

ANTIMICROBIAL PRESCRIBING POLICY

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Applies to:	All Somerset Partnership NHS Foundation Trust staff employed or providing contracted services to the Trust who prescribe, apply PGDs, monitor, review and/or administer antimicrobial agents

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DOCUMENT CONTROL

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1 INTRODUCTION

- 1.1 This policy forms a sub-section of the Trust's Medicines Policy and sits within the responsibilities of the Medicines Oversight Group.
- 1.2 This policy sets out the standards for prescribing antimicrobials and describes principles for appropriate antimicrobial usage within the Trust, which must be used in conjunction with Trust antimicrobial guidelines, local formularies and best national practice.
- 1.3 Organisations are legally obligated to prevent, monitor and control healthcare associated infections. Key drivers for the content of this Policy include:
 - “The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance”.
 - The UK Five Year Antimicrobial Resistance Strategy 2013 to 2018 evidence based key recommendations about the prescribing of antibiotics.
 - NICE Guideline (PH63) “Healthcare associated infections; Prevention and control” for hospitals.
 - NICE clinical guidance (CG139) Healthcare-associated infections: prevention and control in the primary and community care.
 - NICE NG15 “Antimicrobial stewardship: systems and processes for effective antimicrobial medicines use”.
 - NICE QS121 Antimicrobial stewardship.
 - Public Health England (PHE) guidance “Managing common infections: guidance for primary care” evidence based guidance on treating common infections seen in primary care.
 - “Start Smart Then Focus: Antimicrobial stewardship toolkit for English hospitals” provides an outline of the evidence-based AMS in the secondary healthcare setting to help reduce inappropriate prescribing and optimise antibiotic use in the hospital setting.
 - The Care Quality Commission Regulation 12 specifies providers must assess the risk of, and preventing, detecting and controlling the spread of, infections, including those that are health care associated.
- 1.4 This policy has been developed with consideration of other local healthcare organisational policies to facilitate a consistent approach through the patient healthcare journey.

2 PURPOSE & RATIONALE

Purpose

- 2.1 To set the standards for prescribing antimicrobials and describe the principles for appropriate antimicrobial usage within the Trust.
- 2.2 This policy will support:
 - a) safe, effective and appropriate use of antimicrobial agents within the Trust.
 - b) continuous quality improvement for the safe, appropriate and prudent prescribing of antibacterial agents, thereby optimising patient outcomes.
 - c) reduction of the risk of multi-resistant infections, such as those caused by methicillin resistant *Staphylococcus aureus* (MRSA), multi-resistant gram negative / other resistant bacteria (MRGNOs) and *Clostridium difficile* (*C. difficile*; *C.diff*).
 - d) prolongation of the effectiveness of antimicrobial agents in the treatment of infections by reducing the risk of developing antimicrobial resistance.
 - e) effective audit of the use of antimicrobial agents is undertaken within the Trust.
 - f) the Trust compliance with Regulation 12(b) of the The Health and Social Care Act 2008 (Regulated Activities) Regulations 2014.
 - g) the Trust compliance with national best practice relating to antimicrobial use.
 - h) a consistent approach to the use of antimicrobials across the local healthcare community.

Rationale

- 2.3 Misuse of antimicrobials is one of the main factors driving antimicrobial resistance and healthcare associated infection in hospitals.
- 2.4 Misuse can be common and occurs when antimicrobial therapy:
 - is prescribed unnecessarily
 - is delayed in critically ill patients
 - is a broad spectrum antimicrobial and used indiscriminately
 - is a narrow spectrum antimicrobial used incorrectly
 - dose is lower or higher than appropriate for the specific patient
 - duration is too long or too short
 - is not streamlined (de-escalated) according to microbiological culture results.
- 2.5 There is convincing evidence that adverse events related to antimicrobial prescribing are reduced by such careful attention to stewardship.

3 POLICY STATEMENT

Antimicrobial Stewardship

- 3.1 The Antimicrobial Stewardship Group, a sub-group of the Medicines Oversight Group, is responsible for providing leadership on implementation and maintenance of principles of good antimicrobial stewardship within the Trust based upon national best practice and guidance as interpreted for the services provided.

