B BRAUN
SHARING EXPERTISE

Prontoderm®

SCIENTIFIC AND CLINICAL EVIDENCE

Content

4 INTRODUCTION

5 THE PRONTODERM SYSTEM

6 PREVENTION AND CONTROL OF MDRO

7 PRONTODERM® AVAILABLE EVIDENCE AT A GLANCE

13 POLIHEXANIDE: AVAILABLE EVIDENCE AT A GLANCE

16 USE INSTRUCTIONS MDRO: MOBILE PATIENTS

17 USE INSTRUCTIONS MDRO: IMMOBILE PATIENTS

Introduction

ANTIBIOTIC RESISTANCE

Multi-Drug-Resistant Organisms (MDRO) such as MRSA (Methicillin / Multi-resistant *Staphylococcus aureus*), VRE (Vancomycinresistant *Enterococci*) or ESBL (Extended Spectrum Beta-Lactamase) are an increasing problem in the health care system and have a serious impact on patients in the hospital, ambulatory and community – sector. MDROs can colonize the skin. This colonization has to be avoided by all means to prevent severe problems via pathogen-transmission, such as infections, especially prior to surgical interventions, in catheterised patients, or in immunosuppressed patients.

The aim is to reduce the incidence of such infections through decolonization.

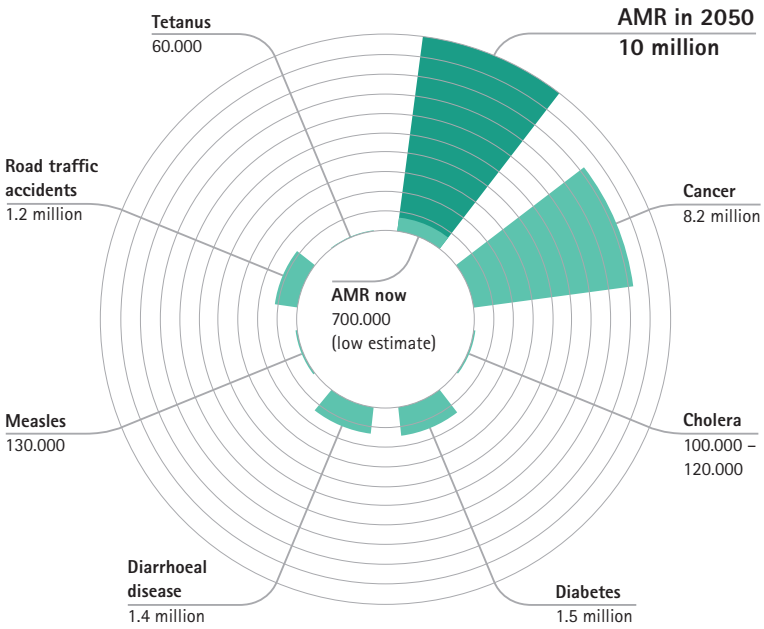
SURGICAL SITE INFECTION

Surgical site infections (SSIs) are one of the most important parts of procedure-related healthcare-associated infections (HCAIs) and remain a severe complication after a surgery.

Every surgical site infection leads to economic and humanburden:
- SSI can double the length of time a patient stays in hospital[1]
- Additional costs attributable to SSI
- Tragedy for each patient with enormous psychosocial stress

Several clinical studies have shown that cleansing with an antimicrobial agent the night and the morning before the planned operation can reduce the incidence of post-operative surgical site infections.[2]

Deaths attributable to antimicrobial resistance every year compared to other major causes of death[3]



Continued rise in resistance by 2050 would lead to 10 million people dying every year and a reduction of 2 % to 3.5 % in Gross Domestic Product (GDP). It would cost the world up to 100 trillion USD.

