

REPORT FORM

13th November 2002

**European Study Group on
Nosocomial Infections (ESGNI)
and
European Workgroup of
Cardiothoracic Intensivists (EWCI)**

**One-day prevalence study of risk factors
for the development of
Ventilator-Associated Pneumonia and
other infections after Major Heart Surgery
in Europe**

STUDY ESGNI 008

Please complete only ONE report form per ICU.

Please return completed forms to:

E. Bouza
Rocinante 5, 3º A. 28034 Madrid. Spain
Fax: +34 91 735 5446
E. mail: esgni@esgni.org, Web: www.esgni.org

1. GENERAL DATA FROM 2001 (COMPLETE ONLY ONE FORM PER ICU)

PROTOCOL COMPLETED BY (Please use block capitals)

First Name: _____ Last Name: _____

Position: _____

Unit: _____

Hospital: _____

Address: _____

City: _____ Postcode: _____ Country: _____

Phone: _____ Fax: _____

E-mail: _____ DATE: _____

SIGNATURE:

2. GENERAL INFORMATION ABOUT YOUR INSTITUTION IN 2001

Your institution is best defined as	1: Teaching, 2: Non-teaching	<input type="text"/>
Your institution is best defined as	1: Private, 2: Public, 3: Both	<input type="text"/>
Number of inhabitants in the area served by your hospital		<input type="text"/>
Total number of beds in your institution		<input type="text"/>
Number of hospital admissions in 2001 (>24 Hs)		<input type="text"/>

3. GENERAL INFORMATION ABOUT YOUR INTENSIVE CARE UNIT

Your ICU is best defined as	1: Only for Cardiac Surgery Postoperative 2: Mixed	<input type="text"/>
Total number of beds available in your ICU		<input type="text"/>
Total number of patients in one room		<input type="text"/>
Is it possible to isolate infected patients in your ICU?	1: Yes 2: No	<input type="text"/>
Total number of nurses		<input type="text"/>
Total number of nurses during the day		<input type="text"/>
Total number of nurses during the night		<input type="text"/>
Total number of physicians		<input type="text"/>
Total number of physicians during the day		<input type="text"/>
Total number of physicians during the night		<input type="text"/>
The ICU Director works	1: Full-time 2: Part-time	<input type="text"/>
<u>Total number of patients undergoing Major Heart Surgery in 2001</u>		<input type="text"/>

4. ASSESSMENT OF RISK FACTORS ON THE STUDY DAY

Today is (DD/MM/YY)	__ / __ / __
Number of beds available in your unit <u>today</u> (occupied or not)	
Number of beds occupied by <u>Major Heart Surgery (MHS)</u> patients today	
Number of MHS patients under mechanical ventilation (MV) today	
Number of MHS ventilated patients in semi-recumbent position today	
Number of MHS patients with routine intracuff pressure monitoring today	
Number of MHS patients receiving humidification with hydrophobic heat moisture exchangers (high antimicrobial properties) today	
Number of MHS patients receiving humidification with hygroscopic heat moisture exchangers (low antimicrobial properties) today	
Number of MHS patients receiving humidification with hydrophobic and hygroscopic Heat moisture exchangers today	
Number of MHS patients undergoing continuous subglottic suctioning today	
Number of MHS patients in which you avoid gastric overdistension today	
Number of MHS patients with postural oscillation/rotation today	
Number of MHS patients receiving topical antimicrobial prophylaxis with non-absorbable antibiotics today	
Number of MHS patients receiving systemic antimicrobials for selective decontamination of the digestive tract today	
Number of MHS patients receiving systemic and oral antimicrobials for selective decontamination of the digestive tract today	
Number of MHS patients receiving stress ulcer prophylaxis with sucralfate today	
Number of MHS patients receiving stress ulcer prophylaxis with H2 Blockers today	
Number of MHS patients receiving stress ulcer prophylaxis with proton inhibitors today	
Number of MHS patients under continuous sedation today	

Protocol completed by: _____

5. INFECTION-SPECIFIC ASPECTS (* Definitions on reverse)

Number of patients that after Major Heart Surgery (MHS patients) have been diagnosed or treated for Catheter-Related Bloodstream infections today	
Number of MHS patients under treatment for nosocomial endocarditis today	
Number of MHS patients with any active surgical wound infection or receiving therapy today	
Number of MHS patients with active postsurgical mediastinitis or receiving therapy today	
Number of MHS patients with active sternal infection or receiving therapy today	
Number of MHS patients with tracheobronchitis today	
Total number of MHS patients with VAP pneumonia that you have today in your unit (Sum of patients on VAP treatment plus patients just diagnosed today)	
Number of MHS patients with diagnosis or treatment for Nosocomial Urinary Tract Infection today	
Total number of MHS patients receiving any antibiotic treatment today	
Any other major infection acquired after MHS receiving treatment today	

CLINICAL PULMONARY INFECTION SCORE (PUGIN)

