



### Foreword about using this tool:

This Antibiotic Counselling sheet is a supporting tool to help inform the information provided to patients, including how to take antibiotics, their common side effects, and interactions. This was a collaboration between Public Health England's TARGET Antibiotics toolkit and Public Health Wales and is suitable to be used by healthcare professionals across England and Wales. This sheet summarises information from the British National Formulary (BNF) and Electronic Medicines Compendium (EMC). These tables can be used when providing antibiotic adherence advice to patients and support shared decision making in healthcare settings, in line with <u>NICE Guideline [NG197]</u>.

This tool is designed to support healthcare professionals and may not account for individual circumstances of patients, nor is it a complete replication of the information. It should not be used as sole basis for decision making, nor replace healthcare professional consultations. Please ensure you are using the most up to date version of this tool published on the TARGET website. Please consider using the TARGET patient information leaflets on common infections, and the Antibiotic Checklist for community pharmacy (available at: <a href="http://www.RCGP.org.uk/TARGET-patient-lealets">www.RCGP.org.uk/TARGET-patient-lealets</a>) to support Antimicrobial Stewardship.

### **General advice:**

- Take doses at regular intervals throughout the day.
- Take antibiotics exactly as prescribed, never save them for future use, never share them with others.
- If you don't start to feel better within a few days of starting antibiotics, contact your pharmacist or GP for advice.

Antibiotic	How to take	Common Side Effects	Cautions/Major Interactions*	Pregnancy and Breastfeeding
Amoxicillin	<ul> <li>Take with or without food.</li> <li>Alcohol in moderation is unlikely to cause problems.</li> </ul>	<ul> <li>Nausea/vomiting</li> <li>Diarrhoea</li> <li>Skin rashes/allergy</li> </ul>	<ul> <li>Amoxicillin is predicted to increase the risk of toxicity when given with methotrexate.</li> <li>May affect INR in patients on warfarin.</li> </ul>	<u>Pregnancy:</u> Not known to be harmful <u>Breastfeeding:</u> Trace amount in milk but appropriate to use
Clarithromycin	<ul> <li>Take with or without food.</li> <li>Alcohol in moderation is unlikely to cause problems.</li> </ul>	<ul> <li>Nausea/vomiting</li> <li>Stomach cramps</li> <li>Diarrhoea</li> <li>Loss of appetite</li> <li>Insomnia</li> <li>Commonly interacts with medication</li> </ul>	<ul> <li>Caution in patients with a predisposition to QT prolongation/arrythmias.</li> <li>Interacts with QT prolonging medication</li> <li>Withhold statins, can cause myalgia/rhabdomyolysis.</li> <li>May affect INR in patients on warfarin.</li> </ul>	<u>Pregnancy:</u> Manufacturer advises avoid, particularly in the first trimester, unless potential benefit outweighs risk. <u>Breastfeeding:</u> Manufacturer advises avoid unless potential benefit outweighs risk—present in milk.





Antibiotic	How to take	Common Side Effects	Cautions/Major Interactions*	Pregnancy and Breastfeeding
Co-amoxiclav	<ul> <li>Take with food.</li> <li>No specific warning relating to alcohol while taking co-amoxiclav.</li> </ul>	<ul> <li>Diarrhoea</li> <li>Oral/genital thrush</li> <li>Nausea/vomiting</li> <li>Skin rashes/allergy</li> </ul>	<ul> <li>Amoxicillin component is predicted to increase the risk of toxicity when given with methotrexate.</li> <li>May affect INR in patients on warfarin.</li> </ul>	<u>Pregnancy:</u> Not known to be harmful <u>Breastfeeding:</u> Trace amounts in milk but safe to use
Doxycycline	<ul> <li>Swallow whole with a full glass of water.</li> <li>Take while in an upright position and well before bed to avoid oesophageal irritation and ulceration.</li> <li>Take with food if you get stomach irritation or feel nauseous.</li> <li>Do not drink alcohol while taking doxycycline.</li> </ul>	<ul> <li>Skin can be more sensitive to strong sunlight or UV light – protect skin and avoid exposure to sunlight or sun lamps.</li> <li>Headaches</li> <li>Nausea and vomiting</li> <li>Diarrhoea</li> <li>Oesophageal irritation and ulceration</li> </ul>	<ul> <li>Should not be given to children &lt;12 years.</li> <li>Oral antacids decrease absorption of doxycycline; leave 2-3h between administration.</li> <li>May affect INR in patients on warfarin</li> <li>Increased risk of lithium toxicity – manufacturer advises avoid</li> </ul>	Pregnancy: Do not use in pregnancy – risk of adverse effect on teeth and skeletal development. <u>Breastfeeding:</u> Avoid as tetracyclines excreted in milk.
Flucloxacillin	<ul> <li>Take on an empty stomach 60 minutes before food or at least 2 hours after.</li> <li>Take with a full glass of water (250ml).</li> <li>Alcohol in moderation is unlikely to cause problems.</li> </ul>	<ul><li>Nausea/vomiting</li><li>Diarrhoea</li></ul>	<ul> <li>Use with caution in hepatic impairment.</li> <li>May affect INR in patients on warfarin</li> <li>Increased risk of methotrexate toxicity</li> </ul>	<u>Pregnancy:</u> Not known to be harmful <u>Breastfeeding:</u> Trace amounts in milk but appropriate to use





