



# **Webinar: Dia nacional do controle de Infecções (2025) - Cirurgias Seguras: prevenir infecções para salvar vidas**

**Ms. Fernanda Torquato Salles Bucione  
SOBECC**

**Realização:**

**Agência Nacional de Vigilância Sanitária**

**Coordenação de Gestão da Transparência e Acesso à Informação - CGTAI  
Gerência-Geral de Conhecimento, Inovação e Pesquisa - GGCIP**

**Gerência de Vigilância e Monitoramento em Serviços de Saúde – GVIMS  
Gerência-Geral de Tecnologia em Serviços de Saúde – GGTES**



O apresentador declara não apresentar conflitos de interesse  
que possam ser relacionados à sua apresentação

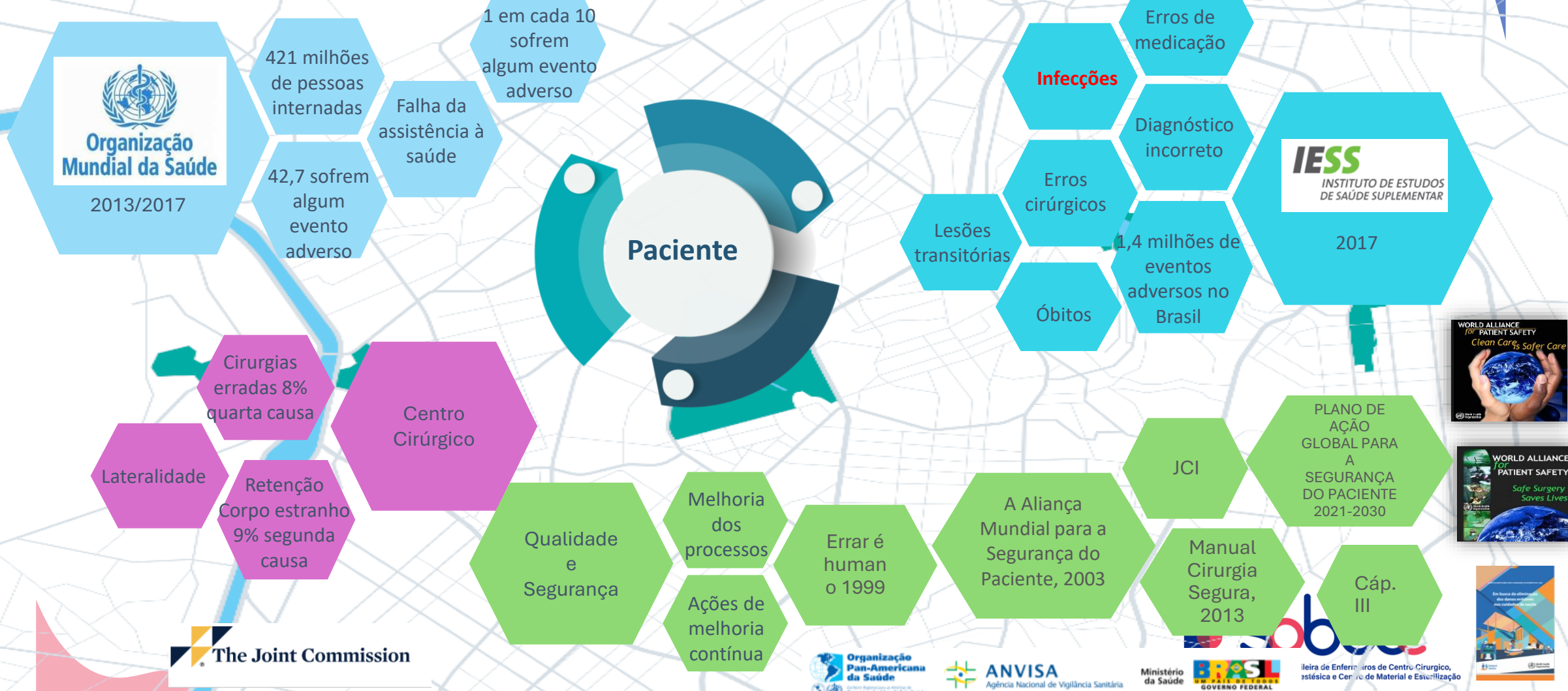
# Agenda

1. Panorama
2. Cirurgia Segura
3. ISC
4. Como assegurar os processos?
5. Desafios
6. O que fazer?
7. Conclusão



# Panorama

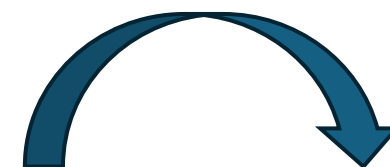
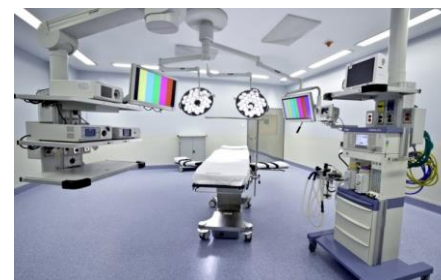
## Subtítulo do Slide



# Jornada do Paciente Cirúrgico



Equipe Multiprofissional



# Panorama



Imagem Google

- ✓ Baixa, média e alta complexidade.
- ✓ Recursos necessários.
- ✓ Múltiplos processos.
- ✓ Múltiplos atores.



# Cirurgia Segura



- Aumentar os padrões de qualidade almejados em serviços de saúde de qualquer lugar do mundo;
- Definir um conjunto central de padrões de segurança, envolvendo 4 áreas:
- Prevenção de Infecções do Sítio Cirúrgico;
- Anestesiologia Segura;
- Equipes Cirúrgicas Seguras;
- Indicadores de Assistência Cirúrgica.

