



# PREVENTION ABOVE ALL

TARGETED INTERVENTIONS • PRACTICAL SOLUTIONS



Larry Creech, RN, MBA, CDT  
Fact/Reference

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| Fact  | Reference  |
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| <p><b>Retained Surgical Objects</b></p> <ul style="list-style-type: none"> <li>It has been identified as a key issue by the American College of Surgeons "Statement on the Prevention of Foreign Body Retention Surgical Wounds."</li> </ul>  | <p>American College of Surgeons. Statement on the prevention of retained foreign bodies after surgery. Bulletin of the American College of Surgeons. October 2005). Available at: <a href="http://www.facs.org/fellows_info/statements/st-51.html">http://www.facs.org/fellows_info/statements/st-51.html</a>. Accessed September 2, 2008.</p> |
| <ul style="list-style-type: none"> <li>AORN address tracking and counting issues in publications and most meetings.</li> <li>Multiple counts and verifications as directed by AORN ... are necessary but time consuming.</li> </ul>   | <p>Watson DS. Counting for patient safety. <i>AORN Journal</i>. August 2006;84(2).</p>   |
| <ul style="list-style-type: none"> <li>A recent study calculated that more than 1,500 surgical objects are left in patients each year in the U.S.</li> <li>The incidence ranges from one in 9,000 to one in 18,000 cases in this study.</li> <li>More than 1,500 cases of a retained foreign body occur annually in the United States.</li> </ul> | <p>Gawande AA, et al. Risk factors for retained instruments and sponges after surgery. <i>N Engl J Med</i>. 2003;348:229-35.</p>   |

| Fact  | Reference   |
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| <p><b>Characteristics of Patients with a Retained Surgical Object:</b></p> <ul style="list-style-type: none"> <li>• Higher Body Mass Index</li> <li>• Long Duration of Operation</li> <li>• Operation Performed After Hours or On an Emergency Basis</li> <li>• Unexpected Change in Operation</li> <li>• Change in Nursing Staff</li> <li>• 76 – 88% Involve Falsely Correct Sponge Counts</li> </ul>  | <p>Gawande AA, et al. Risk factors for retained instruments and sponges after surgery. <i>N Engl J Med.</i> 2003;348:229-35.</p>  |
| <p>The State of Minnesota reports 1 in 11,000 cases per year, which represents approximately 1 in 5 – 6,000 open cavity cases per year.</p>   | <p>Adverse Health Events in Minnesota Hospitals First Annual Public Report. Minnesota Department of Health. <a href="http://www.minnesotahealthinfo.org">www.minnesotahealthinfo.org</a>.</p> |
| <p><b>Characteristics of Cases with a Retained Surgical Object</b></p> <ul style="list-style-type: none"> <li>• 55% Involve Abdominal Surgery</li> <li>• 27% Involve Uncomplicated Vaginal Deliveries</li> <li>• 76 – 88% Involve Falsely Correct Sponge Counts</li> <li>• 10 – 15% X-Rays Taken Do Not Provide Proof Against Sponge Retention</li> <li>• Legal Settlements Vary Depending on the State and Have Been Reported From \$1,890 to \$800,000</li> </ul> | <p>Kaiser CW, et al. The Retained Surgical Sponge. <i>Annals of Surgery.</i> July 1996;224(1):79-84.</p>  |

| Fact  | Reference   |
|---|---|
| <p>In some hospitals towels are required to have radiopaque markers because they have been left behind.</p> | <p>Hyslop JW, et al. Natural History of the Retained Surgical Sponge. <i>South Med J.</i> 1982;75:657-60.<br/><br/>PA-PSRS Patient Safety Advisory. June 2005;2(2).</p> |
| <p>Counts are not always performed in all cases or obstetrical procedures.</p>                              | <p>Patterson P. How ORs decide when to count instruments. <i>OR Manager.</i> April 2000;16(4).</p>  |
| <p>Recent VA data report on 73 cases of retained surgical items, which represents 1 in 6,000 cases.</p>     | <p>VHA DIRECTIVE 2006-030. Prevention of Retained Surgical Items. Corrected Copy. May 17, 2006.</p>   |