[1] Zywiel MB et al. Advance pre-operative chlorhexidine reduces the incidence of surgical site infections in knee arthroplasty. Int Orthop. 2011 Jul; 35(7):1001–1006.
[2] National Institute for Health and Clinical Excellence: Guidance. Surgical Site Infection: Prevention and Treatment of Surgical Site Infection. London: RCOG Press; 2008 Oct.
[3] AMR review. Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations Chaired by Jim O'Neill. December 2014

The Prontoderm® system

CONTENTS OF PRONTODERM®

Prontoderm® contains a synergistically active mixture of surfactants and polyaminopropylbiguanide (preservative polihexanide) in water.

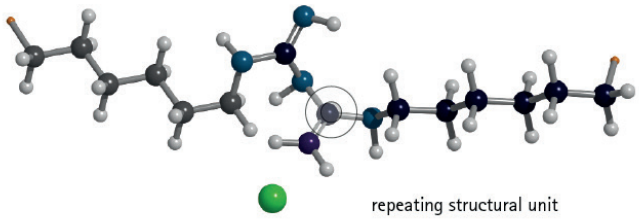
All these ingredients are characterised by high tissue tolerance and biocompatibility. Epicutaneous tests confirm the absence of skin irritations. For this reason Prontoderm® is especially suitable for whole body sanitation.

Polihexanide has also been used as a contact lens disinfecting solution as well as in various topical wound treatment preparations such as Prontosan®.

Prontoderm® is available in various galenic forms such as solution, wipes, nasal gel, foam, shower gel and mouth rinse to provide a high convenient whole body sanitation. This wide product portfolio also allows to fulfil variable treatment concepts.

POLIHEXANIDE (PHMB)

PHMB is a highly effective modern broad spectrum antimicrobial agent that reduces bioburden.



The mode of action can be described as a non-specific electrostatic interaction with the bacterial cell wall. The attachment of polihexanide to the bacterial cell wall results in a disorganisation of the biological structure of the bacteria.

Advantages of Prontoderm®

- Inhibition of MDRO growth, spreading and transmission
- Bactericidal efficacy for MRSA, ESBL/ESCR and VRE proven by EN13727
- Proven non-resistance to MRSA strains
- Leave-on, antimicrobial barrier effect for up to 24 hours
- Outstanding skin tolerance, dermatologically tested
- Available as solution, wipes, nasal gel, hair foam, shower gel and mouth rinse solution

MRSA: methycillin-resistant Staphylococcus aureus; ESBL: Extended spectrum ß-lactamases;
ESCR: Extended-spectrum cephalosporin-resistants; VRE: Vancomycin-resistant enterococci

Prevention and control of MDRO

Bundle of measures for MDRO prevention and control in hospitals

BASIC HYGIENE
Well established and strictly implemented

INFORMATION & TRAINING
Of staff, visitors, patient

(ADMISSION) SCREENING
Risk-based / checklist / nose, throat, wounds; prior to elective interventions; flagging

RISK ANALYSIS
By the physician

DETERMINATION OF SANITATION MEASURES
E.g. prior to elective interventions

ACCOMMODATION REQUIREMENTS
Separate room, termination of measures, procedure by leaving the room

PROTECTION OF TRANSMISSION
Strict hand hygiene, wearing of disposable medical gloves, wearing of other protective clothing (e.g. gowns)

DISINFECTION & CLEANSING
Daily: patient and hand contact surfaces

PROCEDURES FOR VISITORS
Hand disinfection

TRANSFER & TRANSPORTATION
Limitationpatients & materials

The Prontoderm® product family

- Is a highly efficient part of the holistic MDRO eradication concept which also includes a bundle of measures for MDRO Prevention
- Reduces the incidence of surgical site infections through body cleansing prior to the planned operation