 <b>SURGICAL SAFETY CHECKLIST (Pilot Edition)</b>	
<i>before induction of anaesthesia</i>	
<b>TIME OUT</b>	<b>TIME IN</b>
<p><b>1. Patient Identification</b></p> <ul style="list-style-type: none"> <li>• Patient</li> <li>• Site</li> <li>• Procedure</li> <li>• Consent</li> </ul>	<p><b>1. Confirm key clinical findings about the patient (including any known drug allergies)</b></p> <p><b>2. Review the patient's medical history and review clinically relevant laboratory results</b></p> <ul style="list-style-type: none"> <li>• Vitals</li> <li>• Prevalence</li> </ul>
<p><b>3. Site and procedure verification</b></p> <p><b>4. Anaesthesia plan (type of anaesthesia)</b></p> <p><b>5. Patient safety on the way into the operating room</b></p>	<p><b>6. Review the patient's vital signs</b></p> <p><b>7. Review the patient's laboratory results</b></p> <p><b>8. Review the patient's drug allergies</b></p> <p><b>9. Review the patient's medical history</b></p> <p><b>10. Review the patient's clinical findings</b></p> <p><b>11. Review the patient's consent</b></p> <p><b>12. Review the patient's clinical findings</b></p> <p><b>13. Review the patient's clinical findings</b></p> <p><b>14. Review the patient's clinical findings</b></p> <p><b>15. Review the patient's clinical findings</b></p> <p><b>16. Review the patient's clinical findings</b></p> <p><b>17. Review the patient's clinical findings</b></p> <p><b>18. Review the patient's clinical findings</b></p> <p><b>19. Review the patient's clinical findings</b></p> <p><b>20. Review the patient's clinical findings</b></p> <p><b>21. Review the patient's clinical findings</b></p> <p><b>22. Review the patient's clinical findings</b></p> <p><b>23. Review the patient's clinical findings</b></p> <p><b>24. Review the patient's clinical findings</b></p> <p><b>25. Review the patient's clinical findings</b></p> <p><b>26. Review the patient's clinical findings</b></p> <p><b>27. Review the patient's clinical findings</b></p> <p><b>28. Review the patient's clinical findings</b></p> <p><b>29. Review the patient's clinical findings</b></p> <p><b>30. Review the patient's clinical findings</b></p> <p><b>31. Review the patient's clinical findings</b></p> <p><b>32. Review the patient's clinical findings</b></p> <p><b>33. Review the patient's clinical findings</b></p> <p><b>34. Review the patient's clinical findings</b></p> <p><b>35. Review the patient's clinical findings</b></p> <p><b>36. Review the patient's clinical findings</b></p> <p><b>37. Review the patient's clinical findings</b></p> <p><b>38. Review the patient's clinical findings</b></p> <p><b>39. Review the patient's clinical findings</b></p> <p><b>40. Review the patient's clinical findings</b></p> <p><b>41. Review the patient's clinical findings</b></p> <p><b>42. Review the patient's clinical findings</b></p> <p><b>43. Review the patient's clinical findings</b></p> <p><b>44. Review the patient's clinical findings</b></p> <p><b>45. Review the patient's clinical findings</b></p> <p><b>46. Review the patient's clinical findings</b></p> <p><b>47. Review