

**Conclusion.** The current state of room movement with CDI patients is suboptimal, resulting in increased infection risk for subsequent patients. A multi-faceted intervention to address this problem is essential to achieve an optimal goal of 1–2 rooms per hospital stay for a CDI patient. Quality improvement projects include (1) notification of patient movement to nursing leadership, (2) alerts to nursing supervisors of potential CDI patients before room transfer, and (3) earlier diagnosis of community-onset *C. difficile*.

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### 1156. Observation of Stethoscope Sanitation Practices in an Emergency Department Setting

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**Background.** Nosocomial infections pose significant risk to patients and hygienic standards may be easily overlooked, especially in fast-paced emergency department settings. Studies have shown that stethoscopes can harbor pathogens, which can be transferred to patients when proper sanitary measures are not taken. Survey-based studies have mostly assessed stethoscope hygiene, but they may not accurately represent cleaning practice. This study aimed to accurately assess cleaning practice through observation of stethoscope cleaning and hand hygiene among medical providers in an emergency department setting.

**Methods.** Four hundred twenty-six provider–patient encounters were observed in the emergency department of the VA San Diego Healthcare System. The frequency and methods of stethoscope and hand hygiene practices were anonymously observed and recorded. Stethoscope hygiene was recorded during and after each encounter if cleaning took place for at least 15 seconds. Hand hygiene data were also gathered before and after each encounter. Data analysis was performed to determine the frequency of these practices.

**Results.** Of 426 encounters, 115 involved the use of a personal stethoscope. In 15 of 115 encounters (13.0%), the provider placed a glove over the stethoscope before patient contact. Following patient interaction, 13 of 115 encounters (11.3%) involved stethoscope hygiene with an alcohol swab. Stethoscope hygiene with water and hand towel before patient interaction was observed in 5 of 115 encounters (4.3%). Hand sanitizer use or hand washing was observed in 213 of 426 encounters (50.0%) before patient interaction. Gloves were also used prior to patient interaction in 206 of 426 (48.4%) encounters, some overlapping with those who used hand sanitizer or washed their hands. Hand sanitizer or hand washing was used in 332 of 426 encounters (77.9%) after patient interaction.

**Conclusion.** Only 11.3% of encounters involving the use of a personal stethoscope had stethoscope sanitation with an alcohol swab. In 4.3% post-encounters, there was an attempt to clean stethoscopes with water and towel. Rates of appropriate hand hygiene were also lower than expected. Stethoscope and hand hygiene standards need to be raised to reduce infection risk and further studies need to be conducted to set guidelines for adequate stethoscope sanitation.

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### 1157. Optimal Isolation Periods Based on Time Interval to Elimination of Scabies After Topical Agent in the Real Clinical Practice

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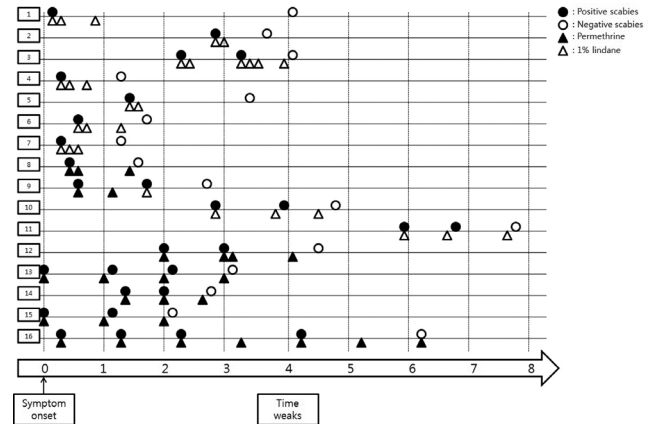
**Background.** Scabies reemerged globally as the ninth of most highly prevalent skin diseases from 1990 to 2010. Existing topical agents, like permethrin and lindane are highly effective showing 95% or more therapeutic response. Patient isolation is only recommended for one day after treating with topical agents. However, there is little evidence-based recommendation on optimal isolation period after treatment in healthcare settings to prevent secondary infection.

**Methods.** All patients who were diagnosed from 2008 to 2017 with scabies at a referral university hospital in Seoul, Republic of Korea were analyzed. We investigated the time interval between symptom onset and diagnosis of scabies. The period from the application of topical agents and clinical resolution was also analyzed.