Prontoderm®

Available evidence at a glance

Reference	Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
Eradication of MRSA in chronic wounds of outpatients with leg ulcers is accelerated by antiseptic washes – Results of a pilot study. Reich-Schupke S, Warneke K, Altmeyer P, Stücker M. Int. J. Hyg. Environ. Health 213 (2010) 88–92.	Cohort		●				9
Prospective pilot study of MRSA eradication by means of PHMB-containing substances Joos AK. Hyg Med 2009; 34 (4): 132–137.	Prospecti-ve pilot study		●	●	●	●	10
Efficacy of a novel antimicrobial solution (Prontoderm) in decolonising MRSA nasal carriage. Madeo. M. J Hosp Infect 2009; DOI:10.1016/j.jhin.2009.09.00.	Letter to the editor		●				11
MRSA decolonisation with Prontoderm compared with chlorhexidine and mupirocin. Hamson C. Bignardi G.E. J Hosp Infect 2010; 75:142-143.	Letter to the editor		●				12
Antimicrobial efficacy of 3 oral antiseptics containing octenidine, polyhexamethylene biguanide, or citroxx: Can chlorhexidine be replaced? Rohrer N, Widmer AF, Waltimo T, Kulik EM, Weiger R, Filipuzzi-Jenny E, Walter C Infect Control Hosp Epidemiol 2010; 31(7):733-739.	In-vitro	●					13

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Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
Cohort		●				9

Eradication of MRSA in chronic wounds of outpatients with leg ulcers is accelerated by antiseptic washes – Results of a pilot study

Reich-Schupke S, Warneke K, Altmeyer P, Stücker M.
Int. J. Hyg. Environ. Health 213 (2010) 88–92.

BACKGROUND

Whereas several studies evaluate MRSA in inpatients, for outpatients there are merely expert recommendations, but no systematic studies. Mostly, MRSA in outpatients is tolerated but not eradicated. Particularly, for risk patients with chronic wounds some experts postulate that MRSA-eradication is even impossible. For the first time, this pilot study systematically searched for the results of an eradication of MRSA in chronic leg ulcers of outpatients.

METHODS

38 outpatients with a MRSA colonized leg ulcer were included in the survey and retrospective data analysis. Additionally to a wound therapy with silver-containing wound dressings, all patients were recommended to apply antiseptic eradication measures in accordance with the recommendations for inpatient treatment (Table 1). MRSA was considered to be persistent, if it was detectable in the wound after at least one month of recommended eradication therapy.

RESULTS

In 16 patients the MRSA could be successfully eradicated (MRSAE), in 22 it could not (MRSA- P). Results showed a significant benefit of antiseptic body washes during the decontamination (MRSA-E 62.5 %, MRSA-P 22.7 %; p = 0.0082). Other antiseptic measures like daily change of clothes and linen or disinfections of personal things and surroundings did not show significance.

CONCLUSION

This pilot study shows that eradication of MRSA in chronic wounds is possible in outpatients. Antiseptic measurements, even administered by the patients themselves, seem to have a positive influence. Their efficacy has to be proven in larger, placebo-controlled studies for outpatient eradication.

Table 1

Recommendations for MRSA eradication for our outpatients. Application for at least 5 days. Antiseptics contain polihexanide as active antimicrobial substance (Prontoderm® / Prontosan®).

- Use of antiseptic wound solution (Prontosan®) within change of dressings
- Body-washing incl. hair 1x / day with antiseptic shower foam (Prontoderm® Foam)
- Daily cleaning of spectacles, hearing aids or other personal objects with antiseptic solution (Prontoderm®)
- Daily changingofbed-linen, underwear, handkerchiefs
- Disinfection of all contact surfaces with surface disinfectant

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	Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
	Prospecti-ve pilot study		●	●	●	●	10

Prospective pilot study of MRSA eradication by means of PHMB-containing substances

Joos AK.
Hyg Med 2009; 34 (4): 132–137.

BACKGROUND

Multi-resistant pathogens, especially methicillin-resistant strains of Staphylococcus aureus, continue to be a major problem. In this prospective pilot study the aim was to investigate whether and under which conditions and preconditions elimination of MRSA organisms is possible with the use of Polihexanide containing substances (Prontoderm® / Prontosan®).

