



**Beaumont Hospital**



## **Standard Operating Procedure**

### **Renal: *Staphylococcus aureus* Decolonisation prior to Permanent Central Venous Catheter Insertion or AVG formation for Haemodialysis**

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| <b>1.0 Title</b><br><b>Renal: <i>Staphylococcus aureus</i></b><br><b>Decolonisation prior Permanent</b><br><b>Central Venous Catheter</b><br><b>Insertion or AVG formation for</b><br><b>Haemodialysis</b> | <b>Doc No: 1</b><br><b>Date Originally Approved N/A</b><br><br><b>Revision: #Feb 2016</b><br><b>Effective Date:</b> |
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**2.0 Scope:**  
This local procedure has been developed to provide direction to staff to ensure the administration of the *Staphylococcus aureus* decolonisation protocol is safely implemented.

**3.0 Purpose:**  
**To aide in reduction of MSSA/MRSA blood stream infections in the Adult Haemodialysis population.**  
Studies show haemodialysis patients have higher rates of *S. aureus* colonisation compared with other groups (Kallen et. al 2011). People colonised with *S. aureus* have a higher chance of infection and other complications such as bacteraemia, endocarditis and septic arthritis. The mortality rate from staphylococcal bloodstream infection is at least 30% at 1 month. Studies suggest that routine decolonisation is an efficient strategy to reduce bloodstream infection due to *S. aureus* (MRSA and MSSA)(Bode et al. 2010), also supported by local Microbiology Department.

**4.0 Definitions:**

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| <i>S. aureus</i> | <i>Staphylococcus aureus</i> is a bacterium that can reside on the skin or can be found in the nose of about one third of healthy individuals. It is generally non-pathogenic except where it gains access to deep tissues such as broken skin, resulting in surgical site or wound infection, the bloodstream leading to bloodstream infection or bacteraemia. |
| MRSA             | Methicillin-resistant <i>S. aureus</i>  |
| MSSA             | Methicillin-sensitive <i>S. aureus</i>  |
| CVC              | Central Venous Catheter   |
| AVG              | Arteriovenous Graft; A synthetic graft implanted subcutaneously and interposed between an artery and a vein allowing needles to be inserted in order to remove and return blood during haemodialysis. It is an alternative form of access for patients with inadequate vessels for the creation and maturation of an arteriovenous fistula                      |

## Actions & Responsibilities

| <b>5.0 Actions:</b>  | <b>Responsibilities:</b>  |
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| <p><b>5.1</b> Decolonisation should occur for the following dialysis patients or prospective dialysis patients:<br/>                     i) Prior to insertion of permanent CVC either as elective or urgent central venous catheter insertion <b>or</b><br/>                     ii) Prior to formation of arteriovenous graft.</p> | <p><b>5.1</b> All Clinical staff caring for patient pre and post CVC insertion/ AVG formation</p>   |
| <p><b>5.2</b> Patient identified as requiring permanent CVC/ AVG for Haemodialysis</p>   | <p><b>5.2</b> Nephrology Team; Identify patient to CNM on ward/ dialysis Unit/ Ambulatory care, that patient is to have emergency or elective permanent CVC/ AVG inserted for haemodialysis, to commence decolonisation protocol.</p> |
| <p><b>5.3</b> Give patient necessary information to provide them with informed consent. Information leaflet (<b>Appendix 1</b>) 'Patient information; decolonisation pre Central venous Catheter Insertion/ AVG formation for Haemodialysis'.</p>  | <p><b>5.3</b> Nephrology Team; To ensure patient is aware of risks associated with prophylactic anti-microbial treatment</p>  |
| <p><b>5.4</b> Prescribe decolonisation regimen as per protocol see <b>appendix 2</b>, in appropriate prescription for patient.</p>   | <p><b>5.4</b> Nephrology team to prescribe regimen, ensuring the identified patient does not have prior resistance to mupirocin.</p>  |
| <p><b>5.5</b> Obtain a unit of triclosan (Skinsan) for each patient and individual patient mupirocin ointment from Pharmacy, if patient is an inpatient.</p>   | <p><b>5.5</b> Nursing staff to order same, and ensure products are not shared between patients.</p>   |

