Endoscopes and the environment are ripe for improvements in reducing infections

Using an old Western theme, Dr. William Rutala, PhD, MS, MPH, CIC, University of North Carolina Health Care System, set a bold goal for the future: to prevent all infections associated with instruments and the environment within five years.

Dr. Rutala termed it "our responsibility to the future." He framed his Sunday morning keynote lecture in terms of the old Western, *The Good, the Bad, and the Ugly*—and there was plenty of all three.

In the "good" section, Dr. Rutala addressed forthcoming guidelines on endoscopes. "We must educate and comply with those guidelines. But I am absolutely confident with every ounce of my being that if we only do that, we will continue to have outbreaks with endoscopy."

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>
> ***– William Rutala, PhD, MS, MPH, CIC***

He cited a study published in the *Journal of the American Medical Association* which recommended a switch from disinfection to sterilization for endoscopes. A Food and Drug Administration (FDA) panel agreed. "But we don't have an FDA-cleared sterilization technology. It's going to become available and we need to guide ourselves to these changes quickly," Dr. Rutala said.

Reducing infections also will require using technology and automation to overcome human error. Endoscope reprocessing requires 12 essential steps. One study found that all 12 steps were performed appropriately 1.4 percent of the time.

Also in the "good" category is the push to eliminate the environment as a cause for infectious disease transmission. Technologies are showing improvements, ranging from UV and hydrogen peroxide mists. "This technology should be used for terminal room disinfection after discharge of patients on contact precautions," Dr. Rutala said. "If you don't have these systems, you should have them in your capital budget."

As new technologies are developed, Dr. Rutala suggested that infection preventionists (IPs) make decisions based on peer-reviewed literature.

He also pointed to visible light disinfection, which has shown an 80 percent reduction in pathogens, but hasn't yet been proven to reduce healthcare-associated infections. "The advantages of this technology can be accomplished 24/7 as long as the lights are on. The patients and staff do not have to leave the room."

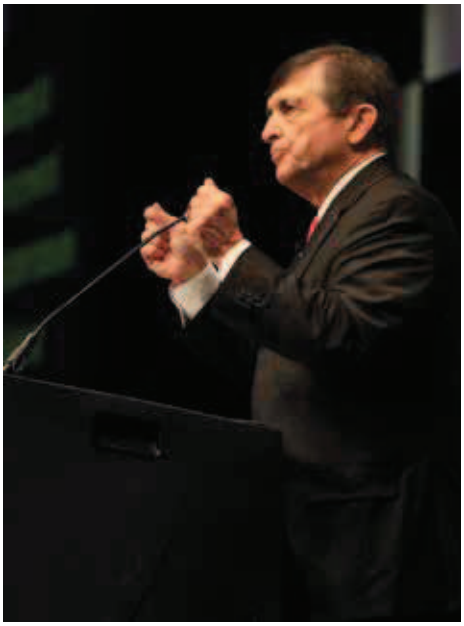
In terms of "the bad," noncompliance tops the list. "Sometimes there are equipment failures and sometimes system failures," Dr. Rutala said. "We know in our hospital and in every hospital in the country, there are human errors."

He recommended auditing adherence to steps and providing feedback. "The Joint Commission surveyors will likely check on several high-visibility items. They will check on how you are reprocessing your semi-critical and critical items."

At the University of North Carolina health system, high-level disinfection certification classes are required. Attendees learn to perform disinfection, including the time, temperature, and concentration required. They also learn about Occupational Health and Safety Administration (OSHA) requirements on chemical exposures. Employees must demonstrate appropriate competencies upon hire and annually.

"Surveyors will be looking for demonstration, observation, and documentation. That competency form has to be available and stored in the employees' records," Dr. Rutala said.

That may be "bad," but the *human papilloma virus* lands in the "ugly" category. "We don't yet know what kills HPV," Dr. Rutala said. "We know medical devices can be contaminated, and inadequate reprocessing could contaminate the next patient. There are currently no FDA-cleared high-level disinfectants that are cleared against HPV."



Dr. William Rutala spoke during Sunday's plenary session.

A study is expected to begin in July to explore germicides that can kill HPV.

The other "ugly" is the technology hazard associated with endoscopes. "I don't believe we are ever going to eliminate the microbial contamination of an endoscope in the absence of sterilization," Dr. Rutala said. "We have to transition to sterilization. That is the only way that we'll eliminate the outbreaks associated with scopes. We can't do that today because we don't have the technology."

Currently, there is no gastrointestinal endoscope on the market that can be steam sterilized, Dr. Rutala said. "We have a bronchial scope that can be steam sterilized. Why don't we have a gastro scope that can be?"

Dr. Rutala again pointed to the goal of eliminating infections from environment and endoscopes. "We have set our goal. We have made a plan and we have our purpose. We have to make this happen for our generation, for our children's generation, and our children's children's generation."