the patient's clinical findings</b></p> <p><b>48. Review the patient's clinical findings</b></p> <p><b>49. Review the patient's clinical findings</b></p> <p><b>50. Review the patient's clinical findings</b></p> <p><b>51. Review the patient's clinical findings</b></p> <p><b>52. Review the patient's clinical findings</b></p> <p><b>53. Review the patient's clinical findings</b></p> <p><b>54. Review the patient's clinical findings</b></p> <p><b>55. Review the patient's clinical findings</b></p> <p><b>56. Review the patient's clinical findings</b></p> <p><b>57. Review the patient's clinical findings</b></p> <p><b>58. Review the patient's clinical findings</b></p> <p><b>59. Review the patient's clinical findings</b></p> <p><b>60. Review the patient's clinical findings</b></p> <p><b>61. Review the patient's clinical findings</b></p> <p><b>62. Review the patient's clinical findings</b></p> <p><b>63. Review the patient's clinical findings</b></p> <p><b>64. Review the patient's clinical findings</b></p> <p><b>65. Review the patient's clinical findings</b></p> <p><b>66. Review the patient's clinical findings</b></p> <p><b>67. Review the patient's clinical findings</b></p> <p><b>68. Review the patient's clinical findings</b></p> <p><b>69. Review the patient's clinical findings</b></p> <p><b>70. Review the patient's clinical findings</b></p> <p><b>71. Review the patient's clinical findings</b></p> <p><b>72. Review the patient's clinical findings</b></p> <p><b>73. Review the patient's clinical findings</b></p> <p><b>74. Review the patient's clinical findings</b></p> <p><b>75. Review the patient's clinical findings</b></p> <p><b>76. Review the patient's clinical findings</b></p> <p><b>77. Review the patient's clinical findings</b></p> <p><b>78. Review the patient's clinical findings</b></p> <p><b>79. Review the patient's clinical findings</b></p> <p><b>80. Review the patient's clinical findings</b></p> <p><b>81. Review the patient's clinical findings</b></p> <p><b>82. Review the patient's clinical findings</b></p> <p><b>83. Review the patient's clinical findings</b></p> <p><b>84. Review the patient's clinical findings</b></p> <p><b>85. Review the patient's clinical findings</b></p> <p><b>86. Review the patient's clinical findings</b></p> <p><b>87. Review the patient's clinical findings</b></p> <p><b>88. Review the patient's clinical findings</b></p> <p><b>89. Review the patient's clinical findings</b></p> <p><b>90. Review the patient's clinical findings</b></p> <p><b>91. Review the patient's clinical findings</b></p> <p><b>92. Review the patient's clinical findings</b></p> <p><b>93. Review the patient's clinical findings</b></p> <p><b>94. Review the patient's clinical findings</b></p> <p><b>95. Review the patient's clinical findings</b></p> <p><b>96. Review the patient's clinical findings</b></p> <p><b>97. Review the patient's clinical findings</b></p> <p><b>98. Review the patient's clinical findings</b></p> <p><b>99. Review the patient's clinical findings</b></p> <p><b>100. Review the patient's clinical findings</b></p>

