MRSA on Neonatal Unit

This guideline is complementary to the Trust policies on MRSA and MRSA Screening and has been developed in conjunction with Dr. Shaw (Consultant Microbiologist and Lead for Infection Control). The policy on blood cultures must also be read in conjunction

An information sheet for parents is available.

Background:
Meticillin-resistant Staphylococcus aureus (MRSA) colonisation continues to be a frequent problem in neonatal intensive care units. MRSA infection is rare. Babies admitted to a neonatal unit are susceptible to infections due to impaired immunity etc. The smaller the baby the greater the risk. The prevention of colonisation and infection with MRSA is of high political priority at a local, network and national level. The following guidelines aim to incorporate an evidence based approach to minimise the impact of MRSA.

Prevention:
Good hand cleaning technique and scrupulous attention to the prevention of cross contamination remain the mainstay in the prevention of colonisation and infection. The hand hygiene policy for Healthcare workers is to be followed by anyone entering / leaving the nurseries. Please make sure you are familiar with this. Regular hand-hygiene audits will be carried out.

The use of Chloprep applicants and wipes to clean the skin before any venepuncture, and the prevention of skin damage, are also extremely important preventative measures. We use preventive and educational measures such as the national “High Impact Interventions” (adjusted for neonatal practice) where appropriate.

When MRSA colonisation is found additional measures may be considered to reduce nasal and skin carriage (see below).

Admission / Surveillance
In line with “Saving Lives” all babies admitted to the neonatal unit have four swabs taken. Two are for GBS detection, from ear and umbilicus, and two are for MRSA screening, from nose and groin. Two forms are required, with the purpose (GBS, MRSA) of the swab stated on the form as they are processed differently.
Weekly microbiological surveillance swabs are taken from all inpatients (nose and groin) unless they are undergoing MRSA decolonisation at the time of routine swab collection.

Repatriations from / to other Units
All babies transferred electively from other hospitals must be assumed to carry MRSA until proven otherwise. They should be nursed in closed incubators and strict infection control procedures put in place to limit any spread of MRSA. This should include the wearing of gloves and plastic aprons until the results of screening swabs are known. Information on screening and MRSA status must be sought from the referring hospital, however it is not a criteria for admission that a baby should be MRSA negative or that status must be checked immediately prior to transfer. This also applies to babies being transferred out.

Colonisation
It is inevitable that screening will discover cases of MRSA positive skin swabs. Consistent information for staff and parents is thus essential.

Single case: The infection control team will inform the unit sister at the earliest opportunity, and barrier procedures will be put in place (gowns and gloves). There is no need for staff or parent screening. Eradication procedure should then be followed.

Two or more cases, same organism likely: This may represent uncontrolled spread of MRSA. All babies in the nursery should be cohorted and isolated. Eradication (see below) will be implemented as above. Staff screening may be initiated at the request of infection control. Staff results are entirely confidential, but staff will be expected to have started treatment before returning to work.

Two or more cases, different strains likely: This may be coincidental, however it is difficult to establish quickly whether strains truly are different as sensitivity assays are not 100% sensitive/specific. Treat as for the same strain.

Closure to admissions from other hospitals:
The decision to close to admissions is a serious one and must be taken only after discussion between the attending consultant, the nurse in charge and the infection control team. It should be the aim to contain existing cases and prevent the spread of MRSA without the need to restrict our ability to take admissions to the intensive care unit. However patient safety is the priority, and if the pattern of infection suggests uncontrolled spread then it may be necessary to briefly close the unit to further admissions until we can be certain that we have identified all the cases, and they have been managed as above.

MRSA Bacteraemia
This potentially life threatening condition is fortunately very rare. Epidemic MRSA is usually vancomycin sensitive. Close liaison with the Consultant Microbiologists and Infection control team are essential.

Staff screening
If staff screening is requested by the Infection Control team, then a senior neonatal nurse will coordinate screening in conjunction with Occupational Health. All staff are expected to comply with screening of nose and groin, which is standard in many trusts. It is an occupational hazard of working in hospital that staff may acquire MRSA, and decolonisation and counselling will be offered to those who are positive. Staff results are confidential to that individual.

Eradication of surface colonisation with MRSA
We aim to reduce the load of MRSA colonisation in the NICU through decolonisation of babies, and parents and staff who are found to be colonised with MRSA. No regime is 100% effective, and some babies may require more than one decolonisation. Octenisan has been previously used in babies and its active ingredient, octenidine, does not cross into the bloodstream. Recently it has been classified as a cosmetic product and is therefore no longer licenced in children <3 years. Every case should be risk assessed prior to treatment, and we have reduced the skin contact time to 1 minute. A 50:50 dilution in water does not appear to reduce its effectiveness, but it can be used undiluted if MRSA clearance is problematic. Smaller babies will be less able to tolerate decolonisation due to thermal control; this should be discussed between the nursing and medical staff.

A combination of washing the skin daily and application of Mupirocin for a total of 5 days is used.

Please see attached decolonisation protocol. A 2nd decolonisation should be considered if baby remains MRSA+.

Preparation

- Ensure it is safe to decolonise – MRSA colonisation is NOT an emergency situation
- Pre-warm the infant if needed – undress first and ensure a stable thermal environment including humidity for those requiring it.
- Ensure all equipment including clothing, bedding are organised before you start
- An assistant is very useful

- Parents can perform this procedure if they wish but should be supervised, encouraged and assisted if they want to. However they are not expected to perform it
- Octenidine solution should be warm – we find that addition of hot water in a feeding bottle just prior to washing ensures that the solution remains warm. Temperature control of the baby during the process is the most demanding requirement.

Remove all leads, except for the pulse oximetry lead (if this is being used).

Place the infant on a clean towel and remove bedding

Wipe the infant skin with cotton wool soaked in octenidine solution. Leave the octenidine in contact with the skin for **1 minute** before wiping it off with clean water and then dry the baby with a clean towel. Following decolonisation, the baby should be dressed in clean clothing with clean cot sheets/liners used. If baby is on nasal high Flow, change the prongs after each application of mupiricin (three times a day) if possible.

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In conjunction with: Dr. Angela Shaw, Consultant Microbiologist and Infection Control Lead

Reviewed and approved by**:** Neonatal Clinical Management Group, Jan – June 2007

Ratified by: Dr. D Haddad, Chair. Children's Clinical Governance Group June 2007

Reviewed April 2013 by Dr Peter Reynolds**.** Changes made and note about lack of licence.

Reviewed April 2016 By Emily Wilkins, Deputy Sister NICU. Reviewed and updated.

Note from Linda Towey, Consultant Nurse, Infection Prevention & Control
Octenisan now comes under the cosmetic license and therefore requires a detailed risk assessment. Though the main component octenidine has all the safety requirements for children<3 years the other components do not, all be it they are the products which allow ease of application, hence the statement from the company saying they cannot recommend the use to children<3 years. If the license had had not changed we would be not be any the wiser and as there are no other products on the market I feel we risk assess each case.

Reviewed and updated May 2018 by Sara Jane Robertson, Matron NICU

References

Trust MRSA and handwashing policies (Intranet)

Health Protection Agency www.hpa.org.uk/infections/topics_az/staphylo/default.htm

General information about Octenisan http://www.schulke.co.uk/product/_/14/octenisan/?cid=10