Antimicrobial prescribing

- 3.2 All antimicrobial prescribing should be in line with the principles included in this policy in addition to national standards, guidance and best practice.
- 3.3 Antimicrobial Prescribing must in the first instance be in accordance with the Trust Infection Management Guidance. This guidance is available on the Medicines pages of the Trust intranet in the Antibiotics section here: <http://intranet.sompar.nhs.uk/operational-services/medicines/antibiotics/>
- 3.4 If appropriate antibiotics cannot be administered within the appropriate time scale for the presenting clinical condition, urgent consideration must be given to transferring the patient to a healthcare facility that is able to provide the level of treatment required.

General principles of antimicrobial prescribing

- 3.5 Prior to prescribing the prescriber must determine whether the patient has a history of allergy to antimicrobials. Any allergy needs to be clearly documented in the appropriate section of patient's medical record and available at the point of prescribing and administration or supply (see also [Medicines Policy](#)).

Details of a patient's allergy status do not need to be recorded on an FP10 prescription.

NB: Penicillin antibiotics are the most common cause of drug induced anaphylaxis.

- 3.6 Antimicrobial therapy must only be prescribed if clinically indicated according to the patient's clinical signs and / or symptoms of infection and / or sepsis.
- 3.7 Antimicrobial therapy must not be started or re-prescribed (continued) without clear clinical justification of bacterial infection, as it will subject the patient to unnecessary increased risk of colonisation or infection with *Clostridium difficile*, MRSA, MRGNOs and other multi-resistant pathogens.
- 3.8 The indication for prescription of any drug, including antimicrobials, must be recorded clearly in patient's medical record to facilitate on-going decisions. This must include continuation of antimicrobial therapy and repeat prescriptions.
- 3.9 Targeted therapy must be used in preference to empirical and / or broad-spectrum antibiotic treatment, unless there is a clear, documented

clinical reason (such as unknown, mixed infection or life-threatening sepsis (see paragraphs [3.276-3.287](#))).

- 3.10 The rationale for the specific antimicrobial therapy choice, duration of therapy and route of administration must be clearly documented on the patient's medical record.
- 3.11 The intended duration of therapy, review date and / or stop date and the route of administration must be clearly documented on the medicines administration record(s) or the prescription.
- 3.12 Broad spectrum antibiotics such as co-amoxiclav, cephalosporin and quinolones increase the risk of *Clostridium difficile*, MRSA, extended-spectrum beta-lactamases (ESBLs), Resistant Amp C Type Beta Lactamases, and resistant urinary tract infections. Using broad spectrum antibiotics must be carefully considered (also see paragraph [3.37](#)). Please refer to Appendix 1 for details on broad spectrum, restricted antimicrobials and *Clostridium difficile* risk.
- 3.13 The enteral route of administration is preferred to the intravenous route where ever possible: When clinically appropriate to do so the route of treatment should, wherever possible, be changed from parenteral to oral. However intravenous antimicrobial therapy is indicated in certain circumstances.
- 3.14 The dose must be appropriate for the patient's renal and hepatic function and weight.
- 3.15 Account should be taken of medications already being prescribed; antimicrobials may significantly interact with concurrent medication. Particular attention must be paid to anticoagulants, anti-epileptics and 'statins'. The Summary of Product Characteristics (SmPC) and BNF provide the primary sources of reference but the Trust Medicines Management team can also provide advice.
- 3.16 Patients and /or carers should be provided with information on the condition being treated by the antimicrobial prescribed and the expected progress of their treatment / condition. Ensure safety netting (see paragraph [4.4](#)) and signposting is provided where appropriate.
- 3.17 Where responsibilities for the management of a patient's infection is shared or provided across organisational boundaries, Trust staff involved in prescribing, supplying or administration of antimicrobial therapy must ensure standards of antimicrobial prescribing are met and the aspects of care that the Trust is responsible and accountable for complies with Trust policy and procedures.