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Dr. Dale Bratzler, DO, MPH  
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|---|---|
| Odds of dying within 60 days increases 3.4-fold in patients with a complication.  | Silber JH, et al. Changes in prognosis after the first postoperative complication. <i>Med Care</i> . 2005;43:122-131.                           |
| <b>Chart:</b> Odds of Death after First Postoperative Complication Within 60 days. (Slide 12 of 69)   | Silber JH, et al. Changes in prognosis after the first postoperative complication. <i>Med Care</i> . 2005;43:122-131.                           |
| <b>Chart:</b> Who Pays for Surgical Complications? Current volume-based payment. (Slide 13 of 69)   | Dimick JB, et al. Who pays for poor surgical quality? Building a business case for quality improvement. <i>J Am Coll Surg</i> . 2006;202:933-7. |
| <b>Chart:</b> External Bacterial Challenge to Postoperative Incisions in Rats. (Slide 19 of 69)   | Stillman, et al. <i>Arch Surg</i> . 1980.   |
| <b>Chart:</b> The association between the timing of administration of prophylaxis and the incidence of surgical site infection (SSI) following total hip arthroplasty. (Slide 23 of 69) | <i>Clin Infect Dis</i> . 2007; 44:921-7.  |
| <b>Chart:</b> Surgical Site Infections Reduced By Tight Peri-op Glucose Control. (Slide 33 of 69)   | Morris Brown MD, Henri Ford Hospital, International Anesthesia Research Society.  |
| Consequences of Hypothermia <ul style="list-style-type: none"> <li>• Perioperative patients.</li> </ul>   | Sessler DI, Akca O. <i>Clin Infect Dis</i> . 2002;35:1397-1404.   |

| Fact  | Reference   |
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| <p>As many as 7 to 8 million Americans that undergo major noncardiac surgery have multiple cardiac risk factors or established coronary artery disease.</p> <ul style="list-style-type: none"> <li>• More than 1 million cardiac events annually.</li> </ul>  | <p>Schmidt M, et al. <i>Arch Intern Med.</i> 2002;162:63-69.</p> <p>Mangano DT, et al. <i>N Engl J Med.</i> 1996;335:1713-1720.</p> <p>Selzman CH, et al. <i>Arch Surg.</i> 2001;136:286-290.</p> |
| <p><b>Chart:</b> Beta-Blocker Withdrawal (Slide 38 of 69)</p>   | <p>Hoeks, et al. <i>Eur J Vasc Endovasc Surg.</i> 2006.</p>   |
| <p>Recent estimates show that more than 900,000 Americans suffer VTE each year.</p> <ul style="list-style-type: none"> <li>• About 400,000 of these being DVT</li> <li>• About 500,000 being manifest as PE</li> <li>• In about 300,000 cases, PE proves fatal; it is the third most common cause of hospital-related deaths in the United States.</li> </ul> | <p>Heit JA, Cohen AT, Anderson FA on behalf of the VTE Impact Assessment Group. [Abstract] American Society of Hematology Annual Meeting. 2005.</p>   |
| <p>The majority (93%) of estimated VTE-related deaths in the US were due to sudden, fatal PE (34%) or followed undiagnosed VTE (59%).</p>   | <p>Heit JA, Cohen AT, Anderson FA on behalf of the VTE Impact Assessment Group. [Abstract] American Society of Hematology Annual Meeting. 2005.</p>   |
| <p><b>Chart:</b> Cumulative Incidence of VTE After Primary Hip or Knee Replacement. (Slide 46 of 69)</p>  | <p>White RH, et al. <i>Arch Intern Med.</i> 1998;158:1525-1531.</p>   |