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| <p><b>5.6</b> Commence decolonisation regimen as per protocol <b>Appendix 2</b>, <u>1day prior</u> to the procedure date, or if urgent placement of permanent CVC, on day of procedure, prior patient going for insertion.</p>  | <p><b>5.6</b> Nursing staff of ward/ dialysis/ Renal day ward/ Ambulatory Care to ensure patient educated on correct use, refer to <b>Appendix 1</b>.</p>  |
| <p><b>5.7</b> <b>i) Planned insertion of permanent CVC/ Formation of AVG</b> – Start the day before insertion date, commence hair and body wash* and nasal mupirocin and hair and body* and nasal mupirocin on day of procedure followed by body only- and nasal mupirocin for next three days.</p> <p><b>ii) Emergency insertion of permanent CVC</b> – On date of insertion, commence hair and body* wash and mupirocin ointment and continue for two days of hair washing and total of five days body and mupirocin</p> <p>*paying special attention to known possible carriage sites including axilla, groin, perineum the buttock area and prospective site of CVC insertion and exit point.</p> | <p><b>5.7</b> Nursing staff educate patient on same, or administer same dependant on patient’s level of care needs, ensure those coming from home have washed as per protocol Document of commencement of protocol to be included in pre-procedure Care plan/ Nursing notes.</p> |
| <p><b>5.8</b> Continue protocol for specified duration on prescription, of five days in total.</p>  | <p><b>5.8</b> Nephrology team: Ensure protocol is prescribed on discharge prescription to complete total of five days as required</p>  |
| <p><b>5.9</b> If severe local irritation from BACTROBAN NASAL occurs, usage should be discontinued</p>  | <p><b>5.9</b> 5.8 Nursing and Nephrology team to liase with IPCT in such cases</p>   |
| <p><b>5.10</b> For -patients who have already undergone this decolonisation regimen (for a previous CVC or AVG) and now need another CVC or AVG:</p>  | <p><b>5.10</b></p>   |

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| <p>i) <b>Where infection is not cause of dialysis access change:</b> he/she must be screened for <i>S. aureus</i> carriage and only if <i>S. aureus</i> is isolated and it is confirmed the isolate is susceptible to mupirocin, can an additional course of decolonisation be commenced, as per protocol.</p> <p>ii) <b>Where <i>S. aureus</i> BSI or Tunnel infection or AVG infection is cause of change in access:</b> They should be decolonised based on mupirocin susceptibility of the <i>S. aureus</i> from positive blood culture.</p> <p>Should patient be identified as being MRSA positive, follow local guideline on management of MRSA positive patient, see <b>Appendix 3</b>. If identified as being MSSA positive liaise with patient's Nephrology team and Microbiology department regarding management.</p>   | <p>i) Nursing staff to screen patient nasally for <i>S. aureus</i>, order as mnemonic 'SWABCULT'.</p> <p>ii) Review <i>S. aureus</i> susceptibilities to Mupirocin, if not visible on PIPE system, contact Microbiology department</p> |
| <p><b>Monitoring &amp; Evaluation:</b><br/>SOP will be monitored by Renal Virology &amp; Infection Control Co-ordinator and evaluated through audit and review of root cause analysis on enhanced renal blood stream surveillance.</p>  |  |
| <p><b>Related Documents:</b></p> <ul style="list-style-type: none"> <li>• Kallen, A.J., Jernigan, J.A., &amp; Patel, P.R. (2011) Decolonisation to prevent infection with <i>Staphylococcus aureus</i> in patients undergoing Haemodialysis: A Review of Current Evidence, <i>Seminars in Dialysis</i>, Vol.24, No.5, pp. 533-539.</li> <li>• Beaumont Hospital Guidelines for the Control and Prevention of Methicillin resistant <i>Staphylococcus aureus</i> MRSA (2007).</li> <li>• The control and prevention of MRSA in Hospitals and in the Community. (2005)SARI Infection control Subcommittee. Health protection and Surveillance centre</li> <li>• Bode LG, Kluytmans JA, Wertheim HF, Bogaers D, Vandenbroucke-Grauls CM, Roosendaal R, Troelstra A, Box AT, Voss A, van der Tweel I, van Belkum A, Verbrugh HA, Vos MC (2010) Preventing surgical-site infections in nasal carriers of <i>Staphylococcus aureus</i>. <i>New England Journal of Medicine</i>. 7;362(1):9-17.</li> </ul> |  |
| <p><b>Approved By:</b></p>  | <p><b>Date Approved:</b><br/><b>Review Date: FEB 2014</b></p>  |