**A PROFILAXIA ANTIMICROBIANA FOI REALIZADA NOS ÚLTIMOS 60 MINUTOS?**

- ☐ SIM
- ☐ NÃO SE APLICA
- AS IMAGENS ESSENCIAIS ESTÃO DISPONÍVEIS?**
- ☐ SIM
- ☐ NÃO SE APLICA

2009

# Cirurgia Segura

A cirurgia segura refere-se a um **conjunto** de medidas e práticas projetadas para garantir a segurança do paciente antes, durante e após um procedimento cirúrgico. Estas medidas são padronizadas e seguidas por equipes cirúrgicas para minimizar o risco de erros e complicações durante e após a cirurgia.

OMS, 2013





# ISC

- ✓ 11% das patologias requerem algum tipo de cirurgia.
- ✓ Nos EUA cerca de 20% das internações são cirúrgicas.
- ✓ Em 2021 a estimativa era de 312 milhões de procedimentos cirúrgicos por ano.



# ISC

- ✓ ISC estão entre as principais complicações cirúrgicas, contando aproximadamente 20% de todas as infecções relacionadas à assistência à saúde (IRAS),
- ✓ Custo anual estimado em até 10 bilhões de dólares, nos EUA.

## O que ocasiona?

Aumentando tempo de internação entre 7 e 11 dias e dobram o risco de morte.

Em países em desenvolvimento, cerca de um terço dos pacientes cirúrgicos desenvolvem ISC .

# ISC



- ✓ ISC ocorre em ~1-3% dos pacientes ( CDC 2021)
- ✓ Até 60% preveníveis por medidas recomendadas nos guidelines

# Infeção do Sítio Cirúrgico

- ✓ O índice de ISC é um dos indicadores de qualidade da assistência cirúrgica.
- ✓ Multifatorial: perpassa por aspectos relacionados ao indivíduo, à natureza do procedimento realizado, técnica cirúrgica, inóculo e características dos microrganismos envolvidos.
- ✓ Nem todos os fatores de risco são passíveis de controle, logo, o aprimoramento da assistência cirúrgica envolve a garantia da existência de estrutura e processos adequados.

# Como diminuir os riscos e assegurar os processos?



# Guidelines Sociedades



GLOBAL GUIDELINES  
FOR THE PREVENTION OF  
SURGICAL SITE INFECTION



Infection Control & Hospital Epidemiology (2023), 1–26  
doi:10.1017/ice.2023.67

## SHEA/IDSA/APIC Practice Recommendation

### Strategies to prevent surgical site infections in acute-care hospitals: 2022 Update

Michael S. Calderwood MD, MPH<sup>1,a</sup>, Deverick J. Anderson MD, MPH<sup>2,a</sup>, Dale W. Bratzler DO, MPH<sup>3</sup>,  
E. Patchen Dellinger MD<sup>4</sup>, Sylvia Garcia-Houchins RN, MBA, CIC<sup>5</sup>, Lisa L. Maragakis MD, MPH<sup>6</sup>,  
Ann-Christine Nyquist MD, MSPH<sup>7</sup>, Kiran M. Perkins MD, MPH<sup>8</sup>, Michael Anne Preas RN, MS, CIC<sup>9</sup>,  
Lisa Saiman MD, MPH<sup>10</sup>, Joshua K. Schaffzin MD, PhD<sup>11</sup>, Marin Schweizer PhD<sup>12</sup>, Deborah S. Yokoe MD, MPH<sup>13</sup>  
and Keith S. Kaye MD, MPH<sup>14,b</sup>



**IMPLEMENTATION MANUAL**  
to support the prevention of  
surgical site infections at the facility level –  
**TURNING RECOMMENDATIONS  
INTO PRACTICE**  
(INTERIM VERSION)



