BUNDLE UP: REDUCING THE RISK OF SURGICAL SITE INFECTIONS

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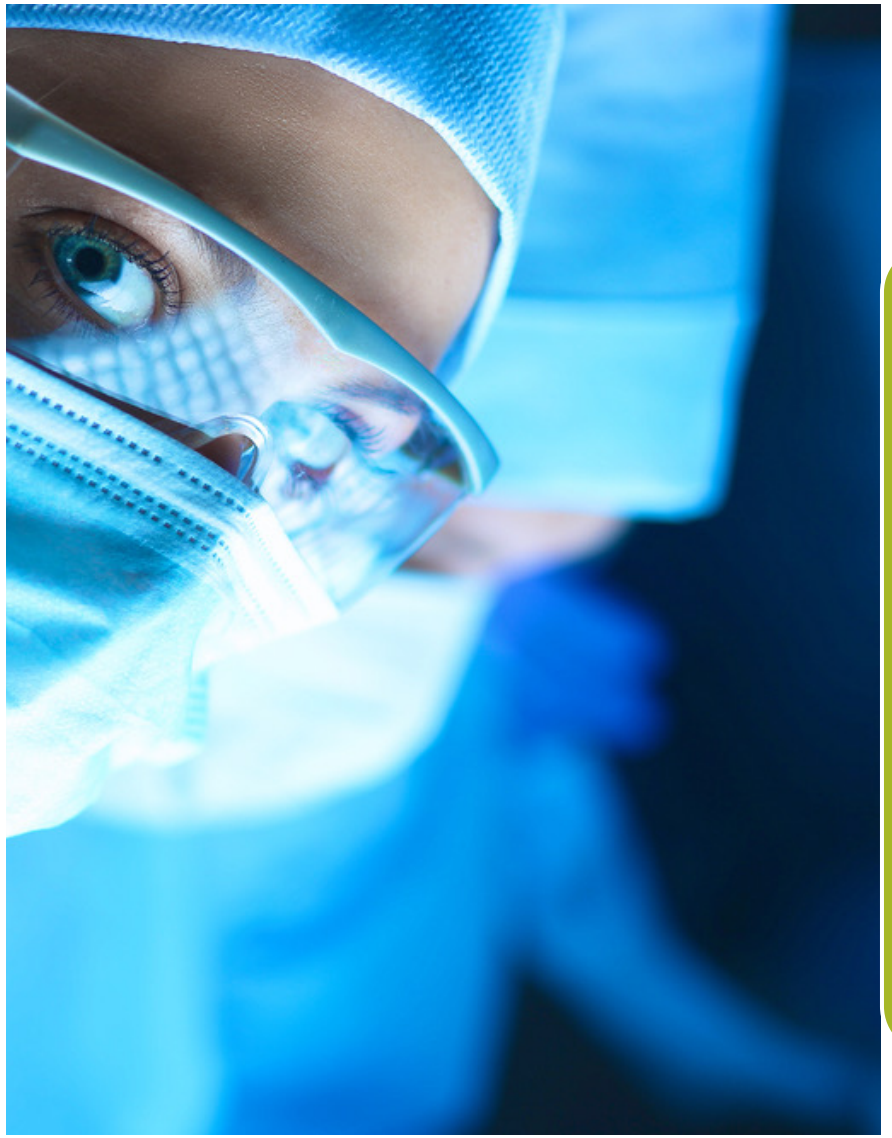
Presentation Disclaimer

I am a paid consultant for Molnlycke. The information presented herein is provided for educational and informational purposes It is for the attendees' general knowledge and is not a substitute for medical advice. The material provided herein is not comprehensive for all medical developments and may contain errors or omissions. If you need advice regarding a specific medical situation, please consult a medical professional.

Objectives

- Identify current trends in incidence, impact, cost, and regulations for surgical site infection (SSI).
- Describe the evidence-based recommendations for reducing the risk of surgical site infection.
- Illustrate the bundle approach for reducing risks of surgical complications at each stage of perioperative care



SSI Impact

48.3 M Procedures 16 M > age 65

Incidence: 160,000 – 300,000 yearly

25% of HAIs are SSI

Average $25,000 up to $90,000

US Costs

$3.5B to $10B

1. Ban KA, Minei JP, Laronga C, et al. American College of Surgeons and Surgical Infection Society: Surgical site infection guidelines, 2016 update. *J Am Coll Surg.* 2017;1:59-74. **2.** Shepard J, Ward W, Milstone A, Carlson T, Frederick J, Hadhazy E, Perl T. Financial impact of surgical site infections on hospitals: the hospital management perspective. *JAMA Surg*. 2013;148(10):907-914. **3.** Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Healthcare infection control practices advisory committee. Centers for Disease Control and Prevention guideline for the prevention of surgical site infection, 2017. eAppendix. *JAMA Surg.* Published online May 3, 2017. **4.** Stone PW. Changes in Medicare reimbursement for hospital-acquired conditions including infections. *Am J Infect Control.* 2009;37:17A-18A. **5.** Centers for Disease Control and Prevention. https://www.cdc.gov/nhsn/pdfs/pscmanual/9pscssicurrent.pdf. Accessed 07/06/20.

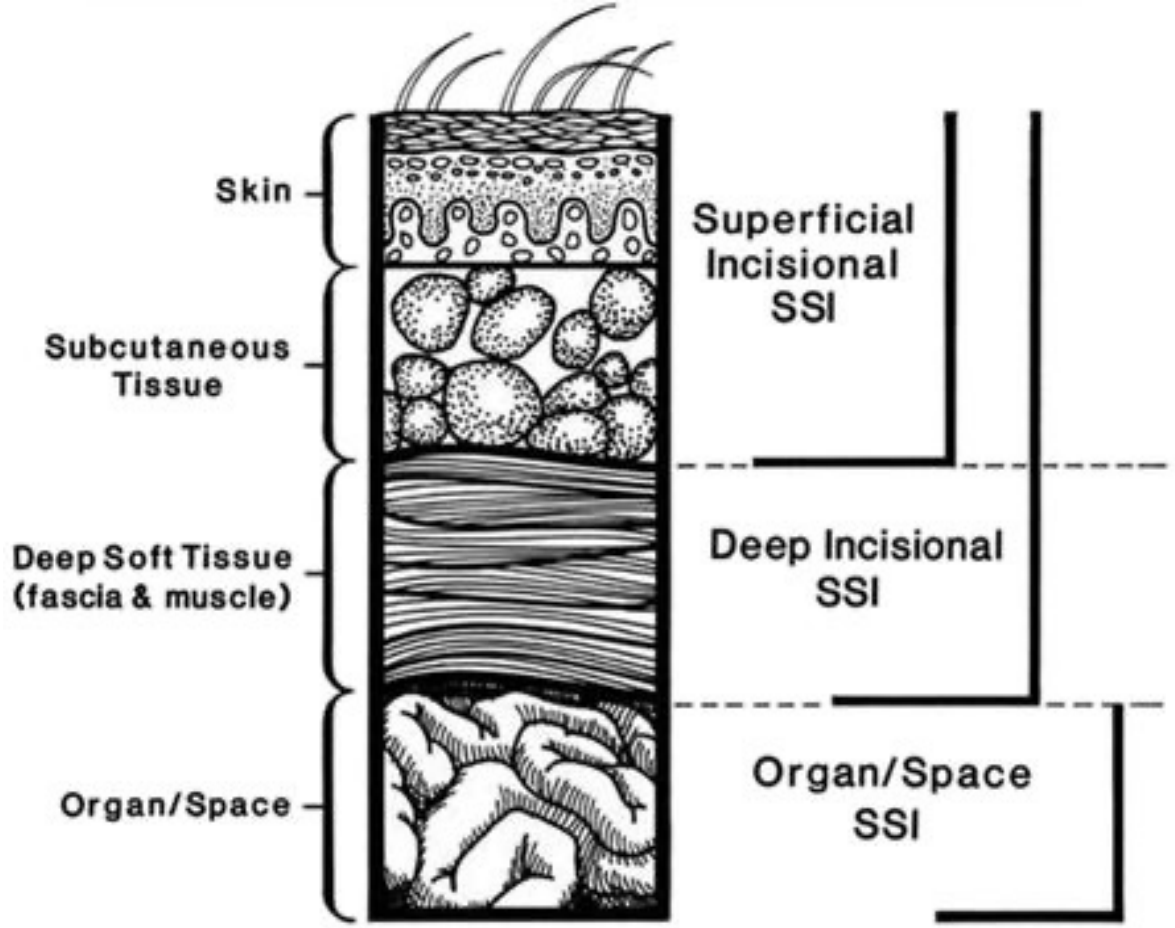
SURGICAL SITE INFECTION

50-60% ARE PREVENTABLE

Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017. *JAMA Surg.* 2017;152(8):784–791. doi:10.1001/jamasurg.2017.0904 Available at https://jamanetwork.com/journals/jamasurgery/fullarticle/2623725

