

Mupirocin Administration in the Neonatal Intensive Care Unit (NICU)

Procedure Responsibilities and Authorisation

Department Responsible for Procedure	NICU
Document Facilitator Name	Arun Nair
Document Facilitator Title	SMO
Document Owner Name	Jutta van den Boom
Document Owner Title	Clinical Director
Target Audience	Nurses, NNP, CNS, Registrar, SMO
<p>Disclaimer: This document has been developed by Waikato District Health Board specifically for its own use. Use of this document and any reliance on the information contained therein by any third party is at their own risk and Waikato District Health Board assumes no responsibility whatsoever.</p>	

Procedure Review History

Version	Updated by	Date Updated	Summary of Changes
1	Arun Nair	Jan 2021	First version
1.1	Arun Nair	August 2021	Clarification of categories needing Decolonisation & number of tubes of ointment to be used per baby

Mupirocin Administration in the Neonatal Intensive Care Unit (NICU)

1 Overview

1.1 Purpose

To ensure standardized application of the drug, mupirocin for neonatal Methicillin Resistant Staphylococcus aureus (MRSA) decolonisation.

1.2 Scope

Waikato District Health Board (DHB) staff working in Neonatal Intensive Unit (NICU)

1.3 Patient / client group

Neonates and infants in NICU irrespective of the gestational age who are identified as MRSA colonised receiving decolonisation with mupirocin.

(Note: Babies found to have any form of MRSA on their person (or even who have a primary carer found to be positive while they are still negative), are to be treated with contact precautions. Babies personally found to be colonised or infected with any form of MRSA are to be decolonised).

1.4 Exceptions

Do not administer mupirocin if Steven-Johnson syndrome, toxic epidermal necrolysis, or anaphylaxis develops.

If there is a rash or skin lesion at the NUP site, then do not administer any further doses of the drug to that anatomic site and inform the medical team. Mupirocin may be applied to the other sites if rash or skin lesions are absent. If the rash or skin lesion is not considered to be related to drug, resume application to the site once the rash or skin lesion has resolved.

1.5 Definitions and acronyms

CNS	Clinical Nurse Specialist
NNP	Neonatal Nurse Practitioner
NUP	Nose, umbilicus or perinatal site
SMO	Senior Medical Officer

2 Clinical management

2.1 Competency required

Registered Nurse (RN) who has Waikato DHB generic Medicine Management Certification and completed Level 2 orientation

Enrolled Nurse who has Waikato DHB generic Medicine Management certification and under the direction and delegation of an RN

Doc ID:	6358	Version:	1.1	Issue Date:	20 AUG 2021	Review Date:	19 APR 2024
Facilitator Title:	SMO			Department:	NICU		
IF THIS DOCUMENT IS PRINTED, IT IS VALID ONLY FOR THE DAY OF PRINTING							Page 2 of 5

Mupirocin Administration in the Neonatal Intensive Care Unit (NICU)

2.2 Equipment

- **Mupirocin ointment 2%**, supplied in 5 g or 15 g tubes.
- Disposable measuring tape
- Sterile gauze pads
- Gloves
- Sterile cotton tip applicators

Note: Use only one tube of mupirocin ointment 2% instead of 3 tubes per baby provided the tube/the ointment is not contaminated.

2.3 Dose

Apply three times a day for 5 days, to each nostril and to periumbilical and perianal areas
The course may be repeated once if a sample taken 2 days after the first course has been completed is positive (and the throat is not colonised). If response is inadequate after 2 courses use an alternative product e.g. fusidic acid cream.

2.4 Procedure

A Prepare mupirocin

To prepare the mupirocin for application, open the tube, being careful not to touch or contaminate the tip of the tube, and use cotton tipped applicator, again being careful not to touch or contaminate the tip (do not use gloves - the cleanliness of non-sterile gloves is variable). Squeeze out a ribbon of mupirocin ~1 cm in length onto the tip of the applicator. Return the cover to the mupirocin ointment tube. Return the mupirocin tube to the designated secure location to store for the next application until all 15 doses have been administered to the NUP sites

Mupirocin administration should be performed at a time that limits the number of interruptions to the baby while remaining in an allowable window of time for application.

B Application

Application to the NUP should start at nasal first, then umbilicus and last perianal sites in that order.

1. Gather the materials that will be necessary for this application.
2. Proceed when the baby is deemed clinically stable enough to tolerate minor manipulations.
3. Perform hand hygiene and put on new gloves for each new site.

