

## ROBINSON MEMORIAL HOSPITAL: ADDING UV DISINFECTION TO ENHANCE ENVIRONMENTAL CLEANING

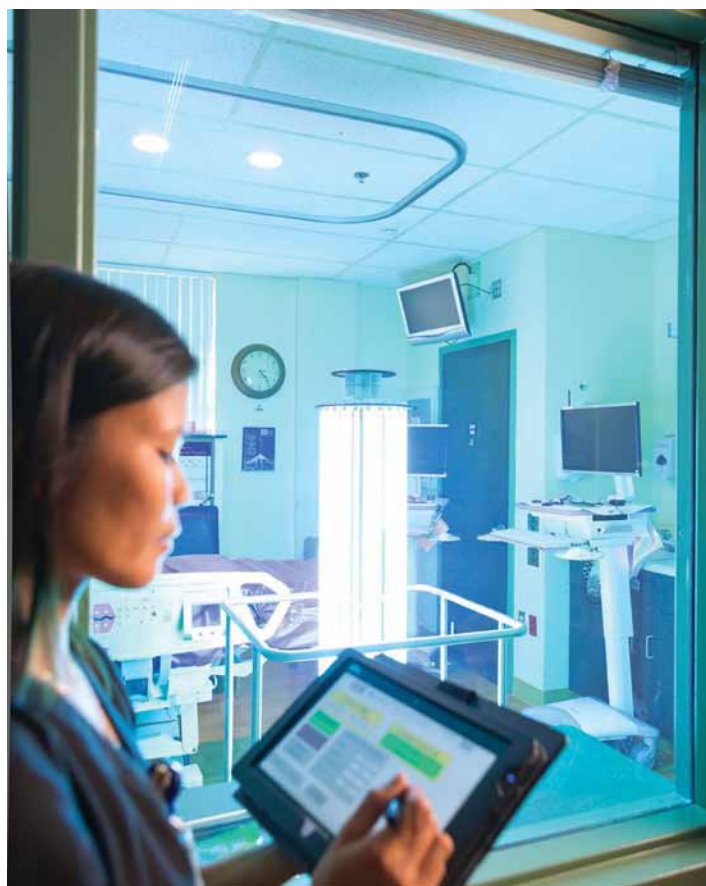
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**R**obinson Memorial Hospital, an affiliate of SUMMA Health System, sits in Portage County Ohio, a rural community surrounded by numerous north-east Ohio urban centers. The landscape surrounding the facility includes bucolic farms and ranches, industrial facilities and institutions of higher learning. But don't let this description fool you – this 117-bed community hospital is a two-time Magnet designated facility for nursing excellence and a fierce advocate for its patients.

Robinson Memorial offers cancer care, cardiovascular services, emergency services, imaging services, pain medicine, respiratory care, rehabilitation and sports health services, surgical services and wound care, among other patient-centered services. In 2012, the facility completed 8,182 inpatient visits, 12,648 surgeries and endoscopies, and 38,233 emergency visits.

Like many U.S. hospitals in today's healthcare environment, our staff members are focused on the quality of the care they deliver. They are guided by numerous industry standard-setting bodies and by state and federal legislative mandates. The hospital's staff seeks to meet or exceed the guidelines and standards set by regulating bodies such as CMS, OSHA, CDC, the Joint Commission, and professional organizations such as AAMI and AHE. We also provide data for Ohio House Bill 197 and participate in the CAHPS® Hospital Survey.

Being a smaller facility has its advantages. Robinson Memorial's close-knit family of professionals collaborates easily. In addition, our simpler organizational structure allows us to be more nimble when changes are needed. Robinson Memorial Hospital is a forward-thinking organization that is always seeking better solutions and then making them happen.



The PATHOGON System has been shown in simulated use testing to significantly reduce vegetative bacteria (MRSA, VRE and *A. baumannii*) and bacterial spores, including *C. difficile*, from environmental surfaces in as little as 4 to 25 minutes, depending on the room size.

### INFECTION PREVENTION INITIATIVES: ADDING UV DISINFECTION TO OUR PROTOCOLS

As the professionals most directly focused on reducing hospital-acquired infections (HAIs), the infection preventionist/department (IP) and environmental services (ES) team stay closely connected and collaborate frequently. We are always seeking practical and effective ways to improve our methods and numbers.

Our cleaning protocols have consistently evolved over the past eight years. First, we implemented microfiber textiles for cleaning, which has been very successful. Then, we

evaluated our cleaning chemicals and made the necessary changes. We also standardized cleaning throughout the facility using pictures of each piece of equipment in a specific area. For example, in the surgical department a picture was taken of each piece of equipment in an operating room, and the responsibility for cleaning that piece of equipment was assigned to either the anesthesia tech, operating room (OR) tech, a nurse or ES staff. The information was placed in each housekeeping closet as a paper copy, and was also loaded on the hospital intranet, where it is accessible to all clinical areas. We began testing environ-

mental surfaces with adenosine triphosphate (ATP), one of the methods recommended by the CDC to validate cleaning practices in the healthcare setting. As a result of our ATP testing, we adjusted the process for cleaning one of our surfaces (foot board on the beds) and used the tool as a training method for the staff. In addition, we have put into place a four-part training series suggested by the Association for the Healthcare Environment (AHE), to train our ES staff.