Types of Surgical Site Infection

- Superficial Incisional
  - *Involving only skin or subcutaneous tissue*
- Deep Incisional
  - *Involving fascia and/or muscle layers*
- Organ/Space SSI
  - *Accounts for 1/3 of SSIs*
- Surveillance
  - 30 days after surgery
  - 90 days after procedure
  - Implants 1 year
- Standardized Infection Rates (SIR)



Russo V, NHSN Surgical Site Infection Surveillance in 2019. Centers for Disease Control and Prevention. Available at https://www.cdc.gov/nhsn/pdfs/training/2019/ssi-508.pdf Centers for Disease Control and Prevention. Surgical Site Infection (SSI) Event Available at: https://www.cdc.gov/nhsn/pdfs/pscmanual/9pscssicurrent.pdf. Accessed 07/06/20.

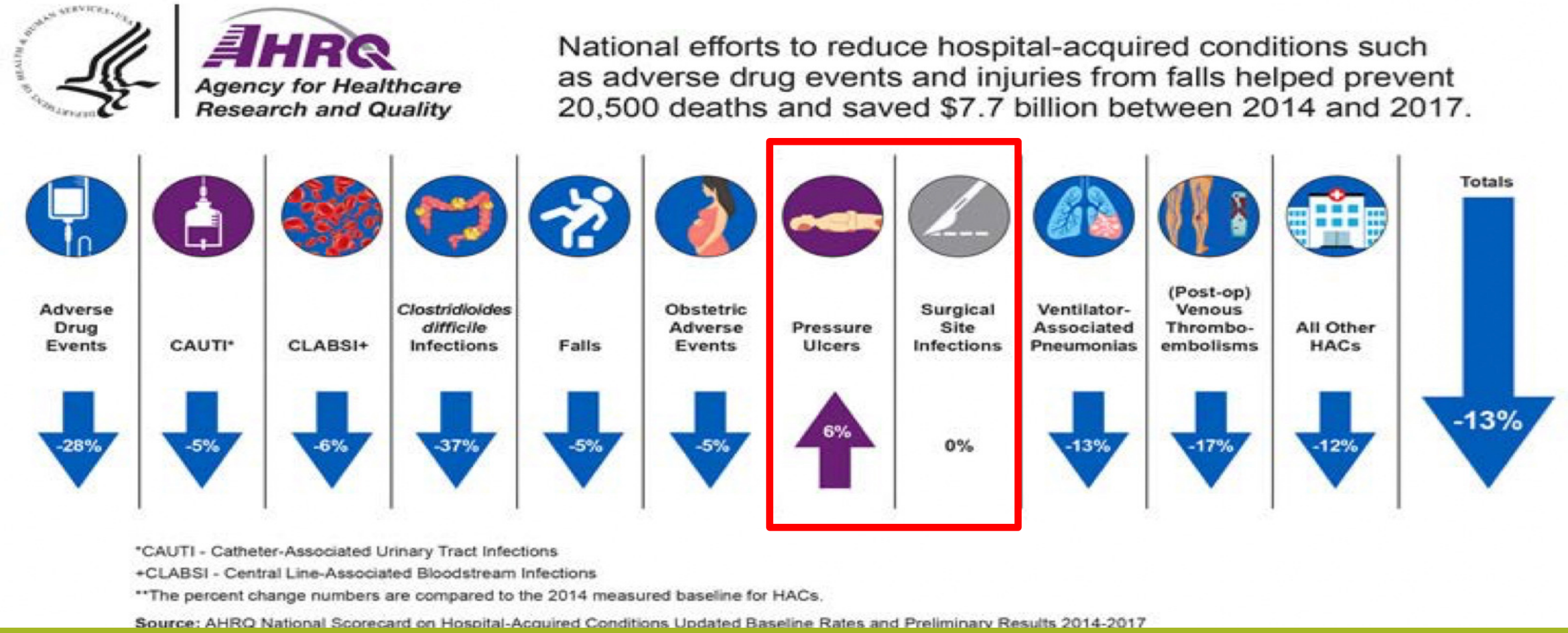
2020 Quality Metrics

- SCIP - Retired
- AHRQ National Scorecard on Hospital Acquired Conditions (HAC)
  - Surgical Site Infection for 17 procedures w/CDC SCIP =5 data 80,157 cases in 5,999,045 sample.
  - Obstetric Adverse Event
  - Pressure Ulcer/Pressure Injuries
  - CLABSI
  - CAUTI
  - Ambulatory Surgery Centers (ASC)
    - Normothermia
- AHRQ PSI 90 v2020 (3,6,8-15)
  - Pressure Ulcer Rate*
  - Postoperative Sepsis*
  - Postoperative Respiratory Failure Rate*
  - Postoperative Wound Dehiscence
  - Perioperative Hemorrhage, PE or DVT
  - Postoperative VTE
- AHRQ Quality Indicators
  - Mortality Rates AAA, CABG, Carotid Endarterectomy, ect