METHODS

A total of 6 patients were included after showing positive MRSA swabs before the study and giving informed consent. The eradication was considered successful if, three days after the end of the 9-day therapy, no MRSA organisms could be detected on three consecutive days. In addition to the general hygiene, disinfection and isolation measures, for 9 days whole-body washing was carried out each morning, the wound care was carried out with Polihexanide preparations (Prontosan®), and decontamination (Prontoderm®) of the outer ear, the nasal cavity and the pharynx was performed three times daily. All swabs were obtained in the mornings before the eradication measures on days 0, 2, 4, 6 and 8 from the head, beard, neck, ears, nose, pharynx, axilla, groin, perineum and any wounds. The last series of swabtaking took place on days 11, 12, and 13; if these were negative, the patient was released from isolation. To estimate a long-term success of eradication, a final set of swabs was obtained after approx. 30 days. Patient satisfaction was evaluated by means of a questionnaire, and time involved and costs were recorded.

RESULTS

The time involved for the nursing and eradication measures per staff member was 91 minutes daily, for the room disinfection 52 minutes. Longterm eradication was achieved in one patient, in two others the eradication was initially successful; however, renewed MRSA colonisation was seen at the long-term control examination. In 3 patients eradication was unsuccessful. No adverse reactions to the substances were recorded. Patient satisfaction with the eradication measures was high. The material costs for the products used were on average EUR 412 for a 9-day eradication process.

CONCLUSION

Substances based on Polihexanide (Prontoderm® / Prontosan®) with the advantage of no development of resistance and few adverse reactions are suitable for MRSA eradication, even though factors that have not yet been explained prevented successful elimination in half the patients. The financial and personnel costs are low, as is the stress for the patient. Further studies should investigate improved eradication possibilities for problem zones and investigate which factors are responsible for failed eradication.

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	Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
	Letter to the editor		●				11

Efficacy of a novel antimicrobial solution (Prontoderm®) in decolonising MRSA nasal carriage.

Madeo. M.
J Hosp Infect 2009: DOI:10.1016 / j.jhin.2009.09.00.

OBJECTIVE

A pilot study was undertaken to evaluate the efficacy of Prontoderm® Nasal Gel in the eradication of MRSA nasal carriage in patients identified within an acute teaching hospital. A pilot study was deemed necessary before undertaking a large randomised control trial to exclude any possible application issues such as irritation of the mucus membranes.

METHODS

The normal hospital protocol is to treat colonised patients using 2 % Mupirocin nasal ointment applied three times a day in conjunction with 1 % Triclosan body wash daily for five days. As this was an observational study, patients were given Prontoderm® Nasal Gel instead of the usual Mupirocin nasal ointment and it was applied using a similar application protocol. The efficacy of Prontoderm® Nasal Gel was assessed by a negative nasal screen after five days of treatment. The MRSA screen was undertaken on day 7, two days after completion of treatment. If the initial result returned a positive screen the patient was then commenced on a second treatment cycle using Prontoderm® Nasal Gel and screened two days post treatment. If still positive, then the patient was transferred onto Mupirocin nasal ointment.

