

Renal guidelines on the care of the peritoneal catheter exit site

Ad hoc Meeting of WG of Collaboration between
CHP and Private Hospitals on Safe Use of
Antibiotics & Infection Control

24 Sept 2019



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CHP / HA CRC

Infection Control Guidelines on Nephrology Services in Hong Kong 2018

3rd Edition (Version 3.1)

Jointly prepared by
**Infection Control Branch, Centre for Health Protection,
 Department of Health**
 and
Central Renal Committee, Hospital Authority

衛生防護中心 感染控制
 醫院管理局 感染控制
 The Centre for Health Protection is a
 professional unit of the
 Department of Health
 for disease prevention
 and control

HA / HKCP / HKSND

ISSN 1320-5358

NEPHROLOGY

Volume 24 • Supplement 1 • March 2019

Clinical Practice Guidelines for the Provision of Renal Services in Hong Kong

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www.wileyonlinelibrary.com/journal/npj

ISPD 2017 update

Peritoneal Dialysis International, Vol. 51, pp. 141-154
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ISPD GUIDELINES/RECOMMENDATIONS

ISPD CATHETER-RELATED INFECTION RECOMMENDATIONS: 2017 UPDATE

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KEY WORDS: Infection; antibiotic; peritonitis.

INTRODUCTION

Peritoneal dialysis (PD) catheter-related infections are a major predisposing factor to PD-related peritonitis (1–3). The primary objective of preventing and treating catheter-related infections is to prevent peritonitis. Recommendations on the prevention and treatment of catheter-related infections were published previously together with recommendations on PD peritonitis under the auspices of the International Society for Peritoneal Dialysis (ISPD) in 1983 and revised in 1989, 1993, 1996, 2000, 2005, and 2010 (4–9). The present recommendations, however, focus on catheter-related infections, while peritonitis will be covered in a separate guideline.

These recommendations are evidence-based where such evidence exists. The bibliography is not intended to be comprehensive. When there are many similar reports on the same area, the committee prefers to refer to the more recent publications. In general, these recommendations follow the Grades of Recommendation Assessment, Development and Evaluation

DEFINITIONS

- We suggest that exit-site infection is defined as the presence of purulent discharge, with or without erythema of the skin at the catheter-epidermal interface (not graded).
- We suggest that tunnel infection is defined as the presence of clinical inflammation or ultrasonographic evidence of collection along the catheter tunnel (not graded).

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 Received 14 September 2016; accepted 15 September 2016.

Perit Dial Int 2017, 37 (2): 141–154
<https://doi.org/10.1177/0885066616660320>

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Choice of cleansing agent for peritoneal catheter exit site

	<u>CHP/ HA CRC (1)</u>	<u>HA / HKCP / HКСN (2)</u>	<u>ISPD 2017 update (3)</u>
Routine Exit site care method	3.2.6 Use normal saline (0.9% saline); or antiseptic solution (e.g. aqueous chlorhexidine 0.05%) for peritoneal catheter exit site cleaning	CARE OF PATIENT WITH PERITONEAL DIALYSIS ACCESS (p.88) <ul style="list-style-type: none"> We suggest keeping exit site clean and dry. (D) Have daily shower after exit site is completely healed. (D) We recommend performing the exit site dressing with aseptic technique if it is infected. (R) 	TOPICAL ANTIBACTERIAL AND ANTISEPTIC AGENTS (p.144) <ul style="list-style-type: none"> Recommend daily topical application of antibiotic cream or ointment to the catheter exit site (1A). Suggest that no cleansing agent has been shown to be superior with respect to preventing catheter-related infections (2B). EXIT-SITE CARE <ul style="list-style-type: none"> Recommend that the exit site be cleansed at least twice weekly and every time after a shower (1C).

(1) Infection Control Guidelines on Nephrology Services in Hong Kong 2018. 3rd Edition (Version 3.1) Jointly prepared by Infection Control Branch, Centre for Health Protection, Department of Health and Central Renal Committee, Hospital Authority https://www.chp.gov.hk/files/pdf/ic_gu_nephrology_services_in_hk.pdf
 (2) Clinical practice guidelines for the provision of renal service in Hong Kong: Renal Nursing Practice Nephrology 24, Suppl. 1 (2019) 77-97
 (3) ISPD CATHETER-RELATED INFECTION RECOMMENDATIONS: 2017 UPDATE. Perit Dial Int March-April 2017 vol. 37 no. 2 141-154
<http://www.pdiconnect.com/content/37/2/141.full>

ISPD 2017 update

- Antibacterial soap and water are commonly used to clean the exit site, but that efficacy has not been formally tested
- Povidone-iodine, chlorhexidine, and electrolytic chloroxidizing solutions have been used as disinfectants for routine care of the exit site to prevent catheter-related infections
 - Four randomized controlled trials compared **topical povidone-iodine** to simple soap and water cleansing for exit-site care or no treatment;
 - 2 found that topical povidone-iodine reduced the incidence of ESI,
 - the third showed no significant difference,
 - while the last one showed that with topical mupirocin cream, topical povidone-iodine dressing confers no added benefit . The peritonitis rate was similar between povidone-iodine and control groups in all these studies.
 - A randomized controlled trial showed that daily **chlorhexidine** care at the exit site is superior to normal saline cleansing for the prevention of exit site colonization by *S. aureus*

TABLE 1
Topical Antibacterials, Antiseptics, and Cleansing Agents for
the Prevention of Catheter-Related Infections