Guidance on antimicrobial prescribing choice

- 3.18 The Trust's Antimicrobial Prescribing Guidelines guide antibiotic choice, dosing and duration within the Trust and must be considered when choosing antimicrobial therapy.
- 3.19 Any antimicrobial prescribing not included in this guidance or deviating from this must be clinically justified and documented in the patient's medical record.

- 3.20 Where Trust guidelines do not exist, prescribing must follow recognised national best practice supported by professional bodies or recognised references.
- 3.21 Consultant Medical Microbiologists (CMM) can be contacted for advice when required and is generally recommended for more complex infections or when prescribing outside Trust guidelines.
- 3.22 Discussions with CMM including details of the treatment plan (including the proposed review, escalation and / or de-escalation) must be documented in the patient's medical notes.

Transfer of care

- 3.23 Clear documentation of the reason for initial prescribing and the original intended course duration, review date and / or stop date for any ongoing antimicrobial treatment must be provided on the transfer of care to the receiving healthcare provider. This must include any escalation / de-escalation treatment plans.
- 3.24 Staff must do their utmost to ensure information (see paragraph [3.26](#)) on existing and relevant or recent antimicrobial use is received from other healthcare providers when accepting patients for admission to Trust services. This must include any escalation / de-escalation treatment plans. When information is not provided on transfer of care to the Trust a Datix report must be completed.
- 3.25 Staff must ensure information (see paragraph [3.26](#)) on existing and recent antimicrobial use is provided on the transfer of care to the receiving healthcare provider. This must include any escalation / de-escalation treatment plans.
- 3.26 Information to be communicated at transfer of care should include as a minimum for each antimicrobial agent:
- Drug name
 - Indication
 - Dose, route, duration or intended duration (for on-going treatment) / stop date / review date
 - The outcome or treatment escalation or de-escalation plan and on-going review requirements.

Sepsis

- 3.27 Patients identified with possible sepsis must receive treatment and escalation in accordance with the Trust deteriorating patient pathway. If antibiotics are clinically indicated for sepsis, the best outcomes for the patient are achieved if antibiotics are given within the first hour following identification.
- 3.28 If administration of antimicrobials for treatment of sepsis within one hour is clinically indicated but not possible or not likely to be possible, the patient

must be urgently transferred to the nearest healthcare facility that can provide the level of treatment required.

- 3.29 If a decision is made to not transfer the patient and administer antimicrobials for the treatment of sepsis is clinically indicated a Datix report must be completed if the one hour target (see paragraphs [3.27](#) and [3.28](#)) is not achieved.

C.diff, MRSA, MRGNO, tuberculosis and bacterial meningitis

- 3.30 In addition to guidance in the Trust infection Management guidance additional guidance and Trust policy on the management, including antimicrobial treatment, of specific infections is also available in the following policies:
- Catheterisation Policy
 - Clostridium difficile – Infection Prevention and Control Policy
 - Meningococcal Meningitis Policy
 - MRSA Policy
 - Multi-Resistant Gram Negative Organisms (MRGNO) Policy
 - Tuberculosis and Multi Drug Resistant Tuberculosis Policy

Initial antimicrobial prescribing (“Start Smart”)

- 3.31 Existing culture and susceptibility testing results must be checked prior to prescribing to facilitate best choice antibiotic.
- 3.32 The narrowest spectrum agent(s) possible must be used. See paragraph [3.9](#).
- 3.33 Relevant clinical specimens must be obtained (for culture and sensitivity testing) prior to first administration of antimicrobial agents, unless immediate empirical treatment is indicated or it is not possible to obtain specimens. Cultures are important to isolate the infecting organism(s), facilitating targeted therapy and de-escalation and to determine the presence of antimicrobial resistance. Please refer to the [Handling and Delivery of Laboratory Specimens Policy](#).
- 3.34 The health care practitioner requesting a specimen for culture is responsible for documenting the request in the patient’s medical record and requesting that the results are followed up. This applies to medical and non-medical staff.
- 3.35 When microbiological culture and susceptibility test results become available they must be recorded in the patient’s medical record and wherever possible de-escalate broad spectrum empirical antimicrobial therapy to narrower spectrum antimicrobial therapy.

