Trust Standard Operating Procedure

Standard Operating Procedure for the Selection of Patient Groups Where 3M Tegaderm CHG IV Securement Dressing for Central Venous Access Device (CVAD) and Midline Catheters

Issue Date	Review Date	Version
July 2019	**July 2024**	**V2**

Purpose

To provide guidance for the identification of appropriate patient groups where 3M Tegaderm CHG IV dressing should be utilised.

Who should read this document?

All personnel within Plymouth Hospitals NHS Trust involved in caring for patients with a Central Venous Access Device (CVAD) or Midline device.

Key Messages

- 3M Tegaderm CHG IV dressing should be used in patients at higher risk of developing a central line related blood stream infection Catheter Related Blood Stream Infection (CRBSI) (as outlined below) if no contra-indications
- The SOP is applicable to Adult patients within Plymouth Hospitals NHS Trust with a CVAD

Core accountabilities

Owner	Colin Fairhurst, Clinical Nurse Specialist Vascular Access
Review	Vascular Access Team
Ratification	Dr Andrew Porter, Clinical Lead Vascular Access
Dissemination (Raising Awareness)	Trust-wide
Compliance	All personnel within Plymouth Hospitals NHS Trust involved in caring for patients with a Central Venous Access Device (CVAD) or Midline device.

Links to other policies and procedures

- Infection Control Manual
- Guidelines for the Management of Central Venous Catheters
- Central Catheter Care Vascular Guidelines

Version History

V1	2015	
V2	July 2019	Reviewed and updated

The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.

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Standard Operating Procedure (SOP)

Selection of Patient Groups Where 3M Tegaderm CHG IV Securement

Dressing for Central Venous Access Device (CVAD) and Midline Catheters

1 Introduction

In 2015 The National Institute for Health and Care Excellence (NICE) Medical Technologies Evaluation Programme reviewed the evidence for the use of Tegaderm™ CHG dressing (NICE, 2015). This review included two published study reports by Timsit et al (2009; 2012). These studies found there was a significant reduction in Catheter Related Blood Stream Infection (CRBSI) per 1000 catheter days when either chlorhexidine-impregnated sponges or chlorhexidine impregnated dressing were used in critical care.

The NICE guidance committee advised that Tegaderm CHG dressing offered better protection from Catheter Related Blood Stream Infection CRBSI than non- chlorhexidine dressings and in addition that it provided comparable efficacy to a chlorhexidine-impregnated sponge disc (Biopatch). The committee concluded that the use of Tegaderm CHG dressing in identified groups would be cost effective.

Guidelines recommend considering Chrlorhexidine impregnated dressings as a strategy to reduce blood steam infection (Loveday et al 2014).

An evaluation of this product within the Trust indicated that this product was acceptable in use, allowing visibility of the insertion site as the dressing is transparent. This facilitates early detection of inflammation or irritation. The application and removal of the dressing was similar to the current product. There were no extra early dressing changes and patients found the dressing comfortable.

To obtain maximal benefit while limiting the financial impact of the introduction of Tegaderm CHG dressing this document outlines patient groups considered to be at increased risk of CRBSI. It is within these groups that the dressing should be used (if no contra- indications). This list is not exhaustive.

2 Definitions

- Tegaderm CHG dressing is a semi-permeable transparent adhesive dressing with an integrated gel pad containing chlorhexidine gluconate 2%. The purpose of this dressing is to provide a sterile covering for the CVAD, to secure the device and to provide a continuous application of chlorhexidine at the insertion site.
- The cost-benefit ratio should be reviewed by individual Care Groups, who may feel effectiveness is unproven in their patient groups (e.g. Critical Care)

3 Regulatory Background

National Institute for Health and Care Excellence (NICE) Medical Technologies Evaluation Programme reviewed the evidence for the use of Tegaderm™ CHG dressing.(NICE, 2015 [MTG25] Published date: July 2015 https://www.nice.org.uk/guidance/mtg25

- Infection control Policies and Procedures
- Infection Control Manual – G:\TrustDocuments\Documents\Infection Control
- Guidelines for the Management of Central Venous Catheters
- Central Catheter Care Vascular Guidelines

4 Key Duties

Clinical areas which regularly have patients fitting the above criteria for CHG dressings should keep a small number of Tegaderm CHG dressings in stock.

Patients meeting the inclusion criteria located in other clinical areas should be referred to the Vascular Access / Acute Care Team to arrange a supply of dressings if none available in the clinical area. These will be cross-charged.

5 Procedure to Follow

The following patient groups are accepted as having suitable inclusion criteria for the use of Tegaderm CHG dressings:

- Patients with a known history of CRBSI
- Patient known to be colonised with MRSA/MSSA (or other high risk organism)
- Patient receiving parenteral nutrition
- Immunocompromised patients
- Clinical judgement (e.g. patients where other dressings fail to adhere well)

The application of Tegaderm CHG dressings should be performed in line with Infection Control Policies and Procedures, Infection Control Manual and the SOP for Changing a Dressing of a Central Venous Catheter.

6 Document Ratification Process

The design and process of review and revision of this procedural document will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the Dr Andrew Porter and ratified by the Medical Devices Committee

Non-significant amendments to this document may be made, under delegated authority from the Director, by the nominated author. These must be ratified by the Director and should be reported, retrospectively, to the group or committee.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes.

7 Dissemination and Implementation

Following approval and ratification, this procedural document will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Formal Documents.

The document author(s) will be responsible for agreeing the training requirements associated with the newly ratified document with the Medical Devices Committee and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

8 Monitoring and Assurance

It is recognised that a small number of patients may be sensitised to chlorhexidine gluconate and are not suitable for this dressing, or other chlorhexidine products. In this situation, an alternative dressing should be applied.

