15):1693-700.
[4]vanKlei WA, Hoff RG, van Aarnhem EE, Simmermacher RK, Regli LP, Kappen TH, van Wolfswinkel L, Kalkman CJ, Buhre WF, Peelen LM. Effects of the Introduction of the WHO "Surgical Safety Checklist" on In-Hospital Mortality: A Cohort Study. Ann Surg. 2012 Jan;255(1):44-9

This toolkit includes materials that are used as part of the Safe Surgery 2015 Initiative. The Safe Surgery 2015 initiative is based at the Harvard School of Public Health and was developed to measurably reduce surgical infections, major complications, and death through effective population-wide implementation of the WHO Surgical Safety Checklist Program. The goal is to implement the checklist in every hospital in the United States by 2015. We launched our efforts in the state of South Carolina where all of the hospitals have committed to putting the checklist into routine use in their operating rooms by the end of 2013. To learn more about the Safe Surgery 2015 Initiative please visit www.safesurgery2015.org.

We invite you to join us on this journey to improve surgery for our patients. Putting the checklist into place will take time, but if done correctly, it can change the way team members interact with one another and ensure that our patients receive the best care possible. This toolkit walks you through the essential steps of putting the checklist into place and how to overcome barriers that you may face with this work.

Step 1 - Checklist Background:

Before you start to work on the checklist it is important to know the checklist background and the evidence that is behind this tool. These materials will prepare you to start working on this project.

Video Overviews	**Core Principles Behind This Work** This three-minute video clip summarizes the overarching principles of this project and how the checklist is different from other quality improvement efforts.	To view this short overview: **http://youtu.be/KaCfzQh042M** To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=48606007&rKey=06bff5928ff6864c%20%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_7.ppt
	Checklist Development This 24-minute video describes the development and evolution of the checklist. Topics that are covered include: checklist creation, testing, impact of the checklist, spread of the checklist, background of the South Carolina Checklist template.	To view this short overview: **http://youtu.be/rqHsFo3CoCk** To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=47856157&rKey=4df27050517e53d4%20%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_1.ppt
	Safe Surgery 2015: Checklist Videos Checklist demonstration videos and testimonials created by hospitals across the world.	To view checklist demonstration videos: http://www.safesurgery2015.org/checklist-videos.html
Documents	**Checklist Bibliography** A comprehensive bibliographical record of checklist evidence and related articles.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/checklist_references_4-12-12.doc
	HRET Surgical Safety Checklist Template Use this checklist template as a starting point for this work. This template has been modified specifically for	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/checklist_template_hret_3-30-12.doc

Documents	hospitals in the United States. This checklist was developed by hospitals that participated in the Safe Surgery 2015: South Carolina initiative.	

Step 1 - Action Items

After reviewing the videos and documents in this section please complete the following action items.

1.   Review the evidence that is behind the WHO Surgical Safety Checklist.

2.   Review the HRET Surgical Safety Checklist Template.

Step 2 – Critical Preparation:

Before you start spreading the checklist in your operating rooms it is essential to prepare for this project and to think about issues that you might face when you start doing this work. The following materials will walk you through building a checklist implementation team to lead this project, assessing current safety practices in your operating rooms, measuring checklist impact, the checklist as a documentation tool, malpractice concerns, and engaging executive leadership in this work.

Video Overviews	**Building an Implementation Team** This eight-minute video discusses the first and one of the most important steps when starting to do this work. This clip also discusses how to identify clinical champions.	To view this short overview: **http://youtu.be/GRa5EOwMhp4** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51412182&rKey=0148dd36445426f5&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_2_-_who_checklist_background_and_implementation_team_final_final.ppt
	We're Already Doing All of This This two-minute clip discusses one of the most common objections to using the checklist.	To view this short overview: **http://youtu.be/gwCHpUryM80** To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=48122772&rKey=0a86fbd6b6a92bc7%20%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/culture_survey_administration_-_web.ppt
	Checklist as a Documentation Tool This four-minute clip discusses whether the checklist should be used as a documentation tool and included in the medical record.	To view this short overview: **http://youtu.be/8b27Sfl3RXs** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51839747&rKey=8eb7cb8450fcb3fe&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_5_table_top_simulation_web-ready.pptx
	Understanding Checklist Impact and Measurement This eight-minute clip discusses the best ways to measure the impact of the checklist. This clip also discusses barriers to measuring the checklist in your hospital.	To view this short overview: http://youtu.be/e6SzD6I5tik To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=53538532&rKey=f672528fa27e8d94&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_16_-_measuring_the_checklist_and_feedback_-_web_ready.ppt
	Malpractice Issues Related to Checklist This five-minute clip discusses frequently asked questions about checklist use and malpractice issues.	To view this short overview: http://youtu.be/eP_zpdxaLy8 To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51839747&rKey=8eb7cb8450fcb3fe&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_5_table_top_simulation_web-ready.pptx