In support of optimal hand hygiene, we installed hands-free soap and alcohol handrub dispensers throughout the facility. We placed alcohol handrub approximately every 10 feet in the clinical setting to make it highly visible and easy to access. We also converted rarely used drinking fountains to hand hygiene stations so that anyone would have easy access to hand hygiene resources outside of a patient room. To further enhance compliance, we post signs and computer screen messages to remind everyone to clean their hands.

When we were given an opportunity to trial a new system that could augment what we are already doing to reduce the risk of HAIs, we were very interested. The ES team, IP, patient care services and the microbiology lab worked together on this effort. Trialing the PATHOGON™ UV Disinfection System (STERIS Corporation) confirmed our suspicion that, as good as the ES staff is with cleaning, there were some surfaces that presented challenges in getting acceptably clean 100 percent of the time (for instance, the privacy curtain in our semiprivate rooms and some other high touch surfaces).

## NEW TOOL IN THE ARSENAL

As a result of the trial, the Robinson ES department purchased a PATHOGON unit and proceeded to integrate it into our protocol. The ES staff loves the unit. They understand the 'chain of infection' and acknowledge their role in breaking a link in that chain. Anything that can assist with that is what the staff wants. The ES team cleans the discharged patient room as if their loved one will be the next patient in the room. They want to provide the very best for our patients.

### Easy to use, easy to train users

Approximately 15 ES staff members, ranging in age from 18 to 72 years of age, are currently trained on the use of the unit. The touch screen and the intuitive

way the controller works makes training very easy. The training takes approximately an hour, and once a trainee has run about four cycles, he or she is able to use the unit independently.

### Does not hamper patient throughput

We have not experienced a problem with patient throughput. We begin each day knowing the number of active organisms in-house, so we can determine how many cycles we may need to run that day. We also participate in a throughput meeting with representatives from various departments such as inpatient units, physicians, cardiology, rehab, the emergency department and others. This lets us know the number of anticipated discharges and or/admissions. We adjust our staffing as needed, and typically, once the room has been terminally cleaned, the unit is immediately deployed to finish the job. There has never been a report of the unit slowing down an admission.

### Numerous areas, surfaces disinfected

The system is being used throughout the facility. We run about 10 cycles per day. Initially, we committed to using the unit in each patient room at least once, then as needed after that. We have also used it throughout the Emergency Department, Surgery Department, Radiology, Endoscopy, Pre-op, Post-op, Pre-admission testing, Wound Center, Long-Term Acute Care unit and other outpatient areas. We have also operated the unit in office suites if needed.

Not only are ES and IP happy with having the PATHOGON system; the Patient Care Services (PCS) staff appreciates the benefits as well. When staff know a room is about to be disinfected, they stage the room with equipment from workstations-on-wheels, stethoscopes, and portable or cellular phones, so there is maximum disinfection of area surfaces each time the unit is deployed.

## RESULTS TO DATE

We started using the PATHOGON system early in March 2013; in April we had zero MDRO and device related HAI; and in June we had the same results. We do not anticipate that by using the PATHOGON Disinfection System we will eliminate all HAI, or that it will be the sole weapon in our HAI prevention armamentarium; but we do expect to see this technology help to decrease the overall number of opportunities for HAI transmission. We will look for downward trending of HAIs as we move forward.

There has also been an organizational benefit to implementing the PATHOGON protocol. Various clinical departments were requesting that the PATHOGON System be brought to departmental staff meetings to introduce the technology to the front-line staff. The staff asked excellent questions, and everyone walked away with a better appreciation for what each of us does on a day-to-day basis to serve our patients.

## QUALITY BUILDS CONFIDENCE

Our goal at Robinson Memorial Hospital is to provide the best environment we can for our patients and staff. The PATHOGON UV Disinfection System is one more weapon in our infection-fighting arsenal. By adding this effective technology to the protocol we have also enhanced the quality of our environmental cleaning services and expect to see declining HAI rates. This should increase the level of confidence that visitors, patients and staff can have in the safety of our spaces and surfaces.

*Jeanne Fisher is the environmental services director at Robinson Memorial Hospital. She is responsible for the day-to-day operation of the Environmental Services Department. She serves on the hospital's Infection Control Committee, Joint Commission Readiness Committee, Environment of Care Committee and the Ethics Committee, and on various taskforces throughout the hospital. Fisher is also a member of the Association for the Healthcare Environment (AHE) and the Ohio Association for the Healthcare Environment (OAHE).*

*Joan Seidel, RN, BSN, MA, CIC is Robinson Memorial Hospital's infection preventionist. Her responsibilities include all infection prevention and control concerns for both inpatient and ambulatory care areas. In addition to coordinating the Infection Prevention and Control Committee, she also participates in Patient Safety, Patient Care Services and Quality, Joint Commission Readiness, Emergency Management, and the Ethics committees, among others. She is a member of the Association of Professionals in Infection Control and the local Northeast Ohio APIC chapter.*

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