



‘Back to basics’: l’igiene della persona assistita

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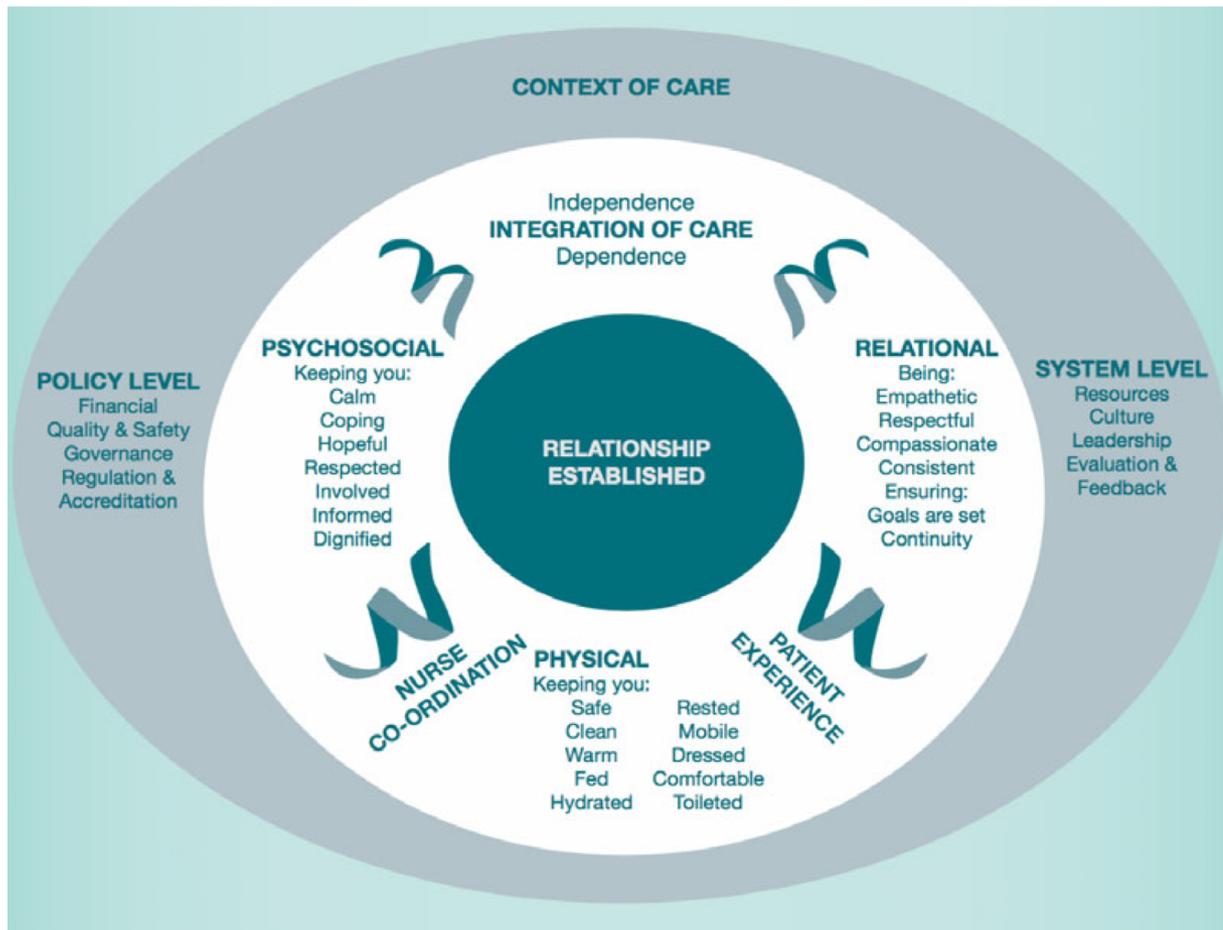


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Person-Centered Fundamentals of Care

is the goal/outcome of the nurse-patient encounter/relationship where the actions and interactions between the nurse and the patient maximize the patient's independence and recovery, keeping them safe and secure.

