

Blackpool Teaching Hospitals

NHS Foundation Trust

Document Type: GUIDELINE		Unique Identifier: CORP/GUID/431
Title: Sepsis: Early and Late Onset Neonatal Infection		Version Number: 2
		Status: Ratified
Target Audience: Trust Wide		Divisional and Department: Families Division, Neonatal
Author / Originator and Job Title: Dr Chris Rawlingson, Paediatrician		Risk Assessment: Not Applicable
Replaces: CORP/GUID/431 Version 1, Sepsis: Early and Late Onset Neonatal Infection	Description of amendments: No changes in content. Transferred to new format.	
Validated (Technical Approval) by: Neonatal Policy Group Families Division Child Health Directorate	Validation Date: 30/3/2017 19/04/2017	Which Principles of the NHS Constitution Apply? 1 - 7
Ratified (Management Approval) by: Medicine Management and Safety Review Committee	Ratified Date: 15/06/2017	Issue Date: 15/06/2017
<i>Review dates and version numbers may alter if any significant changes are made</i>		Review Date: 01/04/2020

Blackpool Teaching Hospitals NHS Foundation Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that they are not placed at a disadvantage over others. The Equality Impact Assessment Tool is designed to help you consider the needs and assess the impact of your policy in the final Appendix.

1 PURPOSE

The purpose of this guideline is to aid the identification of newborn babies at risk of early and late onset sepsis. The guideline is based on the referenced National Institute for Health and Care Excellence (NICE) document Antibiotics for early-onset neonatal infection (CG149), which defines early onset sepsis as infection with onset within 72 hours of birth. Late onset sepsis can be defined as infection with onset after 72 hours.

2 TARGET AUDIENCE

All staff caring for newborn infants at risk of early-onset sepsis.

3 GUIDELINE

3.1 Management of Early Onset Neonatal Sepsis

Refer to Appendix 1 and 2 and antimicrobial formulary (neonatal formulary) or childrens BNF for dosing information.

3.2 Management of Late Onset Neonatal Sepsis

Refer to Appendix 3 and antimicrobial formulary (neonatal formulary) or childrens BNF for dosing information.

4 ATTACHMENTS

Appendix Number	Title
1	Risk factors and Clinical Indicators for early Onset Neonatal Infection
2	Flowchart for Early Onset Neonatal Infection
3	Flowchart for Late Onset Neonatal Infection
4	Equality Impact Assessment Form

5 PROCEDURAL DOCUMENT STORAGE (HARD AND ELECTRONIC COPIES)

Electronic Database for Procedural Documents
Held by Procedural Document and Leaflet Coordinator

6 LOCATIONS THIS DOCUMENT ISSUED TO

Copy No	Location	Date Issued
1	Intranet	15/06/2017
2	Wards, Departments and Service	15/06/2017

7 OTHER RELEVANT / ASSOCIATED DOCUMENTS

Unique Identifier	Title and web links from the document library
PAED/GUID/005	Antimicrobial Formulary – For The Management Of Common Infections In Paediatric Patients (Including The Neonatal Antibiotic Policy) http://fcsp.xfyldecoast.nhs.uk/trustdocuments/Documents/PAED-GUID-005.docx

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8 SUPPORTING REFERENCES / EVIDENCE BASED DOCUMENTS**References In Full**

Medicines Complete. (April 2017). BNF for Children. Available:
<https://www.medicinescomplete.com/mc/bnfc/current/> . Last accessed 13/04/2017.

National Institute for Health and Clinical Excellence. (August 2012) Antibiotics for early-onset neonatal infection (CG149).

