

3M Health Care



Infection Prevention Strategies and the Economic Imperative

3M Satellite Symposium, ICPIIC 2013

Wednesday, 26th of June

17:45 - 19:15 h

... Conference Room 2

Lead
The Way

3M

3M Satellite Symposium, ICPIC 2013

Infection Prevention Strategies and the Economic Imperative

- 17.45 **Moderators introductory speech**
Tom Elliott, UK and Jean-Francois Timsit, FR

- 17.50 **Prevention of Catheter Related Bloodstream Infections**
Mark E. Rupp, US

- 18.10 **Preventing Surgical Site Infections: what is the latest evidence?**
Patchen Dellinger, US

- 18.30 **Prevention of Catheter Related Bloodstream Infections (CRBSIs):
health economics impact**
Stijn Blot, BE

- 18.45 **Prevention of Surgical Site Infections (SSIs): health economics impact**
Jan Kluytmans, NL

- 19.00 **Round Table Discussion with panelists**

Table of Content

Jean-Francois Timsit	4
Tom Elliott	5
Mark E. Rupp	6 - 7
E. Patchen Dellinger	8 - 9
Stijn Blot	10 - 11
Jan Kluytmans	12 - 13
Notes	14 - 15



Jean-Francois Timsit, FR

Professor of the medical intensive care (Joseph Fourier University, Grenoble, France). Head of the medical ICU department of acute specialized medicine, University hospital A (Grenoble, France).

Current Responsibilities

Director of the research team: Outcome of cancer and critical illnesses, INSERM research center, Albert Bonniot institute (Cedex, France)

Associations-Regulatory Bodies

Scientific Societies

- Member of the french society of intensive care medicine (SRLF), of the french society of infectious diseases (SPILF), of the European society of intensive care medicine (ESICM), of the American thoracic Society (ATS).
- Président of OUTCOMEREA organization
- Member of the board or reviewer
- Member at different times of various editorial boards including Journal of the American Medical Association (JAMA), Chest and Infection Control Hospital Epidemiology

Main Work Interests

Sepsis, attributable mortality of nosocomial infections in ICU, adverse events, medical errors. Prevention of adverse events in ICU Prevention of Catheter-related infections.

Background

Professor Timsit is a specialist in Pulmonology and medical intensive care. He is the head of the Medical intensive care unit in the university hospital Albert Michallon in Grenoble France.

He has a master and a PhD in epidemiology and lead a research group in the Albert Boniot institute in Grenoble (Inserm U 823 team 11) in the field of outcome of critically ill patients and cancers.

Former lecturer at the medical school in grenoble, he acts currently as lecturer at the medical and paramedical schools in intensive care medicine, pulmonology, infectiology, biostatistics. He has participated as speaker in many regional, national and international scientific meetings. He is one of the member of the national nosocomial infection network in ICU (REA-RAISIN). He is a recognized expert in audits related to ICU prognosis, adverse events and nosocomial infections.



Tom Elliott, UK

B Tech (Hons), BM, BS, BMed Sci (Hons), MRCP, FRCPath, PhD, DSc.

Biography

Professor Tom Elliott is a Consultant Microbiologist and Deputy Medical Director at University Hospital Birmingham, UK.

He has been a Consultant Microbiologist since 1985 and during that time has served on many National and International Advisory Boards and Expert groups.

Professor Elliott was also an advisor on antibiotics to the British National Formulary for over a decade and is currently a member of their Formulary Committee giving expert advice on antimicrobials.

Professor Elliot also leads an active research team and his main area of interest has been the prevention and management of prosthetic device infections, including those associated with intravascular catheters.

This research has resulted in many fundamental findings with over 300 publications, adding to the understanding of the pathogenesis of device related sepsis. Professor Elliott has also been an invited speaker at many leading National and International Conferences on a variety of subjects.



Mark E. Rupp, US

Professor & Chief, Division of Infectious Diseases
Medical Director, Healthcare Epidemiology
University of Nebraska Medical Center, Omaha, NE, USA

Biography

Dr. Rupp is a Professor in the Department of Internal Medicine, Section of Infectious Diseases at the University of Nebraska Medical Center. He is the Medical Director of The Nebraska Medical Center Department of Healthcare Epidemiology and Co-Director of the Antimicrobial Stewardship Program.

Dr. Rupp received his medical degree from Baylor College of Medicine, Houston, Texas and holds a B.S. degree in Chemical Engineering from the University of Texas, Austin, Texas. He underwent internship and residency training in Internal Medicine at Virginia Commonwealth University and went on to complete a Fellowship in Infectious Diseases at VCU.