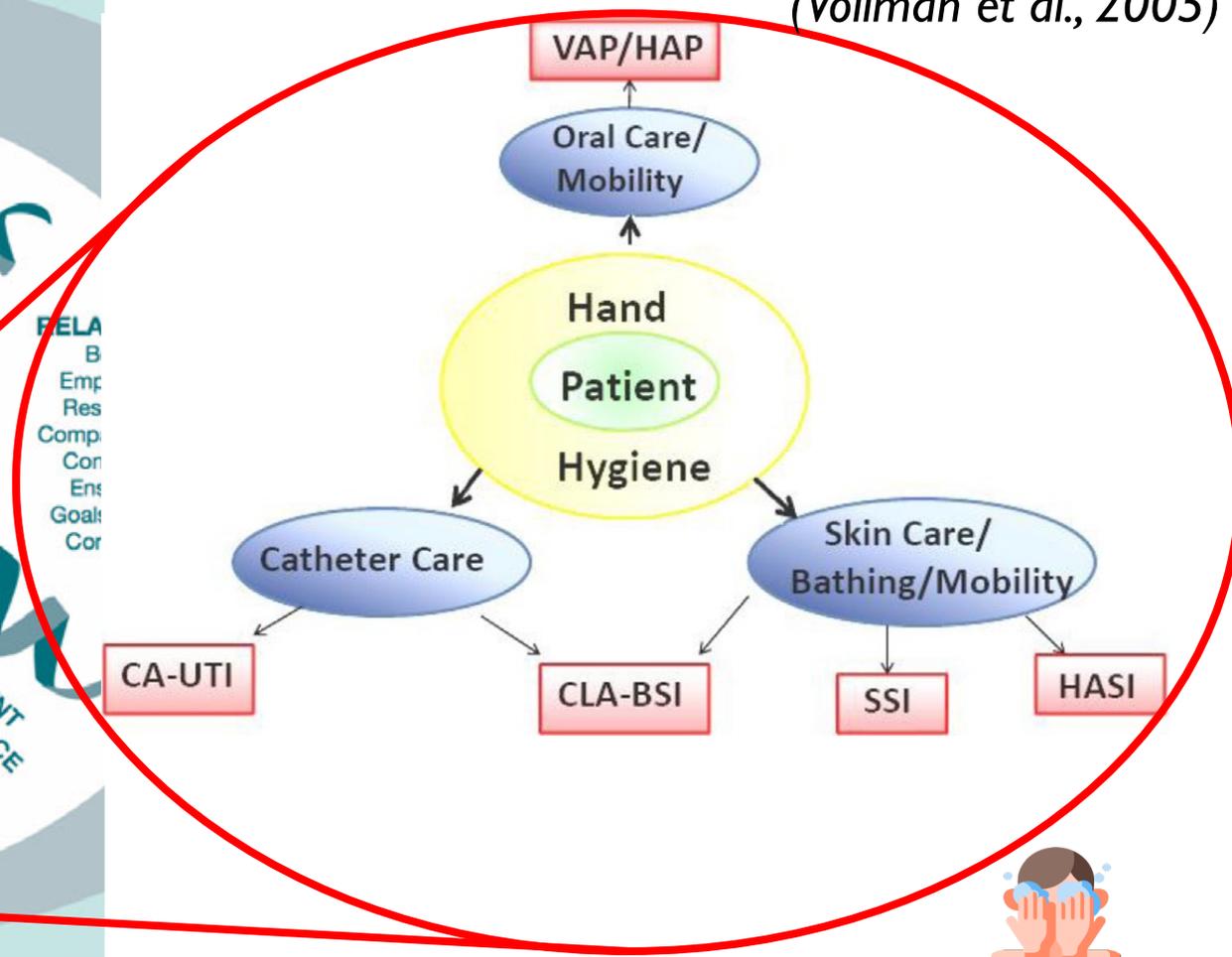
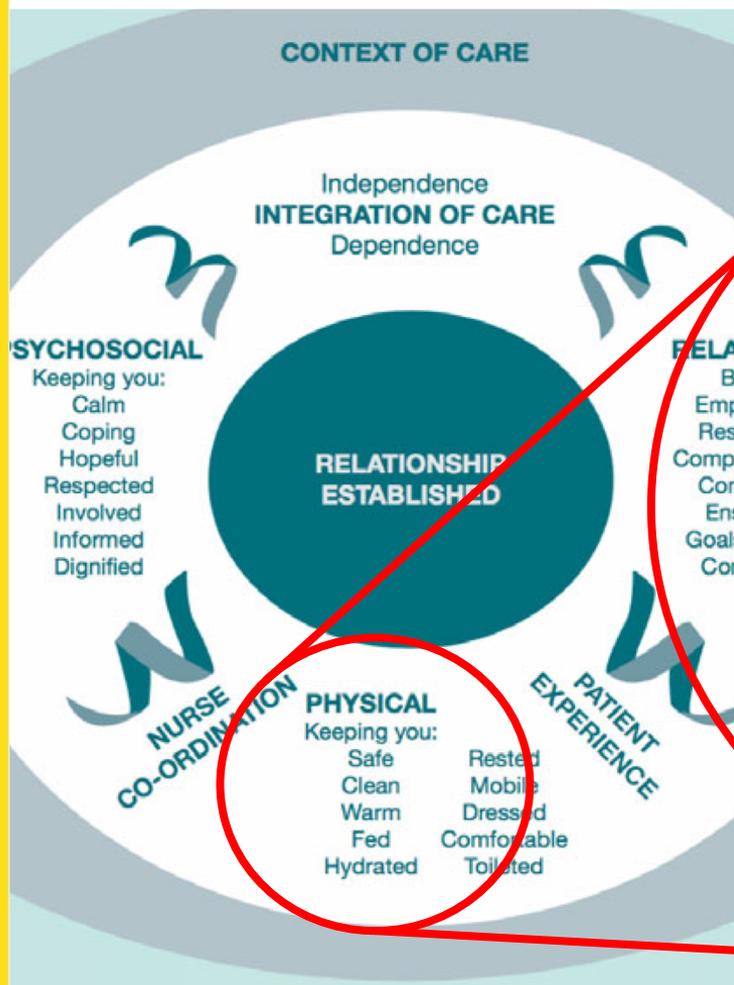
Kitson, 2018