<http://www.nice.org.uk/nicemedia/live/13867/60633/60633.pdf>

9 CONSULTATION / ACKNOWLEDGEMENTS WITH STAFF, PEERS, PATIENTS AND THE PUBLIC

Name	Designation	Date Response Received
Catherine Nash	Neonatal Lead Nurse	February 2017
Julie Kearney	Neonatal Clinical Educator	February 2017
Dr Palmer	Consultant Microbiologist	February 2014
Michelle Wong	Lead pharmacist - antimicrobials	February 2014

10 DEFINITIONS / GLOSSARY OF TERMS

NICE	National Institute for Health and Care Excellence
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11 AUTHOR / DIVISIONAL / DIRECTORATE MANAGER APPROVAL

Issued By	Dr Rawlingson	Checked By	Peter Curtis
Job Title	Consultant Paediatrician	Job Title	Head of Department
Date	March 2017	Date	April 2017

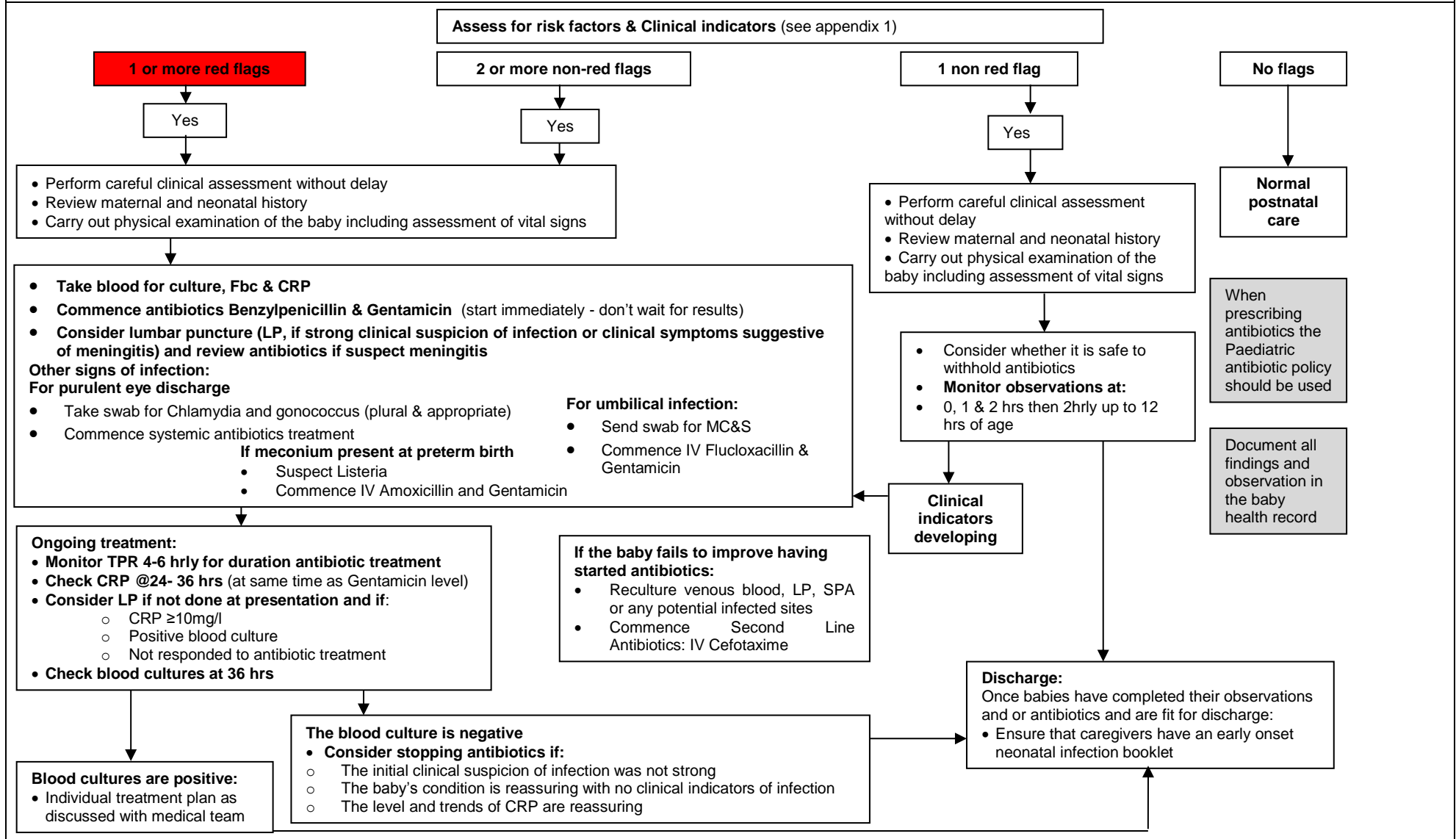
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APPENDIX 1: RISK FACTORS AND CLINICAL INDICATORS FOR EARLY ONSET NEONATAL INFECTION