**Results.** A total of 23 patients were diagnosed with scabies. There was no crusted scabies such as Norwegian scabies. Seventy percent of these patients were referred from long-term care facilities. Median number of treatment was three times per patient (Interquartile range [IQR], 2–3). Time interval between the onset of symptoms and the diagnosis of scabies was median 4 days (IQR, 2–14). Median isolation period was

13 days (IQR, 8–15). Dermatologist confirmed successful treatment of 16 patients, the median time until confirmation was 15 days (IQR, 8–17). Three patients discontinued isolation before dermatologist's confirmation. After re-evaluation by a dermatologist, one of the three was re-isolated due to persistent scabies infestation.

**Conclusion.** Scabicides are highly efficacious, but repeated microscopic examination for confirming elimination is strongly recommended. Optimal isolation period should be individualized based on the repeated dermatologic examination.



**Figure 1.** A timeline of cured scabies patients confirmed by a dermatologist.

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### 1158. Needlestick Injuries and Other Potential Exposures to Bloodborne Pathogens Among Police Officers in a City Police Department, 2011–2016

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**Background.** The approximately 850,000 police officers nationwide are at risk of bloodborne diseases through needlestick injuries and other exposure incidents because of the nature of their work. In response to a request for a health hazard evaluation, we determined the incidence and circumstances of needlestick injuries and other potential exposures to bloodborne pathogens among police officers at a city department from 2011 to 2016.

**Methods.** We analyzed data extracted from the city's centralized human resource database on all needlestick injuries and other potential exposure incidents from January 1, 2011 to December 31, 2016 and characterized their circumstances. We calculated the annual incidence of needlestick injuries using two methods. We ran a Poisson regression model to determine the trend in the annual incidence over time using SAS 9.4.

**Results.** We identified 13 needlestick injuries and 37 additional potential exposure incidents. Needlestick injuries most commonly occurred during pat-down searches of a suspect and during search of a suspect's property or vehicle. Nine of 11 source persons with documented test results after a needlestick injury were found to have hepatitis C infection. The annual incidence of needlestick injuries ranged from 0 to 5.07 per 1,000 police officers and from 0 to 2.45 per 10,000 reactive calls for service and did not appear to have a significant trend. Most exposure incidents consisted of spitting incidents, human bites, and other contact with blood. Of 22 source persons with blood drawn, four had hepatitis C infection, two have HIV infection, and one had both. None of the incidents reportedly led to transmission of hepatitis B, hepatitis C, or HIV.

**Conclusion.** Police officers in this department are at risk for needlestick injuries and other exposures to bloodborne pathogens. We recommended improvements to engineering, administrative, and personal protective equipment controls, including training on safe searching techniques and sharps evidence collection and provision of nitrile gloves.

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### 1159. Influenza Symptoms in Vaccinated Healthcare Workers in an H3N2-Dominant Season

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**Background.** Influenza vaccination of healthcare workers is an important component of keeping patients safe, but must be paired with exclusion of ill healthcare workers (HCW) from work. CDC recommends exclusion from work until afebrile for 24 hours, but not all HCW with influenza develop fever and may still be a risk for spreading. Half of HCW with influenza in an H1N1-dominant season (2013–2014) at our institution were afebrile.

**Methods.** From 1/31–4/24/18 (H3N2-dominant season), HCW with fever or cough were screened for influenza and respiratory syncytial virus by polymerase chain reaction of flocced nasopharyngeal swabs. Additional HCW were tested by their primary care providers. We collected influenza vaccination status and symptoms and calculated the proportion of influenza-positive HCWs with fever or cough. Infection control practitioners (ICPs) contacted each influenza-positive HCW to identify potential patient or HCW exposures 24 hours prior to symptom onset and offered oseltamivir prophylaxis to exposed patients and HCW.

**Results.** Of 186 HCW tested by UCM, 49 (26%) tested positive for influenza (35 with influenza A; 14 with influenza B) and 11 (6%) tested positive for RSV. Forty-eight HCW (98%) received influenza vaccination. Fever was reported in only 19 (54%) HCW with influenza A and three (21%) HCW with influenza B. Cough was present in the majority of HCW (34 (97%) with influenza A and 12 (86%) with influenza B). An additional 55 HCW were diagnosed with influenza by their primary care providers. ICPs performed contact investigations for 43 HCW who reported exposure to patients or other HCW between 24 hours before symptom onset through the time of diagnosis. Occupational medicine provided 138 courses of prophylactic oseltamivir to HCW.

**Conclusion.** Afebrile influenza illness is common; current workforce guidelines are insufficient to prevent exposure in the healthcare setting. Expanding employee influenza screening to include fever OR cough doubled the number influenza positive HCW identified. Despite excellent influenza vaccination rates, vigilance is critical to prevent influenza transmission in the hospital. HCW screening for influenza based on fever OR cough, exclusion from work, and identification of potential exposures can help keep patients and colleagues safe.