C Nasal Application

1. Open the tube of mupirocin ointment 2%, being careful not touch or contaminate the tip of the tube.

Doc ID:	6358	Version:	1.1	Issue Date:	20 AUG 2021	Review Date:	19 APR 2024
Facilitator Title:	SMO			Department:	NICU		
IF THIS DOCUMENT IS PRINTED, IT IS VALID ONLY FOR THE DAY OF PRINTING							Page 3 of 5

Mupirocin Administration in the Neonatal Intensive Care Unit (NICU)

2. For babies who do not have a nasogastric tube, oxygen tubing, nasal prongs, or other nasally inserted apparatus in place, perform the following procedure:
 - a. Transfer a small amount of mupirocin ointment to the cotton applicator and then apply it into the baby's nostril using separate applicators for each nostril.
 - b. Spread the ointment by depressing and releasing that side of the nose 3 to 5 times after application.
 - c. Wipe away any excess ointment with a sterile gauze pad, make sure that the nostril is not blocked before applying to the other side.
3. For babies with nasogastric or ET tubes in place (when possible, orogastric tubes are preferred to nasogastric tubes), perform the following procedure:
 - a. On the side that the tube is in place, try to administer mupirocin around the tube. Alternatively, apply with a cotton-tipped applicator without moving the nasogastric/ET tube.
 - b. Spread the ointment by depressing and releasing that side of the nose 3 to 5 times after application.
 - c. Observe the baby for any signs of increased distress.
 - d. If the other nostril also has a nasogastric tube in place, repeat as per instructions for Section C3a
 - e. If the other nostril is clear of tubing, follow instructions for Section C2.
 - f. For babies with nasal prongs or receiving continuous positive airway pressure (CPAP) via a face mask, temporarily remove the nasal prongs or mask during the application and follow instructions for Section C2 above.

D Periumbilical and Perianal Applications

- a. Apply the cream, using the tip of a cotton tipped applicator or a gloved finger in a circular motion, around the immediate periumbilical area. If the umbilical cord has fallen off, then apply the cream to the skin overlying and immediately surrounding the umbilicus.
- b. Avoid coating the umbilical stump, umbilical catheter(s), or abdominal incisions with cream.
- c. Wipe away any visible stool, ointment, or cream in the perianal area before applying mupirocin.
- d. Apply the ointment, using the tip of the applicator in a circular motion, around the immediate perianal area (the external skin and mucosa overlying and immediately surrounding the anal opening), using a separate cotton tipped applicator for each anatomic site.
- e. If the subject stools after application of mupirocin to the perianal area has been completed, do not reapply mupirocin until the next dose is due.
- f. Remove gloves and perform hand hygiene.

Doc ID:	6358	Version:	1.1	Issue Date:	20 AUG 2021	Review Date:	19 APR 2024
Facilitator Title:	SMO	Department:	NICU				
IF THIS DOCUMENT IS PRINTED, IT IS VALID ONLY FOR THE DAY OF PRINTING							Page 4 of 5

Mupirocin Administration in the Neonatal Intensive Care Unit (NICU)

E Documentation

- Record the baby's heart rate, respiratory rate, oxygen saturation level (if baby is undergoing monitoring), fraction of inspired oxygen (if on room air, record 21.0%), and pain assessment tool score after administration of mupirocin in the medical record.
- Document application of the medication in the baby's medication record.

2.5 Potential complications

Rarely Steven-Johnson syndrome, toxic epidermal necrolysis, or anaphylaxis can develop.

3 Patient information

Waikato DHB MRSA pamphlet

4 Audit

4.1 Indicators

- MRSA Colonisation

5 Evidence base

5.1 Bibliography

- Kotloff et al "Mupirocin for Staphylococcus Aureus Decolonisation of infants in Neonatal Intensive Care Units", Pediatrics 143(91) Jan 2019:e20182565 Associated Waikato DHB Documents
- New Zealand Formulary for children, accessed on 12th April 2021 at https://www.nzfchildren.org.nz/nzf_6508

5.2 Associated Documents

- Waikato DHB [Multidrug Resistant Organism \(MDRO\) – Management of](#) procedure (Ref: 1875)

Doc ID:	6358	Version:	1.1	Issue Date:	20 AUG 2021	Review Date:	19 APR 2024
Facilitator Title:	SMO	Department:	NICU				
IF THIS DOCUMENT IS PRINTED, IT IS VALID ONLY FOR THE DAY OF PRINTING							Page 5 of 5