Temperature (C°) ≥ 36.5° and ≤ 38.4 ≥ 38.5 and ≤ 38.9 ≥ 39 and ≤ 36	0 points 1 point 2 points
Blood leukocytes, mm³ ≥ 4000 and ≤ 11000 < 4000 or > 11000 + 1 band forms ≥ to 50%	0 points 1 point 2 points
Tracheal secretions Absence of tracheal secretions Presence of non purulent tracheal secretions Presence of purulent secretion	0 points 1 point 2 points
Oxygenation: PaO₂/FI₀₂, mmhg > 240 or ARDS < 240 and no ARDS	0 points 2 points
Chest x-ray No infiltrate Diffuse (or patchy) infiltrate Localised infiltrate (or radiographic progression, ARDS or CHF excluded)	0 points 1 point 2 points
Culture of tracheal aspirate Pathogenic bacteria cultured in rare or light quantity or no growth Pathogenic bacteria cultured in moderate or heavy quantity Same pathogenic bacteria seen on Gram stain	0 points 1 point 2 points

Total score:
PUGIN'S score ≥ 6 defined VAP

Definitions used:

- **Catheter Related Bloodstream infection:** isolation of the same microorganism (i.e. identical species and antibiogram) from a semiquantitative or quantitative culture of a catheter segment and from the blood (preferably drawn from a peripheral vein) of a patient with accompanying clinical symptoms of bloodstream infection and no other apparent source of infection
- **Nosocomial Endocarditis:** Endocarditis occurring >72 hrs after admission to the hospital and/or endocarditis directly related to a hospital-based procedure performed during the current hospitalization or during a previous hospital stay.
- **Surgical Site Infection (SSI):**
 - A) **Superficial Incisional SSI:** Wound infection occurring within 30 days after the operation and involving only skin or subcutaneous tissue of the incision *and* at least *one* of the following:
 - a) Purulent drainage, with or without laboratory confirmation, from the superficial incision,
 - b) Organism isolated from an aseptically obtained culture of fluid or tissue from the superficial incision
 - c) at least one of the following signs or symptoms of infection: pain or tenderness, localized swelling, redness, or heat and superficial incision is deliberately opened by surgeon, unless incision is culture –negative
 - d) Diagnosis of superficial incisional Surgical site infection by the surgeon or attending physician.
 - Do NOT report the following conditions as SSI:
 - 1: Stitch abscess (minimal inflammation and discharge confined to the point of suture penetration)
 - 2: Incisional SSI that extends into the fascial and muscle layers (see deep incisional SSI)
 - B) **Deep Incisional SSI:** Infection occurs within 30 days after the operation and infection involves deep soft tissue (e.g., fascial and muscle layers) of the incision *and* at least *one* of the following:
 - a) Purulent drainage from the deep incision but not from the organ/space component of the surgical site.
 - b) A deep incision spontaneously dehisces or is deliberately opened by a surgeon when the patient has a least one of the following signs or symptoms: fever(>38°C), localized pain, or tenderness, unless site is culture-negative.
 - c) An abscess or other evidence of infection involving the deep incision is found on direct examination, during reoperation, or by histopathologic or radiological examination.
 - d) Diagnosis of a deep incisional SSI by a surgeon or attending physician. NOTES: Report infection that involves both superficial and deep incision sites as deep incisional SSI.
 - C) **Organ/space SSI:** When infection occurs within 30 days after the operation and infection involves any part of the anatomy (e.g., organs or spaces), other than the incision, which was opened or manipulated during an operation *and* at least *one* of the following:
 - a) Purulent drainage from a drain that is placed through a stab wound into the organ/space. involving [If the area around a stab wound becomes infected, it is not an SSI. It is considered a skin or soft tissue infection, depending on its depth].
 - b) Organisms isolated from an aseptically obtained culture of fluid or tissue in the organ/space.
 - c) An abscess or other evidence of infection involving of the organ/space that is found on direct examination, during reoperation, or by histopathologic or radiological examination.
 - d) Diagnosis of an organ/space SSI by a surgeon or attending physician.
- **Post surgical mediastinitis:** purulent discharge from the mediastinal area in association with partial or complete sternal dehiscence.
- **Purulent tracheobronchitis:** Presence of purulent tracheobronchial secretions plus two or more of the following criteria: fever $\geq 38.5^{\circ}$ C or hypothermia $< 36^{\circ}$ C, leukocytosis $\geq 12 \times 10^9/L$ or significant bacteriologic counts in respiratory secretions in patients without pulmonary infiltrates suggesting pneumonia on chest radiograph.
- **Ventilator Associated Pneumonia:** New and/or progressive pulmonary infiltrates on chest radiograph plus two or more of the following criteria: fever $\geq 38.5^{\circ}$ C or hypothermia $< 36^{\circ}$ C, leukocytosis $\geq 12 \times 10^9/L$, purulent tracheobronchial secretions or a reduction of $PaO_2/FiO_2 \geq 15\%$ in the last 48 hours (according to CDC definitions) OR Pugin's score higher than 6. (Pugin's score : see above).
- Colonization:** we considered as colonized, all patients with the isolation of potentially pathogenic bacteria in respiratory secretions (in any count) not fulfilling either the diagnosis of tracheobronchitis or VAP. We considered as non-pathogenic, the isolation at any concentration of the following micro-organisms: *Streptococcus viridans*, Coagulase-negative staphylococci, *Neisseria* spp, *Corynebacterium* spp and *Candida* spp., unless proven otherwise.
- **Nosocomial Urinary Tract Infection:** Positive urine culture ($> 10^4$ c.f.u./ml of no more than 2 different species) obtained at least 48 hs after admission to the Hospital.