Table 1: Risk Factors of early onset neonatal infection	Red Flag
Parenteral antibiotic treatment given to the mother for confirmed or suspected invasive bacterial infection at any time during labour, or in the 24 hour period before or after the birth (this does not refer to Intrapartum antibiotic prophylaxis)	
Suspected or confirmed infection in another baby in the case of multiple pregnancy	
Invasive Group B Streptococcal infection in a previous baby	
Maternal Group B Streptococcal colonization, bacteriuria or infection in the current pregnancy	
Prelabour Rupture of Membranes	
Preterm birth following spontaneous labour (before 37 weeks gestation)	
Suspected or confirmed rupture of membranes for more than 18 hours	
Intrapartum fever higher than 38°C, or confirmed or suspected chorioamnionitis	
Table 2: Clinical Indicators for possible early onset neonatal infection	Red Flag
Respiratory distress starting more than 4 hours after birth	
Shock	
Seizures	
Need for mechanical ventilation in a term baby	
Altered behaviour or responsiveness	
Altered muscle tone (e.g. floppiness)	
Feeding difficulties (e.g. feed refusal)	
Feed intolerance, including vomiting, excessive gastric aspirates and abdominal distension)	
Abnormal heart rate (bradycardia or tachycardia)	
Signs of respiratory distress	
Hypoxia (e.g. central cyanosis or reduced oxygen saturation level)	
Jaundice within 24 hours of birth	
Apnoea	
Signs of neonatal encephalopathy	
Need for cardio-pulmonary resuscitation	
Need for mechanical ventilation in a preterm baby	
Persistent pulmonary hypertension of the newborn	
Temperature abnormality (lower than 36°C or higher than 38°C) unexplained by environmental factors	
Unexplained excessive bleeding, thrombocytopenia or abnormal coagulation (INR greater than 2.0)	
Oliguria persisting beyond 24 hours after birth	
Altered glucose homeostasis (hypoglycaemia or hyperglycaemia)	
Metabolic acidosis (base deficit of 10mmol/l or greater)	
Local signs of infection (e.g. affecting the skin or eye)	