He is a Diplomate, American Board of Internal Medicine, and in the subspecialty area of Infectious Diseases. He is a Fellow of the American College of Physicians (ACP), the Infectious Diseases Society of America (IDSA), and the Society for Hospital Epidemiology of America (SHEA). He is a Past-President of SHEA and is a past-president of ASM Division L (Infection Control/Hospital Epidemiology). Dr Rupp has served as a consultant for the US Food and Drug Administration as well as the Centers for Disease Control and Prevention.

Dr. Rupp has published over 300 articles, chapters and abstracts and is the editor of a recently published book entitled "Biofilms, Infections, and Antimicrobial Therapy." He frequently presents papers at national and international meetings, serves as a guest lecturer, and is an active teacher and researcher. Dr. Rupp's research interests are in the areas of staphylococcal disease, healthcare-associated infections, and antimicrobial resistance.

Prevention of Catheter Related Bloodstream Infections

Abstract

In this presentation, the clinical significance and pathogenesis of intravascular-catheter-related bloodstream infection (CR-BSI) will be briefly reviewed. Preventive efforts will be more thoroughly discussed, and both practice measures as well as technologic innovations will be covered. The most recent information to inform evidence-based, best practice recommendations for prevention of CLA-BSI will be offered.



E. Patchen Dellinger, US

Professor of Surgery
University of Washington
Seattle, WA, U.S.A.

Biography

Dr. Dellinger is Professor and Vice-Chair of the Department of Surgery and Chief of the Division of General Surgery at the University of Washington School of Medicine and Chief of Staff and Associate Medical Director of the University of Washington Medical Center.

Associations – Regulatory Bodies

- Surgical Infection Society, past president
- Infectious Diseases Society of America, Fellow
- Society for Healthcare Epidemiology of America, Fellow
- American College of Surgeons, Fellow
- American Society for Microbiology

Main Work Interests

Preventing, diagnosing, and treating surgical infections and promoting teamwork, communication and patient safety in the operating room and the use of checklists.

Background

Swarthmore College, BA, Mathematics, 1966

Harvard Medical School, MD, 1970

Surgical Residency, Beth Israel Hospital, Boston,
1970-73 & 1975-77

Infectious Diseases Fellowship,
Tufts-New England Medical Center, 1973-75

Member Hospital Infection Control and Prevention Advisory
Committee (HICPAC) of the CDC, 2004-2007

ICAAC Program Committee, 1998-2002

Center for Medicaid and Medicare Services (CMS) Surgical
Care Improvement Project (SCIP), Technical Expert Panel (TEP),
2001-present

World Health Organization (WHO) Clean Surgery Technical
Working Group, 2007-09

Preventing Surgical Site Infections: What is the Latest Evidence?

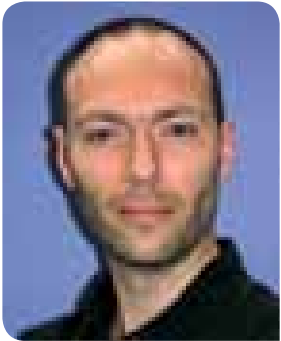
Abstract

Prevention of Surgical Site Infections (SSI) is a complex process, and no one, two, or three components are sufficient to achieve the desired lowest possible infection rate.

Among the necessary elements known for many years are the appropriate use of prophylactic antibiotics given at the correct time in the correct dose and repeated for long operations, then stopped when the operation is over. Sterile instrumentation and proper skin antiseptic preparation and sterile technique are also very important.

In recent years we have become aware of the critical importance of optimizing the patient's physiology in the perioperative period, and this includes ensuring good nutritional status for elective operations, keeping the patient warm in the perioperative period, optimizing tissue oxygenation, and preventing significant hyperglycaemia. Surgical technique is widely believed to be important but is very hard to measure. Some elements that are known to be important are amount of blood loss, transfusion, avoidance of gross contamination during GI cases, and the size and spacing of sutures when closing a midline laparotomy. Finally, an increasing body of evidence demonstrates that complication rates including SSI are reduced when the multidisciplinary professional team in the operating room has a high degree of communication, cooperation and teamwork.

Several studies demonstrate that the use of checklists with preoperative briefing and postoperative debriefing. Not all of these topics can be covered in the time allotted, but the discussion will focus on glucose control, oxygenation, and teamwork with an acknowledgment of the other important factors.



Stijn Blot, BE

Research professor at the Dept. of Internal Medicine,
Faculty of Medicine and Health Sciences
of Ghent University, Belgium.

Biography

Dr. Blot's background includes nursing and midwifery education, a master degree in nursing sciences, a special degree in emergency and intensive care, a post-academic teaching degree, and a doctoral degree in medical sciences.

He is passionate about clinical epidemiology of healthcare-associated infections and prevention and realized nearly 200 publications in international journals since 1999 in this field. Furthermore he authored or co-authored several books or book chapters in the field of critical care or infectious diseases.

