

# SENTINEL EVENT NEWSLETTER

DIVISION OF LICENSING AND REGULATORY SERVICES,  
MAINE DEPARTMENT OF HEALTH AND HUMAN SERVICES

ISSUE 6, SEPTEMBER, 2015

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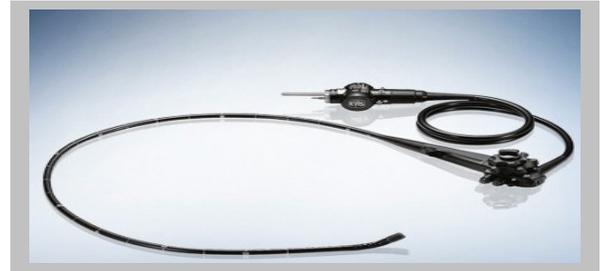
### CDC Health Advisory and the 'Post-Antibiotic Era'

On September 11, 2015, the Centers for Disease Control issued a Health Advisory, "Immediate Need for Healthcare Facilities to Review Procedures for Cleaning, Disinfecting and Sterilizing Reusable Medical Devices". This Health Advisory was issued in the wake of significant media attention related to potential infection exposure of patients due to lapses in basic cleaning, disinfection and sterilization of medical devices. (Health Advisory may be found at: <http://emergency.cdc.gov/han/han00382.asp>)

Earlier this year, there was an outbreak of Carbapenam-resistant Enterobacteria (CRE) at the UCLA Medical Center that resulted in patient harm and death. These infections were linked to duodenoscopes used during endoscopic retrograde cholangiopancreatogram ERCP. In the August issue of the *American Journal of Infection Control*, the official publication of the Association for Professionals in Infection Control and Epidemiology, it was reported that a recent study at the Mayo Clinic in Rochester, MN showed that potentially harmful bacteria can survive on endoscopes used to examine the interior of the digestive tract, despite a multi-step cleaning and disinfecting process. Even though these endoscopes were cleaned in accordance with multi-society guidelines, viable microbes and residual contamination remained on surfaces after each stage of cleaning.

Both the CDC and the World Health Organization (WHO) are warning that we may be entering into the 'post-antibiotic era', in which there is decreasing effectiveness of antibiotics and antimicrobial agents. In its 2014 report, "Antimicrobial Resistance, Global Report on Surveillance", WHO reported the following:

"The high proportions of resistance to 3<sup>rd</sup> generation cephalosporins reported for *E. coli* and *K. pneumoniae* means that treatment of severe infections likely to be caused by these bacteria in many settings must rely on carbapenems, the last resort to treat severe community and hospital acquired infections."



"Of great concern is the fact that *K. pneumoniae*, resistant also to carbapenems has been identified in most of the countries that provided data, with proportions of resistance up to 54% reported."

"For *E. coli*, the high reported resistance to fluoroquinolones means limitations to available oral treatment for conditions which are common in the community, such as urinary tract infections."

"High rates of MRSA imply that treatment for suspected or verified severe *S. aureus* infections, such as common skin and wound infections, must rely on second line drugs in many countries, and that standard prophylaxis with first-line drugs for orthopaedic and other surgical procedures will have limited effect in many settings."

"Reduced susceptibility to penicillin was detected in *S. pneumoniae* in all WHO regions, and exceeded 50% in some reports."

"Some reports of high resistance in non-typhoidal Salmonella are of great concern because resistant strains have been associated with worse patient outcomes."

"In *N. gonorrhoeae*, decreased susceptibility to third-generation cephalosporins, the treatment of last resort for gonorrhea, has been verified in 36 countries and is a growing problem."

(WHO report can be found at:

[http://apps.who.int/iris/bitstream/10665/112642/1/9789241564748\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112642/1/9789241564748_eng.pdf?ua=1) )

In light of these sobering statistics, we are strongly urging hospitals and ambulatory surgical centers to implement the CDC recommendations contained in this Health Advisory, and encourage all healthcare facilities to maintain a comprehensive infection prevention and infection control program.

## AMBULATORY SURGERY AND VTE

Ambulatory surgical centers (ASCs) face challenges and opportunities. Flattening reimbursement from third party payors and increasing operational costs are definitely a challenge. However, improved technology is allowing ASCs to provide more complex, and higher-reimbursed surgeries. For example, third party payors are reimbursing for total knee replacements and some total hip replacements in outpatient surgical settings. The American Academy of Orthopedic Surgeons' position statement states, "The AAOS believes that as procedural technology continues to evolve, ASCs will serve as sites for continued innovation in delivery of musculoskeletal care. Convenience, affordability, accessibility and patient satisfaction will continue to be valued by patients and payors in our evolving health system. The AAOS supports innovation that represents increased value delivered to our patients." In addition, some ASCs are contemplating increasing cardiology services, e.g. pacemakers and defibrillators, and even spine surgery.