Interventional Patient Hygiene

Is a model for a systematic approach using evidence based nursing care interventions to prevent health care acquired conditions. The components of the model include oral cleansing, patient mobility, dressing changes, urinary catheter care, bathing and incontinence management

(Vollman et al., 2005)





**Linee
Guida**

**Revisioni
sistematiche e
metanalisi**





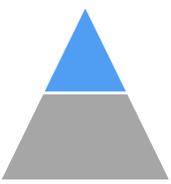
Hospital Acquired Pneumonia

Healthcare Associated Pneumonia

Ventilator Associated Pneumonia



HAP



Guidelines for preventing health-care-associated pneumonia

2003

CDC and the Healthcare Infection Control Practices Advisory Committee

Develop and implement a comprehensive oral-hygiene program (that might include the use of an antiseptic agent) for patients in acute-care settings or residents in long-term care facilities who are at high risk of developing health-care-associated pneumonia

2002

II

No recommendation can be made for the routine use of an oral chlorhexidine rinse for the prevention of health-care-associated pneumonia in all postoperative or critically ill patients or other patients at high risk for pneumonia

1996

Unresolved Issue

II = indicazioni all'implementazione secondo consensus o evidenze primarie

UI = non evidenze, non consenso

Use an oral chlorhexidine gluconate (0.12%) rinse during the perioperative period on adult patients who undergo cardiac surgery

1996





VAP & HAP



Guidelines for the Management of Adults with Hospital-acquired, Ventilator-associated, and Healthcare-associated Pneumonia
2005

ATS= American Thoracic Society

I = Evidenze basate su studi primari, RCT

Modulation of oropharyngeal colonization by the use of oral chlorhexidine has prevented ICU-acquired HAP in selected patient populations such as those undergoing coronary bypass grafting, but its routine use is not recommended until more data become available
1996

I





VAP



<p>Strategies to Prevent Ventilator-Associated Pneumonia in Acute Care Hospitals: 2014 Update 2014</p> <p>SHEA: The Society for Healthcare Epidemiology of America</p> <p>II = si stima il vero effetto sia simile allo stimato, basato su studi di moderata qualità non omogenei nei risultati</p>	<p>Perform oral care with chlorhexidine</p> <p>2008-2014</p>	<p>II</p>
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Revisioni Sistematiche e Meta-Analisi