Video Overview	**What the Checklist Is and Isn't** This three-minute clip provides a brief overview of how to properly use the checklist.	To view this short overview: **http://youtu.be/hRtcYlHeFs8** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51721607&act=pb&rKey=370a7b001e4dc662 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/webinar_4_checklist_modification_web-ready.pptx
Documents	**Are We a Safe Surgery 2015 Hospital?** If you think that your hospital optimally uses the checklist and has achieved an effective and full implementation we encourage you to use this document to see if you meet the standards of Safe Surgery 2015.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/are_we_a_safe_surgery_2015_4-10-12.doc
	CEO One Pager Engaging executive leadership is key. This document explains the basics of the project in a one-page summary designed specifically for distribution to hospital CEO's.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/ceo_one_pager_4-10-12.doc

Step 2 – Action Items

After reviewing the videos and documents in this section please complete the following action items.

1.	Build an implementation team that consists of at least one administrator, anesthesia provider, circulating nurse, scrub tech and surgeon.

2.	Schedule regular meetings with your checklist implementation team (once every week or every two weeks) and begin meeting with the members.

3.	Think about and discuss how the checklist fits in with the current OR processes with members of your checklist implementation team. Consider comparing what happens in your ORs with the items that are outlined on the "Are We a Safe Surgery 2015 Hospital" document.
●
4.	Schedule a time and venue for a meeting, or repurpose existing departmental meetings where the implementation team will be able to talk to as many OR personnel including anesthesia providers, nurses, surgeons and techs about using the checklist at your hospital. These meetings should be scheduled about six to 10 weeks from when you start this work to coincide with your checklist launch/roll-out.

5.	Think about which members of hospital leadership need to be engaged in this project. It is helpful to have the CEO, CMO, board members, and chiefs of surgery, anesthesia, nursing, and other medical and administrative leadership aware and on some level supporting this project. These individuals do not need to be part of your checklist implementation team, but need to actively support this work and be updated on the progress that you are a making as well as the barriers that you are facing. The most successful hospitals have support for this project at **ALL** levels.

Step 3 – Checklist Modification and Customization

Modifying the checklist is essential to ensuring that the checklist meets the needs of an individual hospital. We recommend that every hospital modify the checklist in some way, even if it is just putting your hospital's logo on it. The following documents will guide you through this process and provide you with the information that you will need to modify the checklist to meet your unique needs.

Video Overview	**Modification 101** This 10-minute clip discusses how and why to modify the checklist. We recommend that every hospital modify the checklist in some capacity. These basic guidelines will help you ensure that your modified checklist has the spirit of the WHO and South Carolina checklists.	To view this short overview: **http://youtu.be/soT899yyL5A** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51721607&act=pb&rKey=370a7b001e4dc662 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/webinar_4_checklist_modification_web-ready.pptx
	Process to Follow When Modifying the Checklist This four-minute clip describes the process that you and your implementation team should follow when modifying the checklist for your hospital.	To view this short overview: **http://youtu.be/QF9lXXPy6vw** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51839747&rKey=8eb7cb8450fcb3fe&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_5_table_top_simulation_web-ready.pptx
Documents	**Checklist Modification Guide** This document outlines the considerations one must keep in mind while customizing the checklist in order to ensure that modifications do not compromise the utility of the tool.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/modification_document_4-10-12.doc
	HRET Surgical Safety Checklist Template This checklist template includes the items from the Joint Commission, SCIP items, as well as items to enhance communication and teamwork.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/checklist_template_hret_3-30-12.doc
	Does Our Checklist Contain the Critical Elements? This document will help ensure that your customized checklist contains the items that are essential to enhancing teamwork and communication in the operating room.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/does_our_checklist_contain_the_critical_elements_4.10.12.docx