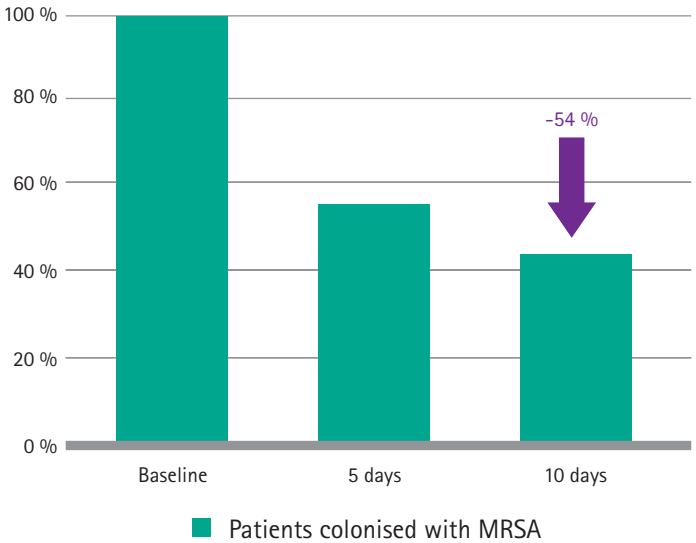
RESULTS

In total, 13 patients were recruited in the pilot study. There were no reported adverse effects of intolerance reported by nurses applying the topical treatment or from the patients themselves on follow-up. The age range of the patients was 40 – 89 years with a mean of 69 years (SD: 13.9) with eight females and five males. Ten of the 13 patients resided within their own home and three were from nursing homes. In total, six (46 %) of the patients had a positive screen result despite two cycles of treatment. Six (54 %) patients cleared after a course of five days of treatment with Prontoderm® Nasal Gel and one (7 %) further patient on the second cycle, making a total clearance rate of 54 %.

CONCLUSION

In summary, this pilot study suggests that Prontoderm® Nasal Gel may be a useful alternative to Mupirocin ointment for nasal MRSA decolonisation, especially in those patients who are colonised with Mupirocin-resistant MRSA strains. It is proposed that a larger randomised study will be undertaken to determine the efficacy of Prontoderm® Nasal Gel.

Patients colonised with MRSA after one or two eradication cycles



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	Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
	Letter to the editor		●				12

MRSA decolonisation with Prontoderm® compared with chlorhexidine and mupirocin

Hamson C. Bignardi G.E.
J Hosp Infect 2010; 75:142-143.

BACKGROUND

Screening for meticillin-resistant Staphylococcus aureus (MRSA) carriage at City Hospitals Sunderland NHS Foundation Trust is carried out in accordance with national guidelines. A new regimen for topical decolonisation was introduced in February 2009 and comprises Prontoderm® Foam, Prontoderm® Nasal Gel and ProntOral®. The Prontoderm range contains a surfactant plus the bactericide Polyhexanide, also known as polyhexamethylene biguanide. This regimen replaced one based on chlorhexidine skin/hair wash, chlorhexidine throat spray/gargle and nasal mupirocin

METHODS

We reviewed the success rate of the new five-day Prontoderm® regimen, based on re-screening two days after completion of treatment, compared with the success rate previously achieved with the chlorhexidine and mupirocin regimen in our Trust. Cases that fulfilled the following criteria were included in the analysis: (i) inpatient for at least seven days after an MRSA-positive report (some patients isolated MRSA more than once during the study period, in which case only the first decolonisation regimen was considered); (ii) completed topical MRSA decolonisation course; (iii) appropriately timed re-screen performed. The results of our analysis are shown in Table I.

CONCLUSION

There are a number of practical advantages in using an MRSA decolonisation regimen based on Prontoderm® products, but there are no good data on its efficacy. Our retrospective assessment suggested that the Prontoderm® products may be inferior to chlorhexidine and mupirocin, but we then found that the products may not have been used consistently in the correct way: we intend to assess in future whether the recent educational campaign on the correct use of Prontoderm will lead to improved eradication rates. Ultimately only a randomised trial could provide definitive data on the comparative efficacy of this and other decolonisation regimens.

TABLE 1

Successful MRSA decolonisation with two different decolonisation regimens used at Sunderland Royal Hospital.

April and May 2009 (decolonisation with Protoderm®)		December 2008 and January 2009 (decolonisation with chlorhexidine and mupirocin)	
$MRSA^-$ on subsequent re-screen	$MRSA^+$ on subsequent re-screen	$MRSA^-$ on subsequent re-screen	$MRSA^+$ on subsequent re-screen
21 (29%)[a]	51 (71%)[a]	24 (25%)[a]	20 (45%)[a]

[a] *P=0.01 (Yates' corrected x^2-test).*

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	Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
	In-vitro	●					13

Antimicrobial efficacy of 3 oral antiseptics containing octenidine, polihexanide (ProntOral®), or citroxx: Can chlorhexidine be replaced?