| Fact   | Reference  |
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| <p><b>SCIP Infection 8 –</b></p> <ul style="list-style-type: none"> <li>The proportion of patients who receive a short half-life antibiotic preoperatively (cefazolin, cefuroxime, cefoxitin, or ampicillin-sulbactam), whose operation is still ongoing more than 4 hours after the start time of the preoperative antibiotic dose, who receive an additional antibiotic dose within 4 hours of the preoperative antibiotic.</li> </ul> | <p>DiPiro JT. Intraoperative serum and tissue activity of cefazolin and cefoxitin. <i>Arch Surg.</i> 1985;120:829-32.</p> <p>Scher KS. Studies on the duration of antibiotic administration for surgical prophylaxis. <i>Am Surg.</i> 1997;63:59-62.</p> <p>Ohge H, et al. An additional dose of cefazolin for intraoperative prophylaxis. <i>Surg Today.</i> 1999;29:1233-6.</p> <p>Morita S, et al. The significance of the intraoperative repeated dosing of antimicrobials for preventing surgical wound infection in colorectal surgery. <i>Surg Today.</i> 2005;35:732-8.</p> <p>Zanetti G, et al. Intraoperative redosing of cefazolin and risk for surgical site infection in cardiac surgery. <i>Emerg Infect Dis.</i> 2001;7:828-31.</p> |
| <p>Eighty-six percent of patients undergoing major operations had perioperative indwelling urinary catheters. Of these, 50% had catheters for longer than 2 days postoperatively. These patients were twice as likely to develop urinary tract infections than patients with catheterization of 2 days or less.</p>  | <p>Wald HL, Ma A, Bratzler DW, Kramer AM. Indwelling urinary catheter use in the postoperative period. Analysis of the National Surgical Infection Prevention Project data. <i>Arch Surg.</i> 2008;143:551-557.</p>  |
| <p><b>Chart:</b> Changes in National Performance Baseline to Q4, 2007. (Slide 59 of 69)</p>  | <p>National sample of 39,000 Medicare patients undergoing surgery in US hospitals during 2001.</p> <p>Bratzler DW, Houck PM, et al. <i>Arch Surg.</i> 2005;140:174-182.</p>  |

| Fact   | Reference  |
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| <p><b>Chart:</b> Surgical Care Improvement Project<br/>Hospital Voluntary Self-Reporting, Qtr. 4, 2007.<br/>(Slide 62 &amp; 63 of 69)</p>  | <p>Benchmark rates were calculated for all HQA reporting hospitals in the US based on discharges using the <i>Achievable Benchmarks of Care™</i> methodology. Available at:<br/><a href="http://main.uab.edu/show.asp?durki=14527">http://main.uab.edu/show.asp?durki=14527</a>.</p> |
| <p>The overall surgical infection rate fell 27%, from 2.28% (215 infections among 9,435 surgical cases) in the first 3 months to 1.65% (158 infections among 9,584 cases) between the first and the last 3 reporting months.</p> | <p>Dellinger EP, et al. <i>Am J Surg</i>. 2005;190:9–15.</p>   |
| <p><b>Final IPPS Rule</b> – No Pay for Complications<br/>Effective for Payment October 1, 2008.</p>  | <p>CMS-1533-FC: Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2008 Rates; Final Rule with comment period went on display in the Federal Register on August 1, 2007. (Publication Date: August 22, 2007)</p>  |



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| <p><b>Images:</b> Biofilms and Urinary Tract Infection</p>  | <p>Stickler D, et al. Studies on the formation of crystalline bacterial biofilms on urethral catheters. <i>Eur J Clin Microbiol Infect Dis.</i> 1998;17:649–652.</p>   |
| <ul style="list-style-type: none"> <li>• UTIs: 40% of nosocomial infections (NUTI)</li> <li>• Foley catheter use causes 80 – 90% of NUTI</li> <li>• 15 – 50% hospitalized patients with urinary catheter experience UTI from urinary catheterization</li> <li>• Infection risk: 5%/day of catheterization</li> <li>• Bacteremia in up to 4% of cases</li> <li>• 1 – 3.8 extra hospital days; \$680 – \$3,800 per episode</li> <li>• Inc. costs by more than \$1.8 Billion/yr</li> </ul> | <p>Watson S, et al. Technology vs. the most common nosocomial infection. <i>Infection Control Today.</i> January 8, 2000.</p> <p>Rupp ME, et al. Effect of silver coated urinary catheters: efficacy, cost effectiveness, and antimicrobial resistance. <i>AJIC.</i> 2004;32:445-450.</p> <p>Samuel U, et al. Prevention of catheter-related infections: the potential of a new nano-silver impregnated catheter. <i>Intl. J. Antim. Ag.</i> 2004;23(Suppl 1):S75-S78.</p> |