As more complex cases are performed in ASCs, there is an increased risk of ASC patients developing venous thromboembolisms (VTE). Venous thromboembolism includes deep vein thrombosis (DVT), pulmonary embolism (PE) and post thrombotic syndrome (PTS). DVT is a medical condition that occurs when a blood clot forms in a deep vein. These clots usually develop in the lower leg, thigh, or pelvis, but they can also occur in the arm. The most serious complication of DVT happens when a part of the clot breaks off and travels through the bloodstream to the lungs, causing a blockage called PE. If the clot is small, and with appropriate treatment, people can recover from PE. However, there could be some damage to the lungs. If the clot is large, it can stop blood from reaching the lungs and is fatal.

Although a precise number is unknown, it is estimated that 900,000 people in the United States could be affected by DVT/PE annually. 60,000 – 100,000 people die of DVT/PE each year. 10-30% die within one month of being diagnosed with DVT/PE. Half of the people diagnosed with DVT/PE experience long term complications (PTS). One third will have a recurrence within 10 years. ("Venous thromboembolism: a public health concern", Beckman, et al, Am J Prev Med, April, 2010).

ASCs may face challenges in VTE assessment and prophylaxis. In 2013, Oregon's Patient Safety Reporting Program indicated that ASCs in Oregon were underestimating the number of potential VTE risk factors in their patients and were not sufficiently assessing the overall level of risk. The Oregon Patient Safety Commission convened the ASC DVT/VTE Prevention Workgroup. The Workgroup made observations of

## AMBULATORY SURGERY AND VTE (cont.)

challenges facing ASCs and made recommendations to address those challenges in a report, "Assessing VTE Risk in Ambulatory Surgical Centers". Challenges and recommendations from this report are as follows:

- ASCs face unique challenges in preventing VTE – ASCs find it challenging to adapt hospital-based guidelines since the criteria of the types of admissions varies and the skilled-level that patients receive pre and post operatively are different. ASC patients and their caregivers are in charge of their pre and post op care which makes the need for clear and effective information for lay people more important.
- ASCs may not be using validated VTE risk assessment tools or may be invalidating the tools by changing the included items. Currently available, validated VTE risk assessment tools are designed primarily for use in the hospital setting. Oregon ASCs were adapting these tools for use in the ASC setting, removing items that seemed irrelevant to their patient population. For example, ASCs might remove factors from a risk assessment tool that were typically identified in their pre-operative assessment process and which precluded the patient from having surgery at the ASC (e.g., spinal cord injury resulting in paralysis). ASCs might also have attempted to reduce a list of risk factors to what the practicing surgeons deemed the most essential in an attempt to make the tool quicker to administer. Consequently, adaptations that removed items used in the calculation of a risk score invalidated the tool. In addition to adapting a validated VTE risk assessment tool by removing items, Oregon ASCs were adding items they consider to be potentially significant risk factors.
- Risk scores may be significantly impacted by factors such as length of surgery and method or type of surgery. Scores are often used to determine the kind of prophylaxis the patient will receive postoperatively.
- Oregon ASCs struggled to obtain information from the patient and/or provider once they left the ASC. Many times, patients returned to their surgeon's office or primary care physician instead of the ASC for care after surgery. If a patient was diagnosed with VTE after the standard 30-day follow-up period or without the knowledge of the surgeon, information about the adverse event might not have been reported back to the ASC.
- Although patients over 60 years old and those having elective hip or knee joint replacement surgery are at greater risk for VTE, VTE is not isolated to these types of surgeries or patients. Of the 52 reports of VTE submitted to the Oregon Patient Safety Commission by ASCs between 2007 and April 2014, 19% were upper extremity procedures and 90% occurred in patients under 65 years of age. In fact, 33% occurred in patients younger than 40.

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## AMBULATORY SURGERY AND VTE (cont.)

The ASC DVT/VTE Workgroup recommendations:

- Implementing a validated risk assessment tool as part of the standard practice for every patient seen reduces dangerous variability between providers and increases the likelihood that high risk patients in ASCs will get the post-operative prophylaxis they need. It was recommended that ASCs use the most recent Caprini Risk Assessment, which can be found online at <http://venousdisease.com>. This tool covers the best range of risk factors, is regularly updated, widely used, freely available, and easy to administer. ASCs that assess patients for risk factors not included in the Caprini Risk Assessment (e.g., tourniquet time, changes in post-operative mobility) can continue assessing for those factors but should exclude them from the risk score as inclusion invalidates the tool.
- ASCs should look for any changes such as length of surgery and type of procedure that impact the patient's risk assessment score. This process is particularly critical if the assessment tool is tied to the type of prophylaxis that will be ordered for the patient post-discharge.
- Providers and staff must ensure that patients understand what VTE is, what their individual VTE risk factors are, and how following their pre-operative and discharge instructions will help prevent VTE.
- ASCs should have patients complete the patient-oriented Caprini Risk Assessment (available at website listed above) prior to their visit and go over the tool with them in the pre-surgical consultation. Doing so will give the patient a chance to look up any terms with which they are unfamiliar and the scoring system will help emphasize which factors carry the highest level of VTE risk.
- The Workgroup also recommended reporting VTEs to the state's patient safety reporting system. ("Assessing VTE Risk in Ambulatory Surgical Centers" is available at [http://oregonpatientsafety.org/docs/reports/Assessing\\_VTE\\_Risk\\_in\\_ASCs\\_2014.pdf](http://oregonpatientsafety.org/docs/reports/Assessing_VTE_Risk_in_ASCs_2014.pdf))

## THE IMPORTANCE OF SAFETY CULTURE IN ESRDs

The Agency for Healthcare Quality and Research (AHRQ) has created an ESRD Toolkit. The Toolkit was created to help end stage renal disease facilities (ESRDs) in preventing healthcare-associated infections in dialysis patients. The Toolkit consists of four modules that a facilitator can teach dialysis team-members specific ways to create a culture of safety. The modules can be modified to address individual dialysis center training needs.

## THE IMPORTANCE OF SAFETY CULTURE IN ESRDS (CONT.)

The four modules in the Toolkit are: creating a culture of safety, clinical care, using checklists and audit tools and patient & family engagement. Each module contains Powerpoint slides, facilitator notes, video vignettes and tools. This is available without cost and can be accessed on the AHRQ website (<http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/esrd/index.html>)

The 'creating a culture of safety' module includes an outline of the elements of a comprehensive, unit-based approach to safety (CUSP), and its impact on patient care. It is 'comprehensive' because it takes into account all factors contributing to defects and harm; and it is unit-based because it views harm prevention as a team-based effort, including the patient and his/her family as partners in care. The key elements of CUSP and a brief description are listed below.

- 1) Understanding the science of safety – this recognizes that every system is perfectly designed to achieve the end result it produces; that safe design principles must be applied to technical/clinical work and teamwork; and teams make wise decisions when there is diverse and independent input.
- 2) Assembling the team – this includes understanding the importance of the improvement team; developing a strategy to build a successful team; identifying the characteristics of effective teams and barriers to team performance; and identifying roles and responsibilities of team members.
- 3) Engaging senior leadership – this ensures that the team's efforts have leadership buy-in; that the organization supports the team's work; and that the team will have adequate resources to complete necessary tasks.
- 4) Implementing teamwork and communication - effective communication plays an integral role in the delivery of high quality, patient-centered care; barriers to efficient teamwork and communication influence the outcomes of the team; research supports the connection between communication and patient care delivery; and easy to use tools and strategies can be implemented to improve the effectiveness of teamwork and communication.
- 5) Learning from defects - defects are system errors or processes that inhibit meeting quality improvement goals. For ESRDs, this would be anything that increases patient risk for vascular access infections, such as inappropriate hand hygiene or unwillingness of staff members to assist others.

For details, please access the Toolkit on the AHRQ website noted above.

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## UPDATES FROM THE SENTINEL EVENT TEAM

Upcoming Events – Joe Katchick and Sarah Taylor will be representing the Sentinel Event Team (SET) at the upcoming 6<sup>th</sup> annual Patient Safety Academy to be held September 23, 2015 at the University of Southern Maine, Abromson Center on the Portland campus. Joe and Sarah will present the breakout session, “Dead Tired – the Impact of Fatigue on Patient Safety”. Keynote speaker will be Dr. J. Bryan Sexton, Director of the Duke University Patient Safety Center. Dr. Sexton’s presentation will be: “Thriving and Surviving During Times of Change: The Science of Enhancing Resilience.”

The SET will also be presenting at the September 25 Perinatal Leadership Coalition of Maine meeting. The SET will discuss the SE program and share aggregated data related to perinatal morbidity and mortality.

Audits – the SET wishes to thank Dorothea Dix Psychiatric Center, and particularly Superintendent Sharon Sprague and Carolyn Dimek for being the ‘test case’ for the SE audit process. The leadership and staff members we encountered during the audit were very helpful, positive and informed.

## SENTINEL EVENT TEAM

Joseph Katchick, R.N.  
Sentinel Event Team Manager  
Jennene Murphy, R.N.  
Health Services Consultant



Department of Health  
and Human Services

*Maine People Living  
Safe, Healthy and Productive Lives*

*Paul R. LePage, Governor    Mary C. Mayhew, Commissioner*