Rohrer N, Widmer AF, Waltimo T, Kulik EM, Weiger R, Filipuzzi-Jenny E, Walter C
Infect Control Hosp Epidemiol 2010; 31(7):733-739.

BACKGROUND
Use of oral antiseptics decreases the bacterial load in the oral cavity.

OBJECTIVE
To compare the antimicrobial activity of 3 novel oral antiseptics with that of chlorhexidine, which is considered the «gold standard» of oral hygiene.

DESIGN
Comparative in vitro study.
methods. Four common oral microorganisms (Streptococcus sanguinis, Streptococcus mutans, Candida albicans, and Fusobacterium nucleatum) were tested under standard conditions and at different concentrations, by use of a broth dilution assay and an agar diffusion assay and by calculating the log10 reduction factor (RF). The antimicrobial activity of each antiseptic was assessed by counting the difference in bacterial densities (ie, the $\log_{10}$ number of colony-forming units of bacteria) before and after the disinfection process.

RESULTS
The oral antiseptics containing octenidine (with an RF in the range of 7.1 – 8.24 CFU/mL) and polyhexamethylene biguanide (with an RF in the range of 7.1 – 8.24 CFU/mL) demonstrated antimicrobial activity comparable to that of chlorhexidine (with an RF in the range of 1.03 – 8.24 CFU/mL), whereas the mouth rinse containing Citroxx (Citroxx Biosciences; with an RF in the range of 0.22 – 1.36 CFU/mL) showed significantly weaker antimicrobial efficacy. Overall, octenidine and polyhexamethylene biguanide were more active at lower concentrations.

CONCLUSION
Oral antiseptics containing the antimicrobial agent octenidine or polyhexamethylene biguanide (ProntOral®) may be considered as potent alternatives to chlorhexidine-based preparations. Patients colonised with MRSA after one or two eradication cycles

Polihexanide

Available evidence at a glance

In-vitro activity of polyhexanide alone and in combination with antibiotics against *Staphylococcus aureus*. Fabry W, Kock H.-J. J Hosp Infect 2014; 86: 68-72.		●					15
Activity of the antiseptic polyhexanide against gram-negative bacteria. Fabry WHK, Kock H.-J., Vahlensieck W. Microbial Drug Resistance 2014; 20: 138-143.		●					16

Polihexanide

Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
	●					15

In-vitro activity of polihexanide alone and in combination with antibiotics against Staphylococcus aureus

Fabry W, Kock H.-J.
J Hosp Infect 2014; 86: 68-72.

BACKGROUND
The resistance of Staphylococcus aureus is increasing, not only to antibiotics but also to antiseptics.

OBJECTIVE
To investigate the activity of the antiseptic Polihexanide and several antibiotics against clinical isolates of meticillin-susceptible and meticillin-resistant Staphylococcus aureus (MSSA and MRSA, respectively). Polihexanide was tested alone and in combination with Oxacillin, Penicillin G, Ampicillin, Cefazolin, Cefuroxime, Imipenem, Gentamicin, Erythromycin, Doxycycline, Levoflocaxin, Linezolid and Vancomycin.

METHODS
Fifty MSSA and 50 MRSA strains, including one vancomycin-intermediate (VISA) strain, were tested. All strains were typed by pulsed-field gel electrophoresis (PFGE) to exclude testing of clonal isolates. Minimum inhibitory concentrations (MICs) and minimum bactericidal concentrations (MBCs) were determined using the serial broth microdilution technique according to DIN 58940. Combinations of Polihexanide and different antibiotics were investigated using the checkerboard technique.

