Fighting Infection

Ansha survived a debilitating infection and dedicated herself to educating the many around her who face similar risk.

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Protecting Yourself During a Hospital Stay

Here’s what infection-prevention teams do to ensure hospital safety — and you can, as well.

Prolonged stays in hospitals and other health care facilities can be overwhelming for patients — and they can also be dangerous. In 2011 alone, an estimated 722,000 people contracted health care-associated infections, or HAIs. And 75,000 died from them during their hospitalizations.

Methods of prevention
But patients and their families can take an active role in collaborating with their health care providers to prevent bad outcomes. Infection-prevention teams, often led by health care epidemiologists, work to develop specific approaches to prevent HAIs and work directly with health care staff to implement methods to prevent HAIs. These medical leaders also respond to disease outbreaks, such as measles and other viruses, to stop their spread.

Research has shown that, through targeted efforts, health care facilities can make substantial reductions in HAIs. One key to fighting infections is using evidence-based guidelines, grounded in strong research, to guide clinical practice. This is part of an ongoing process that engages every staff member at a hospital to work towards a common goal to make patient care as safe as possible and improve patient outcomes.

Responsible antibiotics
Antibiotic resistance presents a growing threat. Roughly half of all hospital patients receive an antibiotic during their stay, and antibiotic resistance allows these bacteria to kill an estimated 23,000 people annually in the United States alone.

Improving the use of antibiotics across health care settings to ensure that all patients who need antibiotics receive the optimal agents for the right amount of time is critical to reduce threat of resistance and improve the safety of patients receiving antibiotics. Antibiotic stewardship programs, led by physicians and pharmacists, closely monitor antibiotic use and provide advice and education to prescribers about antibiotic decisions.

Unnecessary or incorrect prescribing of antibiotics puts patients at risk for preventable allergic reactions, recurrent infection and deadly diarrhea. Not to mention, inappropriate use also means that antibiotics will be less likely to work in the future.

Doing your part
Patients and their families can start with a simple but crucial strategy: vigorously cleaning their hands often, with soap and water or alcohol-based hand rubs, especially before touching any medical devices and after using the bathroom.

Have all vaccinations up-to-date to avoid complications. Patients and their families should ask about the signs and symptoms of infection to ensure that they remain vigilant and make sure they clearly understand how to use the medicines they are prescribed, particularly antibiotics. It is also important to ask visitors to follow any special instructions from doctors or nurses because their guidance serves to protect everyone. Being a more educated patient plays a vital role in helping your health care team provide safer, more effective care.

Sara Cosgrove, M.D.
M.S., Associate Professor, Medicine, Johns Hopkins University

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Why Clean Hands Are Still the Core of Fighting Hospital Infections

By Dash Lunde

Antibiotic resistance has become a public health crisis, and as the tools at a doctor’s disposal have grown, so have the chances for infection. “Hand hygiene needs to be at the forefront of infection prevention,” says Connie Steed, Director of Infection Prevention for Greenville Health System in South Carolina. Health care worker hands are touching a larger number of surfaces that can be contaminated, increasing the risk of spreading infection.

Having accountability Steed, also a registered nurse, asserts the importance of collaboration among staff. “When you see someone caring for a patient and there’s something they’ve forgotten to do, you need to remind them in a caring and professional way.” Equally important is making sure patients are aware of infection risks and feel empowered to speak up. “We have a sign in every room that says it’s okay to ask health care workers to clean their hands,” says Steed. She also encourages staff to start the conversation with patients, citing the importance of a human connection.

New advances Some health care providers are combining new technology with the core elements of sterile technique to reduce hospital-acquired infections (HAIs). One company, DebMed, which also provides specially formulated soaps and sanitizers, has developed an electronic hand hygiene compliance system that provides continuous, reliable monitoring. This system engages staff throughout the World Health Organization’s Five Moments for Hand Hygiene: before touching a patient or performing aseptic procedures, and after body fluid exposure, touching a patient or touching patient surroundings.

In a study published in AJIC 2016, Greenville Memorial Hospital was able, by using this system, to reduce HAIs by 42 percent, increase compliance by 25 percent and have cost savings of $434,000.

But this can’t happen without training and communication among staff and patients. “Part of a culture of safety is looking out for each other,” says Steed.

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Making More Out of Your Infection Prevention Program

Infection preventionists are working toward a vision of health care without infection. Here's how leadership can effectively leverage these specialists to make their facility as safe as possible.

No one should have to worry about getting an infection because of their medical care. Yet the CDC estimates 1 in 25 hospitalized patients develop a healthcare-associated infection.

Root of the issue
These infections are often related to the presence of invasive devices, such as catheters or to surgical procedures where microorganisms (germs) can enter the body, leading to infection.

Health care-associated infections claim the lives of 75,000 Americans each year — twice the amount of people who die from car accidents or breast cancer. In addition to the human cost, health care-associated infections add billions in excess treatment costs to the nation’s health care bill. Hospitals with the highest rates of infections also face financial penalties from the Centers for Medicare & Medicaid Services.

Prevention 101
Most of these infections are preventable by following good infection prevention practices, such as proper hand washing, sterile techniques and cleaning and disinfection of medical equipment and high-touch surfaces in the patients’ hospital room. Research shows that when health care facilities are aware of infection problems and take specific steps to prevent them, infection rates can be decreased by as much as 70 percent.