* Indicates higher weighted component

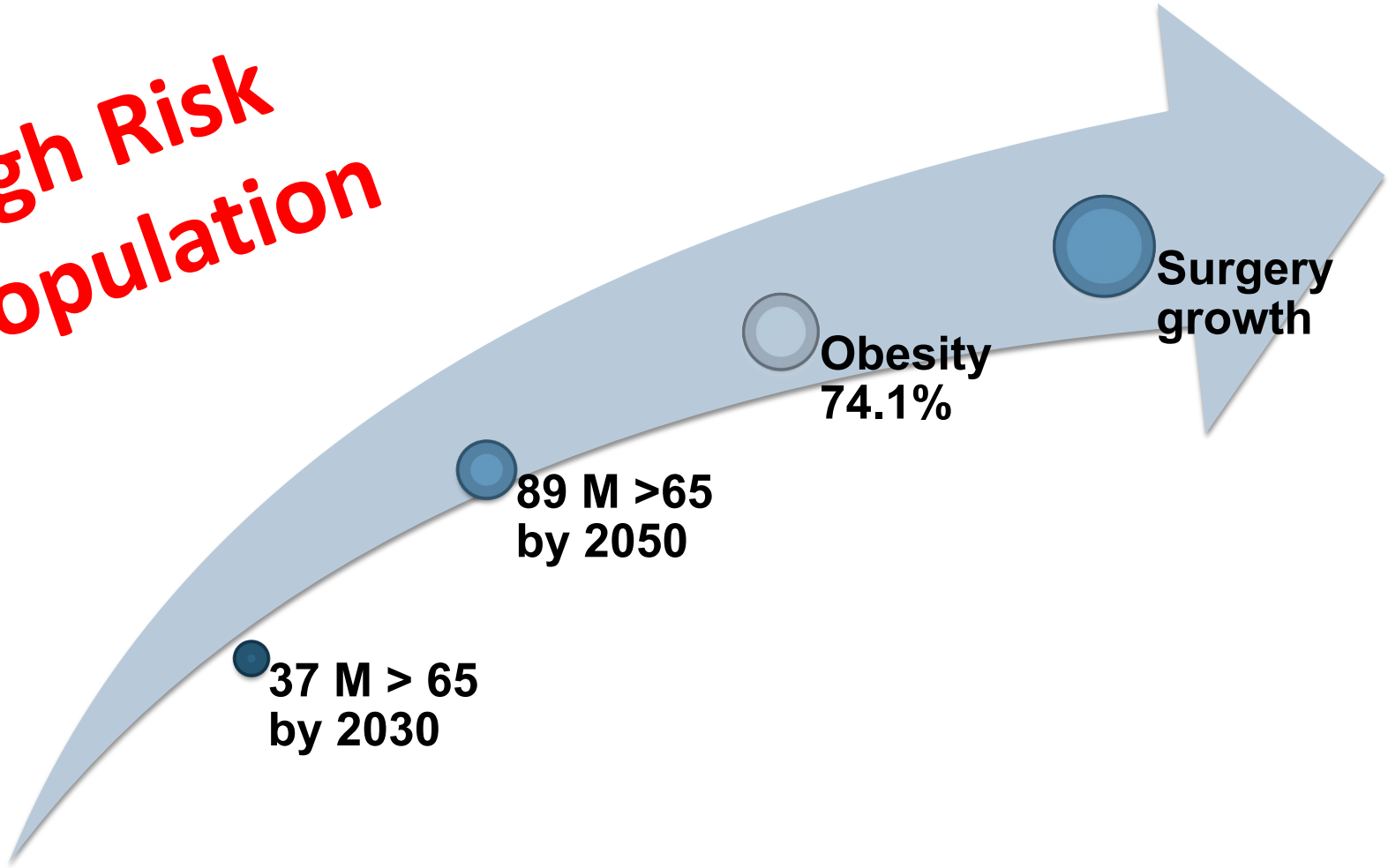
https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/pfp/hacreport-2019.pdf
https://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V2020/IQI_Composite_Development.pdf

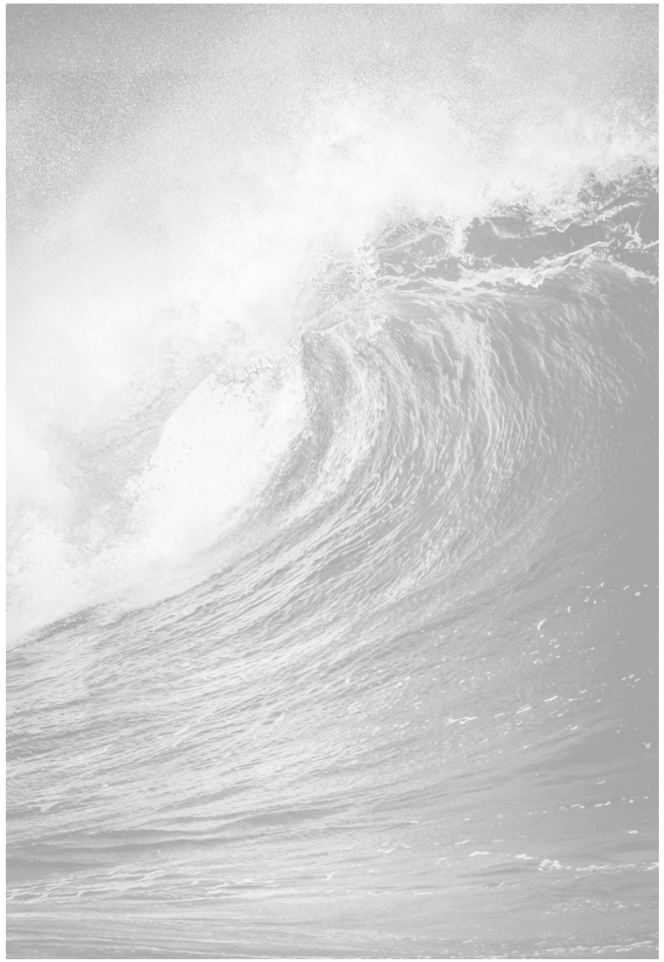
Declines in Hospital-Acquired Conditions



Silver Tsunami

High Risk Population





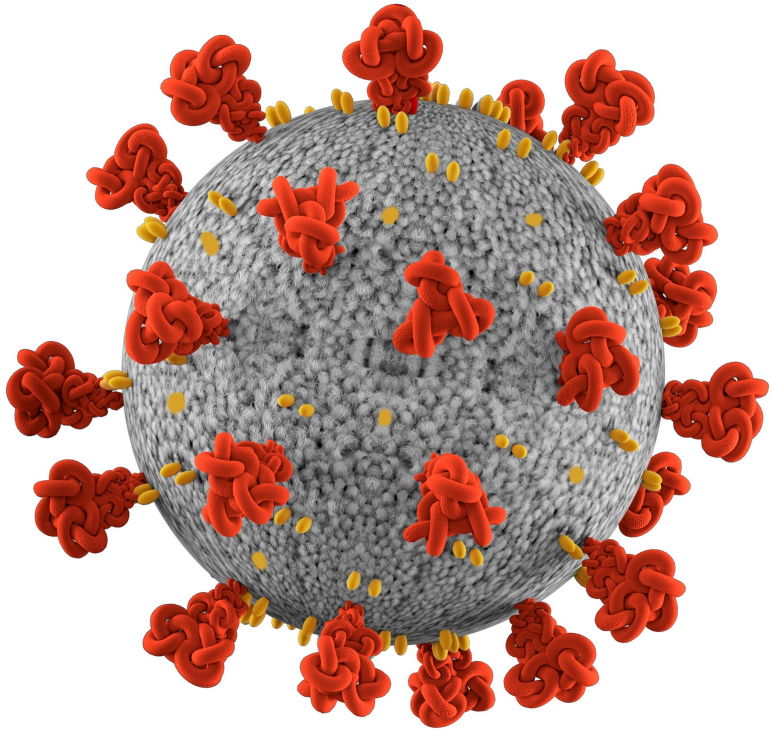
1. American Geriatric Society. Optimal Perioperative Management of the Geriatric Patient: Best Practice Guideline from ACS NSQIP ®/ American Geriatric Society 2015. https://www.facs.org/~/media/files/quality%20programs/geriatric/acs%20nsqip%20geriatric%202016%20guidelines.ashx Accessed December 31, 2018.
2. NCHS Data Brief Hospitalization for Total Hip Replacement Among Inpatients Age 45 and Over: United States, 2000-2010 Retrieved 12-07-2016 from http://www.cdc.gov/nchs/data/databriefs/db186.pdf
3. Dall TM, Gallo PD, Chakrabarti R, West T, Semilla AP, Storm MV. An aging population and growing disease burden will require a large and specialized health care workforce by 2025. *Health Aff. (Millwood).* Nov 2013;32(11):2013-2020.

Prosthetic Joint Arthroplasty

- By 2030:
  - 174% growth Total Hip Arthroplasty (THA)
  - 673% growth Total Knee Arthroplasty(TKA)
  - Surgical Site Infection (SSI) is leading cause of revisions in TKA and 3rd in THA
  - Infection will increase by 221,500 cases
  - Total Joint revision $1.62 Billion

Kurtz S, Ong K, Lau E, Mowat F, Halpern M. Projections of primary and revision hip and knee arthroplasty in the United States from 2005 to 2030. *J Bone Joint Surg Am*. 2007;89(4):780-785

Covid-19 (Coronavirus)



- Challenges
- Elective Surgery
- Infection Prevention and Control
- Standardize Process
- PPE

Covid-19(Coronavirus) AORN toolkit https://www.aorn.org/about-aorn/aorn-newsroom/covid-19-coronavirus
ACS, ASA, AORN and AHA Joint Statement: Roadmap for Resuming Elective Surgery after COVID-19 Pandemic. Available at: https://www.aorn.org/guidelines/aorn-support/roadmap-for-resuming-elective-surgery-after-covid-19

Set the Vision

How do we provide safe care across the continuum?