## Patient information: Decolonisation Pre Central Line insertion or AV Graft formation for Haemodialysis

### Why do I need this?

Dialysis line (central venous catheters) and AV grafts can become infected. Cleaning the skin and nose with these preparations reduces the chances of these lines or grafts becoming infected.

**The regimen is : Triclosan 1 % (Skinsan) skin wash daily for 5 days (2 of the 5 days hair to be washed with this also)  
And Mupirocin 2% (Bactroban Nasal Ointment) intranasally, 3 times daily for 5 days**

| <u>Day before procedure</u>   | <u>Day of Procedure</u>  | <u>1<sup>st</sup> Day after procedure</u>                                   | <u>2<sup>nd</sup> day after procedure</u>                                   | <u>3<sup>rd</sup> day after procedure</u>                                   |
|---|--|---|---|---|
| Wash hair and body with Triclosan 1 % (Skinsan) and <b>apply</b> Mupirocin* 2%, 3 times a day | Wash hair and body with Triclosan 1 % (Skinsan) and <b>apply</b> Mupirocin 2%, 3 times a day | Wash body only with Triclosan 1 % (Skinsan) and Mupirocin 2%, 3 times a day | Wash body only with Triclosan 1 % (Skinsan) and Mupirocin 2%, 3 times a day | Wash body only with Triclosan 1 % (Skinsan) and Mupirocin 2%, 3 times a day |

\*Bactroban nasal ointment

## What is it?

Appendix 1 (Page 2 of 3)

Triclosan 1 % (Skinsan) is an antibacterial skin cleanser. Bactroban nasal ointment contains the active ingredient mupirocin, which is an antibiotic. The ointment is used to kill *Staphylococcus aureus* bacteria from the nasal passages.

Because haemodialysis patients are at an increased risk of infection from a bacteria called *Staphylococcus aureus*, it is recommended that the nasal ointment and body washes are used around the time that the haemodialysis line is being inserted to reduce the risk of the line becoming infected.



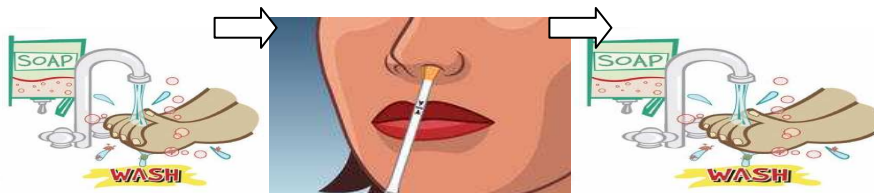
### **How do I use the Skinsan body wash?**

**Begin on the day before, continue 4 days following procedure (5 consecutive days in total):**

- In shower or bath, wash your full body and hair using Triclosan 1 % (Skinsan) instead of shower gel/soap once daily. Pay special attention to washing the following parts of the body; the upper chest and neck area, the underarms, the groin, and the area around your bottom.
- On the morning of the procedure, again wash hair and body, as above. If you are attending from home for the procedure, please carry out this full body wash at home. If you have not been able to do the full body wash at home, inform staff on your arrival to hospital for the procedure.
- The remaining 3 days it is necessary to have a full body shower/bath using Triclosan 1%, once daily, you do not need to use it to wash your hair, at this stage.
- After your new haemodialysis access has been inserted, avoid getting it or the dressing covering it, wet, see education leaflet on central venous catheter/ arteriovenous graft.