Empirical antimicrobial prescribing (“Start Smart”)

- 3.36 When empirical treatment is necessary, narrow spectrum antimicrobial agents should be prescribed in preference to broad spectrum agents where appropriate.
- 3.37 Broad spectrum empirical antimicrobial therapy may be indicated in certain circumstances for example:
- a) life threatening infection or sepsis when prompt appropriate therapy is critical to a successful outcome.
 - b) patients who are immunosuppressed.
 - c) patients with suspected or confirmed polymicrobial infection.
 - d) patients recently exposed to antimicrobial therapy or failed first line therapy with more narrow spectrum agents.
 - e) patients at risk of infection with resistant organisms due to recent hospitalisation.
 - f) a history of colonisation or infection with resistant microorganisms.

See also paragraphs [3.9](#) to [3.12](#)

Ongoing inpatient Antimicrobial Care (“Then Focus”)

- 3.38 Review the clinical diagnosis and the continuing need for all antimicrobial therapy within 48 hours or no later than the third day of treatment unless:
- prescribed for a definitive course according to Trust guidance
 - a clear escalation / de-escalation / continuation plan is in place
- 3.39 Microbiology and additional clinical results must be considered during antimicrobial treatment review and / or when they become available alongside clinical judgement.
- 3.40 The FIVE antimicrobial decisions to be considered at the review are: Stop, Switch, Switch IV to oral, Change (escalation / de-escalation/ alternate agent) or consider Outpatient intravenous antibiotics where this can be arranged.
- 3.41 Clearly document the review and subsequent decision or plan of action in the patient’s medical notes – the “Antimicrobial Prescribing Decision”. This may include another review at a specified time interval.
- 3.42 Intravenous antimicrobial therapy should be reviewed no later than the third day and switched to oral alternatives where clinically appropriate.
- 3.43 The reason for continuing intravenous antimicrobials beyond the third day must be documented in the patient record and the prescription reviewed daily. Refer to the Trust IV to oral switch guidance for criteria for switch from intravenous to enteral administration.
- 3.44 Enteral antimicrobial therapy should be limited to and discontinued after a maximum of 5 days unless following antibiotic guidelines and/ or otherwise specified and documented in the patient medical record.

Antimicrobial prophylaxis – general principles

- 3.45 Prophylactic antimicrobials should be prescribed or supplied to a patient , in line with Trust guidelines or PGDs, national standards, guidance or best practice.
- 3.46 The clinical indication, drug, dose, route and intended duration for antimicrobial prophylaxis must be recorded in the patient’s medical record.
- 3.47 For detailed guidance of circumstances when antimicrobial prophylaxis for catheterisation may be appropriate please refer to the [Catheterisation Policy](#).

Antimicrobial prophylaxis for surgical procedures

- 3.48 Where prophylaxis for surgery is indicated the first dose of antibiotic(s) should be administered pre-operatively on induction of anaesthesia or at most within 60 minutes prior to incision unless otherwise advised in national standards, guidance or best practice. Reasons for deviance must be documented in the patient’s medical record.
- 3.49 Where required, single dose antimicrobial prophylaxis is preferred. Antimicrobial prophylaxis for surgery is not required beyond 24 hours for the majority of surgical procedures. Established infection discovered during surgery is an indication for converting antimicrobial prophylaxis into antimicrobial treatment.

Administration of antimicrobials

- 3.50 All staff administering antimicrobials must do so in line with the Trust’s Medicine Policy, Administration by Injection Policy and other relevant Trust policies.

