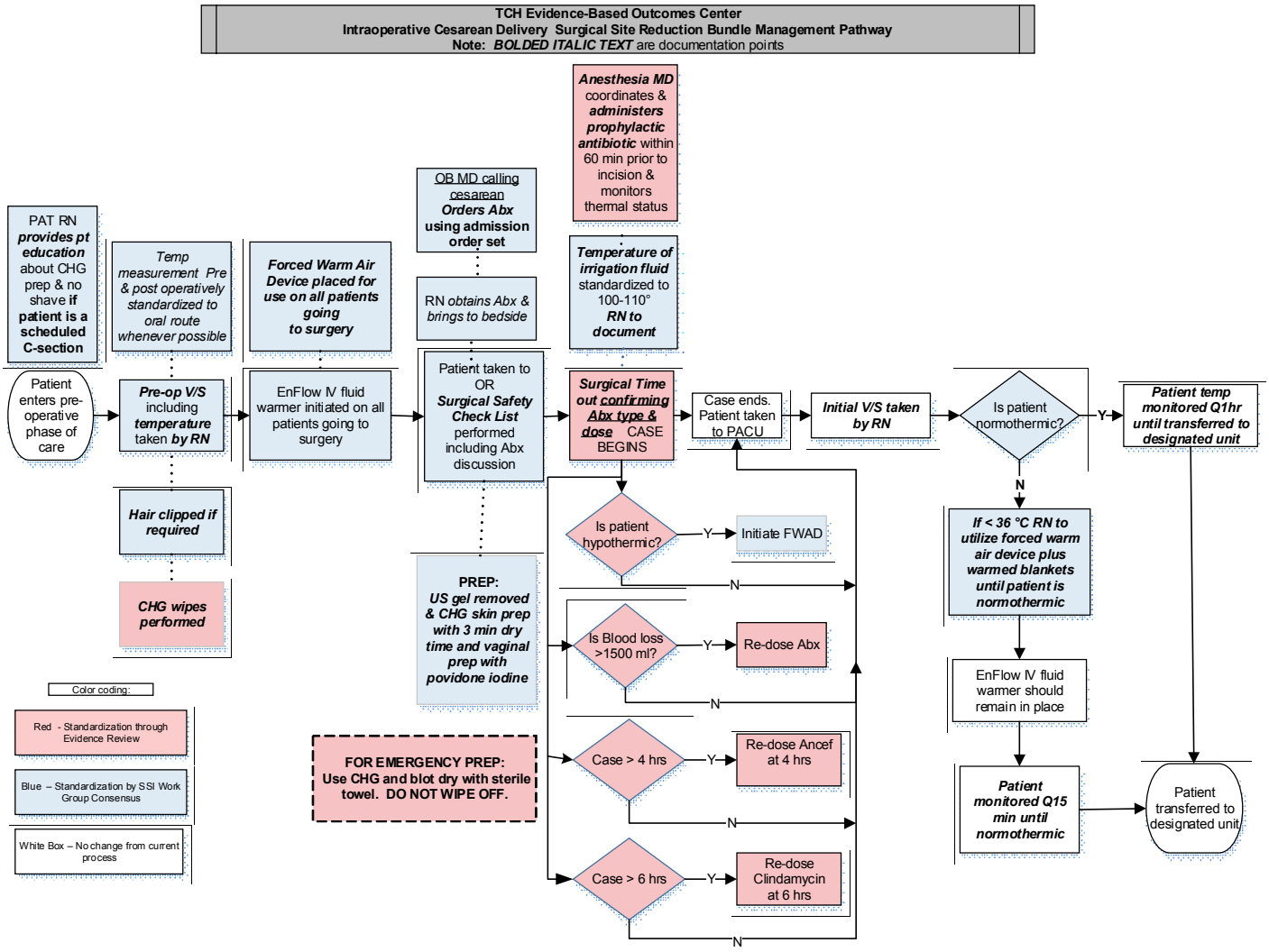
Texas Children's Hospital

DATE: November 2016

TEXAS CHILDREN'S HOSPITAL
EVIDENCE-BASED OUTCOMES CENTER
Perioperative Cesarean Delivery Surgical Site Infection Prevention
Evidence-Informed Pathway