RESULTS
Polyhexanide MICs and MBCs in the range of 0.5 – 2 mg/L were found for both MSSA and MRSA, and the VISA strain had MIC and MBCvalues of 2 mg/L. All isolates were regarded as susceptible to Polihexanide , and no antagonism was observed between Polihexanide and the tested antibiotics. Synergism between Polihexanide and some bacteriostatic antibiotics (Erythromycin, Doxycycline and Linezolid) was found for some strains.

CONCLUSION
Polihexanide appears to be suitable for the topical treatment of S. aureus alone and in combination with antibiotics.

Activity of antimicrobial agents against meticillin-resistant Staphylococcus aureus (N = 50)

	MIC (mg/L)		MBC (mg/L)	
	MIC_{50}	MIC_{90}	MBC_{50}	MBC_{90}
Polihexanide	1	2	1	2
Gentamicin	8	> 16	16	> 16
Erythromycin	16	> 16	> 16	> 16
Doxycycline	4	8	16	> 16
Levofloxacin	8	> 16	16	> 16
Linezolid	1	4	> 32	> 32
Vancomycin	1	2	2	> 16

MIC: minimum inhibitory concentration; MBC: minimum bactericidal concentration; MIC_{50}/MIC_{90} minimum inhibitory concentration reached by 50% or 90% of the strains, respectively. MBC_{50}/MBC_{90}, minimum bactericidal concentration reached by 50% or 90% of the strains, respectively.

Polihexanide

Type	Antimicrobial efficacy	MDRO eradication	Patient satisfaction	No resistance	Cost-effective	Page
	●					16

Activity of the antiseptic polihexanide against gram-negative bacteria

Fabry WHK, Kock H.-J., Vahlensieck W.
Microbial Drug Resistance 2014; 20: 138-143.

ABSTRACT

The activity of the antiseptic Polihexanide was tested against 250 gram-negative clinical isolates, that is, 50 isolates each of Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, Moraxella catarrhalis, and Haemophilus influenzae. Minimal inhibitory concentrations (MICs) and minimal bactericidal concentrations (MBCs) were determined by using a serial broth microdilution technique according to DIN 58940. Time-kill studies were performed for reference stains E. coli ATCC 25922, K. pneumoniae ATCC 4352, P. aeruginosa ATCC 15442, M. catarrhalis ATCC 43617, and H. influenzae ATCC 49247. All tested isolates had MICs and MBCs within a range of 1 – 32mg/L and were regarded as susceptible to Polihexanide . The highest values were found for P. aeruginosa and H. influenzae with MICs and MBCs of 32 mg/L. Addition of up to 4% albumin to the test medium did not change MICs and MBCs. Time-kill studies of the reference strains showed reduction rates from 3 log10 colony forming units (CFU)/ml to more than 5 log10 CFU/ml for 200 and 400 mg/L Polihexanide within 5 – 30 min. Testing of Polihexanide in combination with antibiotics showed indifference with Amoxicillin, Cefotaxime, Imipenem, Gentamicin, and Ciprofloxacin; no antagonism was found. As no resistance and no antagonism with antibiotics were detected, Polihexanide is regarded as suitable agent for topical eradication of gram-negative bacteria.

Minimal inhibitory concentration and minimal bactericidal concentrations of polihexanide for gram-negative bacteria

	MIC (mg/L)		MBC (mg/L)	
	MIC_{50}	MIC_{90}	MBC_{50}	MBC_{90}
Escherichia coli	2	2	2	2
Klebsiella pneumoniae	1	2	1	2
Pseudomonas aeruginosa	8	8	8	8
Moraxella catarrhalis	2	4	2	4
Haemophilus influenzae	16	32	16	32

MIC: minimum inhibitory concentration; MBC: minimum bactericidal concentration.

