Sherwood Forest Hospitals
NHS Foundation Trust

TITLE: CARBAPENEMASE-PRODUCING ENTEROBACTERIACAE PROCEDURE

Document Category:	**CLINICAL**
Document Type:	**PROCEDURE**

Keywords:	CPE, CRE, CRO, MDRO, Multi-Drug Resistant Organisms: Control and Prevention Policy

Version:	Issue Date:	Review Date:
2.1	4th April 2024	July 2025

Supersedes:	Version 2.0, Issued 29th July 2022 to Review Date July 2025		
Approved by (committee/group):	• V2.0, Infection Prevention and Control Committee • V2.1, Infection Prevention and Control Committee	**Date Approved:**	08/07/2022 09/02/2024

Scope/ Target Audience: (delete as applicable and/ or describe)	**Trustwide**

Evidence Base/ References:	• Public Health England. 2013. *Acute trust toolkit for the early detection, management and control of carbapenemase-producing Enterobacteriaeae.* • MMWR. 2010. *Guidance for control of infections with carbapenem-resistant or carbapenem-producing lenterobacteriaceae* in acute care facilities. 20:256-260

Lead Division:	Clinical Support, Therapies and Outpatients
Lead Specialty/ Department: (Or Division if 'divisionally' owned)	Infection Prevention and Control
Lead Author: (position/ role and name)	[redacted], Nurse Consultant Infection Prevention and Control
Co-Author(s): (position/ role and name if applicable)	Not Applicable
Sponsor (position/ role):	Director for Infection, Prevention & Control

Name the documents here or record not applicable *(these are documents which are usually developed or reviewed/ amended at the same time – ie a family of documents)*	
Associated Clinical Policy	• Multi-Drug Resistant Organisms: Control and Prevention Policy
Associated Clinical Guideline(s)	N/A
Associated Clinical Pathway(s)	N/A
Associated Standard Operating Procedure(s)	N/A
Other associated documents e.g. documentation/ forms	N/A

Consultation Undertaken:	V2.1 • Members of the Infection Prevention and Control Committee V2.0 Members of IPCC

Template control:	v2.0 September 2023

Amendments from previous version(s)

Version	Issue Date	Section(s) involved (author to record section number/ page)	Amendment (author to summarise)
2.1	April 2024	Process/ patient admission flow chart	• Amended as no longer require repeat swabs on day 2 and day 4
			•

CONTENTS

1 INTRODUCTION/ BACKGROUND

Carbapenemases are enzymes that destroy carbapenem antibiotics, causing resistance; they are made by a small but growing number of microorganisms (PHE 2013). There are different types of carbapenemases, of which KPC, OXA-48, NDM and VIM enzymes are currently the most common. Carbapenem resistant organisms (CRO) is emerging as a public health threat; and is prevalent in many countries, with some strains having geographic associations e.g. NDM-1 in India, Pakistan, KPC in the USA, Israel, Greece with outbreaks elsewhere in Europe, OXA widespread in Turkey, Middle East and North Africa. Although these infections are rare, there are several reports highlighting these highly resistant bacteria in UK hospitals, which is concerning. The microorganisms of most concern include highly resistant strains of Klebsiella pneumoniae and Escherichia coli.

2 AIMS/ OBJECTIVES/ PURPOSE

The aim of this procedure is to provide details of how to manage a patient with a CPE.

3 PROCEDURE DETAILS (including Flowcharts)

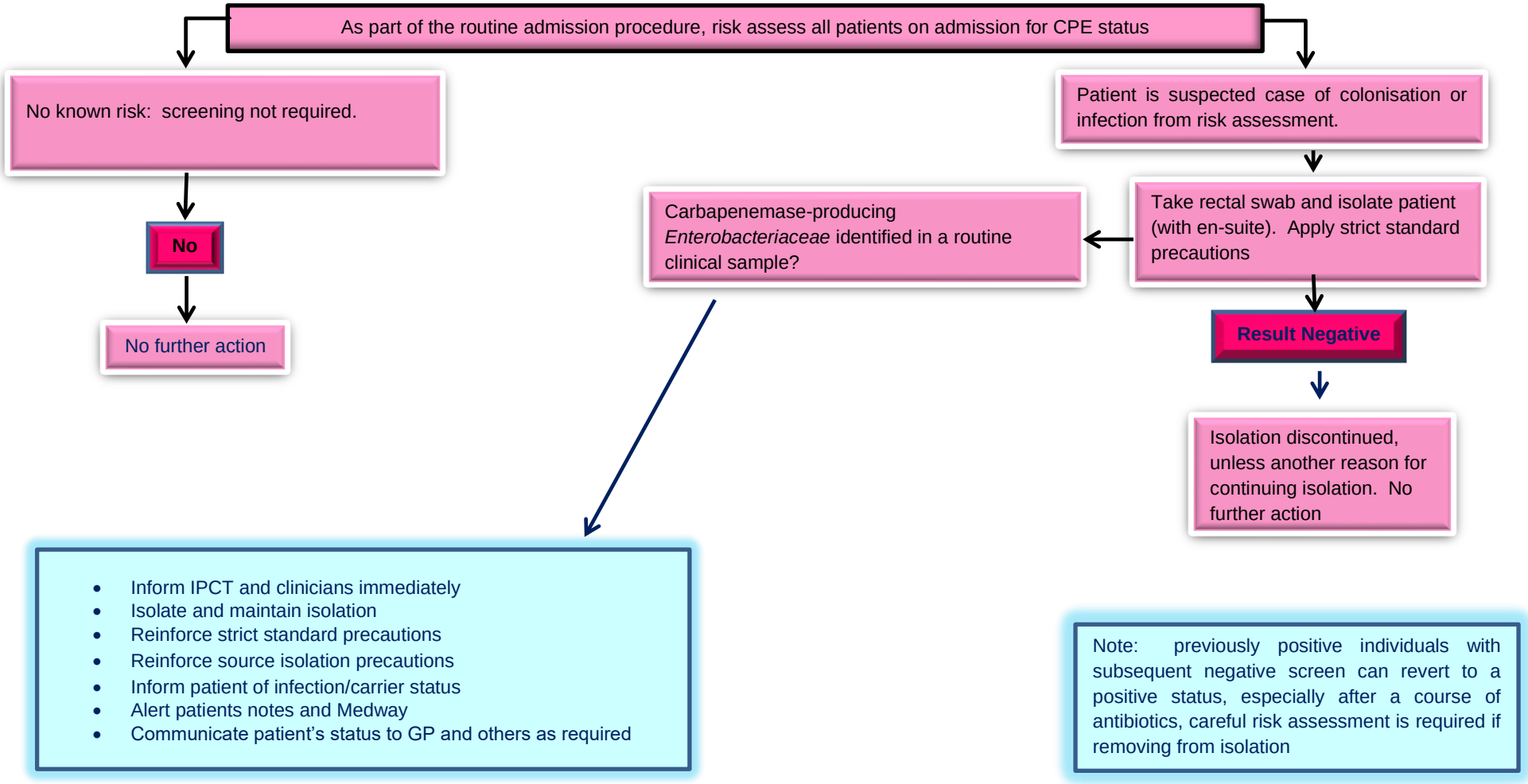
All patients should be considered for the risk of CPE on admission:

- Complete a risk assessment (as below)
- Carry out screening where require (as below)
- Isolate where required (as below)
- List of high risk areas/places see Appendix A

Single patient risk factor assessment for exposure to carbapenemase-producing Enterobacteriaceae

This form is to assist in the assessment of the likely source / transmission route and appropriate interventions. Once this assessment is complete follow flowchart on page 5. *Any yes's in shaded area patients will require screening and isolation.*			
Name: DOB: Referral date: Address: GP:			Hospital or healthcare setting where inpatient currently residing: Date of admission: Confirmatory laboratory result details: Result date:
QUESTIONS *(if yes to any, please give details)*	Y	N	COMMENTS / NOTES
Does the patient have a history of previous carbapenemase-producing Enterobacteriaceae colonisation or infection? *If yes*, *include dates of positive results (if known)*			
Has the patient had close contact with a person with a who is current/previously known to be colonised or infected with a CPE.* **A person living in the same house; sharing the same sleeping space (room or hospital bay); or a sexual partner*			
Has the patient *(please give all relevant details)*:			
Received hospital treatment abroad in the last 12 months? *Including inter-healthcare transfers*			
Has the patient *(please give all relevant details)*:			
Been an inpatient in a hospital anywhere in the UK in the past year *If yes, state hospital name and dates of stay*			
Additional information			

Patient admission flow chart for CRE



(PHE 2013)

4 EDUCATION AND TRAINING

Although there is no specific training for this procedure the following core infection prevention and control training will be provided:

- Clinical staff to receive practical hand hygiene training on induction and every year thereafter
- Clinical staff to receive face-to-face induction training on aspects of infection prevention and control precautions to prevent the spread of all known or undisclosed transmissible infection, every year thereafter

If further assistance and/or training required, this can be sought from senior colleagues and/or the Infection Prevention and Control Team.

5 MONITORING COMPLIANCE AND EFFECTIVENESS

- Departmental and ward compliance with Infection Prevention and Control procedures will be monitored by members of the IPCT during their weekly routine visits
- Audit activities will be in accordance with the Infection Prevention and Control audit programme. Department/Ward managers or their Deputy will support and enforce on a day-to-day basis adherence to Infection Prevention and Control practices to all staff and visitors in their relevant work areas

6 EQUALITY IMPACT ASSESSMENT

- Completed on overarching policy

7 APPENDICES

Appendix A: Countries and regions with reported high prevalence of healthcare-associated carbapenemase-producing Enterobacteriaceae

Appendix A: Countries and regions with reported high prevalence of healthcare-associated carbapenemase-producing Enterobacteriaceae

Bangladesh	North Africa (all)
The Balkans	Malta
China	Middle East (all)
Cyprus	Pakistan
Greece	South East Asia
India	South/Central America
Ireland	Turkey
Israel	Taiwan
Italy	USA
Japan	
This is not an exhaustive list; admission to <u>any</u> hospital abroad should be considered when making a risk assessment. Lack of data from a country not included in this list may reflect lack of reporting / detection rather than lack of a carbapenemase problem (which may additionally contribute to an under-estimation of its prevalence)	
UK regions / areas where problems have been noted in <u>some</u> hospitals:	
Any hospital	
IMPORTANT: Healthcare providers have a <u>'duty of care'</u> to proactively communicate any problems they are experiencing with carbapenemase-producing Enterobacteriaceae, <u>not only</u> with colleagues in healthcare settings which are co-terminus, but with any organisation they deal with on the patient pathway, either routinely or sporadically.	