

## Appendix 1 - Antimicrobials in Pregnancy and Breastfeeding

### General points:

- It is important to adequately treat maternal infections during pregnancy to avoid adverse maternal and foetal effects as a consequence of uncontrolled fever or infection.
- Send samples to Microbiology where possible and use the culture and sensitivity results to guide choices.

The following guidance is derived from the [British National Formulary](#); see the relevant chapters for more information. Other information can be found on the UK Teratology Information Service (UKTIS) at [www.uktis.org](http://www.uktis.org).

The Safer Medicines in Pregnancy and Breastfeeding Consortium aims to improve the health information available to women thinking about becoming pregnant, pregnant, or breastfeeding. To support this, healthcare professionals are requested to report inconsistencies in UK advice on using individual or classes of medicines during pregnancy or breastfeeding via the consortium at <https://www.gov.uk/government/publications/safer-medicines-in-pregnancy-and-breastfeeding-consortium>. The report is available [here](#).

The breastfeeding recommendations in this guideline are considered safe for healthy-term breastfeeding infants. Consult the specialist's advice for antibiotics on lactating women with pre-term babies (e.g., neonatologist or paed).

Antimicrobial	Pregnancy	Breastfeeding	Patient Information Leaflet
Beta-lactams: <ul style="list-style-type: none"> <li>• Penicillin</li> <li>• Amoxicillin /Ampicillin</li> <li>• Cephalosporins</li> <li>• Flucloxacillin</li> <li>• Co-amoxiclav</li> </ul>	Use at any stage Not known to be harmful	Use at any stage Not known to be harmful	<a href="#">use of penicillins in pregnancy</a>
Pivmecillinam (penicillin antibiotic)	Short-term use is known to be safe. Avoid prolonged or repeated courses. False positive newborn screening results for isovaleric acidaemia may occur in neonates born to mothers receiving pivmecillinam during late pregnancy.	Trace amounts in milk, but appropriate to use	<a href="#">use of cephalosporins in pregnancy</a>
Tetracyclines: <ul style="list-style-type: none"> <li>• Doxycycline</li> <li>• Lymecycline</li> </ul>	Avoid 1 <sup>st</sup> trimester – potential effects on skeletal development 2 <sup>nd</sup> and 3 <sup>rd</sup> trimester – staining of teeth in the foetus	Avoid Discolouration of infant's teeth	<a href="#">use of tetracyclines in pregnancy</a>
Gentamicin	Avoid unless the benefit outweighs the risk. Very small risk of auditory or vestibular nerve damage in the foetus in 2 <sup>nd</sup> and 3 <sup>rd</sup> trimester	Not known to be harmful	<a href="#">use of aminoglycoside antibiotics in pregnancy</a>
Macrolides: <ul style="list-style-type: none"> <li>• Erythromycin</li> </ul>	Not known to be harmful	Not known to be harmful	<a href="#">use of macrolides in pregnancy</a>
Macrolides: <ul style="list-style-type: none"> <li>• <a href="#">Clarithromycin</a></li> <li>• Azithromycin</li> </ul>	Avoid unless the benefit outweighs the risk and there are no suitable alternatives.	Avoid unless the benefit outweighs the risk and there are no suitable alternatives.	
Clindamycin	Should only be used when treatment with penicillins and cephalosporins has failed or is contraindicated. Avoid in 1 <sup>st</sup> trimester if possible.	The amount is probably too small to be harmful. Bloody diarrhoea was reported in one infant.	
Trimethoprim	Risk of teratogenicity in 1 <sup>st</sup> trimester and folate deficiency or if taking folate antagonists, e.g., anti-epileptics	Short-term use is not known to be harmful	<a href="#">use of trimethoprim in pregnancy</a>
Quinolones: <ul style="list-style-type: none"> <li>• <a href="#">Ciprofloxacin</a></li> <li>• <a href="#">Levofloxacin</a></li> <li>• <a href="#">Ofloxacin</a></li> </ul>	Avoid	Avoid	<a href="#">use of quinolones in pregnancy</a>

**Antimicrobials in Pregnancy and Breastfeeding**

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Vancomycin	Only use if the benefit outweighs the risk.	Present in breast milk; however, significant levels after oral administration (e.g., for <i>C difficile</i> ) are unlikely.	
Linezolid	Use only if the benefit outweighs the risk	Avoid	
<a href="#">Nitrofurantoin</a>	Avoid at term – may potentiate neonatal haemolytic anaemia	Caution – has been associated with haemolysis in G6PD deficient infants.	<a href="#">use of nitrofurantoin in pregnancy</a>
Metronidazole	Avoid high-dose regimens e.g., 2g as a single dose	A significant amount in milk. Avoid large single doses. e.g., 2g as a single dose	<a href="#">use of metronidazole in pregnancy</a>
Fosfomycin	Avoid. Use only if the benefit outweighs the risk and there are no suitable alternatives.	Present in milk, avoid only if the benefit outweighs the risk and no suitable alternatives.	
Fluconazole	Avoid	The amount is probably too small to be harmful	<a href="#">use of fluconazole in pregnancy</a>
Aciclovir	Not known to be harmful but use only if the benefit outweighs the risk	Caution – significant amounts in breast milk but not known to be harmful	<a href="#">use of aciclovir/valaciclovir in pregnancy</a>

Version Control- Antimicrobials in Pregnancy and Breastfeeding			
Version	Author(s)	Date	Changes
V2.0	Shary Walker, Interface and Formulary Pharmacist	May 2023	<ul style="list-style-type: none"> <li>• Patient information leaflet links added. Link to new nitrofurantoin MHRA advice added.</li> <li>• The Safer Medicines to Pregnancy and Breastfeeding consortium links added</li> <li>• References: <a href="#">UKTIS</a>, <a href="#">BNF pregnancy</a>, <a href="#">the breastfeeding network</a>, and <a href="#">bumps</a>.</li> <li>• Pivmecillinam – info on false positive for isovaleric acidaemia during pivmecillinam use in late pregnancy</li> <li>• Added statement re: the breastfeeding recommendation in the guideline for healthy-term infants</li> <li>• Minor corrections (no change to content)</li> </ul>