Joint Trust Guideline for the Management of: Prevention of Endocarditis In Adults and Children

Document Control:

For Use In:	Norfolk and Norwich University Hospitals (NNUH), James Paget University Hospitals (JPUH)		
	Clinical areas treating patients with a risk of developing endocarditis		
Search Keywords	Endocarditis, prophylaxis, antibiotics		
Document Author:	Caroline Hallam, Specialist Pharmacist, Antimicrobials (NNUH)		
Document Owner:	Medicine		
Approved By:	Clinical Guidelines Assessment Panel		
Ratified By:	Clinical Safety and Effectiveness Sub-board		
Approval Date:	24th April 2023	**Date to be reviewed by:** This document remains current after this date but will be under review	24th April 2026
Implementation Date:	11th May 2023		
Reference Number:	1322		

Version History:

Version	Date	Author	Reason/Change
3	November 2019	Specialist Pharmacist, Antimicrobials (NNUH)	Change to references
4	April 23	Specialist Pharmacist, Antimicrobials (NNUH)	Updated to fit new Trust Docs template

Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Distribution Control

Consultation

The following were consulted during the development of this document:

- Dr Ourania Kakisi, Consultant Microbiologist, Chair of Antimicrobial Sub Committee (NNUH)
- Dr Leisa Freeman, Consultant Cardiologist (NNUH)
- All NNUH cardiologists, all NNUH microbiologists and all NNUH dentists. Appropriate comments were addressed.
- Antimicrobial Subcommittee
- Trusts and PCTS Clinical Governance Committee.

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to Acute Collaborative: NNUH and JPUH; please refer to local Trust's procedural documents for further guidance.

Guidance Note

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document**.**

Trust Guideline for the Management of: - Prevention of Endocarditis In Adults and Children

Contents Page

1. Introduction

1.1. Rationale

This guideline was written to ensure appropriate antibacterial prophylaxis in patients at high risk of endocarditis. In March 2008 NICE issued a guideline which recommended that no patient groups received antibacterial prophylaxis for any procedure. However, the NNUH cardiologists as well as a substantial body of UK cardiologists, Anglia Cardiac Network, the Oral Health Advisory Group and the NNUH Microbiologists are not in agreement with this and therefore these guidelines have been written. In August 2009 the Task Force on the Prevention, Diagnosis and Treatment of Infective Endocarditis of the European Society of Cardiology (ESC) issued guidelines on the prevention, diagnosis and treatment of infective endocarditis. This guideline does not support the extensive use of antibiotic prophylaxis recommended in previous guidelines. They recommend that prophylaxis should be limited to the highest risk patients (patients with the highest incidence of IE and/or highest risk of adverse outcome with IE). We recommend giving antibiotics in 3 specific groups of patients which is in line with guidance from the American College of Cardiology/American Heart Association and the European Society of Cardiology.

1.2. Objective

To ensure that the prescribing of antibacterial prophylaxis for patients at high risk of developing endocarditis is appropriate and given to the correct patient groups.

1.3. Scope

Only patients in the 3 groups specified below should receive antibiotic prophylaxis for endocarditis when undergoing dental procedures.

Patients who are not in the 3 groups listed below have a right to antibiotic prophylaxis if requested. A letter should be written from their cardiologist to the dentist requesting this if they are in agreement.

Infective endocarditis is an infection of the lining of the heart, particularly affecting the heart valves, caused mainly by bacteria but occasionally by other infectious agents. It is a rare condition but people with certain structural cardiac conditions are at risk. Despite advances in diagnosis and treatment, infective endocarditis remains a life-threatening disease with significant mortality (about 20%) and morbidity.

Healthcare professionals should be alert to the potential for endocarditis in patients with at risk cardiac conditions. Symptoms that may indicate infective endocarditis are rigors, night sweats and malaise and expert advice should be sought straight away if endocarditis is suspected.