Any complications associated with CHG dressings should be reported via the Datix reporting system.

9 Reference Material

Various figures have been provided regarding the cost of a CRBSI. The Department of Health (2011) have estimated the cost of treating one case of MRSA at £5,200 (2009-10 prices), while Blot and colleagues estimated the cost attributed solely to a CRBSI to be nearly €13,000 (>£10,000), and rising to more than €20,000 (>£15,800) when additional hospital costs were added (Blot et al 2005). For the purpose of providing information on the financial implication of adopting the Tegaderm CHG dressing , £10,000 was used as the probable cost of a central line infection

Advani S, Reich NG, Sengupta A, Gosey L, Milstone AM (2011) Central line–associated bloodstream infection in hospitalized children with peripherally inserted central venous catheters: extending risk analyses outside the intensive care unit. *Clin Infect Dis* **52**(9):1108-15. doi: 10.1093/cid/cir145

Alexander M, Corrigan A, Gorski L, Hankins J, Perucca R, eds (2009) *Infusion Nursing: An Evidence-Based Approach*. Saunders/Elsevier, St Louis: 430

Beekmann SE, Diekema DJ, Huskins WC et al (2012) Diagnosing and reporting of central line-associated bloodstream infections. *Infect Control Hosp Epidemiol* **33**(9): 875–82. doi: 10.1086/667379

Bennett JE, Dolin R, Blaser MJ (2014) *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. Elsevier Health Sciences, Oxford

Dixon-Woods M, Leslie M, Bion J, Tarrant C (2012) What Counts? An Ethnographic Study of Infection Data Reported to a Patient Safety Program. *Milbank Quarterly* **90**(3): 548–91. doi: 10.1111/j.1468-0009.2012.00674

Elliott TSJ (1988) Intravascular-device infections. *J Med Microbiol* **27**(3): 161-7

Gahlot R, Nigam C, Kumar V, Yadav G, Anupurba S (2014) Catheterrelated bloodstream infections. I*nt J Crit Illn Inj Sci* **4**(2): 162–7. doi: 10.4103/2229-5151.134184

Hitchcock J, Savine L (2015) Medical adhesive-related skin injury: VADS and dressings. *Br J Nurs* **24**(14: IV Therapy Supplement): S13. http://dx.doi. org/10.12968/bjon.2015.24.Sup14.S13

Institute for Healthcare Improvement (2012) *How-to Guide: Prevent Central Line-Associated Bloodstream Infections (CLABSI).* http://tinyurl.com/ph22p28 (registration required) (accessed 15 September 2015)

Loveday HP, Wilson JA, Pratt RJ et al (2014) epic3: national evidence based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *J Hosp Infect* **86**(Suppl 1):S1-70. doi: 10.1016/S0195-6701(13)60012-2

Marschall J, Mermel LA, Fakih M et al (2014) Strategies to prevent central line-associated bloodstream infections in acute care hospitals: 2014 update. *Infect Control Hosp Epidemiol* **35**(7): 753–71. doi: 10.1086/676533

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Merrer J, De Jonghe B, Golliot F et al (2001) Complications of femoral and subclavian venous catheterization in critically ill patients: a randomized controlled trial. *JAMA* **286**(6):700-7

National Institute for Health and Care Excellence (2015) The 3M Tegaderm CHG IV securement dressing for central venous and arterial catheter insertion sites. NICE medical technology guidance 25. July. http://tinyurl. com/oue967n (accessed 15 September 2015)

O'Grady NP, Alexander M, Burns LA et al (2011) Guidelines for the prevention of intravascular catheter-related infections. *Am J Infect Control* **39**(4 Suppl 1): S1-34. doi: 10.1016/j.ajic.2011.01.003. (2011): S1-S34

Pronovost P, Needham D, Berenholtz S, et al (2006) An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med* **355**(26): 2725-32

Sihler KC, Chenoweth C, Zalewski C, Wahl W, Hyzy R, Napolitano LM (2010) Catheter-related vs. catheter-associated blood stream infections in the intensive care unit: incidence, microbiology, and implications. Surg Infect (Larchmt) 11(6): 529–34. doi: 10.1089/sur.2009.084

Safdar N, Maki DG (2004) The pathogenesis of catheter-related bloodstream infection with noncuffed short-term central venous catheters. *Intensive Care Med* **30**(1):62-7. Epub 2003

Smyth ET, McIlvenny G, Enstone JE, et al (2008) Four country healthcare associated infection prevalence survey 2006: overview of the results. *J Hosp Infect* **69**(3):230-48. doi: 10.1016/j.jhin.2008.04.020

Timsit JF, Schwebel C, Bouadma L et al (2009) Chlorhexidine-impregnated sponges and less frequent dressing changes for prevention of catheterrelated infections in critically ill adults: a randomized controlled trial. *JAMA* **301**(12):1231-41. doi: 10.1001/jama.2009.376

Timsit JF, Mimoz O, Mourvillier B et al (2012) Randomized controlled trial of chlorhexidine dressing and highly adhesive dressing for preventing catheter-related infections in critically ill adults. *Am J Respir Crit Care Med* **186**(12):1272-8. doi: 10.1164/rccm.201206-1038OC

Whitby M, McLaws ML, Berry G (2001) Risk of death from methicillinresistant Staphylococcus aureus bacteraemia: a meta-analysis. *Med J Aust* **175**(5):264-7

Wilson J, Elgohari S, Livermore DM (2011) Trends among pathogens reported as causing bacteraemia in England, 2004–2008. *Clin Microbiol*

Infect. **17**(3):451-8. doi: 10.1111/j.1469-0691.2010.03262.