<p>A systematic review of the preventive effect of oral hygiene on pneumonia and respiratory tract infection in elderly people in hospitals and nursing homes: effect estimates and methodological quality of randomized controlled trials.</p> <p>2008 <i>J Am Geriatr Soc</i></p>	<p>11 RCT, <i>observational</i></p> <p>Elderly people in hospital and nursing homes</p>	<p>Oral hygiene</p> <p>0.12% CHX 1% PI</p> <p>≠ times and techniques</p>	<p>RCT: ↓Pneumonia Respiratory Tract Infections (RTI) (ARR 6.6-11.7; NNT8.6-15.3)</p> <p>Observational: correlation between poor oral care & pneumonia and RTI</p>
<p>Effectiveness of oral chlorhexidine on nosocomial pneumonia, causative microorganisms and mortality in critically ill patients: a systematic review and meta-analysis.</p> <p>2014 <i>Minerva Anestes</i></p>	<p>22 RCT</p> <p>ICU PICU</p>	<p>Oral Hygiene:</p> <p>0.12% CHX 0.2% CHX 1% CHX 2% CHX</p> <p>1-2-3-4 times/day</p> <p>≠ techniques</p>	<p>↓Nosocomial pneumonia (OR 0.66, 95% CI 0.5-0.85; p<0.01)</p> <ul style="list-style-type: none"> - Gram- (OR 0.68, 95%CI 0.51-0.90) - Gram+ (OR 0.41, 95%CI 0.19-0.85) <p>↓VAP (OR 0.68, 95% CI 0.53-0.87; p<0.01)</p>

CHX=Chlorexidine; PI=Povidone iodine; ICU=Intensive Care Unit; PICU= Pediatric ICU



Revisioni Sistematiche e Meta-Analisi



<p>Prevention of Healthcare-Associated Pneumonia with Oral Care in Individuals Without Mechanical Ventilation: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. 2015 <i>Infect Control Hosp Epidemiol</i></p>	<p>5 RCT</p> <p>Nursing home Neuro-intensive unit and Rehabilitation unit</p> <p>Non ventilated</p>	<p>Oral hygiene</p> <p>Normal care Professional care</p> <p>Manual / mechanical care</p> <p>0.2% CHX Potassium permanganate</p>	<p>↓HAP</p> <p>- With oral care (RR 0.61; 95%CI, 0.40-0.91; p=0.02)</p> <p>- With mechanical oral care (RR 0.61; 95%CI, 0.40-0.92; p=0.02)</p>
<p>Prophylactic oral health procedures to prevent hospital-acquired and ventilator-associated pneumonia: a systematic review. 2015 <i>Int J Nurs Stud</i></p>	<p>28 RCT</p> <p>ICU PICU Nursing homes</p>	<p>Oral hygiene</p> <p>Professional care Sodium bicarb. rinse Toothbrushing CHX Topical AB Povidone iodine swab ≠ times</p>	<p>↓HAP</p> <p>With:</p> <p>- Oral care - Professional care, topical AB, Povidone iodine swab</p>

AB=antibiotic; PICU=Pediatric Intensive Care Unit



Revisioni Sistematiche e Meta-Analisi

<p>Effectiveness of Intraoral Chlorhexidine Protocols in the Prevention of Ventilator-Associated Pneumonia: Meta-Analysis and Systematic Review. 2016 <i>Respir Care</i></p>	<p>13 RCT ICU PICU Intubated; VAM</p>	<p>Oral hygiene With CHX vs control CHX: - 0.12%; 0.2%; 2% - Frequency/day: 1-2-3-4 - As monotherapy vs with mechanical debridement</p>	<p>↓ VAP - Adults (RR 0.80; 95%CI, 0.59-1.07; p=0.05) - No difference in Pediatrics - CHX 2% (RR 0.53; 95%CI, 0.31-0.91; p=0.02) 4 times/day (RR 0.56; 95%CI, 0.38-0.81; p=0.002)</p>
<p>Strategies to reduce non-ventilator-associated hospital-acquired pneumonia: A systematic review. 2019 <i>Infect Dis Health</i></p>	<p>15 studies: RCT; quasi experimental; observational ICU PICU Nursing homes</p>	<p>Oral hygiene (+other interventions) Professional and non professional care ≠ antiseptics and techniques</p>	<p>↓ HAP Professional care 3/6 studi (p<0.05) Non professional care 4/5 (p<0.05)</p> 