Critical Points of Evidence

Evidence Supports

- Bundling chlorhexidine-alcohol skin prep, hair clipping and intraoperative thermal management. [1-9] – Strong recommendation, low quality evidence
- Preoperative skin antisepsis with chlorhexidine for women undergoing a cesarean delivery. For emergency cesarean delivery, use chlorhexidine-alcohol skin prep and blot with sterile towel, do not wipe off. [10-19] – Strong recommendation, moderate quality evidence
- To clip hair instead of shaving when surgeon preference is for hair removal prior to cesarean delivery surgery. [20,21] – Strong recommendation, high quality evidence
- To perform a vaginal prep prior to cesarean delivery for scheduled and non-emergent cases for reduction of surgical site infections. [22] – Strong recommendation, high quality evidence
- To administer a single intravenous dose of narrow spectrum first-generation cephalosporin (cefazolin), or a single dose combination of clindamycin with an aminoglycoside for patients with significant penicillin allergies, administered prophylactically no greater than 60 minutes prior to incision to significantly reduce the incidence of a postpartum surgical site infection. [23-49] – Strong recommendation, high quality evidence
- To administer 3 grams of Cefazolin for obese women greater than 120 kg undergoing cesarean delivery (additional 1 gram of Cefazolin on weight greater than 120 kg). [50-53] – Strong recommendation, low quality evidence
- To consider use of a negative pressure wound therapy (NPWT) device for postsurgical dressings for obese women following cesarean delivery. [54-66] – Weak recommendation, low quality evidence

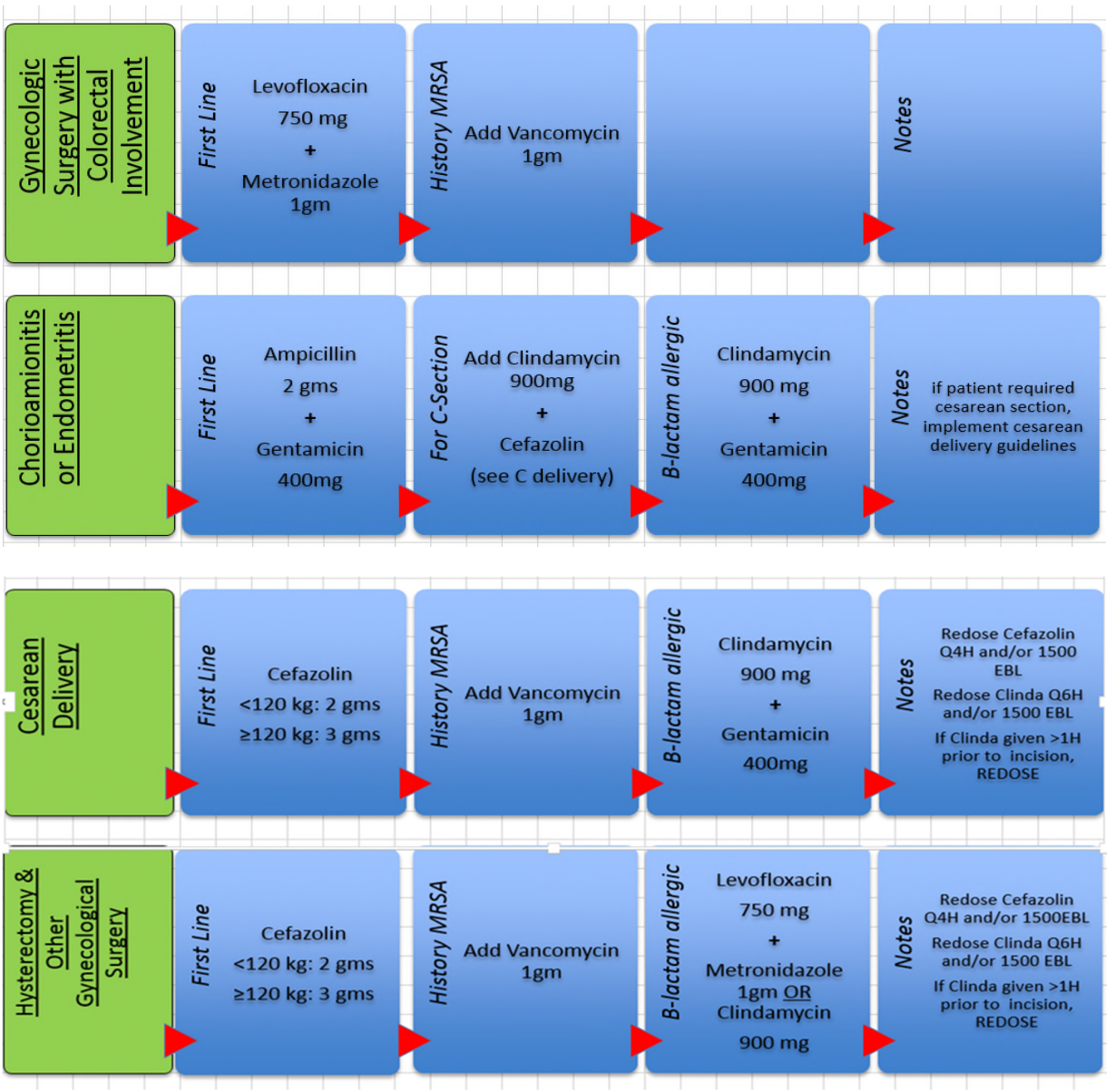
Evidence Against

- Shaving of hair at the surgical site prior to cesarean delivery. [20,21] – Strong recommendation, high quality evidence

