

participants as they doffed, and we photographed their scrubs and exposed skin before and after each donning and doffing episode. We reviewed videos for doffing errors and photographs for fluorescent spots. We counted fluorescent spots and noted their locations. **Results:** Overall, 45 (64.3%) participants were women, 31 (44.3%) were nurses, 24 (34.3%) were physicians. Among the participants, 25 (35.7%) had >15 years of experience and 61 (87.1%) had some training in doffing. Participants frequently contaminated their skin or clothing while doffing (Table 1). For all scenarios, hands followed by the torso were contaminated most frequently. Analysis of the videos found that touching the gown front with bare hands was the most common doffing error. Fewer participants self-contaminated when using the Doffy glove without training than when using the standard exam glove. Although most participants in the glove trial indicated that they did not need to watch the Doffy glove training video again, most had difficulty doffing the Doffy glove with the beak method. Many participants stopped doffing to answer questions when they doffed the PPE ensemble during the interruption scenario. **Conclusions:** Self-contamination was very common with all PPE styles and during all scenarios. Distraction did not increase the risk of contamination. However, participants often stopped doffing to answer questions, which they rarely do in practice. Watching a video was inadequate training for the beak glove-doffing method. The Doffy glove, which decreased contamination compared with the standard glove in the untrained scenario, may have advantages over standard exam gloves and should be evaluated further.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.1020

Presentation Type:

Poster Presentation

Semiquantitative *Staphylococcus aureus* Nasal Colony Reduction in Elective Orthopedic Surgery Reduces Surgical Site Infection

Lisa Saidel, Soroka University Medical Center; Riki Yosipovich, Soroka University Medical Center; Ronit Nativ, Soroka University Medical Center; Orli Sagi, Soroka University Medical Center; Orly Shimoni, Soroka University Medical Center; Abraham Borer, Soroka University Medical Center

Background: Clean surgical procedures such as hip and knee replacement and spine surgery have a low infection complication rate; however, if infections occur, there is substantial morbidity and increased cost. *Staphylococcus aureus* causes 30% of surgical site infections (SSIs). *S. aureus* colonization increases the risk of developing SSI. Nasal povidone-iodine 5% application reduces the

S. aureus colonization burden. **Objective:** We aimed to reduce SSIs by applying nasal povidone-iodine 5% prior to hip and knee replacement and spine surgery. **Methods:** Adult patients hospitalized for elective hip replacement, knee replacement, or spine surgeries from February 2018 through August 2019 comprised the study cohort. All patients received preoperative guidance in the outpatient clinic. On admission, the evening before surgery, a nasal swab for *S. aureus* colonization was performed, followed by povidone-iodine 5% application in both nostrils and body chlorhexidine gluconate 4% bathing. Application of these substances was repeated in the morning before surgery. Within 24 hours after surgery, an additional nasal swab for *S. aureus* colonization was taken. A 90-day follow-up for SSI was done. Data were compared with a similar 2016–2017 cohort without the

Table 1.

Table 1: Pre- and post-surgery data of the present cohort

Semi-quantitative nasal culture results	Spine 24-h pre-surgery (N=101)	Spine 24-h post-surgery (N=101)	Hip and knee 24-h pre-surgery (N=85)	Hip and knee 24-h post-surgery (N=85)
Negative	84	94	65	74
MSSA scant growth	12	5	15	10
MSSA confluent growth	3	0	4	0
MRSA scant growth	1	2	1	1
MRSA confluent growth	1	0	0	0

preoperative measures. **Results:** In total, 186 patients were included: 85 underwent hip or knee replacement (age 69 ± 13.2 y, 66% men), and 101 spine surgery (age 55 ± 15.4 y, 52% men). At screening, 18.3% were colonized with methicillin-sensitive *S. aureus* and 1.6% colonized with methicillin-resistant *S. aureus*. Pre- and post-surgery data for the cohort appear in Table 1. The SSI rate per 100 patient days for hip and knee replacement and for spine surgery decreased from 0.29 and 4.0, respectively, in the 2016–2017 cohort to 0 and 0.99, respectively, in the present cohort. **Conclusions:** Nasal povidone-iodine 5% reduced the *S. aureus* colonization burden. The SSI rate in elective hip and knee replacement and spine surgery significantly decreased. We show that there is no need for *S. aureus* eradication presurgery; semiquantitative *S. aureus* nasal colony reduction should suffice in reducing SSIs. Further research is needed using quantitative measurements for *S. aureus* colonization.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.1021