- povidone-iodine (93–95)
- chlorhexidine solution (97,103)
- Amuchina solution/hypochlorite solution (98–102)
- mupirocin cream (25,56,106–113)
- gentamicin cream or ointment (107,108,123)
- ciprofloxacin otologic solution (121)
- antibacterial honey (128)
- polysporin triple ointment (129)
- polyhexanide (131)



Antimicrobial activities of Chlorhexidine



Antimicrobial activity and summary of properties of Chlorhexidine and other antiseptics

Antiseptics	Gram-positive bacteria	Gram-negative bacteria	Viruses enveloped	Viruses non-enveloped	Myco-bacteria	Fungi	Spores
Alcohols	+++	+++	+++	++	+++	+++	-
Chloroxylenol	+++	+	+	±	+	+	-
Chlorhexidine	+++	++	++	+	+	+	-
Hexachlorophene ^a	+++	+	?	?	+	+	-
Iodophors	+++	+++	++	++	++	++	± ^b
Triclosan ^d	+++	++	?	?	±	± ^e	-
Quaternary ammonium compounds ^c	++	+	+	?	±	±	-

Antiseptics	Typical conc. in %	Speed of action	Residual activity	Use
Alcohols	60-70 %	Fast	No	HR
Chloroxylenol	0.5-4 %	Slow	Contradictory	HW
Chlorhexidine	0.5-4%	Intermediate	Yes	HR,HW
Hexachlorophene ^a	3%	Slow	Yes	HW, but not recommended
Iodophors	0.5-10 %)	Intermediate	Contradictory	HW
Triclosan ^d	(0.1-2%)	Intermediate	Yes	HW; seldom
Quaternary ammonium compounds ^c		Slow	No	HR,HW; Seldom; +alcohols

Source: [WHO guidelines on HH in Health Care 2009](#)

Different Formulation of chlorhexidine containing Products

Product Ingredients	Indications
Chlorhexidine Digluconate 0.2% w/v (equivalent to Chlorhexidine Gluconate Solution 1.0% v/v)	<p>Aids prevention of dental plaque formation. Aids the treatment and prevention of gingivitis. For the maintenance of oral hygiene.</p> <p>Promotes gingival healing following periodontal surgery.</p> <p>Management of recurrent oral ulceration.</p> <p>For the treatment of denture stomatitis and oral thrush.</p>
Chlorhexidine Acetate BP 0.05% w/v for Irrigation.	<p>Chlorhexidine Acetate BP is a disinfectant which is effective against a wide range of vegetative gram-positive and gram-negative bacteria.</p>
Chlorhexidine Acetate 0.015% w/v and Cetrimide 0.15% w/v, Irrigation Solution	<p>For general topical use, combining antibacterial activity against a wide range of vegetative gram-positive and gram-negative bacteria with useful cleansing properties.</p> <p>Recommended for the cleansing and disinfection of wounds and the antiseptic treatment of burns.</p> <p>Recommended for swabbing in obstetrics, gynaecology and urology.</p>



Local Recommendations on the use of chlorhexidine in different concentrations



Skin Cleaning

3.2.6

- Use normal saline (0.9% saline) or antiseptic solution (e.g. **aqueous chlorhexidine 0.05%**) for peritoneal catheter exit site cleaning.

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轄下執行疾病預防
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Protection is a
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Skin antisepsis



- Prepare skin with antiseptic **chlorhexidine 2% in 70% isopropyl alcohol**
(Repeated strokes for at least 30 sec & allow to dry before insertion)
 - **Central venous catheters (CVCs)**, including peripherally inserted central venous catheters (PICCs), haemodialysis (HD) and pulmonary artery catheters (PACs)
 - **Peripheral Arterial Catheter**
- Disinfect IV injection port, stopcock, needleless intravascular device, or heparin-block before access

MRSA decolonization & Surgical scrub

 HA Central Committee on Infectious Disease and Emergency Responses (CCIDER) Subject: Guideline on the Control of Methicillin-Resistant Staphylococcus aureus (MRSA)	Ref No.	CCIDER-MRSA-001(V3)
	Issue Date	3 Jul 2012
	Review Date	14 Jun 2015
	Approved by	CCIDER
	Page	Page 1 of 11

Version	Effective Date
1	Dec 2006
2	Jun 2011
3	3 Jul 2012

Document Number	CCIDER-MRSA-001 (V3)
Author	TFIC - Dr Raymond LAI
Custodian	HA Task Force on Infection Control
Approved by	HA Central Committee on Infectious Disease and Emergency Responses
Approval Date	14 Jun 2012
Next Review Date	14 Jun 2015

5.5.4.

- Chlorhexidine gluconate 4% skin cleanser and shampoo should be used for bathing and hair washing for five days.

http://ha.home/ho/ps/Guideline_MRSA.pdf

 衛生防護中心 Centre for Health Protection
Recommendations on Prevention of Surgical Site Infection
2nd Edition
Scientific Committee on Infection Control, and Infection Control Branch, Centre for Health Protection, Department of Health
September 2017

C. Preoperative Surgical Hand Preparation of Surgical Team

- (c) The surgical hand antiseptic product should be either an antimicrobial soap (e.g. 4% chlorhexidine or 7.5% povidone-iodine) or an alcohol-based handrub.

https://www.chp.gov.hk/files/pdf/recommendations_on_prevention_of_surgical_site_infection_2nd_edition.pdf



End