Revisioni Sistematiche e Meta-Analisi



<p>The efficacy of daily chlorhexidine bathing for preventing healthcare-associated infections in adult intensive care units.</p> <p>2016 <i>Korean J Intern Med</i></p>	<p>15 studies: 3 RCT; 13 quasi-experimental</p> <p>ICU</p> <p>Intubated;VAM</p>	<p>CHG bath</p> <p>2% impregnated cloths (14) and 4% CHG-based soap (1) vs soap+water bathing or non-antimicrobial washcloths</p> <p>6 studies evaluated VAP</p>	<p>↓VAP</p> <p>(RR 0.71; 95%CI, 0.56-0.88; p=0.002)</p>
<p>Chlorhexidine bathing and health care-associated infections among adult intensive care patients: a systematic review and meta-analysis.</p> <p>2016 <i>Crit Care</i></p>	<p>17 RCT</p> <p>ICU</p> <p>PICU</p>	<p>CHG bath:</p> <ul style="list-style-type: none"> - Impregnated washcloths - Bath with CHG vs soap+water bathing or non-antimicrobial washcloths 	<p>No VAP reduction (IRR 0.82; 95%CI, 0.57-1.25)</p>
<p>CHG= Chlorexidine Gluconate</p>			



Revisioni Sistematiche e Meta-Analisi



Evidence for the effectiveness of chlorhexidine bathing and health care-associated infections among adult intensive care patients: a trial sequential meta-analysis 2018 <i>BMC Infectious diseases</i>	5 RCT ICU	CHG bath: - Impregnated washcloths (4) - Bath with CHG (1) vs soap+water bathing or non-antimicrobial washcloths	No VAP reduction (RR 0.33; 95%CI, 0.81-2.18; p>0.5)
Chlorhexidine bathing of the critically ill for the prevention of hospital-acquired infection 2019 <i>Cochrane Database Syst Rev</i>	8 RCT ICU PICU	CHG bath: - 2% Impregnated washcloths - 4% CHG bath vs soap+water bathing or non-antimicrobial washcloths	No HAI reduction in ICU (RD 1.70; 95%CI, 0.12-3.29) (No specific analysis per type of infection)





BloodStream Infections

Central Line Associated BloodStream Infections

Hospital-Acquired BloodStream Infections





CLABSI



Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals:
2014 Update

2014

SHEA/IDSA Practice recommendation

IDSA= Infectious Disease Society of America

SHEA: The Society for Healthcare Epidemiology of America

I=Highly confident that the true effect lies close to that of the estimated size and direction of the effect. Evidence is rated as high quality when there is a wide range of studies with no major limitations

Bathe ICU patients over 2 months of age with a chlorhexidine preparation on a daily basis.

- In long-term acute care hospitals, daily chlorhexidine bathing may also be considered as a preventive measure.
- The role of chlorhexidine bathing in non-ICU patients remains to be determined.

2012-2013

I





CLABSI



APSIC guide for prevention of central line associated bloodstream infections (CLABSI)

2015

APSIC= Asia Pacific Society of Infection Control

II = evidenze riportate da almeno un RCT o da studi osservazionali (livello di evidenze)

B = moderata evidenza nel supportare l'utilizzo della raccomandazione

Chlorhexidine bathing has been shown to decrease CLABSI, either in addition to maximal barrier precautions or as a single intervention.

2010

II B



Revisioni Sistematiche e Meta-Analisi



<p>Efficacy of chlorhexidine bathing for reducing healthcare associated bloodstream infections: a meta-analysis</p> <p>2015 <i>Ann Intensive Care</i></p>	<p>5 RCT ICU</p>	<p>CHG bath: - Impregnated 2% washcloths (4) - Impregnated 4% washcloths (1) vs non antiseptic liquid soap +/- nasal mupirocin</p>	<p>CHG bath: - ↓BSI (RR 0.82; 95%CI, 0.73-0.91; p<0.001) - ↓Gram-positive infection (RR 0.59; 95%CI, 0.44-0.79; p<0.001)</p> <p>CHG bath + nasal mupirocin: - ↓BSI (RR 0.59; 95%CI, 0.51-0.68; p<0.001) - ↓MRSA infection (RR 0.63; 95%CI, 0.44-0.91; p=0.006)</p>
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Revisioni Sistematiche e Meta-Analisi