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Andrew Kramer, MD  
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| <p><b>The Final HAC List</b></p> <ul style="list-style-type: none"> <li>• Foreign object after surgery</li> <li>• Air embolism</li> <li>• Blood incompatibility</li> <li>• Pressure ulcer Stage III or IV</li> <li>• Falls and trauma (e.g., fracture, injury, burn)</li> <li>• Catheter-associated UTI</li> <li>• Vascular catheter-associated infection</li> <li>• Manifestation of poor glycemic control</li> <li>• Surgical site infections <ul style="list-style-type: none"> <li>~ CABG</li> <li>~ Certain orthopedic procedures</li> <li>~ Bariatric surgery for obesity</li> </ul> </li> <li>• Deep vein thrombosis/ Pulmonary Embolism (PVT/PE) following certain orthopedic procedures</li> </ul> | <p>Department of Health and Human Services. Centers for Medicare &amp; Medicaid Services. Federal Register. August 19, 2008. Available at: <a href="http://edocket.access.gpo.gov/2008/pdf/E8-17914.pdf">http://edocket.access.gpo.gov/2008/pdf/E8-17914.pdf</a>. Accessed August 27, 2008.</p> |

| Fact  | Reference   |
|---|---|
| <p><b>HAC List</b></p> <ul style="list-style-type: none"> <li>• Serious preventable event – object left in place during surgery</li> <li>• Serious preventable event – air embolism</li> <li>• Serious preventable event – blood incompatibility</li> <li>• Catheter-associated urinary tract infections</li> <li>• Pressure ulcers (decubitus ulcers)</li> <li>• Vascular catheter-associated infection</li> <li>• Surgical site infection – mediastinitis after coronary artery bypass surgery</li> <li>• Hospital-acquired injuries – fractures, dislocations, intracranial injury, crushing injury, burn, and other unspecified effects of external causes</li> </ul> | <p>IPPS FY08 Final Rule CMS-1553-FC (August 2007)</p>     |
| <p><b>HAC List</b></p>  | <p>IPPS FY09 Preliminary Rule CMS-1390-P (April 2008)</p> |
|   |   |

| Fact  | Reference  |
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| <p><b>Refinements of two conditions from FY 08 rule:</b></p> <ul style="list-style-type: none"> <li>• Foreign object retained after surgery (code added)</li> <li>• Pressure ulcer (reflects coding changes – to capture staging info, and only stage III and IV ulcers subject to non-payment)</li> <li>• <b>Additional conditions considered</b> <ul style="list-style-type: none"> <li>~ Surgical site infections following elective surgeries (knee, lap gastric bypass, varicose veins)</li> <li>~ Legionnaire's disease</li> <li>~ Glycemic control (DKA, HHNK, Diabetic coma)</li> <li>~ Iatrogenic pneumothorax</li> <li>~ Delirium</li> <li>~ Ventilator associated pneumonia</li> <li>~ DVT/PE</li> <li>~ Staph aureus septicemia</li> <li>~ Clostridium difficile associated disease</li> <li>~ MRSA infections</li> </ul> </li> </ul> | <p>IPPS FY09 Preliminary Rule CMS-1390-P (April 2008)</p>  |
| <p><b>Revised conditions updated</b></p> <ul style="list-style-type: none"> <li>• New conditions added <ul style="list-style-type: none"> <li>~ Manifestations of poor glycemic control (HHNK and coma)</li> <li>~ Surgical site infections for certain orthopedic surgeries and bariatric surgery for obesity</li> <li>~ DVT and PE following certain orthopedic procedures</li> <li>~ Non-payment begins 10/1/08</li> </ul> </li> </ul>   | <p>IPPS FY09 Final Rule CMS-1390-F (August 2008)</p>   |
| <p><b>Web Link for Final Rule</b></p>   | <p>HHS.gov. Centers for Medicare &amp; Medicaid Services. IPPS Regulations and Notices. Available at: <a href="http://www.cms.hhs.gov/AcuteInpatientPPS/IPPS/itemdetail.asp">http://www.cms.hhs.gov/AcuteInpatientPPS/IPPS/itemdetail.asp</a>? Accessed August 27, 2008.</p> |