	Checklist Templates for Rapid Turnover and Cardiac Surgery Cases Some of the videos on modification briefly highlight checklist templates that have been designed and tested for rapid turnover and cardiac surgery cases. We believe that these two areas may need unique checklists to best suit this environment.	Please send us an email at: safesurgery2015@hsph.harvard.edu to obtain copies of these two checklist templates.

Step 3 – Action Items:

After reviewing the videos and documents in this section please complete the following action items.

1.   Modify the checklist with your implementation team. When doing this make sure that a representative from every discipline has an opportunity to participate in this discussion. Remember to keep the communication items.

2.   Make sure that your checklist contains the elements that are outlined in the document, "Does Our Checklist Contain the Critical Elements" document.

Step 4 – Testing the Checklist

We recommend testing the checklist before you use it in an operating room with a patient. The following materials will walk you through the essential steps of testing the checklist from testing the checklist with a "table-top simulation" to using it in the OR for the first time.

Video Overviews	**Testing the Checklist and a Demonstration of using the checklist in a Table-Top Simulation** This 14-minute clip explains the importance of testing the checklist outside of the OR and includes a demonstration of how to use the checklist in a table-top simulation.	To view this short overview: **http://youtu.be/MAjRH3TGvAU** To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=48606007&rKey=06bff5928ff6864c%20%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_7.ppt
	Taking the Checklist into the Operating Room for the First Time How to display the checklist in the OR during testing and a brief overview of ways of displaying the checklist when you expand the use of the checklist to your entire OR suite.	To view this short overview: **http://youtu.be/sb9BBnllPO4** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=51963077&act=pb&rKey=002d130428862c2f To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_6_testing_the_checklist_in_the_or.pptx
	Safe Surgery 2015: Checklist Videos Checklist demonstration videos and testimonials created by hospitals around the world.	To view checklist demonstration videos: http://www.safesurgery2015.org/checklist-videos.html

Step 4 – Action Items:

 After reviewing the videos and documents in this section please complete the following action items.
1.	Test your checklist in a "table-top simulation" with members of the checklist implementation team. Collect feedback from this test and incorporate it into the next version of your checklist.

2.	Have one surgical team use the checklist for one case. If this team does not include everybody from the checklist implementation team, remember to talk to everybody who will be in the OR ahead of time about what the checklist is and test it with enthusiastic people. Collect feedback from this test and incorporate it into your next version of the checklist.

3.	After the one surgical team has used the checklist once, have one team use the checklist for every case for one day and modify the checklist as necessary. If this team does not include everybody from the checklist implementation team, remember to talk to everybody who will be in the OR ahead of time about what the checklist is and test it with enthusiastic people. Collect feedback from this test and incorporate it into your next version of the checklist.

Step 5 – Engaging Surgical Team Members in This Work

In order to achieve an effective checklist implementation it is essential to talk to **everybody** who will be touched by the checklist. Every person needs to know what the checklist is, why it is important for them to use it, and how the checklist should be used before they use it for the first time. We recommend that checklist implementation teams have one-on-one conversations with as many people as they can. Make every effort to ensure that everybody knows about the checklist before you ask them to use the checklist in the OR. We believe that this is one of the most important things that you can do when putting something like the checklist into place. The following resources will walk you through engaging your colleagues with one-on-one conversation and repurposing meetings.