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APPENDIX 2: FLOWCHART FOR EARLY ONSET NEONATAL INFECTION



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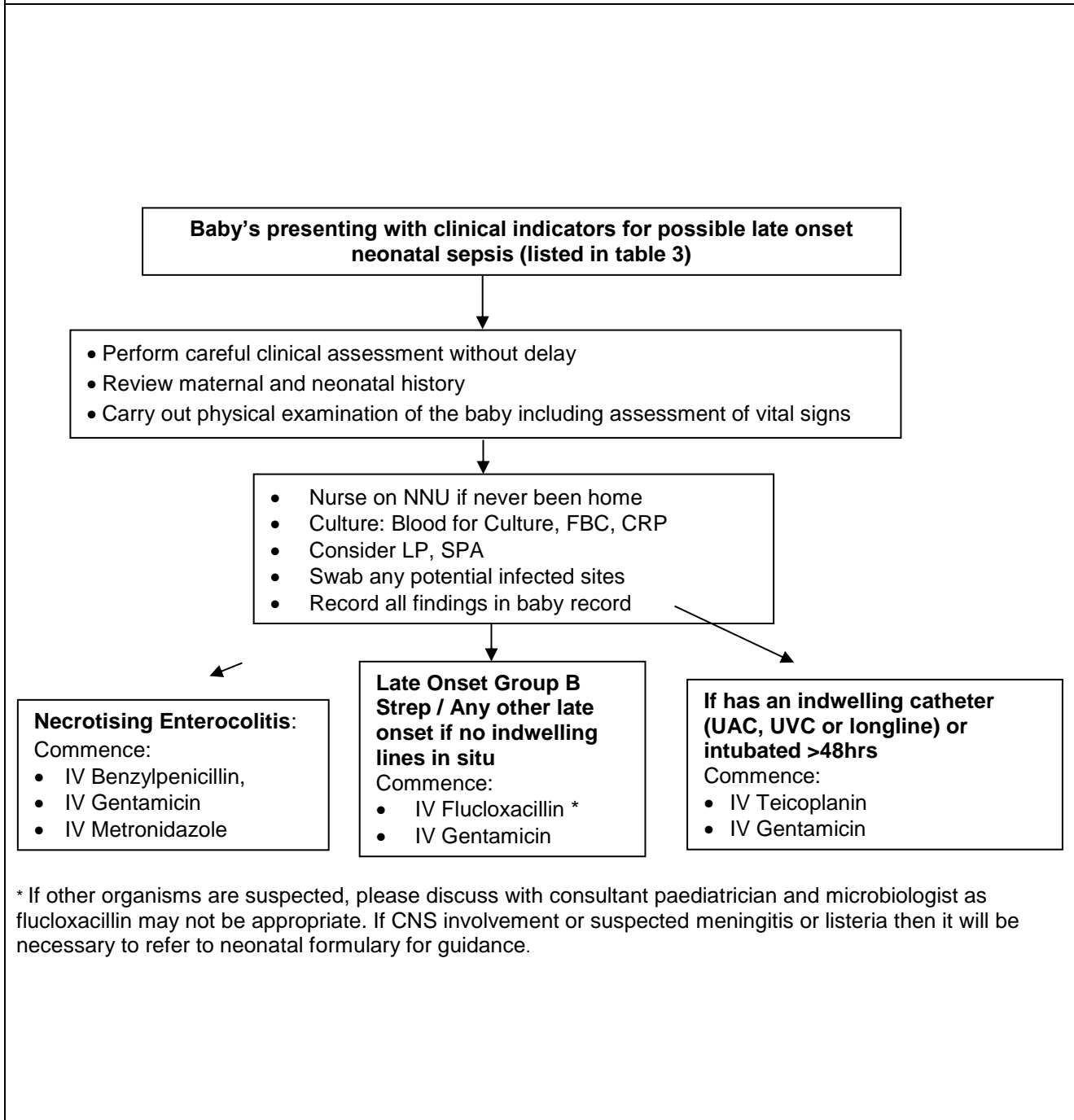
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APPENDIX 3: FLOWCHART FOR LATE ONSET NEONATAL INFECTION
Table 3: Clinical Indicators for possible Late Onset Neonatal Sepsis
Signs of respiratory distress
Shock
Seizures
Need for mechanical ventilation
Altered behaviour or responsiveness
Altered muscle tone (e.g. floppiness)
Feeding difficulties (e.g. feed refusal)
Feed intolerance, including vomiting, excessive gastric aspirates and abdominal distension)
Abnormal heart rate (bradycardia or tachycardia)
Hypoxia (e.g. central cyanosis or reduced oxygen saturation level)
Apnoea
Need for cardio-pulmonary resuscitation
Temperature abnormality (lower than 36°C or higher than 38°C) unexplained by environmental factors
Unexplained excessive bleeding, thrombocytopenia or abnormal coagulation (INR greater than 2.0)
Oliguria persisting beyond 24 hours after birth
Altered glucose homeostasis (hypoglycaemia or hyperglycaemia)
Metabolic acidosis (base deficit of 10mmol/l or greater)
Local signs of infection (e.g. affecting the skin or eye)