Strategy

Keys to Success

- Administration
- Bundles and Toolkits
- Culture Change, and Communication,
- Documentation and Artificial Intelligence
- Education and Competency
  (Knowledge, Skills and Attitude)

Lyder CH, Ayello EA October 2009 annual Checkup. The CMS pressure ulcer present on admission indicator. Advances in skin and wound care 22 (10):476-84

Gap Analysis

Current State VS Desired State

- QI Data, SIRs, bundle compliance
- Root Cause Analysis and Action (RCA^2)
- Key Drivers Process, timing, environment, teamwork

Centers for Disease Control (CDC) The NHSN Standardized Infection Ratio (SIR) 2019 Available at https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf

Charles R, Hood B, DeRosier J, et al. Root cause analysis and actions for the prevention of medical errors: Quality improvement and resident education. *Orthopedics.* 2017;40(4):e628-e635.

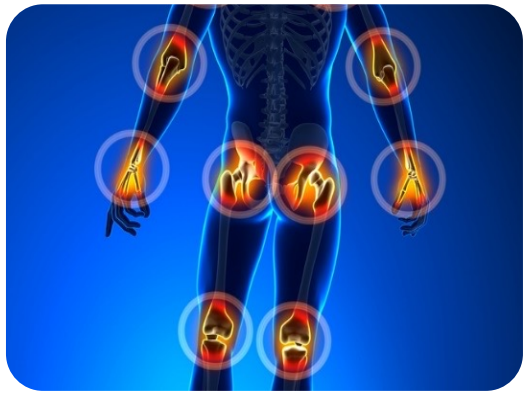
National Patient Safety Foundation. RCA2: Improving Root Cause Analyses and Actions to Prevent Harm. https://www.ashp.org/-/media/assets/policy-guidelines/docs/endorsed-documents/endorsed-documents-improving-root-cause-analyses-actions-prevent-harm.ashx?la=en&hash=65A4C5C79395296F8CA816716CCB9B7AC20C7C6E Accessed December 31, 2018.

Scott SM, Bennett J. Avoiding pressure injuries with root cause analysis and action. *AORN J.* 2018:108(5):15-16.

“IS THE JUICE WORTH THE SQUEEZE?”

- Unknown, mid 1900s

SSI Continuum of Care



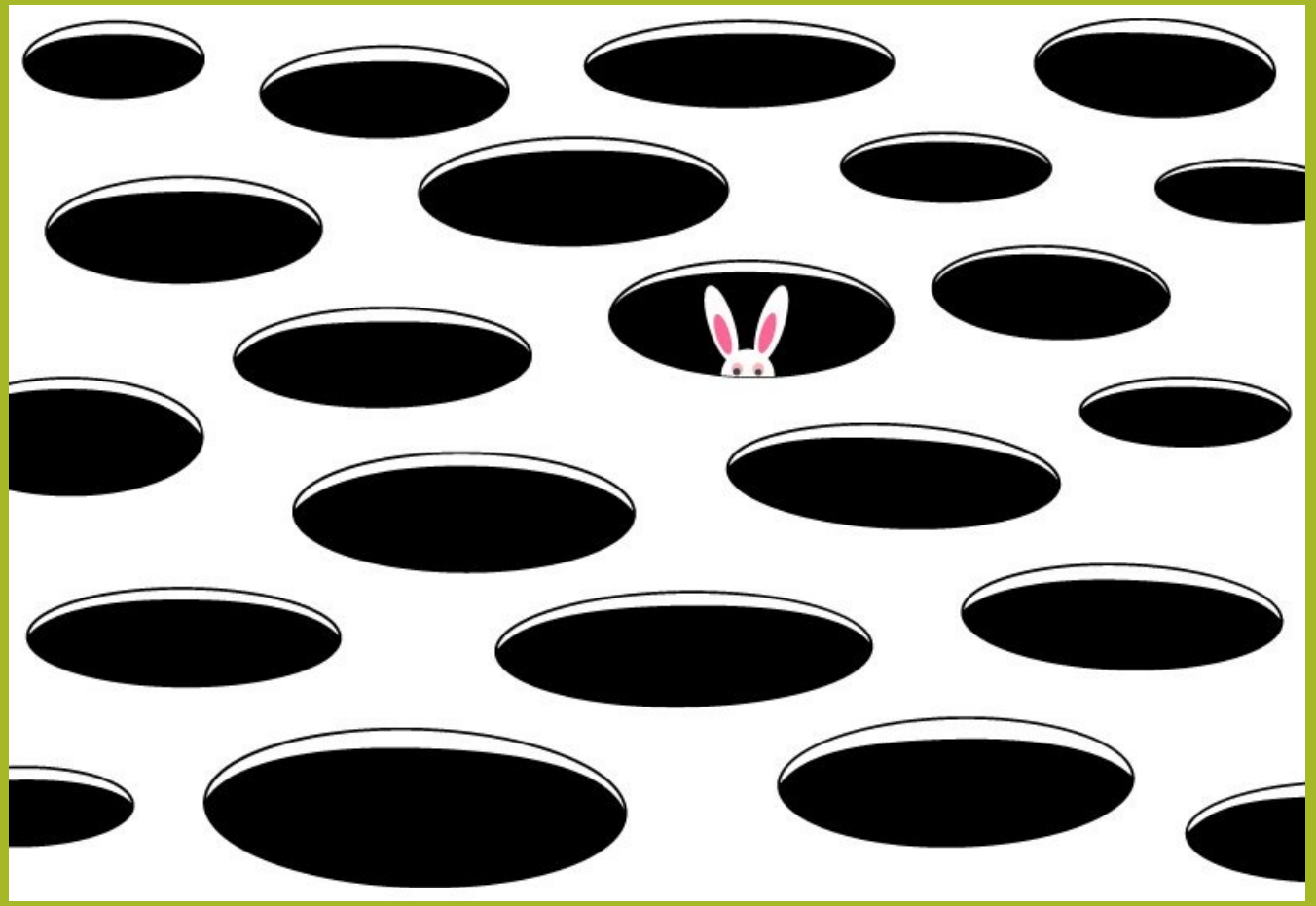
- Preoperative

- Intraoperative

- Postoperative

- Home

CONTRIBUTING FACTORS



Pathogenesis and Risk Factors for SSI

Patient

Risk Factors

Organism

Aerobic

Anaerobic

Environmental

Surgical Team

Instruments

Traffic

Truscott W. Webcast: Against Biofilm: Increasing Demand for Implants SPD Impact on Patient Outcome. July 31, 2020