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Diane Krasner, PhD, RN, CWCN, CWS, BCINC, FAAN  
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| <p><b>Nurses need more education on staging</b></p> <ul style="list-style-type: none"> <li>• 70% considered their basic wound education to be insufficient.</li> <li>• Only 62% of hospital nurses expressed confidence in pressure ulcer staging.</li> </ul>   | <p>A Survey of Nurses Wound Care Knowledge. Ayello, Baranoski, Salati. 2005. ASWC.</p> |
| <p><b>MDs Need More Education</b></p> <ul style="list-style-type: none"> <li>• 42 Geriatric fellow NYS</li> <li>• Self assess as “adequately” prepared to lead a team and teach about pressure ulcer</li> <li>• 48% identified Braden Scale</li> <li>• 77% identified Stage 1</li> <li>• 52% identified Stage IV</li> </ul> | <p>Odierna and Zeleznik. 2003.</p>   |
| <p><b>The Interprofessional Wound Caring Model©</b></p> <ul style="list-style-type: none"> <li>• Informal Communities of Practice</li> </ul>  | <p>©2007 Krasner Rodeheaver Sibbald</p>  |

| Fact  | Reference  |
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| <p><b>4 Questions</b></p> <ul style="list-style-type: none"> <li>• What kind of wound is it? (etiology)</li> <li>• Is it healable or nonhealable?</li> <li>• Is it infected or not?</li> <li>• Is the plan of care aggressive, maintenance or palliative?</li> </ul>  | <p>Krasner, Sibbald. 2000,2007.</p>  |
| <p><b>New Opportunities to Improve Pressure Ulcer Prevention and Treatment: Implications of the CMS Inpatient Hospital Care Present on Admission (POA) Indicators/Hospital-Acquired Conditions (HAC) Policy</b></p> <ul style="list-style-type: none"> <li>• A consensus paper from the International Expert Wound Care Advisory Panel</li> </ul> | <p>CMS White Paper<br/>Release date: May 14, 2008</p> <ul style="list-style-type: none"> <li>• Authored by Leading Industry Experts <ul style="list-style-type: none"> <li>~David G. Armstrong, DPM, PhD</li> <li>~Elizabeth A. Ayello, PhD, RN, CNS-BC, FAPWCA, FAAN</li> <li>~Kathleen Leask Capitulo, DNSC, RN, FAAN3</li> <li>~Evonne Fowler, RN, CNS, CWON</li> <li>~Diane L. Krasner, PhD, RN, CWCN, CWS, BCLNC, FAAN</li> <li>~Jeffrey M. Levine, MD</li> <li>~R. Gary Sibbald, BSc, MD, FRCPC (Med) (Derm), MEd</li> <li>~Adrianne P.S. Smith, MD</li> </ul> </li> </ul> |