<p>Prevention of hospital-acquired bloodstream infections through chlorhexidine gluconate-impregnated washcloth bathing in intensive care units: a systematic review and meta-analysis of randomised crossover trials.</p> <p>2016 <i>Euro Surveill</i></p>	<p>4 RCT</p> <p>ICU PICU</p>	<p>CHG bath:</p> <ul style="list-style-type: none"> - 2% Impregnated washcloths vs non-antiseptic impregnated washcloths or other bathing procedures 	<p>CHG bath:</p> <ul style="list-style-type: none"> - ↓HABSI (RR 0.74; 95%CI, 0.60-0.90; p=0.002) - ↓CLABSI (RR 0.50; 95%CI, 0.35-0.71; p<0.0001) - ↓BSI (non central) (RR 0.82; 95%CI, 0.70-0.97; p=0.02)
<p>The impact of chlorhexidine bathing on hospital-acquired bloodstream infections: a systematic review and meta-analysis.</p> <p>2019 <i>BMC Infect Dis</i></p>	<p>26 studies: 18 quasi-experimental, 8 RCT</p> <p>ICU General wards, burn units, long-term settings, geriatric care</p>	<p>CHG bath:</p> <ul style="list-style-type: none"> - 2% Impregnated washcloths - 4% CHG bath - 0.9% CHG bath 	<p>↓HABSI (RR 0.59; 95%CI, 0.52-0.68; p=0.002)</p> 

Revisioni Sistematiche e Meta-Analisi



<p>Chlorhexidine bathing and health care-associated infections among adult intensive care patients: a systematic review and meta-analysis.</p> <p>2016</p> <p><i>Crit Care</i></p>	<p>17 RCT</p> <p>ICU PICU</p>	<p>CHG bath:</p> <ul style="list-style-type: none"> - Impregnated washcloths - Bath with CHG vs soap+water bathing or non-antimicrobial washcloths 	<p>↓CLABSI 56% (Bayesian RE-IRR = 0.44, 95% CrI 0.26, 0.75)</p>
<p>The efficacy of daily chlorhexidine bathing for preventing healthcare-associated infections in adult intensive care units.</p> <p>2016</p> <p><i>Korean J Intern Med</i></p>	<p>15 studies: 3 RCT; 13 quasi-experimental</p> <p>ICU</p> <p>Intubated;VAM</p>	<p>CHG bath</p> <p>2% impregnated cloths (14) and 4% CHG-based soap (1) vs soap+water bathing or non-antimicrobial washcloths</p> <p>6 studies evaluated VAP</p>	<p>↓CLABSI (RR 0.50; 95%CI, 0.36-0.71; p<0.0001)</p>



Revisioni Sistematiche e Meta-Analisi



<p>The effects of chlorhexidine gluconate bathing on health care-associated infection in intensive care units: A meta-analysis. 2016 <i>J Crit Care</i></p>	<p>18 RCT ICU</p>	<p>CHG bath: - 2% Impregnated washcloths - 4% CHG bath vs soap+water bathing or non-antimicrobial washcloths + nasal mupirocin (3)</p>	<p>↓CLABSI (RR 0.45; 95%CI, 0.37-0.55; p<0.001)</p>
<p>Evidence for the effectiveness of chlorhexidine bathing and health care-associated infections among adult intensive care patients: a trial sequential meta-analysis 2018 <i>BMC Infectious Disease</i></p>	<p>5 RCT ICU</p>	<p>CHG bath with impregnated cloths vs standard bathing</p>	<p>↓CLABSI 40% (DL-RE IRR = 0.60, 95%CI, 0.34-1.04) ↓BSI 29% (DL-RE IRR = 0.71, 95%CI, 0.51-0.98)</p>
<p>Chlorhexidine bathing of the critically ill for the prevention of hospital-acquired infection 2019 <i>Cochrane Database Syst Rev</i></p>	<p>8 RCT ICU PICU</p>	<p>CHG bath: - 2% Impregnated washcloths - 4% CHG bath vs soap+water bathing or non-antimicrobial washcloths</p>	<p>No HAI reduction in ICU (RD 1.70; 95%CI, 0.12-3.29) (No specific analysis per type of infection)</p> 