Evidence Lacking/Inconclusive

- Depilation of hair at the surgical site to prevent surgical site infections. [20,21]

TCH PROPHYLACTIC ANTIBIOTIC DECISION AIDE



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Clinical Standards Preparation

This clinical standard was prepared by the Evidence-Based Outcomes Center (EBOC) team in collaboration with content experts at Texas Children's Hospital. Development of this clinical standard supports the TCH Quality and Patient Safety Program initiative to promote clinical standards and outcomes that build a culture of quality and safety within the organization.

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No relevant financial or intellectual conflicts to report.

Development Process

This clinical standard was developed using the process outlined in the EBOC Manual. The literature appraisal documents the following steps:

1. Review Preparation
   - PICO questions established
   - Evidence search confirmed with content experts
2. Review of Existing External Guidelines
   - Strategies to Prevent Surgical Site Infections in Acute Care Hospitals
   - Clinical Practice Guidelines for Antimicrobial Prophylaxis in Surgery
   - Preventing Surgical Site Infections: Key Recommendations for Practice
   - Surgical Site Infection: Prevention and Treatment of Surgical Site Infection
   - Recommended Standards of Practice for Skin Prep of the Surgical Patient
   - Guideline for Prevention of Surgical Site Infection
   - Surgical Care Improvement Project (SCIP) Core Measures
3. Literature Review of Relevant Evidence
   - Searched: PubMed, Cochrane Library, CINAHL, Google
4. Critically Analyze the Evidence
   - 17 meta-analyses, 6 randomized controlled trials, and 14 nonrandomized studies
5. Summarize the Evidence
   - Materials used in the development of the clinical standard, literature appraisal, and any order sets are maintained in a Perioperative Cesarean Delivery Surgical Site Infection Prevention evidence-based review manual within EBOC.

Evaluating the Quality of the Evidence

Published clinical guidelines were evaluated for this review using the **AGREE II** criteria. The summary of these guidelines are included in the literature appraisal. AGREE II criteria evaluate Guideline Scope and Purpose, Stakeholder Involvement, Rigor of Development, Clarity and Presentation, Applicability, and Editorial Independence using a 4-point Likert scale. The higher the score, the more comprehensive the guideline.

This clinical standard specifically summarizes the evidence *in support of* or *against* specific interventions and identifies where evidence is *lacking/inconclusive*. The following categories describe how research findings provide support for treatment interventions.

"Evidence Supports" provides evidence to support an intervention

"Evidence Against" provides evidence against an intervention.

"Evidence Lacking/Inconclusive" indicates there is insufficient evidence to support or refute an intervention and no conclusion can be drawn *from the evidence*.

The **GRADE** criteria were utilized to evaluate the body of evidence used to make practice recommendations. The table below defines how the quality of the evidence is rated and how a strong versus weak recommendation is established. The literature appraisal reflects the critical points of evidence.

Recommendation	
STRONG	Desirable effects clearly outweigh undesirable effects or vice versa
WEAK	Desirable effects closely balanced with undesirable effects
Quality	**Type of Evidence**
High	Consistent evidence from well-performed RCTs or exceptionally strong evidence from unbiased observational studies
Moderate	Evidence from RCTs with important limitations (e.g., inconsistent results, methodological flaws, indirect evidence, or imprecise results) or unusually strong evidence from unbiased observational studies
Low	Evidence for at least 1 critical outcome from observational studies, RCTs with serious flaws or indirect evidence
Very Low	Evidence for at least 1 critical outcome from unsystematic clinical observations or very indirect evidence

Recommendations

Practice recommendations were directed by the existing evidence and consensus amongst the content experts. Patient and family preferences were included when possible. The Content Expert Team and EBOC team remain aware of the controversies in the

management of Cesarean surgical site infections in women. When evidence is lacking, options in care are provided in the clinical standard and the accompanying order sets (if applicable).

Approval Process

Clinical standards are reviewed and approved by hospital committees as deemed appropriate for its intended use. Clinical standards are reviewed as necessary within EBOC at Texas Children's Hospital. Content Expert Teams are involved with every review and update.

Disclaimer

Practice recommendations are based upon the evidence available at the time the clinical standard was developed. Clinical standards (guidelines, summaries, or pathways) do not set out the standard of care and are not intended to be used to dictate a course of care. Each physician/practitioner must use his or her independent judgment in the management of any specific patient and is responsible, in consultation with the patient and/or the patient's family, to make the ultimate judgment regarding care.

Version History

Date	Action	Comments
Nov 2016	Originally completed	