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Jonathan Primer, Maria Miller  
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| Fact  | Reference   |
|---|---|
| Hand hygiene is the number one defense against hospital-acquired infections (HAIs).   | Davis D, Sosovec D. The value of products that improve hand hygiene and skin. <i>Healthcare Purchasing News</i> . Available at: <a href="http://www.hpnonline.com/inside/2003-11/1103hygiene.htm">http://www.hpnonline.com/inside/2003-11/1103hygiene.htm</a> . Accessed November 20, 2007. |
| Health care workers' compliance is low — averaging 40%.   | Boyce JM, Pittet D. Centers for Disease Control and Prevention, Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. <i>MMWR</i> . 2002;51:1-45.     |
| Proper hand hygiene alone could prevent 20,000 patient deaths per year.   | Berens M. Tribune Investigation: Unhealthy Hospitals. <i>Chicago Tribune</i> . July 21, 2002.   |
| <b>Chart:</b> If your hand hygiene products could improve skin condition, would hand hygiene compliance improve? (Slide 21 of 58) | APIC Survey. April 2008.  |
| Prospective, Controlled, Cross-Over Trial of Alcohol-Based Hand Gel in Critical Care Units.                                       | Rupp ME, et al. <i>Infection Control and Hospital Epidemiology</i> . January 2008;(29)1.  |

| Fact   | Reference   |
|--|---|
| <ul style="list-style-type: none"> <li>The level of antimicrobial efficacy of 62% ethanol may not suffice to interrupt transmission of nosocomial pathogens.</li> <li>The product does not meet the requirement of European Standard EN 1500.</li> </ul>   | <p>Widmer AF, Rotter M. Limited efficacy of alcohol-based hand gels. <i>The Lancet</i>. 2002;359.</p>   |
| <ul style="list-style-type: none"> <li>Hand hygiene alone will not change the rate of HAI (bundle of measures)</li> <li>" ... there is ongoing debate about the efficacy of alcohol-based hand rub formulations with an ethyl alcohol content lower than 80%, in particular with gels and foam formulations."</li> <li>"... We are surprised by the tremendous attention that this article has drawn in the lay press with the take-home message that hand hygiene has no impact on nosocomial infections, a message that we consider harmful to the international patient safety movement ..."</li> </ul> | <p>Mermel LA, Boyce JM, Voss A, Allegranzi B, Pittet D. Letters to the editor: trial of alcohol-based hand gel in critical care units. <i>Infection Control and Hospital Epidemiology</i>. June 2008;29(6):577-578.</p> |
| <ul style="list-style-type: none"> <li>"... With an ethanol content of 62%, this gel is at the very low end of the published range of activity.</li> <li>In addition, gel formulations often have considerably less antimicrobial activity (about 10-fold, i.e. 1 log less) than do liquid alcohol hand rubs (Lancet study cited)</li> <li>... Even high compliance with products that have limited activity may not sufficiently decrease the rate of nosocomial infections."</li> </ul>  | <p>Maiwald M. Letters to the editor: alcohol-based hand hygiene and nosocomial infection rates. <i>Infection Control and Hospital Epidemiology</i>. June 2008;29(6):579.</p>  |

| Fact   | Reference   |
|--|---|
| <ul style="list-style-type: none"> <li>• 10 gels and 4 rinses were tested according to EN 1500.</li> <li>• No gel met the bactericidal requirement.</li> <li>• The tested gels should be considered a retrograde step for hand hygiene ... they should not ... be implemented as first choice agents.</li> <li>• ...we do not consider any of the tested alcohol-based hand gels to be suitable for hand antiseptics in the health-care setting because their antimicrobial efficacy may be insufficient to prevent the spread of pathogens ...</li> <li>• Future ethanol-based hand gels used in hospitals should contain at least 80% (v/v) ethanol as the active ingredient and should be as effective as the EN 1500 reference alcohol within 30 s.</li> </ul> | <p>Kramer A, Rudolph P, Kampf G, Pittet D. Limited efficacy of alcohol-based hand gels. <i>The Lancet</i>. 2002;359:1489–90.</p>  |
| <p><b>Chart:</b> EN 1500 protocol vs. practical protocol (Practical application: 3ml alcohol over 30 sec.) (Slide 37 of 58)</p>  | <p>Kampf G, Ostermeyer C. Efficacy of alcohol-based gels compared with simple hand wash and hygienic hand disinfection. <i>Journal of Hospital Infection</i>. 2004;56(Suppl):S13–S15.</p> |
| <ul style="list-style-type: none"> <li>• Evaluated alcohol-based hand rubs (85%, 62%, 61% and 60% concentrations) using 2.4 ml and 3.6 ml</li> <li>• 2.4 ml application volumes of 60% and 61% failed to achieve the FDA-required 2 log<sub>10</sub> reduction after the first application</li> <li>• Efficacy of hand rubs with the lowest concentrations (2.4 ml) yielded a lower reduction than produced by antimicrobial soap.</li> <li>• ... the general trend toward alcohol-based hand rubs should not overlook evidence of significant differences in efficacy that appear to be related primarily to a product's overall concentration of alcohol.</li> </ul>   | <p>Kampf G. How effective are hand antiseptics for the post contamination treatment of hands when used as recommended? <i>AJIC</i>. June 2008;36(5):356–360.</p>                          |