Biofilm

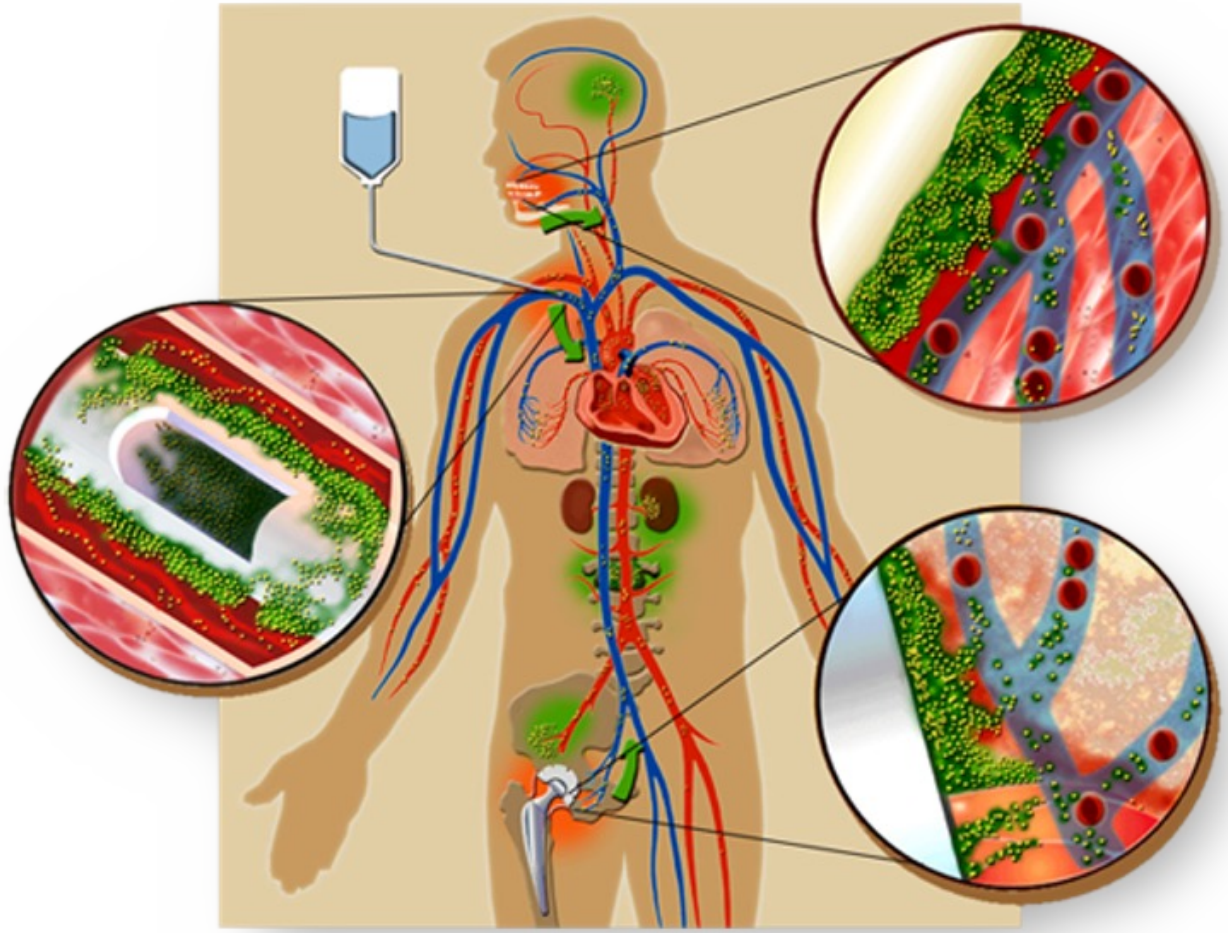


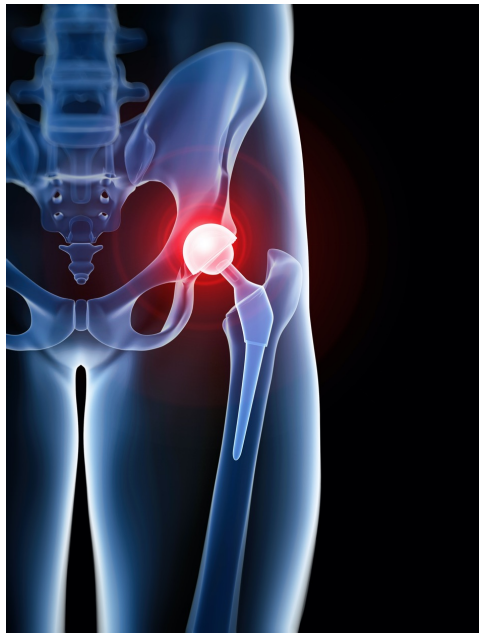
Photo used with permission Dr. Wava Truscott

- Dust / dirt / hair
- Lint / fibers
- Particles from poorly cleaned re-useable instruments
- Poor air filtration
- Medical devices, implants, stents, catheters and tubes.

Tinker MA, Teicher I, Burdman D. Cellulose Granulomas and Their Relationship to Intestinal Obstruction. The American Journal of Surgery (1977). Vol. 133, 134-139.

Consequences of Biofilm in Surgery

- Surgical Site Infections
- Inflammation, Granulomas, Adhesions
- Chronic wounds, Osteomyelitis, Necrotizing fasciitis
- CAUTI, CLABSI, VAE
- Device implant infections and failure i.e. heart valves



Truscott W. Webcast: Against Biofilm: Increasing Demand for Implants SPD Impact on Patient Outcome. July 31, 2020

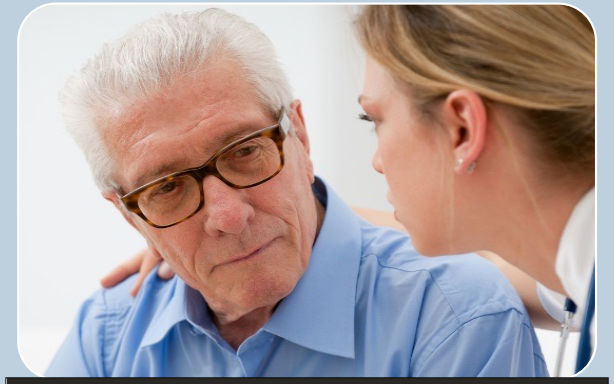
PREVENTION

Guidelines

Bundles

QI Programs

Preventing Surgical Site Infections



Pre-operative

Intra-operative

Post-operative

CDC Core Elements of SSI Prevention Bundles

- **Preoperative bathing***
- **Antimicrobial Prophylaxis***
- **S aureus Screening & Decolonization**
- **Patient Skin Antisepsis**
- **Normothermia***
- **Glycemic Control***
- **Hair Removal**
- **Sterile technique**
- **Oxygenation***
- **Wound Dressings**
  - **Advanced**
  - **NPWT**
- **Postoperative Wound Education**

*Strong Recommendations from CDC-HICPAC SSI Guideline.

Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017. *JAMA Surg.* 2017;152(8):784–791. doi:10.1001/jamasurg.2017.0904 Available at https://www.cdc.gov/infectioncontrol/guidelines/ssi/Fields AC, Pradarelli JC, Itani KMF. Preventing Surgical Site Infections: Looking Beyond the Current Guidelines. *JAMA.* 2020;323(11):1087–1088. doi:10.1001/jama.2019.20830

Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017

1. Pre-op bathing
2. Antimicrobial Prophylaxis (AP) when indicated, correctly timed
3. C Section (AP before skin incision)

Preoperative

Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017. *JAMA Surg.* 2017;152(8):784–791. doi:10.1001/jamasurg.2017.0904

IHI Project JOINTS 2010 -2013

NEW Evidence-based infection control practices

- Nasal screening and decolonization
- Chlorhexidine bathing 3 or more times preoperatively
- Alcohol-containing antiseptic use to prepare skin the OR.