APPENDIX 3: FLOWCHART FOR LATE ONSET NEONATAL INFECTION



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APPENDIX 4: EQUALITY IMPACT ASSESSMENT FORM				
Department		Service or Policy		Date Completed:
GROUPS TO BE CONSIDERED				
Deprived communities, homeless, substance misusers, people who have a disability, learning disability, older people, children and families, young people, Lesbian Gay Bi-sexual or Transgender, minority ethnic communities, Gypsy/Roma/Travellers, women/men, parents, carers, staff, wider community, offenders.				
EQUALITY PROTECTED CHARACTERISTICS TO BE CONSIDERED				
Age, gender, disability, race, sexual orientation, gender identity (or reassignment), religion and belief, carers, Human Rights and social economic / deprivation.				
QUESTION	RESPONSE		IMPACT	
	Issue	Action	Positive	Negative
What is the service, leaflet or policy development? What are its aims, who are the target audience?	The Procedural Document is to ensure that all members of staff have clear guidance on processes to be followed. The target audience is all staff across the Organisation who undertakes this process.	Raise awareness of the Organisations format and processes involved in relation to the procedural document.	Yes – Clear processes identified	
Does the service, leaflet or policy/ development impact on community safety	Not applicable to community safety or crime	N/A	N/A	
<ul style="list-style-type: none"> • Crime • Community cohesion 				
Is there any evidence that groups who should benefit do not? i.e. equal opportunity monitoring of service users and/or staff. If none/insufficient local or national data available consider what information you need.	No	N/A	N/A	
Does the service, leaflet or development/ policy have a negative impact on any geographical or sub group of the population?	No	N/A	N/A	
How does the service, leaflet or policy/ development promote equality and diversity?	Ensures a cohesive approach across the Organisation in relation to the procedural document.	All policies and procedural documents include an EA to identify any positive or negative impacts.		
Does the service, leaflet or policy/ development explicitly include a commitment to equality and diversity and meeting needs? How does it demonstrate its impact?	The Procedure includes a completed EA which provides the opportunity to highlight any potential for a negative / adverse impact.			
Does the Organisation or service workforce reflect the local population? Do we employ people from disadvantaged groups	Our workforce is reflective of the local population.			
Will the service, leaflet or policy/ development	N/A			
<ul style="list-style-type: none"> i. Improve economic social conditions in deprived areas ii. Use brown field sites iii. Improve public spaces including creation of green spaces? 				
Does the service, leaflet or policy/ development promote equity of lifelong learning?	N/A			
Does the service, leaflet or policy/ development encourage healthy lifestyles and reduce risks to health?	N/A			
Does the service, leaflet or policy/ development impact on transport? What are the implications of this?	N/A			
Does the service, leaflet or policy/development impact on housing, housing needs, homelessness, or a person's ability to remain at home?	N/A			
Are there any groups for whom this policy/ service/leaflet would have an impact? Is it an adverse/negative impact? Does it or could it (or is the perception that it could exclude disadvantaged or marginalised groups?	None identified			

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APPENDIX 4: EQUALITY IMPACT ASSESSMENT FORM				
Does the policy/development promote access to services and facilities for any group in particular?				
Does the service, leaflet or policy/development impact on the environment				
<ul style="list-style-type: none"> • During development • At implementation? 				
ACTION:				
Please identify if you are now required to carry out a Full Equality Analysis		Yes	No	(Please delete as appropriate)
Name of Author:	Dr Rawlingson	Date Signed:		30 March 2017
Signature of Author:				
Name of Lead Person:	Catherine Nash, Neonatal Ward Manager	Date Signed:		30 March 2017
Signature of Lead Person:				
Name of Manager:	Dr Curtis	Date Signed:		April 2017
Signature of Manager				

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