Administration of IV antimicrobials

- 3.51 For details of the IV Monographs that must be used by staff administering IV antibiotics and how to access them see the [Administration by Injection Policy](#) (Appendix A).
- 3.52 Alternative Trust monographs may be used in specific circumstances, depending on patient safety, treatment continuation or complex needs. If a decision is made to use an alternative monograph, this must be documented in the patient’s medical record. (see paragraph [5.6\(b\)](#))

4 DEFINITIONS

- 4.1 **Antimicrobial therapy:** the treatment of infection with antibacterial, antifungal and antiviral medications.
- 4.2 **Empirical antimicrobial therapy:** the treatment of infection when the causative organism(s) are not known.
- 4.3 **Antimicrobial prophylaxis:** the use of antimicrobials to prevent infection.
- 4.4 **Safety netting:** ensuring that systems are in place to provide safe monitoring and follow-up, as well as the specific advice given to individual patients by the clinician.

5. DUTIES AND RESPONSIBILITIES

- 5.1 The Trusts Antimicrobial Stewardship Group (AMS) has overall responsibility for the content, implementation, and monitoring of the policy and will be provided with regular reports of antimicrobial prescribing.
- 5.2 The Medicines Oversight Group (MOG) approves the content of the policy.
- 5.3 Identified compliance exception reporting will be provided by AMS to MOG.
- 5.4 In exceptional circumstances, changes to this policy and associated antimicrobial prescribing guidance can be made on the recommendation of the Chair of the AMS group following consultation with the appropriate stakeholders, with approval by the Chief Medical Officer and Trust Chief Pharmacist.
- 5.5 Directorate governance leads, heads of departments, services and teams, professional leads and line managers are responsible for informing staff of this policy and any associated organisational policies (including PGDs), Standard Operating Procedures (SOPs), guidelines and protocols (including local clinical / formulary guidance on the use of antimicrobial agents).
- 5.6 Role of staff working under this Policy:
 - a) This policy applies to all staff employed or providing contracted services to the Trust who prescribe, follow PGDs, prepare and/or administer antimicrobial medication, who will ensure they have an up to date working knowledge of this Policy and associated prescribing guidance for the antimicrobial agent to be prescribed, prepared and/or administered.
 - b) Where responsibilities for the treatment of patients infections is shared across organisational boundaries, staff should be aware of the Antimicrobial Policy(ies) of each organisation and practice in line with good antimicrobial stewardship.
 - c) Staff working under this policy will identify any required training needs and attend relevant study sessions relating to this policy.
 - d) Staff must work within their codes of professional practice.
 - e) All staff involved in the use of antimicrobials are responsible for encouraging adherence to the policy and for reporting non-adherence.

6 MONITORING COMPLIANCE AND EFFECTIVENESS

- 6.1 The Antimicrobial Stewardship Group (AMS) will be responsible for monitoring compliance with and effectiveness of this policy.
- 6.2 Various methods will be used to monitor compliance including: annual audit, internal audits, external audit or investigations and reports, complaints monitoring, incident reporting and monitoring, clinical effectiveness monitoring.
- 6.3 All policy monitoring will be presented to the AMS group to review.
- 6.4 The Antimicrobial Stewardship Group will report non-compliance and associated action plans to address such practice to the Medicines Oversight Group and the Infection Prevention and Control Assurance Group.
- 6.5 Progress with any action plans and learning will be monitored by the AMS Group and reported to MOG and the Infection Prevention and Control Assurance Group.
- 6.7 Performance will be fed back to individual areas.

7 TRAINING AND COMPETENCY REQUIREMENTS

- 7.1 The Trust will work towards all staff being appropriately trained in line with the organisation's Staff Training Matrix (training needs analysis). All training documents referred to in this policy are accessible to staff within the Learning and Development Section of the Trust Intranet.