Hip Arthroplasty

- 15% lower odds of SSI in Intervention group p=0.01 125,070 in 405 Hospitals
- Control 131,787 in 525 hospitals

Knee Arthroplasty

- 12% lower odds of SSI in intervention group p=0.04] 170,663 in 397 hospitals
- Control 196,064 in 518 hospitals

Schneider, E.C., Sorbero, M.E., Haas, A. *et al.* Does a quality improvement campaign accelerate take-up of new evidence? A ten-state cluster-randomized controlled trial of the IHI's Project JOINTS. *Implementation Sci* **12,** 51 (2017). https://doi.org/10.1186/s13012-017-0579-7

Calderwood MS, Yokoe DS, Murphy MV, et al. Effectiveness of a multistate quality improvement campaign in reducing risk of surgical site infections following hip and knee arthroplasty. BMJ Quality and Safety. 2019;28(5):374-381

Shahe A, Parvizi J. Prevention of periprosthetic joint infection. *Arch Bone Jt Surg.* 2015:3(2):72.81.

https://rdcu.be/b5Y2q

7S Bundle to SSI Prevention

- Safe OR Practices
- Screen
- Shower
- Skin Prep
- Solution
- Sutures
- Skin incisional protection

Spencer, M 7S Bundle Surgical Site Infection Prevention Working toward zero. Available at http://www.7sbundle.com/

Graves PB, Spencer M. Surgical Stewardship: A New Frontier in Preventing Surgical Site Infections. Operating Room Imperatives *Healthcare Hygiene Magazine* March/April 2020. Available at www.healthcarehygienemagazine.com.

PRE-OPERATIVE

Safe Surgical Practices

Screen | Risk Factors and MRSA MSSA

Shower CHG Shower or bath night before and morning of surgery

#1 Safe Operating Room Practices

Aseptic Practices	Sterilization and Disinfection	Patient and Worker Safety
Patient Skin Antisepsis	Flexible Endoscopes	Sharps Safety
Environmental Cleaning	High Level Disinfection	Transmissible Infections
Hand Hygiene	Instrument Cleaning	Environment of Care
Surgical Attire	Packaging Systems	
Sterile Technique	Sterilization	

Source: AORN

AORN, Guidelines for Perioperative Practice, ed. R. Connor. 2020, Denver, CO: AORN, Inc.
Spruce L. Back to basics: Sterile Technique. *AORN J* 2017;105(5):478-485.
Graves PB, Spencer M. Surgical Stewardship: A New Frontier in Preventing Surgical Site Infections. Operating Room Imperatives *Healthcare Hygiene Magazine* March/April 2020. Available at www.healthcarehygienemagazine.com.

#2 and #3 Pre-operative Preparation

S aureus Screening & Decolonization

Chlorhexidine gluconate (CHG) Showers x 2 before surgery

IMPLANTS Bathe or shower with (CHG) soap x 3 before surgery

Recommendation supported by CDC, ACS, AORN, WHO, and SHEA

INTRAOPERATIVE

Safe OR Practices

Skin Prep | Alcohol-based antiseptics

Solution CHG irrigant

Sutures | Antimicrobial impregnated

Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017

- Skin preparation in the OR with alcohol-based agent unless contraindicated
- Clean and Clean-Contaminated cases do not administer additional AP doses after the surgical incision is closed even in the presence of a drain/
- Do not apply topical antimicrobial agents to surgical incision
- Glycemic control target <200 mg/dl
- Increased Oxygen
- Blood transfusion should not be withheld

Intraoperative

Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017. *JAMA Surg.* 2017;152(8):784–791. doi:10.1001/jamasurg.2017.0904

Sterile Technique Competencies

- Don surgical attire after performing surgical hand scrub
- Surgical helmet systems (Under investigation)
- Maintain sterile field properly
- Opening sterile Items
- Breaks in sterile technique called out

Double Gloving during invasive procedures

7S Bundle to SSI Prevention

- Safe OR Practices
- Screen
- Shower
- Skin Prep
- Sutures
- Solution
- Skin incisional protection

Spencer, M 7S Bundle Surgical Site Infection Prevention Working toward zero. Available at http://www.7sbundle.com/

Graves PB, Spencer M. Surgical Stewardship: A New Frontier in Preventing Surgical Site Infections. Operating Room Imperatives *Healthcare Hygiene Magazine* March/April 2020. Available at www.healthcarehygienemagazine.com.

#4 Skin Prep, #5 Sutures, #6 Solution

Skin Prep Dual Combined Antiseptic

- CHG + Alcohol
- Iodophor + Alcohol

Antimicrobial Sutures

- Consider Use

Intraoperative

"Solution to pollution is dilution"

- NEW CHG Surgical Irrigant

Edmiston C, et al. Reducing the risk of surgical site infections: Does chlorhexidine gluconate provide a risk reduction benefit? American Journal of Infection Control 41 (2013) S49-S55
Graves P, Spencer M. Surgical Stewardship: A New Frontier in Preventing Surgical Site Infection. Healthcare Hygiene Magazine March/April 2020Wang Z et al: Systematic review and meta analysis of triclosan coated sutures for the reduction of SSI. British Journal of Surgery, 2013

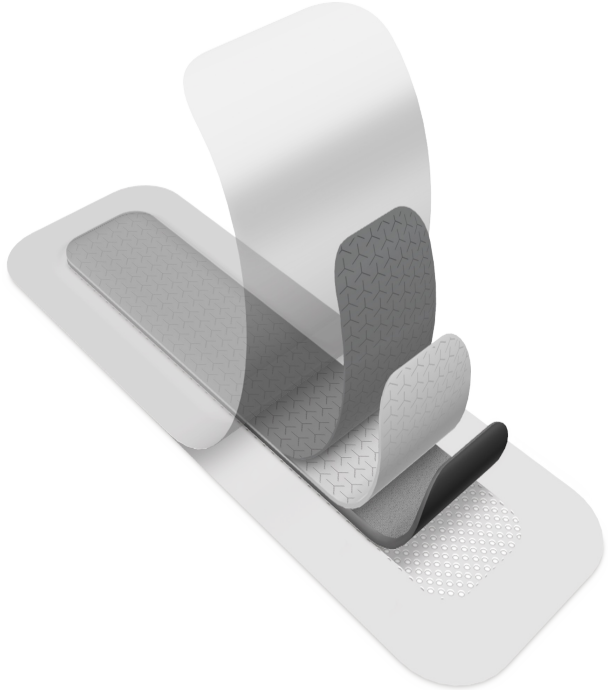
POST-OPERATIVE

Skin incisional protection | Antimicrobial dressing

Undisturbed Wound Healing

Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017

- Waterproof dressing 24-48 hrs post surgery
- FDA Clearance NPWT



Postoperative

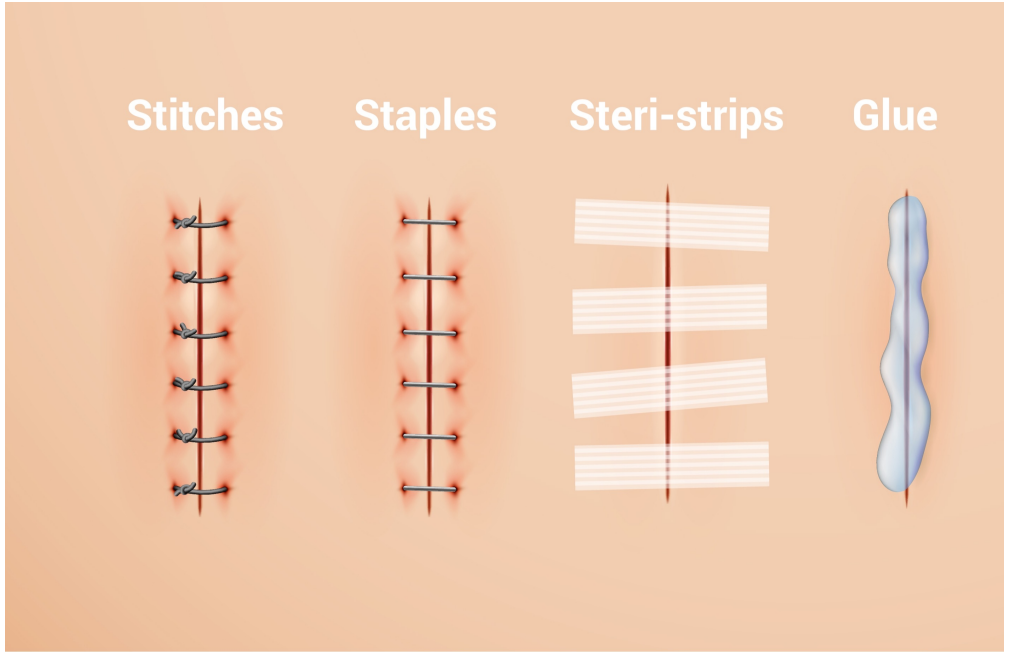
Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017. *JAMA Surg.* 2017;152(8):784–791. doi:10.1001/jamasurg.2017.0904
Fields AC, Pradarelli JC, Itani KMF. Preventing Surgical Site Infections: Looking Beyond the Current Guidelines. *JAMA.* 2020;323(11):1087–1088. doi:10.1001/jama.2019.20830