Build it Teach it Check it Sell it Live it

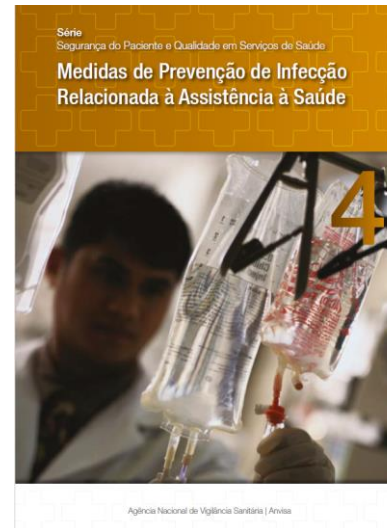
Série  
Segurança do Paciente e Qualidade em Serviços de Saúde.

Medidas de Prevenção de Infecção  
Relacionada à Assistência à Saúde.


Agência Nacional de Vigilância Sanitária  
2017



Colégio Brasileiro de Cirurgiões







**How-to Guide:**  
**Prevent Surgical Site Infections**

Prevent surgical site infections (SSI) by implementing the four components of care recommended in this guide.\*

2012

Original Investigation

## Association of a Bundled Intervention With Surgical Site Infections Among Patients Undergoing Cardiac, Hip, or Knee Surgery

Marin L. Schweizer, PhD; Hsiu-Yin Chiang, MS, PhD; Edward Septimus, MD; Julia Moody, MS; Barbara Braun, PhD; Joanne Hafner, RN, MS; Melissa A. Ward, MS; Jason Hickok, MBA, RN; Eli N. Perencevich, MD, MS; Daniel J. Diekema, MD; Cheryl L. Richards, MJ, LPN, LMT; Joseph E. Cavanaugh, PhD; Jonathan B. Perlin, MD, PhD; Lorean A. Herwaldt, MD

ERGONOMICS  
2023, VOL. 66, NO. 8, 1118–1131  
<https://doi.org/10.1080/00140139.2022.2136406>



OPEN ACCESS Check for updates

## Operating room team strategies to reduce flow disruptions in high-risk task episodes: resilience in robot-assisted surgery

Amelie Koch<sup>a,b</sup>, Boris Schlenker<sup>c</sup>, Armin Becker<sup>c</sup> and Matthias Weigl<sup>a,b</sup>

<sup>a</sup>Institute and Clinic for Occupational, Social and Environmental Medicine, University Hospital, LMU, Munich, Germany; <sup>b</sup>Institute for Patient Safety, University Hospital, University of Bonn, Bonn, Germany; <sup>c</sup>Department of Urology, University Hospital, LMU, Munich, Germany

## Clinical practice guidelines for antimicrobial prophylaxis in surgery

DALE W. BRATZLER, E. PATCHEN DELLINGER, KEITH M. OLSEN, TRISH M. PERL, PAUL G. AUWAERTER, MAUREEN K. BOLON, DOUGLAS N. FISH, LENA M. NAPOLITANO, ROBERT G. SAWYER, DOUGLAS SLAIN, JAMES P. STEINBERG, AND ROBERT A. WEINSTEIN

Am J Health-Syst Pharm. 2013; 70:195–283


COPYRIGHT © 2015 BY THE JOURNAL OF BONE AND JOINT SURGERY, INCORPORATED

## Appropriateness of Twenty-four-Hour Antibiotic Prophylaxis After Spinal Surgery in Which a Drain Is Utilized

A Prospective Randomized Study

Richelle C. Takemoto, MD, Baron Lonner, MD, Tate Andres, BS, Justin Park, MD, Pedro Ricart-Hoffiz, MD, John Bendo, MD, Jeffrey Goldstein, MD, Jeffrey Spivak, MD, and Thomas Errico, MD

on performed at the New York University Hospi



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**Journal of Hospital Infection**

journal homepage: [www.elsevier.com/locate/jhin](http://www.elsevier.com/locate/jhin)