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| <ul style="list-style-type: none"> <li>• Compliance rates are only 30 – 57%.</li> <li>• 85% of nurses report history of skin problems.</li> <li>• Frequent application of hand lotions/creams will facilitate repair of the epidermal barrier damage, i.e., irritant contact dermatitis, that occurs with repetitive hand hygiene procedures in HCWs.</li> <li>• Base size = 80</li> <li>• Data on response to repetitive hygiene:<br/>Treatment (start work cycle, end cycle)<br/>Regression (end cycle, start next cycle)</li> </ul> | <p>Visscher M, Davis J. <i>Effect of Lotions and Creams on Irritant Dermatitis in Health Care Workers</i>. The Skin Sciences Institute and The College of Pharmacy, University of Cincinnati. Personal Communication.</p> |
| <p><b>Chart:</b> Reduction in dryness and erythema produced significant product differences. (Slide 49 of 58)</p>  | <p>Visscher M, Davis J. <i>Effect of Lotions and Creams on Irritant Dermatitis in Health Care Workers</i>. The Skin Sciences Institute and The College of Pharmacy, University of Cincinnati. Personal Communication.</p> |



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| <p><b>Clinical consequences of CAUTI</b></p> <ul style="list-style-type: none"> <li>• bacteremia, prosthetic joint infection, death</li> </ul>   | <p>Foxman. <i>Am J Med.</i> 2002;113(Suppl 1A):S5-S13.</p>   |
| <p><b>Economic consequences of CAUTI</b></p> <ul style="list-style-type: none"> <li>• prolonged hospital stay (up to 1 day)</li> <li>• increased costs (\$676) per case</li> <li>• \$424 – \$452 million/year</li> </ul>   | <p>Saint. <i>Am J Infect Control.</i> 2000;28:68-75.</p>   |
| <p><b>Prevention of CAUTI: CDC Guidelines</b><br/>(category 1 recommendations)</p> <ul style="list-style-type: none"> <li>• Educate personnel in correct techniques of catheter insertion and care</li> <li>• Emphasize handwashing</li> <li>• Insert catheter using aseptic technique and sterile equipment</li> <li>• Secure catheter properly</li> <li>• Maintain closed sterile drainage</li> <li>• Obtain urine samples aseptically</li> <li>• Maintain unobstructed urine flow</li> <li>• Catheterize only when necessary</li> </ul> | <p>Centers for Disease Control and Prevention. Guideline for Prevention of Catheter-associated Urinary Tract Infections. Available at: <a href="http://www.cdc.gov/ncidod/dhqp/gl_catheter_assoc.html">www.cdc.gov/ncidod/dhqp/gl_catheter_assoc.html</a>. Accessed August 27, 2008.</p> |

