Reported Blood and Body Fluid Exposures in Employees at a Level I Trauma Center
Bradley S Moffat, MD, Kenji Inaba, MD, FACS, Crystal Ives, Zenon Zuk, MD, Bernadino C Branco, MD, Galinos Bamparas, MD, Stuart P Swadron, MD, FRCPC(C), FACEP, Kelly N Vogt, MD, MS, FRCSC, Demetrios Demetriades, MD, PhD, FACS
Los Angeles County and University of Southern California, Los Angeles, CA

INTRODUCTION: Exposure to blood and body fluids among healthcare providers is a significant occupational hazard. The purpose of this study was to examine the risks associated with body fluid exposure at a high-volume, academic medical center.

METHODS: A retrospective review was conducted of all blood and body fluid exposures reported to occupational health at a large teaching hospital over a three year period. The exposure, location, source status, and exposure outcomes were evaluated over a 1-year follow-up period.

RESULTS: 900 exposures were reported during the study period. 27% of exposure sources were positive for at least one communicable disease (15% hepatitis C, 11% HIV, 6% syphilis, 2% hepatitis B). There were no documented seroconversions. Nurses and physicians were the most frequently exposed (39.2% and 40.0% respectively). Other persons exposed included surgical technicians (4%), custodians (2%), dental workers (2%), phlebotomists (1%), lab technicians (1%), and other (4%) (radiology technicians, secretaries, law enforcement, respiratory therapists). Nurses were more likely to have exposure on the ward (OR 5.5, 95% CI 3.7-8.1) and in the ICU (OR 2.6, 95% CI 1.7-4.0); while physicians were more likely to have exposure in the operating room (OR 5.8, 95% CI 3.9-8.7) and in procedural areas (OR 4.9, 95% CI 2.5-9.6). Exposure from a trauma patient was more likely than from a non-trauma patient (OR 3.9, 95% CI 1.8-8.2).

CONCLUSIONS: Physicians and nurses are commonly exposed to body fluids. The carrier rate of communicable disease among exposure sources is high. Despite numerous exposures, seroconversion rates remain low.

Line Operations Safety Audit: Pilot Study of Using Retired Physicians and Nurses to Administer an Aviation Safety Evaluation Tool to Measure Team Communication and Coordination in the Operating Room
Matthew Hall, BS, Irene D Castelino, RN, CNOR, James F Calland, MD, FACS
University of Virginia, Charlottesville, VA

INTRODUCTION: Surgical errors account for more than half of adverse events in hospitalized patients, a majority of which are preventable. Despite the use of surgical checklists in operating rooms globally, shortcomings in perioperative communication still contribute to substantial numbers of adverse events. Despite the proven utility of surgical safety checklists, many studies report poor checklist execution. The Line Operations Safety Audit (LOSA) is a tool used in aviation to evaluate cockpit communication. If applied to the operating room, LOSA may discern opportunities to evaluate and improve team communication.

METHODS: A LOSA-based direct-observation survey tool was developed to evaluate operating room communication practices at an academic quaternary care institution. We hypothesized that the LOSA model of scoring and feedback would improve operating room communication in the post-feedback period.

RESULTS: Seven observers (retired surgeons, anesthesiologists and nurses) were trained to score surgical procedures and tested for inter-rater reliability as they observed (8) surgeons in the Departments of General and Gynecological Surgery over a one-year period. Twenty-six baseline procedures were evaluated followed by individualized feedback for each surgeon and 11 post-feedback observations. The proportion of cases with highly-rated communication during the time-out phase of case improved from 57% at baseline to 88% in the post-intervention period (p=0.05) after scoring and feedback using the LOSA tool.

<table>
<thead>
<tr>
<th>Checklist item (related communication)</th>
<th>Baseline, % highly rated (n)</th>
<th>Intervention, % highly rated (n)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire risk assessment</td>
<td>23.1 (6)</td>
<td>63.6 (7)</td>
<td>0.09 (ns)</td>
</tr>
<tr>
<td>Implants/equipment</td>
<td>26.9 (7)</td>
<td>81.8 (9)</td>
<td>0.04</td>
</tr>
<tr>
<td>Critical steps/contingencies</td>
<td>42.3 (11)</td>
<td>90.9 (10)</td>
<td>0.02</td>
</tr>
<tr>
<td>EBL/blood products needed</td>
<td>57.7 (15)</td>
<td>100 (11)</td>
<td>0.02</td>
</tr>
<tr>
<td>Anesthesia concerns</td>
<td>19.2 (5)</td>
<td>72.7 (8)</td>
<td>0.08 (ns)</td>
</tr>
<tr>
<td>Beta blocker review</td>
<td>38.5 (10)</td>
<td>81.8 (9)</td>
<td>0.08 (ns)</td>
</tr>
</tbody>
</table>

CONCLUSIONS: An ongoing LOSA process with leadership and communication-related feedback may improve operating room communication after implementation of the surgical-safety checklist. Use of remote video with audio may eliminate the Hawthorne effect and lessen the time commitment of observers.

Musculoskeletal Strain in the Operating Room Personnel: A Single Institution Study
Farriba Jafari, BS, Mehraneh D Jafari, MD, Mark H Hanna, MD, Karla M Beltran, Nureen Borromeo-Manalo, Joseph C Carmichael, MD, FACS, Steven D Mills, MD, FACS, Michael J Stamos, MD, FACS, Alessio Pizgatti, MD, FACS
University of California, Irvine, Orange, CA

INTRODUCTION: Musculoskeletal injuries (MSKI) sustained in the workplace can have significant consequences on long-term health and career plans. We aimed to examine MSKI sustained by operating room (OR) personnel using a validated questionnaire.

METHODS: A survey based on the validated Standardized Nordic Questionnaire was conducted. The core-components were demographics, general, and six specific body-region questionnaires. Physician participants included surgeons and anesthesiologists; staff comprised of nurses, technicians, and service-personnel. Outcome