Healthcare Infection Society

Review

### Operating room ventilation systems: recovery degree, cleanliness recovery rate and air change effectiveness in an ultra-clean area

J.L.A. Lans<sup>a,c,\*</sup>, N.M.C. Mathijssen<sup>b,c</sup>, A. Bode<sup>d</sup>, J.J. van den Dobbelsteen<sup>e</sup>, M. van der Elst<sup>a,f</sup>, P.G. Luscure<sup>g</sup>

<sup>a</sup> Faculty of Architecture and the Built Environment, Delft University of Technology, Delft, The Netherlands  
<sup>b</sup> Reinsier Hago Orthopaedic Centre, Zoetermeer, The Netherlands  
<sup>c</sup> Reinsier de Graaf Hospital, Delft, The Netherlands  
<sup>d</sup> Expert Advisor on Health Care and Construction, Lissestein, The Netherlands  
<sup>e</sup> Faculty of Mechanical, Maritime and Materials Engineering, Delft University of Technology, Delft, the Netherlands  
<sup>f</sup> Department of Trauma Surgery, Reinsier de Graaf Hospital, Delft, The Netherlands  
<sup>g</sup> Department of Trauma Surgery, Reinsier de Graaf Hospital, Delft, The Netherlands



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**Journal of Hospital Infection**

journal homepage: [www.elsevier.com/locate/jhin](http://www.elsevier.com/locate/jhin)

Healthcare Infection Society

Guidelines

### Rituals and behaviours in the operating theatre — joint guidelines of the Healthcare Infection Society and the European Society of Clinical Microbiology and Infectious Diseases

H. Humphreys<sup>a,b,c,\*</sup>, A. Bak<sup>b</sup>, E. Ridgway<sup>b</sup>, A.P.R. Wilson<sup>b,d,e</sup>, M.C. Vos<sup>c,f</sup>, K. Woodhead<sup>g,h</sup>, C. Hall<sup>i</sup>, D. Xuereb<sup>j</sup>, J.M. Walker<sup>b,i</sup>, J. Bostock<sup>k</sup>, G.L. Marsden<sup>b,i</sup>, T. Pinkney<sup>j</sup>, R. Kumar<sup>j</sup>, P.N. Hoffman<sup>l</sup>

<sup>a</sup> Royal College of Surgeons in Ireland University of Medicine and Health Sciences, Dublin, Ireland  
<sup>b</sup> Healthcare Infection Society, London, UK  
<sup>c</sup> ESCMID Study Group for Nosocomial Infection, Basel, Switzerland  
<sup>d</sup> University College London Hospitals, London, UK  
<sup>e</sup> Department of Medical Microbiology and Infectious Diseases, Erasmus MC University Medical Centre, Rotterdam, The Netherlands  
<sup>f</sup> Association for Perioperative Practice, Harrogate, UK  
<sup>g</sup> Royal College of Nursing, London, UK  
<sup>h</sup> Infection Prevention Society, Seelfield, UK  
<sup>i</sup> NHS Grampian, Greater Aberdeen, UK  
<sup>j</sup> Lay Member for Healthcare Infection Society, London, UK  
<sup>k</sup> Royal College of General Practitioners, London, UK  
<sup>l</sup> University of Birmingham, Birmingham, UK



### Research

**Effectiveness of a bundled intervention of decolonization and prophylaxis to decrease Gram positive surgical site infections after cardiac or orthopedic surgery: systematic review and meta-analysis**

BMJ 2013 ; 346 doi: <https://doi.org/10.1136/bmj.f2743> (Published 13 June 2013)

Cite this as: BMJ 2013;346:f2743

Handbook of Clinical Neurology, Vol. 157 (3rd series)  
Thermoregulation: From Basic Neuroscience to Clinical Neurology, Part II  
A.A. Romanovsky, Editor  
<https://doi.org/10.1016/B978-0-444-64074-1.00041-0>  
Copyright © 2018 Elsevier B.V. All rights reserved

