Joint Trust Guideline for Screening for Resistant Organisms on the Neonatal Intensive Care Unit

A clinical guideline recommended for use

For use in:	Neonatal Intensive Care Unit
By:	Medical Staff, Neonatal Nurses, pharmacists, microbiologists and infection prevention and control teams
For:	Neonates
Division responsible for document:	Women and Children's Division
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If Yes - does the strategy/policy deviate from the recommendations of NICE? **If so why?**	N/A

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Version Information

Version No	Updated By	Updated On	Description of Changes
JCG0047 v1	THCGAP	26 August 2014	Change of header and reference to joint hospital version
JCG0047 v2	CGAP	10 May 2017	Formatting and hyperlink to another document added.
JCG0047 v2.1	CGAP	07 June 2020	Formatting and hyperlink to another document added.

Quick reference guideline

MRSA: methicillin resistant staphylococcus aureus
ESBL: extended spectrum beta-lactamase
CPE: Carbapenemase producing enterobacteriaceae

Screening on Admission:

Infection Screening:

In addition to the routine screening for resistant organisms outlined below, **all premature infants** and **any infant** with risk factors for **infection** as a reason for admission should have the following additional swabs taken:

- Ear, nose and perineal swabs for M/C/S (plus any other relevant sites, such as wounds).

These should be clearly labelled as '**routine infection screen**'.

From Delivery Suite:

- Ear, nose and perineal swabs for MRSA.
- Rectal swab for ESBL.
- CPE screen if mum has been identified as at risk of CPE.

From another neonatal unit:

- Ear, nose and perineal swabs for MRSA.
- Rectal swab for ESBL.
- In addition swabs should be taken from any broken skin or open wound for multi drug resistant organisms. Consideration should also be given to swabbing accessible indwelling devices (e.g. during dressing changes).
- CPE screen – see current Trust guidance: Trustdocs ID: 11549

From the community:

- Ear, nose and perineal swabs for MRSA.
- Rectal swab for ESBL.

- In addition swabs should be taken from any broken skin or open wound for multi drug resistant organisms.
- CPE risk assessment & screening if triggered.

Weekly Screening:

- Ear, nose and perineal swabs for MRSA.
- In addition swabs should be taken from any broken skin or open wound for multi drug resistant organisms. Consideration should also be given to swabbing accessible indwelling devices (e.g. during dressing changes).

Screening during an outbreak:

- As advised by outbreak management team depending on the micro-organism involved.
- Major and limited outbreaks of infection guideline (Trustdocs ID: 610).

Action following positive results:

- **Any baby found to be positive on screening will be managed by MDT approach using the appropriate NNUH management policy for the specific micro-organism in consultation with the IP&C Team & Infection control Doctor/ Paediatric consultant.**

Objective/s

The purpose of screening babies is:

- To detect the presence of potential pathogens which may give rise to a serious infection.
- To detect the presence of MRSA and other resistant organisms.
- To detect an ongoing outbreak.

The policy sets out guidance for screening babies for resistant organisms:

- On admission – from delivery unit, referring units and (rarely) the community.
- As part of weekly surveillance screening.

Rationale

Neonatal infections can be acquired in utero, during delivery or in the postpartum period from external sources. They are a major cause of morbidity and mortality.
The risk of contracting an infection is increased with decreasing gestation.

Neonatal infections can be caused by a number of organisms. Those responsible for early onset sepsis (<48 hours post delivery) are usually *Group B Strep, Listeria or E-Coli.*

Late onset sepsis is usually caused by the hospital environment. Carriage by health providers and the presence of central lines in preterm infants are key factors in late

onset sepsis in the very preterm. The range of organisms causing late onset sepsis includes gram positive and gram negative bacteria as well as fungal infection, involving, commonly, organisms such as Staphylococci, Enterobacter and Pseudomonas.

The incidence of MRSA bacteraemia and colonisation in neonatal units is relatively low. Regular screening programmes are carried out in neonatal units. This surveillance is likely to lead to timely action on isolated cases thus preventing the spread of MRSA.

Overcrowding, limited space, inadequate cleaning of equipment, the environment and staffing shortages within neonatal units are contributory factors in the ease of spread of the strains involved.

Broad recommendations

Screening

Ideally surface screening should take place as soon as possible following delivery and prior to commencement of antimicrobial therapy.

Appropriate sterile swabs should be used according to Trust policy.

Specimens should be labelled with the baby's name, date of birth, hospital number and the specimen site. Otherwise the lab will not process specimens.

Specimens should be transported and processed as soon as possible once taken. If delays are likely, specimens should be refrigerated. Refer to the EPA microbiology user manual on the intranet for further information (Trustdocs ID: 5005)

Screening results

Screening results from the referring unit should be accepted and used as part of the management of the baby by the receiving unit. Babies should not be refused admission pending repeat screening. Some babies may not be colonised at the referring unit prior to transfer, however may be found to be positive following transfer (False negatives). Therefore receiving units should institute appropriate precautions pending conformation of MDRO carriage status.

Local Resistance

It is recognised that there may be periods when the NICU has specific, recurrent, resistant organisms. Screening for resistant organisms and looking for patterns of infections is essential.

Sensitivities should be reviewed with microbiology to plan for future management of outbreaks.

Clinical audit standards

1. **100**% of babies should have surface swabs taken for resistant micro-organism screening at admission or following transfer from another neonatal unit.

2. **100%** of babies in a neonatal unit should be screened weekly to detect the presence of MRSA.

3. **100%** of babies should be screened on admission for ESBL.

4. **100%** of babies should be risk assessed for CPE on admission.

Summary of development and consultation process undertaken before registration and dissemination

The authors listed above drafted this guideline on behalf of the neonatal intensive care unit. During its development it has been discussed at the neonatal unit guidelines meeting (attended by staff from infection prevention and control). Suggestions for changes have been incorporated into this version.

This version has been endorsed by the Clinical Guidelines Assessment Panel.

This guideline will be revised wherever the parent document i.e. East of England Perinatal guideline for MDRO screening is revised.

Distribution list / dissemination method

Hospital Intranet

References / source documents

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4. Adams-Chapman I, Stoll BJ. Neonatal infection and long-term neurodevelopmental outcome in the preterm infant. Patient. January 2010.

5. Public Health England website: https://www.gov.uk/government/organisations/public-health-england

6. East of England Perinatal network Regional screening policy, July 2011- currently awaiting review