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#### 1160. Infrequency of Respirator Change Following Annual Respiratory Fit Testing at an Academic Medical Center

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**Background.** The Occupational Safety and Health Administration (OSHA) of the Department of Labor requires that healthcare employers perform annual respiratory fit testing (RFT) for respiratory protection of employees with patient exposure. The annual cost of RFT in the United States is greater than \$8 million and each fit test requires approximately 20 minutes. Due to the high resource expenditure for RFT, we sought to identify factors associated with changing respirators.

**Methods.** During annual RFT at the University of Virginia, employees complete a questionnaire about interval clinical changes since the last RFT. Questions are based on publications indicating that certain characteristics are associated with respirator change, including: have you had dental surgery, surgery on your face, or trauma; has your weight changed by >10%; have you been or are you currently pregnant; do you recall your mask type; do you want to change masks. Answers to these questions from May 2016 through March of 2018 were compiled and analyzed by Chi-square test using Excel and R. *P*-value of <0.05 was considered significant.

**Results.** A total of 4,278 employees completed questions at least once during the time period, with 29 requiring respirator change after RFT. Requesting a mask change, and 10% weight change were significantly associated with respirator change. Pregnancy and facial trauma were not significantly associated with respirator change. Of those who changed respirator, nine reported no change in weight, no facial trauma, and no pregnancy.

**Conclusion.** The infrequency of respirator change suggests that limiting RFT to those most likely to change their respirator may hold more value than screening all employees annually; however, questions included in this evaluation did not identify all employees who would require respirator change. We are continuing evaluation of predictors of respirator changes and association with tuberculin skin test conversion to improve efficiency of RFT.

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#### 1161. Infection Control After Debridement of *Brucella melitensis* Hardware Infection

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**Background.** Brucellosis is the most common laboratory-acquired bacterial infection, according to the Centers for Disease Control and Prevention (CDC), despite the rare incidence of Brucellosis in the population at large. A 34-year-old man presented with pain and swelling of the left leg, where he had previously sustained an open tibia fracture 1 year prior. After the initial injury, he underwent four corrective surgeries (including bone graft and internal-fixation) and was asymptomatic for 6 months before these new symptoms developed. MRI revealed a 6.5 × 5.1 × 2.7 cm abscess and tibial osteomyelitis. Surgical staff performed an aggressive incision and drainage (I&D) with saucerization of the tibia, to treat what seemed to be a routine hardware infection. Five days later, tissue cultures grew *Brucella melitensis*. Upon further questioning, the patient described butchering a wild boar 10 days prior to symptom onset.

**Methods.** The CDC provides guidance on serological testing and post-exposure prophylaxis (PEP) for persons exposed to *Brucella* in the laboratory setting. Upon identification of this patient's *Brucella* isolates, infection control staff identified all laboratory workers that met CDC criteria for "high risk" exposure, as well as other healthcare workers (HCW) exposed to aerosolized infectious material (including those workers in the operating room during pulse lavage of the abscess).

**Results.** Staff identified 34 HCW with presumed high-risk exposure, including 19 laboratory personnel, 13 operating room personnel, and two patient care technicians. Baseline serology was obtained on all 34 HCW, and PEP with rifampin and doxycycline was prescribed for each. Nine of the exposed employees changed PEP therapy due to intolerance, and follow-up serology was obtained on 32 of the 34 healthcare workers, with zero seroconversions found.

**Conclusion.** Brucellosis is a rare disease in clinical practice, so a high index of suspicion is necessary to enact appropriate precautions before widespread exposures. When exposure is identified after the fact, efficient protocols should be in place to identify all susceptible individuals. Due to the low infectious dose of *Brucella melitensis*, CDC guidance should be expanded to include aerosolizing procedures outside of the laboratory.

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#### 1162. Epidemiology of Carbapenem-Resistant *Pseudomonas aeruginosa* Identified Through the Emerging Infections Program (EIP), United States, 2016–2017

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**Background.** *Pseudomonas aeruginosa* is intrinsically resistant to many commonly used antimicrobials and carbapenems are often required to treat infections. We describe the epidemiology and crude incidence of carbapenem-resistant *P. aeruginosa* (CRPA) in the EIP catchment area.

**Methods.** From August 1, 2016 through July 31, 2017, we conducted laboratory- and population-based surveillance for CRPA in selected metropolitan areas in Colorado, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and