| Fact  | Reference  |
|---|--|
| <p><b>What If No One Is Watching?</b><br/>Among US hospitals:</p> <ul style="list-style-type: none"> <li>• 23% monitor who has catheters</li> <li>• 14% monitor catheter duration or discontinuation</li> </ul>   | <p>Saint S, et al. <i>Clin Infect Dis</i>. 2008;46:243-50.</p>   |
| <p><b>Catheters in Surgical Patients Discharged to Sub-Acute Rehab</b></p> <ul style="list-style-type: none"> <li>• Foley catheter data collected via MDS at sub acute rehab</li> <li>• Easy to define population</li> <li>• High use of new catheters</li> </ul>   | <p>Wald, et al. <i>Med Care</i>. 2005;43:1009-1017.</p> <p>Wald, et al. <i>Infect Control Hosp Epidemiol</i>. 2008;29:116-124.</p> |
| <p><b>Chart:</b> Outcomes Associated with Extended Foley Catheterization (at SNF admission) (Slide 13 of 26)</p>  | <p>Wald, et al. <i>Med Care</i>. 2005;43:1009-1017.</p>  |
| <p><b>Chart:</b> Frequency of Observed/Expected Catheter Removal Ratios (Slide 14 of 26)</p>  | <p>Wald, et al. <i>American Geriatrics Society</i>. 2004.</p>  |
| <p><b>Surgical Infection Prevention Project</b></p> <ul style="list-style-type: none"> <li>• Complete chart abstractions on nationally representative sample of major surgical Medicare cases</li> <li>• Data fields abstracted: <ul style="list-style-type: none"> <li>– Perioperative catheter</li> <li>– Catheter removal order and date</li> <li>– UTI diagnoses</li> </ul> </li> </ul> | <p>Wald, et al. <i>Arch Surg</i>. 2008;143(6):551-557.</p>   |

| Fact  | Reference  |
|---|--|
| <p><b>CAUTI: Underuse of Evidence-Based Prevention Strategies Among non-VA hospitals</b></p> <ul style="list-style-type: none"> <li>• 29% use portable bladder ultrasound</li> <li>• 9% use catheter reminder or stop order</li> <li>• 30% use antimicrobial catheters</li> <li>• 12% use condom catheters in men</li> <li>• 9% use suprapubic catheters</li> </ul> | <p>Saint S, et al. <i>Clin Infect Dis</i>. 2008;46:243-50.</p> |
| <p><b>CAUTI: Prevention Trials</b></p> <ul style="list-style-type: none"> <li>• Pre-post study of orthopedic surgery patients</li> <li>• Intervention:             <ol style="list-style-type: none"> <li>1. Catheter Use Guidelines</li> <li>2. Educational sessions</li> <li>3. Posters in all locations</li> <li>4. Feedback at 6 months</li> </ol> </li> </ul>  | <p>Stephan F, et al. <i>CID</i>. 2006;42:1544-1551.</p>        |



# PREVENTION ABOVE ALL

TARGETED INTERVENTIONS • PRACTICAL SOLUTIONS



Kathy Warye, APIC CEO  
Fact/Reference

Prevention Above All Conference  
08/17/08 – 08/18/08

| Fact  | Reference   |
|---|---|
| <p><b>The Business Case for Infection Prevention</b></p> <ul style="list-style-type: none"> <li>To change the mindset from infection control as a cost center to infection prevention as a partner in profitability.</li> </ul> | <p>APIC. <i>Dispelling the Myths: The True Cost of Healthcare-Associated Infections</i>. An APIC Briefing. February 2007.</p>   |
| <p><b>Information Services</b></p>  | <ul style="list-style-type: none"> <li>Primary information point on the web for infection prevention and control <ul style="list-style-type: none"> <li>– <a href="http://www.apic.org">www.apic.org</a></li> <li>– <a href="http://www.PreventInfection.org">www.PreventInfection.org</a> (consumer/patient)</li> <li>– <a href="http://www.KnowledgelsInfectious.org">www.KnowledgelsInfectious.org</a> (healthcare leadership)</li> </ul> </li> <li>News services – weekly e-News, Infectious Disease Center</li> <li>Periodicals such as Prevention Strategist</li> </ul> |