**Infections (obstetrics and gynaecological): Antibiotic prophylaxis for caesarean section**

<table>
<thead>
<tr>
<th>Scope (Staff):</th>
<th>WNHS obstetrics and anaesthetic staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope (Area):</td>
<td>Perioperative clinical areas at KEMH and OPH</td>
</tr>
</tbody>
</table>

This document should be read in conjunction with this [Disclaimer](#).

**Background**

Evidence supports administration of antibiotic prophylaxis prior to skin incision for caesarean section (both elective and non-elective) for prevention of wound infection and endometritis.\(^1\,2\)

Studies show that administering antibiotic prophylaxis prior to skin incision compared to after cord clamping significantly reduces the incidence of maternal infection.\(^1\,3\)

**Antibiotic indications**

- All patients giving birth by caesarean section.
- Surgical prophylaxis should still be administered even if the patient is receiving antibiotics for prolonged rupture of membranes, intra-amniotic infection (chorioamnionitis) or group B streptococcus prophylaxis unless the antibiotic regimen has activity against the organism(s) most likely to cause postoperative infections (e.g. cefazolin, clindamycin plus gentamicin)\(^1\).
Antibiotic regimen

Prophylaxis for caesarean section:

**Do not give additional doses once the procedure is completed**

- **Cefazolin 2g intravenous (IV) infusion.** The dose should be administered no more than 60 minutes before skin incision.
  - For women with a BMI >40 the cefazolin dose may be increased to 3g. This is a discretionary decision as there is presently insufficient evidence to recommend this practice routinely.4-6

- **If colonisation or infection with methicillin-resistant *Staphylococcus aureus* (MRSA- micro alert B or C), or at increased risk* of being colonised or infected with MRSA:**
  - ADD Vancomycin to the above regimen

▶ Vancomycin is a HIGH RISK Medication and must be infused slowly as per WNHS Pharmacy Vancomycin IV Adult Medication Monograph

Patients with **non-severe** (immediate or delayed) **hypersensitivity to penicillins:**
- Use cefazolin, with or without vancomycin, as above

Patients with **severe** (immediate or delayed) **hypersensitivity to penicillins:**
- Who are neither colonised nor infected with MRSA:
  - **Clindamycin 600mg IV** given as an infusion, within the 120 minutes before skin incision1 (must be given as infusion over 20 minutes). Refer to Pharmacy Clindamycin Adult Medication Monograph for further information AND
  - **Gentamicin 2mg / kg IV** over 3-5 minutes, within the 120 minutes before surgical incision.
    - If BMI ≥30: use adjusted body weight to calculate dose
    - Adjusted weight = IBW + 0.4 x (actual body weight – IBW)

<table>
<thead>
<tr>
<th>Height</th>
<th>155</th>
<th>160</th>
<th>165</th>
<th>170</th>
<th>175</th>
<th>180</th>
<th>185</th>
<th>190</th>
<th>195</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBW- females (kg)</td>
<td>48</td>
<td>53</td>
<td>57</td>
<td>62</td>
<td>66</td>
<td>71</td>
<td>75</td>
<td>80</td>
<td>84</td>
<td>89</td>
</tr>
</tbody>
</table>

IBW = Ideal body weight (IBW calculator on eTG- external website)
See also Pharmacy Gentamicin Dosing and Monitoring guideline.
If colonised or infected with MRSA (micro alert B or C) or at increased risk* of being colonised or infected with MRSA, use:

- **Vancomycin PLUS Gentamicin** (as above)

⚠️ Vancomycin and Gentamicin are **HIGH RISK Medications** and must be infused slowly as per WNHS Pharmacy Adult Medication Monographs: ‘Vancomycin’ and ‘Gentamicin’

* ‘increased risk’ of colonisation with MRSA - see eTG Risk Factors for Infection with MRSA (Box 2.31) list (external website) and Infection Prevention and Management: Micro Alerts and Multi-Resistant Organisms (MROs) Policy.

---

Table 1: Antibiotic prophylaxis in women with and without MRSA or penicillin hypersensitivity undergoing caesarean section surgery

<table>
<thead>
<tr>
<th>MRSA status</th>
<th>Penicillin hypersensitivity</th>
<th>Cefazolin</th>
<th>Vancomycin</th>
<th>Gentamicin</th>
<th>Clindamycin</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO MRSA colonised or infected</td>
<td>NO penicillin hypersensitivity</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Penicillin hypersensitivity** : Non-severe</td>
<td>●</td>
<td>●</td>
<td>Give both</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Penicillin hypersensitivity** : Severe</td>
<td>●</td>
<td>●</td>
<td>Give both</td>
<td>●</td>
</tr>
<tr>
<td>MRSA colonised or infected*</td>
<td>NO penicillin hypersensitivity</td>
<td>●</td>
<td>Give both</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Penicillin hypersensitivity** : Non-severe</td>
<td>●</td>
<td>Give both</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Penicillin hypersensitivity** : Severe</td>
<td>●</td>
<td>●</td>
<td>Give both</td>
<td>●</td>
</tr>
</tbody>
</table>

* Or at increased risk of being colonised or infected with MRSA

** Immediate or delayed
Colonisation or infection with MRSA - micro alert B or C

- Offer decolonisation therapy as per WNHS Infection Prevention and Management Policy: Micro Alerts And Multi-Resistant Organisms
- At the time of caesarean section, ADD vancomycin to the regimen. Administration of both cefazolin and vancomycin is recommended unless cefazolin is contraindicated.
- For dosage, administration details and further information, refer to the Pharmacy: ‘Vancomycin IV Adult Medication Monograph’.