Presentation Type:

Poster Presentation

Seroprevalence of Measles in Healthcare Workers in South Korea

Sun Kyung Kim, Office for Infection Control, Asan Medical Center; Jiwon Jung, Office for Infection Control, Asan Medical Center, Seoul, Korea; Sun Hee Kwak, Office for Infection Control, Asan Medical Center, Seoul, Korea; Min Jee Hong, Office for Infection Control, Asan Medical Center, Seoul, Korea; Eun Ok Kim, Office for Infection Control, Asan Medical Center, Seoul, Korea; Sung-Han Kim, Office for Infection Control, Asan Medical Center, Seoul, Korea

Background: Measles is a highly contagious disease that is transmissible by airborne particles but is preventable by vaccination. South Korea has maintained a highly immunized adult population; however, small local outbreaks of measles continued to occur, and there have been some reports of pockets of underimmunity among the young adult population. It is important to know the seroepidemiology of healthcare workers (HCWs) for policy-making process, but data on the seroprevalence of measles in HCWs in South Korea are limited. **Methods:** We investigated the seroprevalence of HCWs at Asan Medical Center, a 2,705-bed tertiary-care hospital in Seoul, South Korea, with 8,329 HCWs. In 2014, after an outbreak of measles occurred in a university in Seoul, Asan Medical

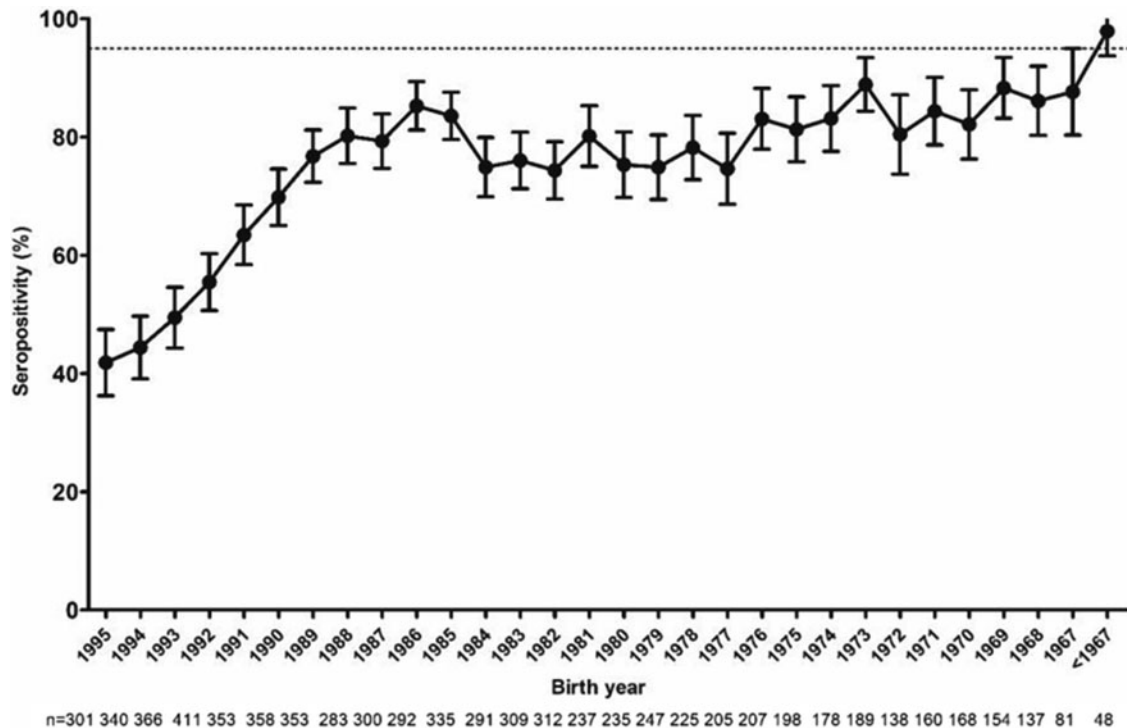


Fig. 1.