Surgical Wound Healing

Hemostasis → Inflammation → Angiogenesis → Epithelialization → Remodeling

Bryant, RA, Nix DP. Nix. Whitney JA Surgical Wounds and Incision Care. In: *Acute & Chronic Wounds: Current Management Concepts*. St. Louis, MO: Elsevier; 2016:499-506.

Primary Intention Type of Wound Closures



- Stitches
- Staples
- Steri-strips
- Topical skin adhesive (TSA)
- After 48-72 hours patient may shower if suture-line closed with no drainage.

Bryant, RA, Nix DP. Nix. Whitney JA Surgical Wounds and Incision Care. In: *Acute & Chronic Wounds: Current Management Concepts*. St. Louis, MO: Elsevier; 2016:499-506.

Primary Dressings

Goal: Protection from pathogens, and promote undisturbed wound healing

Passive VS Active

Gauze	Advanced Wound Dressings

- Creates a moist healing environment
- Fluid handling capacity increase wear time
- Impermeable to microorganism
- Reduce risk of contamination
- Protect from trauma
- Atraumatic removal
- Thermal insulation
- Less Pain = Improved Mobility
- ERAS Protocols early mobility

Ovington LG. Hanging wet-to-dry dressings out to dry...reprinted with permission from Lippincott Williams & Wilkins: Ovington LG. Hanging wet-to-dry dressings out to dry. Home Healthcare Nurse 2001;19(8): 477-84. *Advances in Skin & Wound Care*. 2002;15(2 part 1):79-86. https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=ccm&AN=106986197&site=eds-live. Accessed July 24, 2020.
Bates-Jensen B, Shultz G. Ovington L. Management of exudate, biofilm, and infection. In Sussman C. Bastes-Jenson B, eds. Wound Care a Collaborative Practice Manual for Health Professionals Baltimore, MD: Wolters Kluwer LWW;2013:460
Sharma, G, Lee SW Atanacio O, Parvizi J, Kim TK. In search of the optimal wound dressing material following total hip and knee arthroplasty: a systematic review and meta-analysis. International Orthopaedics 2017;41:1295-1305.

Standard, Advanced Dressings, & NPWT

Cochrane review found no evidence to suggest that one dressing type was better than any other for the prevention of SSI. *Drumville, 2016*

Advanced dressings do not significantly reduce SSI rates compared to standard wound dressings. *WHO*

Silver nylon reduced SSI in Colon and Rectal Surgery *Krieger*

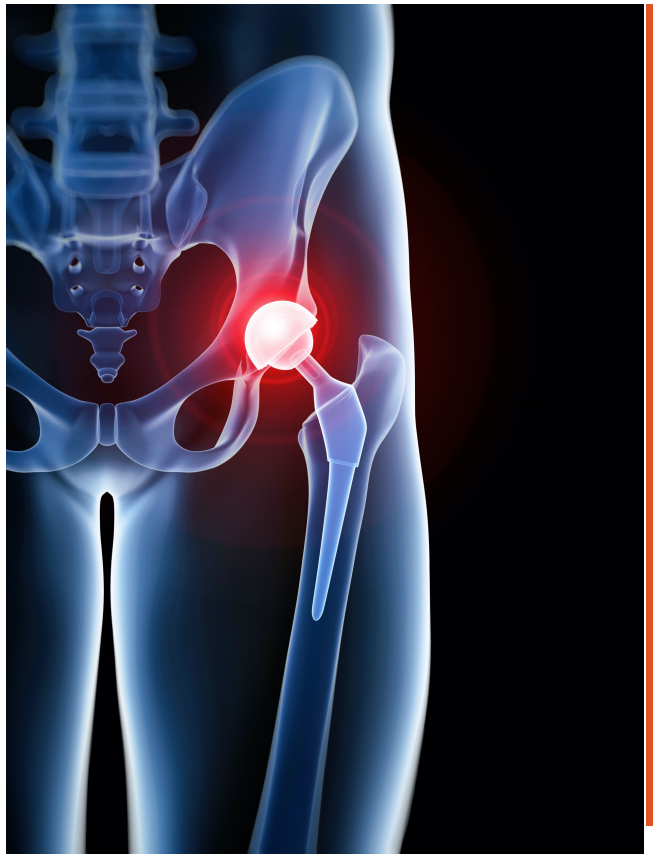
Incisional NPWT VS Standard dressing for deep SSI in trauma. No difference. WHIST Randomized Clinical Trial:

Dumville JC, Gray TA, Walter CJ, Sharp CA, Page T. Dressings for the prevention of surgical site infection. *Cochrane Database Syst Rev*. 2014;(9):CD003091. Published 2014 Sep 1. doi:10.1002/14651858.CD003091.pub3

Allegranzi B, Zayed B, Bischoff P, Kubilay NZ, de Jonge S, de Vries F, et al. New WHO recommendations on intraoperative and postoperative measures for surgical site infection prevention: an evidence-based global perspective. Lancet Infectious Diseases 2016;S1473-3099:30402-9 [Epub ahead of print]

Krieger BR, Davis DM, Sanchez JE, et al. The use of silver nylon in preventing surgical site infections following colon and rectal surgery. Dis Colon Rectum. 2011;54(8):1014-1019.

Costa M, Achten J, Knight R et al. Effect of Incisional Negative Pressure Wound Therapy vs Standard Wound Dressing on Deep Surgical Site Infection After Surgery for Lower Limb Fractures Associated With Major Trauma: The WHIST Randomized Clinical Trial. *JAMA: Journal of the American Medical Association*. 2020;323(6):519-526. doi:10.1001/jama.2020.0059



Advanced Dressings

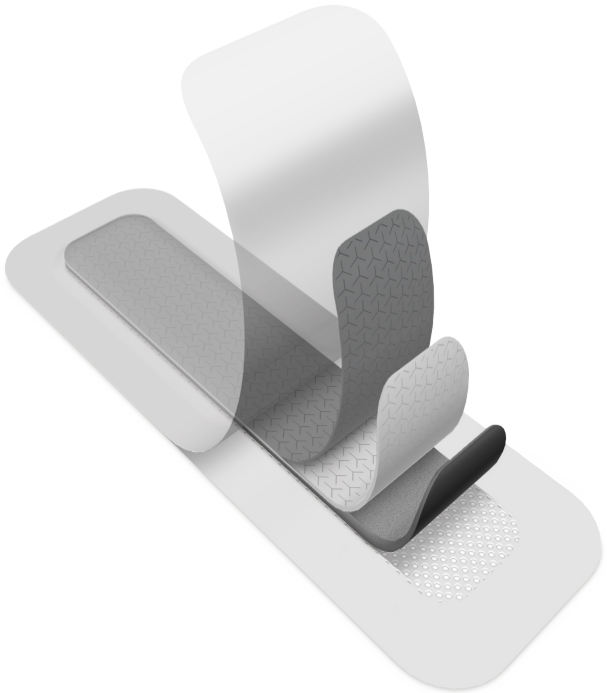
Systematic Review and Meta-Analysis Total Hip and Knee Arthroplasty.