⚠️ Vancomycin is a HIGH RISK Medication and must be infused slowly as per WNHS Pharmacy ‘Vancomycin IV Adult Medication Monograph’.

Prevention of surgical site infection

- For advice regarding general measures to prevent surgical site infection including skin preparation, refer to WNHS IPM: Prevention of Surgical Site Infections Guideline

References


Bibliography

eTG Complete. Surgical antibiotic prophylaxis for obese patients (external website): Therapeutic Guidelines Ltd; 2021.
Infections (O&G): Antibiotic prophylaxis for caesarean section

Related WNHS policies, procedures and guidelines

WNHS Clinical guidelines:

- Infection Prevention and Management: Prevention of Surgical Site Infections; Micro Alerts And Multi-Resistant Organisms
- Obstetrics and Gynaecology: Infections (Obstetrics & Gynaecology):
  - Prophylaxis: Gynaecological Urogynaecological Surgery;
  - Antibiotic Treatment: Endocervical infections; HSG for Infertility; Treatment for UTI; Treatment for Vaginal Infections
- Pharmacy: Adult Medication Monographs: Cefazolin; Clindamycin; Gentamicin; Vancomycin

WNHS Antimicrobial Stewardship (available to WA Health employees through HealthPoint)

Useful resources (external websites)

- ACSQHC Surgical Antimicrobial Prophylaxis and AMS Clinical Care Standard (2020)
- Australian Injectable Drugs Handbook 8th ed.
- Therapeutic Guidelines: Penicillin Allergy Assessment Guide

Keywords: antibiotics for CS, prophylactic antibiotics for CS, antibiotics for Caesarean

Document owner: Obstetrics and Gynaecology Directorate

Author / Reviewer: Pod lead: AMS Senior Pharmacist in collaboration with obstetrics, anaesthetics, microbiology

Date first issued: Oct 2001

Reviewed dates: (since Sept 2014) : Sept 2014; Dec 2015 (amended); June 2018; Jan 2022

Approved by: Head of Department Obstetrics

Antimicrobial Stewardship Committee (OOS)

Medicines and Therapeutics Committee (MTC) and WNHS Health Service Permit Holder under the Medicines and Poisons Regulations 2016

Date: 05/10/2021

Date: 03/12/2021

Date: 11/01/2022

Endorsed by: Obstetrics & Gynaecology Directorate Management Committee [OOS approved with Medical and Midwifery Co directors]

Date: 26/10/2021

Supersedes: This Jan 2022 version supersedes the June 2018 version

NSQHS Standards (v2) applicable:

- ☑ 1: Clinical Governance
- ☑ 2: Partnering with Consumers
- ☑ 3: Preventing and Controlling Healthcare Associated Infection
- ☑ 4: Medication Safety
- ☐ 5: Comprehensive Care
- ☐ 6: Communicating for Safety
- ☐ 7: Blood Management
- ☐ 8: Recognising and Responding to Acute Deterioration

Printed or personally saved electronic copies of this document are considered uncontrolled.

Access the current version from WNHS HealthPoint.
## Version history

For a list of changes- see OGD [Guideline Updates](#) by month/year of review date

<table>
<thead>
<tr>
<th>Date</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to Sept 2014</td>
<td>Contact Pharmacy for versions prior to 2015. Previously within section Pharmacy and Medications guidelines: Specific Medication guidelines, P4.2, titled ‘Antibiotic Prophylaxis for Caesarean Section’.</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Amended. Moved to O&amp;G guidelines (section A14 ‘Obstetric and Gynaecological Infections’).</td>
</tr>
</tbody>
</table>
| June 2018  | • Title changed to ‘Infections: Antibiotic Prophylaxis for Caesarean’.  
• Surgical prophylaxis should still be administered if the woman is receiving antibiotics for GBS prophylaxis  
• Antibiotic regime:  
  ➢ Commence 60 minutes, ideally 15-30 minutes, before skin incision  
  ➢ Cefazolin: For women with BMI>40 the obstetrician may elect to increase the cefazolin dose to 3g  
  ➢ In patients with immediate penicillin hypersensitivity: Clindamycin dose and infusion time changed  
• ‘Colonisation or infection with MRSA - micro alert b or c’ section updated  
• Link added to IPM: Prevention of surgical site infection policy |
| Jan 2022  | • Do not give additional prophylaxis once the procedure is completed  
• Vancomycin instructions updated within the pharmacy medication monograph- guideline now links to monograph for instructions  
• In patients with severe (immediate or delayed) hypersensitivity to penicillins - added gentamicin to regimen  
• Added alert boxes for high risk medications and added table 1 |

This document can be made available in alternative formats on request for a person with a disability.

© North Metropolitan Health Service 2022

Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the Copyright Act 1968, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.