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

Related UHL documents

<table>
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<tr>
<th>Document</th>
<th>ID Number (if applicable) or Appendix No.</th>
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<tbody>
<tr>
<td>Antibiotic Guideline for early-onset &amp; late-onset neonatal infection</td>
<td>C38/2015</td>
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<tr>
<td>Gentamicin : Procedure for routine intravenous administration</td>
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<tr>
<td>Gentamicin Therapeutic drug monitoring</td>
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<tr>
<td>Prescription chart for: IV gentamicin only</td>
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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**

<table>
<thead>
<tr>
<th>Class</th>
<th>Definition</th>
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<tbody>
<tr>
<td>CLEAN</td>
<td>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.</td>
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<tr>
<td>CLEAN CONTAMINATED</td>
<td>Operations in which the respiratory, alimentary or genitourinary tracts are entered but without significant spillage.</td>
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<tr>
<td>CONTAMINATED</td>
<td>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.</td>
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<tr>
<td>DIRTY</td>
<td>Operations in the presence of pus, where there is a previously perforated hollow viscus, or compound/open injuries more than four hours old.</td>
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</table>
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


Guideline Development

<table>
<thead>
<tr>
<th>Date</th>
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<tbody>
<tr>
<td>Apr 2014</td>
<td>Neonatal Guidelines Meeting</td>
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<tr>
<td>Dec 2015</td>
<td>Neonatal Guideline Meeting</td>
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<tr>
<td>Dec 2015</td>
<td>Neonatal Governance meeting</td>
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<tr>
<td>Dec 2019</td>
<td>Reviewed and ratified Neonatal Guidelines Meeting</td>
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<tr>
<td>Jan 2020</td>
<td>Neonatal Governance Meeting</td>
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Appendix 1: Flow Chart for Surgical Prophylaxis

Preterm and Term Neonates requiring surgery

- Clean procedure
- Clean - contaminated
- Contaminated procedure
- Treating sepsis / infected / dirty

- Repair or IOL - Endoscopy / Omphalocoele
- Congenital diaphragmatic hernia
- Suspected Atelectasis
- Note: Fundoplication
- Bronchoscopy
- PDA Ligation *
- Cleft Lip and Palate requiring Joint Thyroplasty

Antibiotic prophylaxis indicated

IV Flucloxacillin and Gentamicin

- if known MRSA given
- IV Vancomycin and Cefazolin

- For any midline bowel procedure: Add Metronidazole

1. All antibiotic prophylaxis should be given as a stat dose at induction.
   - If surgery is prolonged for more than 4 hours OR severe blood loss (more than 20% of total baby's blood volume of 50 ml/kg), then a repeat dose of flucloxacillin should be given.

2. To continue existing antibiotics as per unit policy

- *PDA ligation continue prophylaxis for a total of 24 hours

Initial antibiotic doses:
Refer to the current version of the Neonatal Drug Doses document

** Posterior Sagittal Anocutoplasty

NB: Paper copies of guidelines may not be the most recent version.
The definitive version is held on the Document Management System (DMS). This guideline is also held on Badger