Chapter 41

## Consequences of perioperative hypothermia

KURT RUETZLER AND ANDREA KURZ\*

Departments of General Anesthesiology and Outcomes Research, Anesthesiology Institute, Cleveland Clinic, Cleveland, OH, United States

American Journal of Infection Control 48 (2020) 267–274



Contents lists available at ScienceDirect

**American Journal of Infection Control**

journal homepage: [www.ajicjournal.org](http://www.ajicjournal.org)

AJIC  
American Journal of Infection Control

Major Article

Effectiveness of manual versus automated cleaning on *Staphylococcus epidermidis* biofilm removal from the surface of surgical instruments

Sintia de Souza Evangelista MSc<sup>a,\*</sup>, Natália Rocha Guimaraes MSc<sup>b</sup>, Naiara Bussolotti Garcia BS<sup>a</sup>, Simone Gonçalves dos Santos PhD<sup>a</sup>, Adriana Cristina de Oliveira PhD<sup>a</sup>

<sup>a</sup> Department of Basic Nursing, School of Nursing, Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil  
<sup>b</sup> Department of Microbiology, Institute of Biological Sciences, Federal University of Minas Gerais, Belo Horizonte, Minas Gerais, Brazil



BMJ Open, 2022, e202111  
<https://doi.org/10.1136/bmjopen-2021-027111>  
Review Article

## Exploring human factors in the operating room: scoping review of training offerings for healthcare professionals

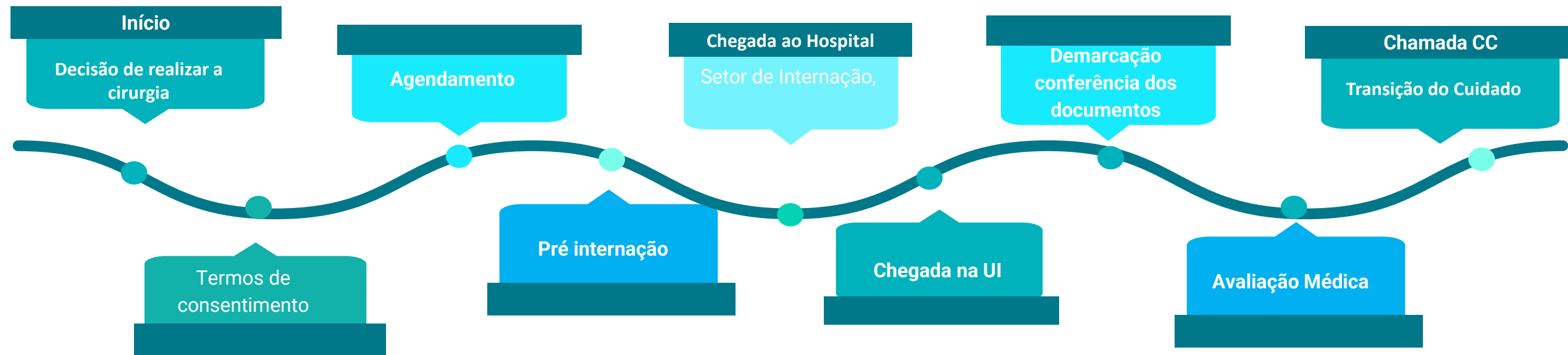
Alex Lee<sup>a</sup>, Alexandra Finstad<sup>a</sup>, Ben Tigony<sup>a</sup>, Tyler Lamb<sup>a</sup>, Alvi Rahman<sup>a</sup>, Kirsten Devenney<sup>a</sup>, Jed Abou Khalil<sup>a</sup>, Craig Kusienko<sup>a</sup> and Fady Balaa<sup>a,\*</sup>

<sup>a</sup> Faculty of Medicine, University of Ottawa, Ottawa, ON, Canada  
<sup>b</sup> Medall Ltd, Slough, UK  
<sup>c</sup> Division of General Surgery, Department of Surgery, University of Ottawa, Ottawa, ON, Canada  
<sup>d</sup> Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, QC, Canada  
<sup>e</sup> Surgical Canadian Medical Professional Association, Ottawa, ON, Canada  
<sup>f</sup> Office of Research Services and School of Business, MacGill University, AB, Canada