### **How do I apply the Bactroban nasal ointment?**

**Begin on the day before the procedure, and 4 days following procedure (5 consecutive days in total):**



- 1) Wash hands
- 2) Avoid contact of the medication with the eyes
- 3) Apply a small amount of the ointment (about the size of a match head) on a cotton bud or placed on the little finger and



applied to the inside of each nostril. The nostrils should then be closed by pressing the sides of the nose together to spread the ointment around the nostrils.

- 4) Carry this out 3 times a day, as prescribed, ie. Morning, afternoon and night.
- 5) Wash your hands after applying the ointment.
- 6) If severe local irritation occurs, Discontinue usage of the medication and call your Doctor and inform staff when you arrive for insertion of the haemodialysis line.

## Protocol for decolonisation of inpatients before insertion of permanent Central Venous Catheter or AV Graft for haemodialysis

Decolonisation should occur for the following dialysis patients or prospective dialysis patients; i) Prior to insertion of permanent CVC either as elective or urgent central venous catheter insertion **or** ii) Prior to formation of arteriovenous graft.

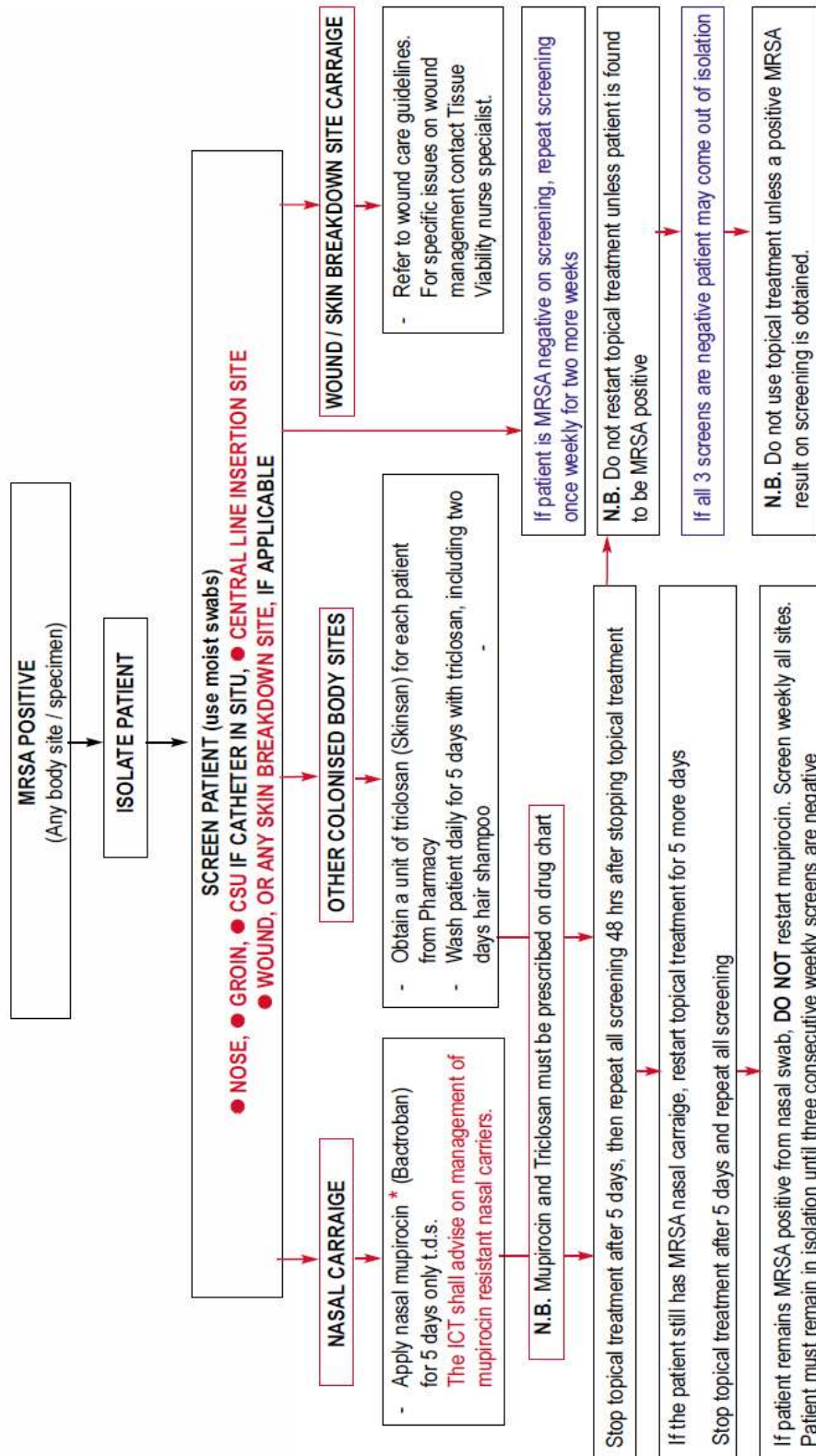
**N.B. Mupirocin and Triclosan must be prescribed on drug chart**