Center required measles IgG tests for all HCWs born in and after 1967 for point-prevalence surveillance. In addition, we have routinely performed measles antibody test for new HCWs since 2014. In 2018, antibody tests were administered to HCWs who were born before 1967 or who had taken a leave of absence in 2014. We provided MMR vaccination to all HCWs whose antibody tests yielded negative results. **Results:** In total, 7,411 HCWs (89%) underwent measles antibody tests from 2014 to 2018. The overall seropositivity was 73% (95% CI, 72%–74%); seroprevalence was 73% in HCWs born in of after 1967, whereas the seroprevalence in HCWs born before 1967 was 98%. The seroprevalence sharply decreased from 85% in the 1986 birth cohort to 42% in the 1995 birth cohort. **Conclusions:** In conclusion, the proportion of measles-susceptible individuals was substantially high in HCWs, especially in young adults. Because the impact of measles outbreak in healthcare facilities would be critical, a policy regarding routine serologic screening followed by measles vaccination or routine measles vaccination in healthcare facilities should be considered, especially for young Korean HCWs.

Funding: None

Disclosures: None

Doi:10.1017/ice.2020.1022

Presentation Type:

Poster Presentation

Seroprevalence of Mumps in Healthcare Workers in South Korea

Sun Kyung Kim, Office for Infection Control, Asan Medical Center; Jiwon Jung, Office for Infection Control, Asan Medical Center, Seoul, Korea; Sun Hee Kwak, Office for Infection Control, Asan Medical Center, Seoul, Korea; Min Jee Hong, Office for Infection Control, Asan Medical Center, Seoul, Korea; Eun Ok Kim, Office for Infection Control, Asan Medical Center,

Seoul, Korea; Sung-Han Kim, Office for Infection Control, Asan Medical Center, Seoul, Korea

Background: Mumps, a contagious disease, is transmissible by respiratory droplet particles and is preventable by vaccination. In South Korea, mandatory vaccination against mumps has markedly reduced its incidence. However, both the incidence and the number of reported cases of mumps have persistently increased in South Korea since 2007. Despite high vaccination rates, mumps outbreaks continue to occur, and many studies have been conducted on mumps seroprevalence in children and adolescents. In comparison, few reports have been published regarding mumps seroprevalence in healthcare workers (HCWs) in South Korea. **Objective:** We investigated the seroprevalence of HCWs in South Korea. **Methods:** This study was conducted at Asan Medical Center, a 2,705-bed tertiary-care hospital in Seoul, South Korea, with 8,329 HCWs. In 2018, we performed mumps antibody testing for HCWs. We administered MMR vaccination to all HCWs whose antibody test yielded equivocal or negative results. However, we did not repeat mumps antibody testing after MMR vaccination. **Results:** In total, 6,055 HCWs (73%) underwent mumps antibody testing. The overall mumps seropositivity rate was 87% (95% CI, 86%–87%). Seropositivity rates of all birth cohorts ranged from 72% to 92%. Mumps seropositivity rates were 88% in HCWs born before 1970, 87% in those born between 1970 and 1989, and 88% in those born between 1990 and 1995 ($P = .59$). Mumps seropositivity rates for both women and men HCWs were 87% (3,770 of 4,311 women and 1,517 of 1,744 men); the difference was not statistically significant ($P = .62$). The overall mumps seropositivity rate was 87%, which was above the herd immunity threshold of 75%–86%. **Conclusions:** Our results revealed that the overall mumps seropositivity rate in South Korean HCWs was above the herd immunity threshold. On the basis of this