8 REFERENCES, ACKNOWLEDGEMENTS AND ASSOCIATED DOCUMENTS

References

The Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance

<https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance>

UK 5 Year Antimicrobial Resistance Strategy 2013 to 2018

<https://www.gov.uk/government/publications/uk-5-year-antimicrobial-resistance-strategy2013-to-2018>

NICE guidelines (PH36): Healthcare-associated infections: prevention and control

<https://www.nice.org.uk/guidance/ph36>

Healthcare-associated infections: prevention and control in primary and community care Clinical guideline (CG139)

<https://www.nice.org.uk/guidance/cg139>

NICE Guidance (NG15) : Antimicrobial stewardship; systems and processes for effective antimicrobial medicines use
<https://www.nice.org.uk/Guidance/NG15>

PHE Managing common infections: guidance for primary care

<https://www.gov.uk/government/publications/managing-common-infections-guidance-for-primary-care>

Start Smart Then Focus: Antimicrobial stewardship toolkit for English hospitals

<https://www.gov.uk/government/publications/antimicrobial-stewardship-start-smart-then-focus>

The Care Quality Commission Regulation 12: Safe care and Treatment.
<http://www.cqc.org.uk/content/regulation-12-safe-care-and-treatment#guidance>

Taunton and Somerset NHS Foundation Trust Antimicrobial Prescribing Policy and Guidelines

<http://intranet.tsft.nhs.uk/Default.aspx?alias=intranet.tsft.nhs.uk/antimicrobial-guidelines>

Somerset CCG Infection Management Guidance

<http://www.somersetccg.nhs.uk/about-us/how-we-do-things/prescribing-and-medicines-management/prescribing/prescribing-guidelines-by-clinical-area/infection>

Cross reference to other procedural documents

- Administration by Injection Policy
- Catheterisation Policy for Adults
- Clostridium difficile Policy
- Infection, Prevention and Control Policy
- Laboratory Specimens (Handling and Delivery of) Policy
- Learning Development and Mandatory Training Policy
- Medicines Policy
- Meningococcal Meningitis Policy
- MRSA Policy
- Multi-Resistant Gram Negative Organisms (MRGNO) Policy
- Physiological Observations in adult patients in a community setting
- Physiological Observations Policy for inpatients and minor injury units (including Wessex House)
- Record Keeping and Records Management Policy
- Risk Management Policy and Procedure

- Staff Mandatory Training Matrix (Training Needs Analysis)
- Untoward Event Reporting Policy and procedure
- Wound Management Policy

All current policies and procedures are accessible in the policy section of the public website (on the home page, click on 'Policies and Procedures'). Trust Guidance is accessible to staff on the Trust Intranet.

9. APPENDICES

- 9.1 For the avoidance of any doubt the appendices listed within the contents page in this policy are to constitute part of the body of this policy and shall be treated as such.

Appendix 1

Broad spectrum and restricted antimicrobials

- Indiscriminate use of antimicrobials, particularly broad spectrum agents, can have a negative impact for individual patients and the population as a whole.
- Antibiotic use is a major risk factor for *Clostridium difficile* infection (CDI). CDI is particularly associated with the use of certain antibiotics, particularly cephalosporins, and also if a 'cocktail' of antibiotics are used. See Table 1. The fluoroquinolones (eg ciprofloxacin) are also considered as high risk antibiotics due to the emergence of ribotype 027 which is resistant to these agents

High Risk	Medium Risk	Low Risk
Clindamycin	Amoxicillin	Gentamicin
Cephalosporins	Macrolides (e.g. Clarithromycin, erythromycin)	Vancomycin / teicoplanin
Quinolones (e.g. ciprofloxacin, levofloxacin)		Benzympenicillin / flucloxacillin
Carbapenems (e.g. meropenem)		Tetracycline (e.g. Doxycycline)
Amoxicillin/co-amoxiclav		Metronidazole
Tazobactam with piperacillin (Tazocin [®])		Trimethoprim

Table 1. Potential for antibiotics to cause *Clostridium difficile* infection

- Antibiotic use is known to drive the development of antibiotic resistance in bacteria even if the bacteria are not directly exposed to antibiotics.
- When commencing broad spectrum antibiotics, attention should be paid to concurrent prescription of Proton-Pump Inhibitors (PPIs) such as omeprazole. Where possible PPIs should be discontinued as they may contribute to acquisition of *Clostridium difficile*.
- Non-formulary antimicrobials must not be prescribed without authorisation from a Consultant Microbiologist unless recommended in the Trust guidelines.