1.3.1. Patients at risk of developing Infective Endocarditis

Adults or children with

- Acquired valvular heart disease with stenosis or regurgitation

- Valve replacement
- Structural congenital heart disease, including surgically corrected or palliated structural conditions, but excluding isolated atrial septal defect, fully repaired ventricular septal defect or fully repaired patent ductus arteriosus, and closure devices that are judged to be endothelialised
- Hypertrophic cardiomyopathy
- Previous infective endocarditis

The NICE guidelines published in March 2008 (updated September 2015 and July 2016) recommend that antibiotic prophylaxis is no longer routinely recommended in any patient group. The Task Force on the Prevention, Diagnosis and Treatment of Infective Endocarditis of the European Society of Cardiology issued guidelines in 2015. These guidelines do not support the extensive use of antibiotic prophylaxis which is recommended in previous guidelines. Instead, they recommend that prophylaxis should be limited to the highest risk patients (patients with the highest incidence of IE and/or highest risk of adverse outcome from IE). After studying these guidelines and undergoing extensive local consultation we make the following recommendations.

1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
NNUH	Norfolk and Norwich University Hospitals
JPUH	James Paget University Hospitals
NICE	National Institute for Health and Care Excellence
IE	Endocarditis
ESC	European Society of Cardiology
EIA	Equality Impact Assessment

2. Responsibilities

- Medical staff – will prescribe antibiotics in endocarditis in accordance with this policy.
- Nursing staff – will administer antibiotics in accordance with this policy.
- Pharmacy staff – will check prescriptions in accordance with this policy.

3. Processes to be followed

3.1. Summary of Recommendations

We recommend that antibiotic prophylaxis is only given for patients who are ***undergoing dental procedures*** and have had

1. **Previous endocarditis**
2. **Valve (any) replacement**
3. **Right to left shunts (e.g. cyanotic congenital heart disease)**
4. **Or on the specific recommendation of consultant cardiologist following formal letter advising as such.**

(See section 1 below)

Patients who do not have conditions 1-3 above will NOT be routinely be given antibiotic prophylaxis for dental procedures (section 2 below). The exception is if the patient requests endocarditis prophylaxis (see section 3 below).

Antibiotic prophylaxis will not routinely be given if patients are in the above groups 1-3 but are NOT undergoing a dental procedure (see section 5)

3.2. General counselling points for ALL at risk patients

Healthcare professionals should offer people at risk of infective endocarditis clear and consistent information about prevention including:

The benefits and risks of antibiotic prophylaxis and an explanation of why antibiotic prophylaxis is no longer routinely recommended. The potential for development of endocarditis and the symptoms of endocarditis (rigors, night sweats, malaise) should be reported to a medical practitioner at once.

The importance of maintaining good oral health should be discussed at diagnosis and the patient reminded of this at each medical contact.

The risks of undergoing invasive procedures, including non-medical procedures such as body piercing or tattooing

At risk patients should be given patient information sheet about NICE clinical guidelines. http://www.nice.org.uk/Guidance/CG64/PublicInfo/pdf/English

The patient should be advised to have a regular dental check-up, ideally 6 monthly.

The patient should be advised that chlorhexidine mouth wash is no longer routinely recommended.

3.3. Antibiotic Prophylaxis for patients in <u>group 1-3</u> undergoing dental procedure	
Patients who have NOT received more than a single dose of penicillin in the previous month	> 10 years - Amoxicillin 3g (oral) >5 years & < 10 years - Amoxicillin 1.5g (oral) < 5 years – Amoxicillin 750mg (oral)
Patients who are penicillin-allergic or who have received more than a single dose of penicillin in the previous month	> 10 years – Clindamycin 600mg (oral) >5 years & < 10 years – Clindamycin 300mg (oral) < 5 years – Clindamycin 150mg (oral)

3.4. Patients undergoing dental procedure who DO NOT require prophylaxis (i.e. not in group 1-3)

If a patient is considered at risk of developing endocarditis but DOESN'T have a condition listed 1-3 above then we no longer routinely recommend antibiotic prophylaxis for any procedure. Instead the below advice should be given.

For patients in this group offer the following advice.

1. The benefits and risks of antibiotic prophylaxis, and an explanation of why antibiotic prophylaxis is no longer routinely recommended.
2. Refer to counselling points above.

If after the above the patient still wishes to have antibiotic prophylaxis then it should be their informed decision and right to do so.

A letter of support should be written from the NNUH cardiologist if in agreement, to the dentist, the patient and their primary care practitioner to confirm this.

They should then be given antibiotic prophylaxis as in section 1 above.

3.5. Managing Infection

Investigate and treat promptly any episode of infection in people at risk of infective endocarditis to reduce the risk of endocarditis developing.