\*Correspondence to: Fady Balaa, Division of General Surgery, Department of Surgery, University of Ottawa, The Ottawa Hospital – General Campus, 501 Smyth Road, Ottawa, ON, K1H 8L6, Canada (e-mail: [balaa@uottawa.ca](mailto:balaa@uottawa.ca))



# Quando a Cirurgia Segura Começa?



# Ações- paciente

1. Avaliação nutricional
2. Administrar profilaxia antimicrobiana conforme diretrizes baseadas em evidências ( até 60 min antes da cirurgia/ repique)
3. Utilizar combinação de profilaxia antimicrobiana parenteral e oral em cirurgias colorretais eletivas.
4. Descolonizar pacientes com agentes anti-estafilocócicos antes de procedimentos ortopédicos e cardiotorácicos.  
considerar também em outros procedimentos de alto risco ( ortopédicos?)
5. Preparo da pele no Intraoperatório ( solução alcoólica- deixar secar; banho)
6. Usar antissépticos na preparação vaginal antes de cesariana ou histerectomia.
7. Tricotomia quando necessária próximo ao ato cirúrgico, porém fora da sala operatória e com tricomizador adequado.
8. Usar agentes de preparo da pele contendo álcool e antisséptico.
9. Manter a normotermia (>35°C) no pré-operatório.
10. Controle da temperatura pré, intra e pós operatória.
11. Controlar glicose sanguínea no pós-operatório imediato, visando níveis entre 110-150 mg/dl.
12. Usar protetores de pele impermeáveis em cirurgias do trato gastrointestinal e biliar.

# Ações de Estrutura

1. Instrumental cirúrgico. Processos seguros de limpeza, termodesinfecção/ desinfecção, esterilização, transporte, guarda.
2. Número de pessoas em sala
3. Abertura e fechamento das portas cirúrgicas
4. Ventilação, Climatização ABNT NBR 7256. pressão positiva 5 Pa, Temperatura 20°C a 24°C e umidade relativa de 60%, Filtro G4, F8 e ISO 35H (Hepa).
5. Limpeza do ambiente (concorrente e terminal) definições de papéis, quem limpa o que?.
6. Equipamentos terceiros (quem limpa?).
7. Acessórios pessoais que não fazem parte do ambiente de sala operatória (mochilas, malas, aparelhos eletrônicos pessoais, roupas pessoais, etc...).

# Ações de monitoramento

1. Utilizar protocolos institucionais para garantir as melhores práticas.
2. Realizar vigilância de infecção de sítio cirúrgico, preferencialmente com dados automatizados.
3. Fornecer feedback contínuo sobre taxas de infecção para equipes cirúrgicas, liderança e equipe operacional.
4. Medir e fornecer feedback sobre a conformidade com protocolos.
5. Educar equipe perioperatória, pacientes e suas famílias sobre prevenção de infecção.
6. Implementar políticas baseadas em evidências para reduzir riscos de infecção.
7. Monitorar e revisar a conformidade da equipe e do ambiente cirúrgico ( indicadores e auditorias).

# O que fazer?

- ✓ O certo.
- ✓ Envolvimento alta liderança.
- ✓ Envolvimento das equipes.
- ✓ Aprimorar cultura de segurança e ter um ambiente saudável e seguro na comunicação.
- ✓ Treinamentos ( na área e dinâmicas), investir em aprimoramento.



# Conclusão

A segurança no processo cirúrgico em uma unidade operatória é alcançada através de uma combinação de padrões e protocolos de segurança, treinamentos adequados, colaboração e sinergia entre as equipes, preparação e planejamento adequados, tecnologias e infraestrutura adequadas, gestão de riscos e qualidade, cuidados integrados, cultura organizacional e seguimento pós-operatório.





**Obrigada!**

**[fernanda.salles@haoc.com.br](mailto:fernanda.salles@haoc.com.br)**