His work was recognized with several national and international awards, among which the ICAAC 2005 and ECCMID 2007 young investigator award, and the ECCRN Patient Safety Award 2008. He is an editorial board member of the American Journal of Critical Care, advisory board member of the journal Intensive Care Medicine, and served as referee for 60 journals.

Prevention of Catheter Related Bloodstream Infections (CRBSIs): health economics impact

Abstract

The available data on CR-BSI indicate that the excess morbidity caused by this nosocomial infection gives occasion to an impressive health-economic weight which mainly result from prolonged hospitalisation. In intensive care unit patients, CR-BSI is associated with an added length of ICU stay of approximately 8 days, 7 days extra ventilator dependence and a total hospitalization that was prolonged by 12 days.

The total hospital cost is estimated to be about €10.000,00 to €15.000,00 per case. It is clear that the socio-economic impact on the community is enormous, especially when taking into account the high incidence of this complication (ranging from 1 to 25/1000 catheter days).

Consequently, these figures definitely call for action. The huge cost associated with CR-BSI provides opportunities for cost-effective prevention measures. The main elements that should be taken into account to assess the cost-effectiveness of prevention strategies are (1) the current infection rate, (2) the cost of the infection, (3) the cost of the prevention device multiplied by the number of devices needed, and (4) an estimation of the number of infections that will be prevented.



Jan Kluytmans, NL

MD, PhD, Amphia Hospital
Breda, Netherlands

Biography

Dr. Kluytmans is a Professor of Medical Microbiology and Infection Control at the VU University Medical Center in Amsterdam and also serves as a consultant microbiologist and Head of infection control at the Amphia Hospital in Breda, Netherlands.

Associations - Regulatory Bodies

- Chair of the National Working Group on Infection Control
- Member of the Scientific Affairs Committee of ESCMID
- Member of the Publications Committee of SHEA
- Member of the executive board of AAIDF
- Faculty Member European Course on Hospital Epidemiology and Infection Control (SHEA/ESCMID)
- Faculty Member ASM Conference on Emerging Technologies of Medical Importance for the Diagnosis of Infectious Diseases and the Detection of Pathogenic Microbes

Main Work Interests

Dr. Kluytmans is specialised in the field of infection control and focuses on the epidemiology and control of nosocomial infections. He has a special interest in *Staphylococcus aureus*, surgical site infections, catheter-related infections and antimicrobial resistance.

Background

Dr. Kluytmans did his medical training and subsequent specialization in Clinical Microbiology at Erasmus Medical University in Rotterdam. His PhD thesis (October 1996) was called: Nasal carriage of *Staphylococcus aureus*: The key to preventing Staphylococcal disease. In 1995 he started working at the Amphia Hospital in Breda as a consultant microbiologist and in 2006 he accepted a position at The VU University medical Center in Amsterdam as a Professor of Microbiology and Infection Control.

His current projects focus on the epidemiology and control of methicillin resistant *S. aureus*, the control of antimicrobial resistance and the control of nosocomial infections.

Prevention of Surgical Site Infections (SSIs): health economics impact

Abstract

Surgical Site Infections (SSI) remain important complications of medical interventions despite the advanced knowledge on prevention. Traditionally prevention has focused on exogenous sources of infection. In modern settings, that adhere to the existing guidelines, most SSI are caused by bacteria originating from the endogenous flora of the patient. The prevention of these infections requires additional measures. The cost-effectiveness of these measures has to be determined.

The presentation will cover two examples of recently implemented strategies.

1. Recently a double blind, randomized, placebo controlled trial has been performed to evaluate the cost-effectiveness of perioperative treatment with mupirocin nasal ointment and chlorhexidine skin washing (CHX) in patients undergoing orthopedic or cardiothoracic procedures. Patients that were treated with mupirocin and CHX had lower hospital costs (average € 1911.00 per patient treated). The main savings were based on less nursing days on the ward and on the ICU. In addition there were less costs associated with readmissions.

An analysis of mortality revealed that that the intervention was also associated with significant lower one-year mortality rates.

This intervention saved the hospital in which the study was performed almost € 1,8 million per year and was also associated with improved survival of the patients.

2. A prospective surveillance for SSI after colorectal surgery was performed in the Amphia Hospital, Breda, from January 1, 2008 until January 1, 2012. As part of a National patient safety initiative, a bundle of care consisting of 4 elements covering the surgical process was introduced in 2009. Bundle compliance improved significantly from an average of 10% in 2009 to 60% in 2011. It was associated with a substantial and significant decrease of the SSI rate (36%). The cost of the project was estimated at € 60.000 per year, and it saved the hospital annually almost € 300.000.

Both cases show that substantial savings can be achieved by improving the process of care in surgical patients.

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1573-101-EU 05/13