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Metronidazole	<ul> <li>Take with or after food with a full glass of water.</li> <li>Do not drink alcohol while taking and for at least 48 hours after finishing treatment.</li> </ul>	<ul> <li>Nausea and vomiting</li> <li>Diarrhoea</li> <li>Taste disturbances</li> </ul>	<ul> <li>May affect INR in patients on warfarin.</li> <li>Increased risk of lithium toxicity – manufacturer advises avoid</li> </ul>	Pregnancy: Use if benefit outweighs risk – avoid high doses <u>Breastfeeding:</u> Significant amount in milk, avoid high single doses. May give milk a bitter taste.
Nitrofurantoin	<ul> <li>Take with or after food to avoid gastric upset.</li> <li>Alcohol in moderation is unlikely to cause problems.</li> </ul>	<ul> <li>Nausea/vomiting</li> <li>Diarrhoea</li> <li>Dark yellow/brown urine</li> <li>Loss of appetite</li> <li>Headaches</li> </ul>	<ul> <li>Avoid in renal impairment/CKD</li> <li>In courses &gt;6 months monitor for development of non- productive/progressive/persistent cough</li> <li>Contraindicated in infants less than 3 months old</li> </ul>	<u>Pregnancy:</u> Avoid at term – may produce neonatal haemolysis. <u>Breastfeeding:</u> Avoid, small amounts in milk but enough to produce haemolysis in G6PD-deficient infants
Phenoxymethylpenicillin (Pen V)	<ul> <li>Take one hour before or at least 2 hours after food.</li> <li>Alcohol in moderation is unlikely to cause problems</li> </ul>	<ul> <li>Nausea/vomiting</li> <li>Diarrhoea</li> <li>Skin rash/allergy</li> </ul>	<ul> <li>Phenoxymethylpenicillin is predicted to increase the risk of toxicity when given with methotrexate.</li> <li>May affect INR in patients on warfarin.</li> </ul>	<u>Pregnancy:</u> Not known to be harmful <u>Breastfeeding:</u> Trace amounts in milk but appropriate to use
Trimethoprim	<ul> <li>Take with or without food</li> <li>Alcohol in moderation is unlikely to cause problems</li> </ul>	<ul> <li>Mild rash/itching</li> <li>Nausea/vomiting</li> <li>Diarrhoea</li> <li>Headaches</li> </ul>	<ul> <li>Trimethoprim should be avoided in patients who take methotrexate – contact prescriber for an alternative.</li> <li>May affect INR in patients on warfarin.</li> <li>Counsel patients re signs and symptoms of blood disorders if for long-term use</li> </ul>	<u>Pregnancy:</u> Avoid especially in 1 <sup>st</sup> trimester. <u>Breastfeeding:</u> Not known to be harmful in short term use