Surgical Site Infections





SSI



<p>Strategies to Prevent Surgical Site Infections in Acute Care Hospitals: 2014 Update</p> <p>2014</p> <p>SHEA/IDSA Practice recommendation</p>	<p>Preoperative bathing with chlorhexidine-containing products.</p> <p>2008-2009</p>	<p>Unresolved issue</p>
<p>Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection</p> <p>2017</p> <p><i>Jama Surg</i></p> <p>IB = A strong recommendation supported by low-quality evidence suggesting net clinical benefits or harms or an accepted practice (eg, aseptic technique) supported by low to very low-quality evidence.</p>	<p>Advise patients to shower or bathe (full body) with soap (antimicrobial or nonantimicrobial) or an antiseptic agent on at least the night before the operative day.</p> <p>Randomized controlled trial evidence suggested uncertain trade-offs between the benefits and harms regarding the optimal timing of the preoperative shower or bath, the total number of soap or antiseptic agent applications, or the use of chlorhexidine gluconate washcloths for the prevention of SSI.</p>	<p>IB</p> <p>Unresolved issue</p> 



Revisioni Sistematiche e Meta-Analisi



<p>Impact of non-rinse skin cleansing with chlorhexidine gluconate on prevention of healthcare-associated infections and colonization with multi-resistant organisms: a systematic review.</p> <p>2012 <i>J Hosp Infections</i></p>	<p>16 RCT</p> <p>* 4/5 studies focusing on SSI in orthopaedic setting</p>	<p>CHG washclothes</p>	<p>↓SSI (RR 0.29; 95%CI, 0.17-0.49)</p>
<p>Preoperative chlorhexidine shower or bath for prevention of surgical site infection: a meta-analysis.</p> <p>2013 <i>Am J Infect Control</i></p>	<p>16 RCT</p>	<p>CHG:</p> <ul style="list-style-type: none">- Bath with 4% solution- Chlorexidine cloths <p>≠ times for application and repetitions</p>	<p>No difference in SSI (RR 0.90; 95%CI, 0.77-1.05)</p>





Revisioni Sistematiche e Meta-Analisi



<p>Preoperative bathing or showering with skin antiseptics to prevent surgical site infection 2015 <i>Cochrane Database Syst Rev</i></p>	<p>7 RCT</p>	<p>CHG 4% bath</p>	<p>No difference in SSI (RR 0.91; 95%CI, 0.80-1.04)</p>
<p>Preoperative bathing of the surgical site with chlorhexidine for infection prevention: Systematic review with meta-analysis. 2017 <i>Am J Infect Control</i></p>	<p>8 RCT</p>	<p>CHG 4% bath ≠ methods for application ≠ times for application and repetitions</p>	<p>No difference in SSI (RR 0.91; 95%CI, 0.76-1.09)</p>





MultiDrug- Resistant Organisms





MDRO



<p>Strategies to Prevent Methicillin-Resistant <i>Staphylococcus aureus</i> Transmission and Infection in Acute Care Hospitals: 2014 Update</p> <p>2014 SHEA/IDSA Practice recommendation</p> <p>I=Highly confident that the true effect lies close to that of the estimated size and direction of the effect. Evidence is rated as high quality when there is a wide range of studies with no major limitations</p>	<p>Provide universal decolonization to ICU patients:</p> <ul style="list-style-type: none"> - Universal decolonization of adult ICU patients with daily chlorhexidine bathing; - Universal decolonization of adult ICU patients with daily chlorhexidine bathing and intranasal mupirocin. <p style="text-align: right;">2009-2014</p>	<p style="text-align: center;">I</p>
<p>Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006</p> <p>2006 <i>CDC Atlanta</i></p>		<p style="text-align: center;">No specific indication</p> 



Revisioni Sistematiche e Meta-Analisi



<p>Chlorhexidine bathing and health care-associated infections among adult intensive care patients: a systematic review and meta-analysis.</p> <p>2016 <i>Crit Care</i></p>	<p>17 RCT</p> <p>ICU PICU</p>	<p>CHG bath:</p> <ul style="list-style-type: none">- Impregnated washcloths- Bath with CHG vs soap+water bathing or non-antimicrobial washcloths	<p>↓MRSA colonization 41% (Bayesian RE-IRR = 0.59, 95% CrI 0.36, 0.94)</p> <p>↓MRSA bacteremia 36% (Bayesian RE-IRR = 0.64, 95% CrI 0.43, 0.91)</p>
<p>The efficacy of daily chlorhexidine bathing for preventing healthcare-associated infections in adult intensive care units.</p> <p>2016 <i>Korean J Intern Med</i></p>	<p>15 studies: 3 RCT; 13 quasi-experimental</p> <p>ICU</p> <p>Intubated;VAM</p>	<p>CHG bath</p> <p>2% impregnated cloths (14) and 4% CHG-based soap (1) vs soap+water bathing or non-antimicrobial washcloths</p> <p>6 studies evaluated VAP</p>	<p>↓MRSA (RR 0.78; 95%CI, 0.68-0.91; p<0.0001)</p> <p>↓VRE (RR 0.56; 95%CI, 0.31-0.99; p=0.05)</p>