Video Overviews	**Engaging Surgical Team Members** This 18-minute clip provides an overview of the importance of engaging everybody that will be touched by this project. This is one of the most important things that you can do to make the checklist successful in your operating rooms.	To view this short overview: **http://youtu.be/CLN9fU342os** To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=48723182&rKey=076e6bd94034c93e%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_8_wave_1_engaging_surgical_teams_final.ppt
	How To Engage Everybody with a One-on-One Conversation This two-minute clip talks about how to conduct one-on-one conversations.	To view this short overview: **http://youtu.be/fXUHDm7y9l8** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52564712&rKey=06d02e106c91cfa4&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_9_engaging_your_colleagues_continued_final.pptx
	Engaging Your Colleagues By Holding or Repurposing Meetings This nine-minute clip discusses the importance of talking about the checklist at large meetings and provides tips on how to best present the checklist.	To view this short overview: **http://youtu.be/IF9yJhgg2UQ** To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=49001367&rKey=a548ca71f15dcc5b%20%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/preparation_for_expanding_to_full_implementation.webready.ppt
Video Overviews	**Presentations for Surgeons** This 11-minute presentation is a demonstration of how to present the checklist to surgeons. We recommend everybody watch this clip before talking to surgeons about this project.	To view this short overview: **http://youtu.be/F_ym0FMkxwI** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52564712&rKey=06d02e106c91cfa4&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_9_engaging_your_colleagues_continued_final.pptx

Documents	Operating Room Personnel Spreadsheet This spreadsheet was designed to track which surgical team members have been engaged in one-on-one conversations.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/contact_information_template.xlsx
	One-on-One Conversation Guide This conversation guide is designed to offer discussion points for talking to colleagues.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/one-on-one_conversation_guide_4.10.12.doc
	Large Multi-Disciplinary Meeting Presentation Template This presentation template is designed for the large meeting that should be held in your hospital to inform colleagues on details of this project.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/large_meeting_presentation_4-10-12ppt.ppt
	Talking to Anesthesia Providers Presentation Template This presentation template is designed specifically for use in talking with anesthesia providers about the checklist.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/anesthesiologist_template_4-10-12ppt.ppt
	Talking to Nurse and Surgical Tech Colleagues Presentation Template This presentation template is designed specifically for use in talking with your nurse and surgical tech colleagues about the checklist.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/nurse_and_scrub_tech_4-10-12ppt.ppt
	Talking to Surgeons Presentation Template This presentation template is designed specifically for use in talking with surgeons about the checklist.	To download this document: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/surgeon_template_4-10-12ppt.ppt

Step 5 – Action Items:

After reviewing the videos and documents in this section please complete the following action items.
1.   Complete the operating room personnel spreadsheet with everyone who will be touched by the checklist. Identify people that you think will be skeptical of using the checklist. Use this to guide your conversations with your colleagues.

2.   Use the OR personnel list that you created and assign members of the implementation team to talk to everybody individually over the next couple of weeks.   If possible, talk to the people that you identified as possible skeptics. Make sure that you talk with them one-on-one prior to when you hold the large meeting.

3.   Start talking to your colleagues in one-on-one conversations.

Step 6 – Implementation Planning

Planning the expansion of the checklist is critical. We recommend that you and your checklist implementation team discuss how to best expand the use of the checklist. Always remember to start where it is easy and where you have the most buy-in. The following materials will walk you through planning the checklist roll-out from what to think about to advertising the checklist at your hospital.

Video Overviews	**Implementation Planning Basics** This seven-minute clip discusses planning for checklist expansion. Planning and picking the right teams to start with is crucial to making the checklist work in your ORs.	To view this short overview: http://youtu.be/DAGxWE0a7BQ To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52934062&rKey=ebb3bb62fe0481eb&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_11_-_preparation_for_expansion_planning.pptx
	Accommodating Feedback This six-minute clip discusses the importance of having somebody available for questions and concerns when expanding the use of the checklist and how to use short surveys to collect feedback on how it is going. This clip also discusses the critical importance of fixing problems that are raised during the debriefing section. The most successful hospitals create systems to collect feedback collected during the debriefing and have a way of fixing the problem and following up with front line clinicians.	To view this short overview: http://youtu.be/ZEd7iGWtBmY To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52934062&rKey=ebb3bb62fe0481eb&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_11_-_preparation_for_expansion_planning.pptx
	Special Things to Keep in Mind When Planning Checklist Expansion in Small Hospitals This video clip explains how to plan your implementation in a small-sized hospital.	To view this short overview: http://youtu.be/I3Z0MGcqyu4 To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52934062&rKey=ebb3bb62fe0481eb&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_11_-_preparation_for_expansion_planning.pptx
Video Overviews	**Special Things to Keep in Mind When Planning Checklist Expansion in Medium to Large Hospitals** This video clip explains how to plan your implementation in a medium to large-sized hospital.	To view this short overview: http://youtu.be/H0tNTQsU8us To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52934062&rKey=ebb3bb62fe0481eb&act=pb To download the slides from this presentation:

		http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_11_-_preparation_for_expansion_planning.pptx
	Getting Your Checklist Ready for the Roll-Out This short video provides some tips and things for you think about before you print checklists for the roll-out	To view this short overview: **http://youtu.be/8eYLDx8WdfA** To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=52811927&rKey=047e27691b20474c&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_10_-_preparation_for_expansion_advertizing_the_checklist_web-ready.pptx

Step 6 – Action Items:

After reviewing the videos and documents in this section please complete the following action items.

1.   Finalize your hospital's checklist.

2.   Decide if the checklist will be used in poster or paper form in your ORs. If your hospital will be using posters, look into options for having them made.

3.   Advertise the checklist project in your hospital.

4.   Consider creating a checklist video with surgical teams at your hospital using the checklist. This is a great tool to teach teams how to use the checklist.

5.   Hold the large meetings that you scheduled at the beginning of this project.

6.   Prioritize surgical specialties for the roll-out using your knowledge of which surgeons will be most receptive to the checklist. Create a timeline for your hospital's expansion.

7.   Start implementing the checklist over the next week with the service that you think will be most willing to use the checklist.

8.   Set up a system to collect feedback from surgical teams about the checklist and how it is going.

9.   Decide how you will monitor checklist impact.

10.   Work with your checklist implementation team to develop a way to advertise anything that the checklist catches in your hospital. Consider talking to patients about the checklist and advertising the checklist in waiting rooms.

Step 7 – Sustaining Checklist Use

Congratulations, you have put the checklist into your operating rooms. Ensuring that the checklist is used appropriately over time is challenging. The following materials will provide you with an overview of some ways to ensure that checklist use is sustained in your operating rooms over time.

Video Overviews	**Revisiting Checklist Impact and Measurement** This is a seven-minute review of the best way to measure the impact that the checklist has in your operating rooms.	To view this short overview: http://youtu.be/e6SzD6I5tik To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=53538532&rKey=f672528fa27e8d94&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_16_-_measuring_the_checklist_and_feedback_-_web_ready.ppt
	Becoming a Checklist Coach This 10-minute clip is an overview of how to improve checklist performance through coaching in the operating room.	To view this short overview: http://youtu.be/yfCayGUDzYE To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=53300577&rKey=9e83c808015b8111&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_14_coaching_in_the_or.ppt
	Tips for Sustaining Checklist Use This six-minute clip shares tips and tricks for successfully sustaining the use of the checklist in your operating rooms.	To view this short overview: http://youtu.be/WBPbbwiYV90 To view this entire presentation: https://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=TC&rID=53762482&rKey=29df4fe4e07ff536&act=pb To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_18_final_call_-_web_ready.pptx
Video Overviews	**A Look Into The Future** This clip discusses barriers that hospitals face after they initially put the checklist into place.	To view this short overview: http://youtu.be/l-ia40tuhDI To view this entire presentation: http://harvardsph.webex.com/harvardsph/lsr.php?AT=pb&SP=EC&rID=50003912&rKey=b0aaa3459560a5f6%20 To download the slides from this presentation: http://www.safesurgery2015.org/uploads/1/0/9/0/1090835/call_16_-_are_you_where_you_want_to_be.ppt

Step 7 – Action Items:

 After reviewing the videos and documents in this section please complete the following action items.

1.	Identify individuals in your hospital who can serve as coaches in the operating room and have them observe and coach teams using the checklist.

2.	Never stop looking at how teams use the checklist. Continue to monitor checklist use and collecting feedback from surgical teams about how it is going and what could be improved.

3.	Consider having conversations with front-line staff, including physicians and ask them how it is going.

4.	Continue to update hospital leadership on checklist use.