3.6. Patients undergoing NON DENTAL procedures

Antimicrobial prophylaxis is **NOT** recommended for the prevention of endocarditis in patients undergoing procedures of the:

- Upper and lower respiratory tract (including ear, nose, and throat procedures and bronchoscopy)
- Genito-urinary tract (including urological, gynaecological and obstetric procedures and childbirth)
- Upper and lower gastro-intestinal tract

If patients at risk of endocarditis are undergoing a gastro-intestinal or genito-urinary tract procedure at a site where infection is suspected they should receive appropriate antibacterial therapy that includes cover against the organism that causes endocarditis.

4. References

1. NICE guidelines. March 2008 Antimicrobial Prophylaxis against Infective Endocarditis, updated July 2016
2. 2015 ESC Guidelines for the Management of Infective Endocarditis
3. British National Formulary, September 2009

5. Audit of the policy principles

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
All patients should receive prophylaxis if necessary according to this policy	Audit	Antimicrobial Subcommittee/ Cardiology Consultants	Cardiology/ Microbiology	Biannually

The audit results are to be discussed at relevant governance meetings to review the results and recommendations for further action. Then sent to Antimicrobial Subcommittee who will ensure that the actions and recommendations are suitable and sufficient.

6. Appendices

Appendix 1: Prophylactic antibiotics for dental procedures

Our Vision
To provide every patient with the care we want for those we love the most

Norfolk and Norwich University Hospitals NHS
NHS Foundation Trust

CONGENITAL HEART SERVICE (GUCH/ACHD)
Maternal Cardiology
Pulmonary Vascular Disease

Consultant Cardiologists:
Dr Leisa Freeman

Dr Catherine Head

Specialist Nurses:
Toni Hardiman
Beth Brickham
Sue Gilbert

Department of Cardiology
Out-Patients East
Norfolk & Norwich University Hospital
Colney Lane
Norwich NR4 7UY
Direct Fax 01603 289750
Leisa.freeman@nnuh.nhs.uk
Direct Dial 01603 289666
Cathy.head@nnuh.nhs.uk
Direct Dial:01603 288389
GUCH Specialist Nurses:
Direct Dial: 01603 287292,
Out of hours: 01603 286286 bleep 0099
Email: nnu-tr.guch@nhs.net

Prophylactic antibiotics for dental procedures

In 2008, the National Institute of Clinical Excellence (NICE) produced a new endocarditis prophylaxis guideline. It underlines the need for good dental hygiene (i.e. brushing twice a day and use of interdental brushes) with regular dental visits (ideally 6 monthly), but no requirement for antibiotics before dental procedures. The guideline also emphasized that an informed patient may continue to request antibiotics for dental procedures. Either the Dentist (confirmed by Chief Dental Officer) or the GP would provide these.

The British Congenital Cardiac Association supports the NICE guideline

For most native valve and congenital heart conditions, we follow the NICE Guideline

There are three groups of patients who are at higher risk of endocarditis, or more severe complications from endocarditis if it occurs. These are patients with:

- **Previous endocarditis**
- **Cyanosis (ie blue patients) with a shunt (hole in heart or connection between blue and red blood circulation)**
- **A mechanical valve replacement (or percutaneous pulmonary valve for 6 months post implant)**

The American Heart Association and European Society of Cardiology do advise antibiotic prophylaxis for these patients. This is different from the NICE guideline advice but we think is also a sensible approach. For patients in these groups we advocate **an individualised** assessment of risk and benefit, taking into consideration the patient's wishes. If antibiotic prophylaxis is advised, this is oral Amoxycillin 3g 1 hour before the procedure or Clindamycin 600mg if allergic to penicillin.

LJF CEH

7. Equality Impact Assessment (EIA)

Type of function or policy	New/Existing (remove which does not apply)

Division	Division 4	**Department**	Microbiology
Name of person completing form	Caroline Hallam	**Date**	24.04.2023

Equality Area	Potential Negative Impact	Impact Positive Impact	Which groups are affected	Full Impact Assessment Required YES/NO
Race	None	None	N/A	No
Pregnancy & Maternity	Contraindication of certain medications in pregnancy and breastfeeding	None	N/A	No
Disability	None	None	N/A	No
Religion and beliefs	None	None	N/A	No
Sex	None	None	N/A	No
Gender reassignment	None	None	N/A	No
Sexual Orientation	None	None	N/A	No
Age	None	None	N/A	No
Marriage & Civil Partnership	None	None	N/A	No
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?				

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.