Revisioni Sistematiche e Meta-Analisi



<p>The effects of chlorhexidine gluconate bathing on health care-associated infection in intensive care units: A meta-analysis. 2016 <i>J Crit Care</i></p>	<p>18 RCT ICU</p>	<p>CHG bath: - 2% Impregnated washcloths - 4% CHG bath vs soap+water bathing or non-antimicrobial washcloths + nasal mupirocin (3)</p>	<p>↓MRSA (RR 0.67; 95%CI, 0.58-0.77; p<0.001) ↓VRE (RR 0.60; 95%CI, 0.42-0.85; p=0.004) +mupirocin ↓↓MRSA</p>
<p>Evidence for the effectiveness of chlorhexidine bathing and health care-associated infections among adult intensive care patients: a trial sequential meta-analysis 2018 <i>BMC Infectious Disease</i></p>	<p>5 RCT ICU</p>	<p>CHG bath with impregnated cloths vs standard bathing</p>	<p>↓MDRO 18% (DL-RE IRR = 0.82, 95%CI, 0.69-0.98)</p>



Revisioni Sistematiche e Meta-Analisi

<p>Chlorhexidine-based body washing for colonization and infection of methicillin-resistant <i>Staphylococcus aureus</i> and vancomycin-resistant <i>Enterococcus</i>: an updated meta-analysis. 2018 <i>Infect Drug Resist</i></p>	<p>17 studies: RCT, observational ICU; medical, hematological, oncological, chronic care units</p>	<p>CHG bath ≠ interventions, concentration, methods</p>	<p>↓MRSA colonization (RR 0.61; 95%CI, 0.48-0.77) ↓MRSA infection (RR 0.65; 95%CI, 0.52-0.81) ↓VRE colonization (RR 0.58; 95%CI, 0.42-0.80)</p>
<p>Effects of daily bathing with chlorhexidine and acquired infection of methicillin-resistant <i>Staphylococcus aureus</i> and vancomycin-resistant <i>Enterococcus</i>: a meta-analysis. 2019 <i>J Thorac Dis</i></p>	<p>12 studies: RCT, observational</p>	<p>CHG bath ≠ methods for application ≠ times for application and repetitions</p>	<p>↓MRSA colonization (RR 0.58; 95%CI, 0.41-0.82) ↓MRSA infection (RR 0.56; 95%CI, 0.37-0.85) ↓VRE colonization (RR 0.53; 95%CI, 0.37-0.75) ↓VRE infection (RR 0.57; 95%CI, 0.33-0.97)</p> 



Catheter-Associated Urinary Tract Infections



CAUTI

Strategies to Prevent Catheter-Associated Urinary Tract Infections in Acute Care Hospitals: 2014 Update
2014
SHEA/IDSA Practice recommendation

I=The true effect may be substantially different from the estimated size and direction of the effect. Evidence is rated as low quality

Employ routine hygiene; cleaning the meatal area with antiseptic solutions is unnecessary
2012

III



Revisioni Sistematiche e Meta-Analisi



<p>Does periurethral cleaning with water prior to indwelling urinary catheterization increase the risk of urinary tract infections? A systematic review and meta-analysis. 2018 <i>Am J Infect Control</i></p>	<p>5 RCT Pregnant woman, community nursing center, children in Emerg. Dep., PICU, gynecology surgery</p>	<p>CHG \neq concentrations PI</p>	<p>No differences in CAUTI</p>
<p>Chlorhexidine bathing of the critically ill for the prevention of hospital-acquired infection 2019 <i>Cochrane Database Syst Rev</i></p>	<p>8 RCT ICU PICU</p>	<p>CHG bath: - 2% Impregnated washcloths - 4% CHG bath vs soap+water bathing or non-antimicrobial washcloths</p>	<p>No HAI reduction in ICU (RD 1.70; 95%CI, 0.12-3.29) (No specific analysis per type of infection)</p>





**Grazie
dell'attenzione**

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