

Scope

This guideline is aimed at all Health care professionals involved in the care of infants within the Neonatal Service.

Related UHL documents

Document	ID Number (if applicable) or Appendix No.
Antibiotic Guideline for early-onset & late-onset neonatal infection	C38/2015
Gentamicin : Procedure for routine intravenous administration	
Gentamicin Therapeutic drug monitoring	
Prescription chart for: IV gentamicin only	

Key Point

- Antibiotics are not recommended for clean non-prosthetic uncomplicated surgery.
- The choice of antibiotic prophylaxis should cover the organisms most likely to cause infection.
- The rationale for antibiotic choice for surgical prophylaxis and infection is based on existing antibiotic choice for early-onset and late-onset sepsis.

Background

Antibiotic prophylaxis has been found to be effective in preventing surgical site infections following certain procedures. The term surgical site infection is used to encompass the surgical wound and infections involving the body cavity, bones, joints, meninges and other tissues involved in the operation. Prophylactic antibiotic reduces the growth of contaminating bacteria and thus reducing the risk of infection. The use of antibiotics however is associated risk

of adverse side effects in the patient and inducing antibiotic resistance therefore there should be clear indications of the need to give antibiotics in the first instance. Surgeries that require antibiotic prophylaxis are:

- clean surgery involving the placement of a prosthesis or implant
- clean-contaminated surgery
- contaminated surgery
- surgery on a dirty or infected wound (requires antibiotic treatment in addition to prophylaxis)

Antibiotics are not recommended for clean non-prosthetic uncomplicated surgery.

The choice of antibiotic prophylaxis should cover the organisms most likely to cause infection. There is lack of neonatal data to guide appropriate antibiotic choice and duration for surgical prophylaxis and infection. Thus the rationale for antibiotic choice for surgical prophylaxis and infection is based on existing antibiotic choice for early-onset and late-onset sepsis.

Class Definition

CLEAN	Operations in which no inflammation is encountered and the respiratory, alimentary or genitourinary tracts are not entered. There is no break in aseptic operating theatre technique.
CLEAN CONTAMINATED	Operations in which the respiratory, alimentary or genitourinary tracts are entered but without significant spillage.
CONTAMINATED	Operations where acute inflammation (without pus) is encountered, or where there is visible contamination of the wound. Examples include gross spillage from a hollow viscus during the operation or compound/open injuries operated on within four hours.
DIRTY	Operations in the presence of pus, where there is a previously perforated hollow viscus, or compound/open injuries more than four hours old.

Common surgical pathogens

The antimicrobial agent chosen should have activity against the most common surgical-site pathogens. The predominant organisms causing surgical site infections (SSIs) after clean procedures are skin flora, including *S. aureus* and coagulase-negative staphylococci (e.g., *Staphylococcus epidermidis*) [1]. In clean-contaminated procedures, including abdominal procedures and heart, kidney, and liver transplantations, the predominant organisms include gram-negative rods and enterococci in addition to skin flora.

Appendix 1: Flowchart for surgical prophylaxis

Audit standards

1. Intravenous Flucloxacillin and Gentamicin is used as first line antibiotics for surgical prophylaxis and treatment.

Reference

1. Hidron AI, Edwards JR, Patel J, et al. for the National Healthcare Safety Network Team and participating National Healthcare Safety Network facilities. Antimicrobial-resistant pathogens associated with healthcare-associated infections: annual summary of data reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2006– 2007. *Infect Control Hosp Epidemiol.* 2008; 29:996–1011.
2. NICE Guidance Quality Standard QS49. Surgical Site Infection. October 2013
3. NICE Guidance CG74. Surgical Site Infections. October 2008, updated February 2017
4. Carrie Laituri, Meghan A. Arnold. Standardized guideline for antibiotic prophylaxis in surgical neonates : *Seminars in Pediatric Surgery* 28 (2019) 53–56

Guideline Development

Apr 2014	Neonatal Guidelines Meeting
Dec 2015	Neonatal Guideline Meeting
Dec 2015	Neonatal Governance meeting
Dec 2019	Reviewed and ratified Neonatal Guidelines Meeting
Jan 2020	Neonatal Governance Meeting

Appendix1 : Flow Chart for Surgical Prophylaxis