USE INSTRUCTIONS MDRO – MOBILE PATIENT

MATERIAL

Prontoderm® Foam, Prontoderm® Nasal Gel,
Prontoderm® Shower Gel, ProntOral®, Surface Disinfectants,
Prontosan® Wound Irrigation Solution (for patients with wounds)

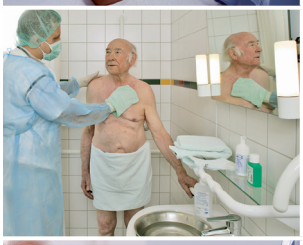
USE FOR 5 DAYS

Washing hair

Once daily, massage Prontoderm® Foam into the hair. Use enough for the length of the hair.
Exposure time: 3 - 5 minutes

Nasal care

Cleanse the nose three times daily with cotton swabs (removing any stubborn crusts),
then use a new cotton swab for each nare to introduce Prontoderm® Nasal Gel into the nose.



Washing the body

Shower once daily with Prontoderm® Shower Gel. Use shower to moisten body and hair, and then use a washcloth to distribute a palm-sized amount of Prontoderm® Shower Gel onto the surface of the body (also use to treat outer ear, navel and genital area).
Exposure time: 1 minute
Afterwards, rinse off/shower off Prontoderm® Shower Gel.

Mouth rinsing

Rinse the mouth three times daily with 10 ml ProntOral® and gargle.

General instructions

- Clean and brush dentures with ProntOral® (disposable toothbrush!).
- Brush teeth with disposable toothbrush.
- Wipe off glasses and hearing aid with a clean cloth moistened with Prontoderm® Foam.
- Textiles in contact with skin (e.g., bedding, undergarments, towels) should be changed daily. If possible, wash these at 60 °C.
- After the disinfection process, do not re-use any of the care and hygiene products used during disinfection (e.g., toothpaste, roll-on deodorant, cream); discard these.

Surface disinfection

It is important to disinfect all contact surfaces (bathroom, light switches, doorknobs, bedside table) with a suitable surface disinfectant (e.g., Meliseptol® HBV Tissues).

Wound treatment

For wound treatment, a similarly decolonising wound irrigation solution should be used (Prontosan®).

USE INSTRUCTIONS MDRO – IMMOBILE PATIENT

MATERIAL

Prontoderm® Foam, Prontoderm® Nasal Gel, ProntOral®,
Surface Disinfectants, Prontosan® Wound Irrigation Solution
(for patients with wounds)

USE FOR 5 DAYS

Washing hair

Once daily, massage Prontoderm® Foam into the hair. Use enough for the length of the hair.
Exposure time: 3 - 5 minutes

Nasal care

Cleanse the nose three times daily with cotton swabs (removing any stubborn crusts),
then use a new cotton swab for each nare to introduce Prontoderm® Nasal Gel into the nose.

Washing the body

Apply Prontoderm® Foam to a damp washcloth and moisten each body part.
Use a separate washcloth for each body part; never immerse a washcloth into the basin twice.
Exposure time: 1 minute
Prontoderm® Foam can remain on the skin and has an antimicrobial barrier effect for up to 24h.

Mouth rinsing

Rinse the mouth three times daily with 10 ml ProntOral® and gargle or apply to entire oral cavity using an oral care swab.

General instructions

- Brush dentures with ProntOral® toothbrush (disposable toothbrush!).
- Clean teeth with disposable toothbrush.
- Wipe off glasses and hearing aid with a cloth moistened with Prontoderm® Foam.
- Textiles in contact with skin (e.g., bedding, undergarments, towels) should be changed daily.
- If possible, wash these at 60 °C.
- After the disinfection process, do not re-use any of the care and hygiene products used during disinfection (e.g., toothpaste, roll-on deodorant, cream); discard these.

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It is important to disinfect all contact surfaces (bathroom, light switches, doorknobs, bedside table) with a suitable surface disinfectant (e.g., Meliseptol® HBV Tissues).

Wound treatment

For wound treatment, a similarly decolonising wound irrigation solution (Prontosan®) should be used.

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