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Quinolones (Ciprofloxacin and Levofloxacin)	<ul> <li>Take with or without food but do not take with dairy products (e.g. milk, yoghurt) or mineral-fortified fruit- juice.</li> <li>Avoid antacids 2 hours before and 4 hours after taking.</li> <li>May impair performance of skilled tasks (e.g. driving); effects enhanced by alcohol.</li> </ul>	<ul> <li>Nausea/vomiting</li> <li>Diarrhoea</li> <li>Tendon damage</li> <li>Headaches</li> <li>Dizziness</li> </ul>	<ul> <li>Avoid in patients with epilepsy</li> <li>Avoid in patients with a history of tendon damage</li> <li>Caution in patients pre-disposed to QT prolongation/arrythmias.</li> <li>Avoid concomitant use of NSAIDs <ul> <li>risk of seizures increases.</li> </ul> </li> <li>Avoid exposure to excessive sunlight during treatment and for 48 hours after stopping treatment</li> <li>Increased risk of methotrexate toxicity</li> <li>May affect INR in patients on warfarin</li> </ul>	Pregnancy: Manufacturer advises to avoid. <u>Breastfeeding:</u> Manufacturer advises to avoid.
Co-trimoxazole (Trimethoprim and Sulfamethoxazole)	<ul> <li>Take with or without food</li> <li>Taking with food can minimise the possibility of GI disturbance</li> <li>Alcohol in moderation unlikely to cause problems</li> </ul>	<ul> <li>Diarrhoea</li> <li>Nausea/vomiting</li> <li>Severe skin reaction</li> <li>Headache</li> </ul>	<ul> <li>Avoid in patients who take methotrexate – contact prescriber for an alternative.</li> <li>May affect INR in patients on warfarin</li> <li>Counsel patients re signs and symptoms of blood disorders if for long-term use</li> </ul>	Pregnancy:Avoid especially in 1st trimester.Breastfeeding:Small risk of kernicterus injaundiced infants and ofhaemolysis in G6PD-deficientinfants(due tosulfamethoxazole).
Erythromycin	<ul> <li>Take with food to reduce nausea</li> <li>Alcohol in moderation unlikely to cause problems</li> </ul>	<ul> <li>Nausea/Vomiting</li> <li>Stomach cramps</li> <li>Diarrhoea</li> <li>Loss of appetite</li> <li>Bloating and indigestion</li> </ul>	<ul> <li>Caution in patients with a predisposition to QT prolongation/arrythmias.</li> <li>Interacts with QT prolonging medication</li> <li>Withhold statins, can cause myalgia/rhabdomyolysis.</li> <li>May affect INR in patients on warfarin.</li> </ul>	<u>Pregnancy:</u> Should only be used if benefit outweighs risk and no other alternative, small risk of malformation and miscarriage. <u>Breastfeeding:</u> Small amounts in milk – not known to be harmful.





#### More information available from:

BNF British National Formulary - NICE (https://bnf.nice.org.uk/)

Home - electronic medicines compendium (https://www.medicines.org.uk/emc/)

bumps - best use of medicine in pregnancy (medicinesinpregnancy.org)

Useful Patient Information Leaflets for children available at: www.medicinesforchildren.org.uk

Please seek further advice regarding pregnancy and breastfeeding from your local Medicines Information and Advice Service

#### References:

Joint Formulary Committee. British National Formulary (online). London: BMJ Group and Pharmaceutical Press. Available at: <u>www.medicinescomplete.com</u>. Publication last updated on 11-May-2021. Joint Formulary Committee. British National Formulary for Children (online). London: BMJ Group and Pharmaceutical Press. Available at: <u>www.medicinescomplete.com</u>. Publication last updated on 11-May-2021. Summary of Product Characteristics accessed via <u>www.medicines.org.uk</u>.

National Institute for Health and Care Excellence (NICE). Shared decision making NICE guideline [NG197]. 17 June 2021. Available at: https://www.nice.org.uk/guidance/ng197

Briggs GG, Freeman RK, Yaffe SJ, eds. Drugs in pregnancy and lactation. Philadelphia: Lippincott Williams & Wilkins. Available at: <u>www.medicinescomplete.com</u>. Publication last updated on 11-Apr-2021 NHS. Can I drink alcohol while taking antibiotics? Available at: <u>https://www.nhs.uk/common-health-questions/medicines/can-i-drink-alcohol-while-taking-</u>

antibiotics/#:\*\*:text=Some%20antibiotics%20have%20a%20variety,and%20tinidazole%20can%20cause%20drowsiness. Page last reviewed: 11 May 2021

Medicines for Children Patient Information Leaflets. London: Royal College of Paediatrics and Child Health, Neonatal & Paediatric Pharmacists Group, WellChild. Available at: www.medicinesforchildren.org.uk