| <b><u>ELECTIVE Permanent CVC/ AVG formation Regimen:</u></b>   |  |  |  |  |
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| <b>Triclosan 1 % (Skinsan) skin wash daily for 5 days (2 of the 5 days hair to be washed with this also)</b> |  |  |  |  |
| <b>Mupirocin 2% (Bactroban Nasal Ointment) intranasally, 3 times daily for 5 days</b>                        |  |  |  |  |
| <u>Day before procedure</u>  | <u>Day of Procedure</u>  | <u>1<sup>st</sup> Day after procedure</u>  | <u>2<sup>nd</sup> day after procedure</u>  | <u>3<sup>rd</sup> day after procedure</u>  |
| Wash hair and body with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b>                 | Wash hair and body with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> | Wash only body with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> | Wash only body with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> | Wash only body with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> |

| <b><u>EMERGENCY Permanent CVC Regimen:</u></b>   |   |   |   |   |
|--|---|---|---|---|
| <b>Triclosan 1 % (Skinsan) skin wash daily for 5 days (2 of the 5 days hair to be washed with this also)</b> |   |   |   |   |
| <b>Mupirocin 2% (Bactroban Nasal Ointment) intranasally, 3 times daily for 5 days</b>                        |   |   |   |   |
| <u>Day of procedure</u>  | <u>Day 1 after procedure</u>  | <u>Day 2 after procedure</u>  | <u>Day 3 after procedure</u>  | <u>Day 4 after procedure</u>  |
| Wash hair and body* with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b>                | Wash hair and body* with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> | Wash only body* with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> | Wash only body* with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> | Wash only body* with Triclosan 1 % (Skinsan) and <b>nasal Mupirocin 2%, 3 times a day</b> |

**\*Paying special attention to known possible carriage sites including axilla, groin, perineum the buttock area and prospective site of CVC insertion and exit point, when washing pre-procedure, following insertion avoid any moisture to CVC site.**

**BEAUMONT HOSPITAL**  
**PROTOCOL FOR THE MANAGEMENT OF PATIENTS COLONIZED WITH MRSA**



\* Mupirocin is contra indicated in pregnancy

If you are in any doubt on how to manage a patient colonised with MRSA, Please contact one of the infection prevention and control nurses on bleep 326/660/833

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