



TITLE: Risk of Nosocomial Infections in Surgical Patients Residing on the Same Unit as Non-surgical Patients: Clinical and Cost-Effectiveness and Guidelines

DATE: 13 July 2010

RESEARCH QUESTIONS:

1. What is the clinical evidence for the risk of nosocomial infections in adult surgical patients residing in the same unit or room as adult non-surgical patients?
2. What is the evidence for the costs associated with nosocomial infections contracted by adult surgical patients residing in the same unit or room as adult non-surgical patients?
3. What are the guidelines for risk management of nosocomial infections in adult surgical patients residing in the same unit or room as adult non-surgical patients?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 6, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between January 1, 2005 and June 29, 2010. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic studies and guidelines. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented

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first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One economic study was identified pertaining to the costs associated with nosocomial infections contracted by adult surgical patients residing in the same unit or room as adult non-surgical patients. No health technology assessment reports, randomized controlled trials, non-randomized studies, or evidence based guidelines relevant to risk or risk management of nosocomial infections in adult surgical patients residing in the same unit or room as adult non-surgical patients were identified. Additional information that may be of interest has been included in the appendix.

OVERALL SUMMARY OF FINDINGS:

Overall, limited evidence is available pertaining to the risk or risk management of nosocomial infections in adult surgical patients residing in the same unit or room as adult non-surgical patients. The identified economic study found that compared to the costs in mixed surgical-medical intensive care units (ICU), medical ICUs had a higher mean difference between patients with and without nosocomial infections (NI).¹ Rates of NI, however, were higher in the mixed surgical-medical ICU than for the medical ICU. No evidence-based guidelines or clinical studies were identified.

REFERENCES SUMMARIZED:

Health technology assessments

No literature identified

Systematic reviews and meta-analyses

No literature identified

Randomized controlled trials

No literature identified

Non-randomized studies

No literature identified

Economic evaluations

1. Chen YY, Wang FD, Liu CY, Chou P. Incidence rate and variable cost of nosocomial infections in different types of intensive care units. *Infect Control Hosp Epidemiol.* 2009 Jan;30(1):39-46. [PubMed: PM19046058](#)

Guidelines and recommendations

No literature identified

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APPENDIX – FURTHER INFORMATION:

Systematic reviews and meta-analyses

2. Ranji SR, Shetty K, Posley KA, Lewis R, Sundaram V, Galvin CM, et al. Closing the quality gap: A critical analysis of quality improvement strategies: Volume 6- prevention of healthcare-associated infections [Internet]. Rockville (MD): Agency for Healthcare Research and Quality; 2007. (Evidence report/Technology assessment; no. 9). Report No.: AHRQ 04(07)-0051-6. Contract No.: 290-02-0017. [cited 2010 Jul 9]. Available from: <http://www.ahrq.gov/downloads/pub/evidence/pdf/qualgap6/hainfgap.pdf>
Structured abstract available from: <http://www.ahrq.gov/clinic/tp/hainfgaptp.htm#Report>

Non-randomized studies

3. Trinchieri A, Paparella S, Cappoli S, Esposito N, Butti A, Vaiani R, et al. Prospective assessment of the efficacy of the EAU guidelines for the prevention of nosocomial acquired infections after genitourinary surgery in a district hospital. Arch Ital Urol Androl. 2009 Mar;81(1):46-50. [PubMed: PM19499759](#)
4. Aly NY, Al-Mousa HH, Al Asar el SM. Nosocomial infections in a medical-surgical intensive care unit. Med Princ Pract. 2008;17(5):373-7. [PubMed: PM18685276](#)
5. Chaberny IF, Schwab F, Ziesing S, Suerbaum S, Gastmeier P. Impact of routine surgical ward and intensive care unit admission surveillance cultures on hospital-wide nosocomial methicillin-resistant Staphylococcus aureus infections in a university hospital: an interrupted time-series analysis. J Antimicrob Chemother. 2008 Dec;62(6):1422-9. [PubMed: PM18765411](#)
6. Agvald-Ohman C, Klingspor L, Hjelmqvist H, Edlund C. Invasive candidiasis in long-term patients at a multidisciplinary intensive care unit: Candida colonization index, risk factors, treatment and outcome. Scand J Infect Dis. 2008;40(2):145-53. [PubMed: PM17852926](#)
7. Young EM, Commiskey ML, Wilson SJ. Translating evidence into practice to prevent central venous catheter-associated bloodstream infections: a systems-based intervention. Am J Infect Control. 2006 Oct;34(8):503-6. [PubMed: PM17015155](#)
8. Rosenthal VD, Guzman S, Safdar N. Reduction in nosocomial infection with improved hand hygiene in intensive care units of a tertiary care hospital in Argentina. Am J Infect Control. 2005 Sep;33(7):392-7. [PubMed: PM16153485](#)