- **Advanced wound dressings have fewer complications and better fluid handling capacity.**
  Sharma et al 2017.

Sharma G, Lee SW, Atanacio O, Parvizi J, Kim TK. In search of the optimal wound dressing material following total hip and knee arthroplasty: a systematic review and meta-analysis. *Int Orthop*. 2017;41(7):1295-1305. doi:10.1007/s00264-017-3484-4

Antimicrobial Silicone Foam Post-op Dressings

Bundle + Silver dressings



QI Studies

C-Section

- 5 day wear time
- 5301 pts SSI 4% to 0.94%
- $1.82 M cost avoidance

CABG

- Zero deep sternal wound infections for 30 mo.
- $600,000

Underhill J, Johnson C, and Rhodes K. Decreasing Cesarean Section Surgical Site Infection Rates Using Self-Adherent Antimicrobial Soft Silicone Foam Dressing. Poster Presentation Spring SAWC 2017 Conference San Diego, CA

Kles CL, Murrah CP, Smith K, Baugus-Wellmeier E, Hurry T, Morris C. Achieving and Sustaining Zero Preventing Surgical Site Infection after CABG with Saphenous Vein Harvest Site through Implementation of a Staff-Driven Quality Improvement Process. *Dimen Crit Care* 2015;34(5):265-272.

Johnson, Megan, Kim, Sharon, Langstraat, Carrie, et al. Using Bundled Interventions to Reduce Surgical Site Infection After Major Gynecologic Cancer Surgery. Obstet Gynecol. 2016;127(6):1135-1144. doi:10.1097/AOG.0000000000001449.

QUALITY IMPROVEMENT

Tracers

RCA and Action Plan

High Reliability Organizations

- ✓Leadership's commitment to the ultimate goal of zero patient harm
- ✓Incorporation of all the principles and practices of a safety culture throughout the organization
- ✓The widespread adoption and deployment of the most effective process improvement tools and methods.

Managing the Unexpected by Karl E Weick & Kathleen M Sutcliffe. https://www.virginiamasoninstitute.org/organizational-transformation/
Pronovost, P. Creating high reliability in Health Care Organizations Health Serv Res Aug, Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1955341/

SSI Prevention Tracer

Pre-op

Intra-op

Post-op

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Pre-op Tracer

- Provide SSI prevention education to patient and or caregiver
- Reduce HgA1c levels
- Provide weight loss, diet modification and smoking cessation education and referrals
- Provide pre-operating bathing instructions
- Perform decolonization of + nasal carriers of *Staphyloccoccus aureus*.
- Use clippers for hair removal if necessary outside of operative suite.

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Intra-op Tracer

- Environmental controls
  - Temperature, humidity, and pressure
- Surgical attire
- Strict surgical hand antisepsis
- Antibiotic prophylaxis
- Skin antisepsis agent should contain alcohol and should dry completely.
- Sterility of surgical instruments
- Re-administer antibiotic prophylaxis
- Tissue oxygenation

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Intra-op Tracer (Continued)

- Maintain normothermia
- Maintain sterile field
- Limit OR traffic
- Preclean surgical instrumentation at point of use
- Perform strict cleaning and disinfection of the perioperative environment.
- Sterile Processing department competencies and process.
- Monitor OR equipment and table pads for tears, rust, and wear.

Padgette P. Wood B. Conducting a Surgical Site Infection Prevention Tracer, *AORN J.* 2018;107(5):580-590
ECRI Institute. Top 10 Health Technology Hazards for 2019 Executive Brief. Available at https://www.ecri.org/top-ten-tech-hazards

Post-op Tracer

- Provide SSI prevention education to patients and/or caregiver
- Provide weight loss, diet modification and smoking cessation education and referrals
- Provide post-operating bathing instructions
- Wound Care
- Sign of infection

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Root Cause and Analysis & Action (RCA2)

What happened?

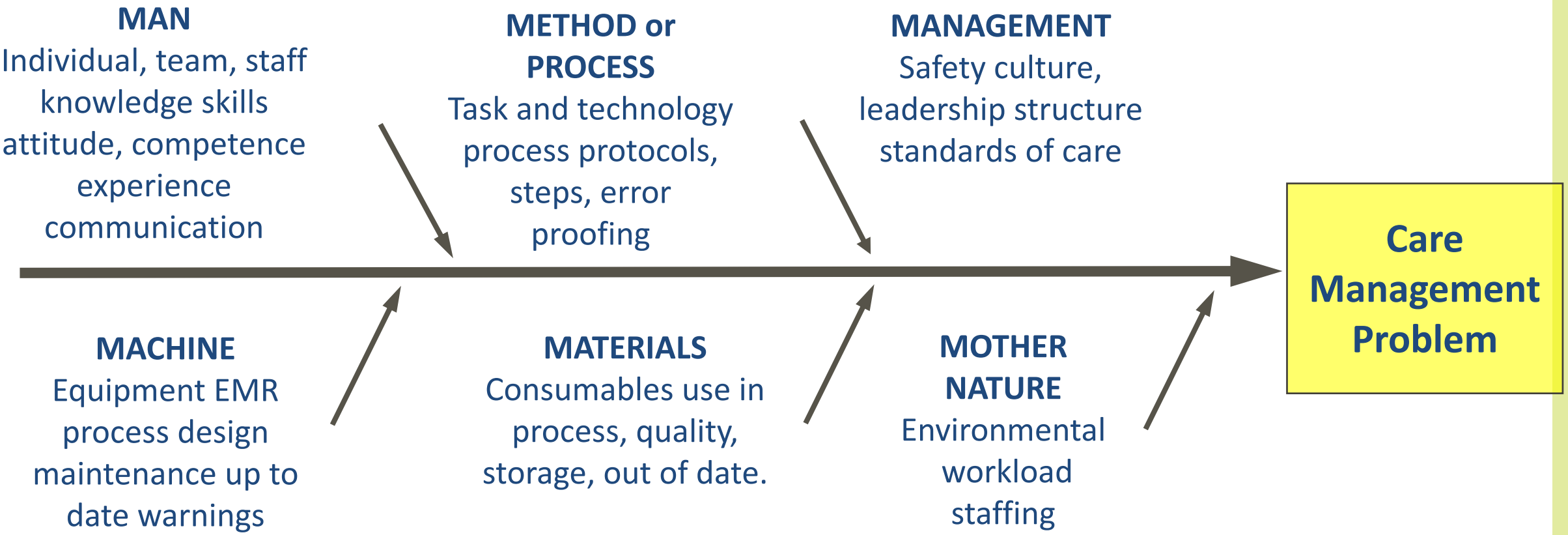
Why did it happen?

How to prevent it from happening again?

Focus on the "how" and the "why" ? not on the "who"

Scott SM, Bennett J. Avoiding pressure injuries with root cause analysis and action. *AORN J.* 2018:108(5):15-16.

Cause and Effect Diagram "FISHBONE" or THE 6Ms of Six Sigma



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Key Drivers: SSI Bundles

Mayo Clinic; Hospital Corporation of America (HCA); Michigan Surgical Quality Collaborative (MSQC)

- Guideline implementation Plus:
- SCIP compliance with antibiotics
- Patient hand hygiene
- Patient shower with 4% CHG after dressing removal
- Standardized wound care
- DC pt. with 4 oz bottle of 4% CHG for daily post-op bathing

Association for Professionals in Infection Control and Epidemiology. APIC Implementation Guides: **APIC Implementation Guide: Infection Preventionist's Guide to the OR** APIC website. Available at: **https://www.APIC.org**. Accessed August 05, 2020.
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Conclusion

“I did then what I knew how to do. Now that I know better, I do better.”
— **Maya Angelou**

Thank You Very Much!

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