Infection preventionists are experts working in hospitals and other care settings to protect patients and health care workers from deadly infections. They develop and monitor infection prevention processes and procedures, educate staff and promote the application of evidence-based practices that prevent transmission of infection consistently across the institution.

Positive results
Over the past decade, infection prevention teams, led by infection preventionists at hospitals across the country, have made progress in reducing health care-associated infections. Bloodstream infections from central line catheters have dropped by more than 50 percent. Rates for certain surgical site infections have also dipped dramatically.

But there is more work to do. Even one health care-associated infection is too many. Most infections in health care facilities can be prevented, and many more lives can be saved. Elimination of

Rapid Response Is Key to Preventing the Next Epidemic

By Jeffrey Somers

In today’s world, the biggest threat is the myth that we are in the “post-infectious era,” fueled by a lack of information concerning viral threats.

In terms of global threats, infectious diseases have a low profile despite outbreaks of viruses such as Ebola or Zika. Many believe such epidemics are behind us.

A rash of outbreaks in West Africa and South America, however, should serve as warnings that global cooperation, surveillance, and technological development are key to avoiding a catastrophic event.

Putting out fires
“We’ve been putting out fires instead of preventing them,” notes Leslie Lobel, M.D., Ph.D., Senior Medical Advisor to ClinicalRM, a full-service contract research organization specializing in rapid response for infectious disease outbreaks and pre-clinical through Phase IV support of clinical trial services for biologics, drugs, and devices. “When a pathogen emerges we can’t develop vaccines and therapeutics quickly enough, and quarantines lead to issues of security and economic hardship.”

Global monitoring of infectious disease ecosystems, modeled on procedures of intelligence services, is essential. “There was a call to arms after the Ebola outbreak,” Dr. John Dye, Chief of Viral Immunology at the U.S. Army Medical Research Institute of Infectious Diseases says. “The WHO put out a solicitation for a program for emerging infectious diseases that has gotten a strong response.” Additionally, portable sequencers could identify pathogens quickly, although local infrastructure limitations might limit their effectiveness.

A lack of biopharma profit motive is also a roadblock. “These steps require relatively small investment,” Dr. Lobel points out, “while events such as the 2012 Ebola Outbreak in Africa cost billions.” Governments can play a role in encouraging and investing in surveillance and scalable vaccine and therapeutic solutions.

“We have forgotten about the threat of viral disease,” Dr. Lobel says. “But viruses never sleep.”
Health care-associated infections claim the lives of 75,000 Americans each year — twice the amount of people who die from car accidents or breast cancer.

Preventable infections require the commitment of every member of the health care team, including the C-suite.

Leaders set the tone by making infection prevention and control an organizational priority. They harness the unique skillset of infection preventionists to steer quality improvement initiatives. And they support their infection prevention departments with enough staff, training and resources to run effective facility-wide programs.

Health care leaders need to leverage the value of these specially-trained professionals who possess the scientific and clinical knowledge, combined with social skills, to engage frontline providers to bring the best available evidence-based practice to the patient. The infection preventionist has the 30,000-foot view of the health care facility’s infection prevention efforts and performance. Health care leaders should include the infection prevention program as a visible and integral part of the facility’s leadership structure to promote a strong culture of accountability and patient safety.

By Linda Greene, RN, MPS, President, APIC

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**Urgent AMR Crisis Demands Global Solution**

*Susan Sharp, ASM President*

A global strategy to combat antimicrobial resistance (AMR) is urgently needed to minimize its societal and public health impacts.

As President of The American Society for Microbiology (ASM), I had the honor of representing its 50,000 members working in 122 countries to advance microbial sciences at the 2016 United Nations General Assembly, focused on antimicrobial resistance. It was an unforgettable experience. I witnessed heads of state address the gravity and causes of AMR and draft a resolution promising collaborative, cross-cutting approaches aimed at improving the current state of AMR. Concerns ranged from the basic needs of clean water and sanitation, and access to effective antibiotics in lower income nations, to overutilization and misutilization of antibiotics in developed countries. It is clear that AMR is both a health and an environmental problem that requires a holistic, “one health” approach; if we want to be successful, we need to realize that we are all part of the same ecosystem.

Now is the time to act with awareness campaigns to educate the public on the need for more rapid and accurate diagnostics with individualized medicine applications, and the development of new antimicrobials. Over the years, ASM has urged Congress to increase funding for antimicrobial resistance programs, and last summer ASM’s *Cultures* magazine issue explored how antibiotic use in agriculture drives antimicrobial resistance.

**ASM has established a multi-stakeholder initiative convening key experts to share and analyze the current status of AMR with a focus on resistance in organisms causing acute bacterial infections, and identify relevant needs and opportunities for addressing AMR.**

There is an urgent need to improve laboratory capacity in developing countries, to strengthen global health infrastructures to better determine the actual burden of AMR in these countries, and to establish a global surveillance system to inform realistic, defensive action plans that also evaluate the impact of intervention measures. **ASM with its global programs has been on the front line because joining together across borders will be the only way to truly solve this crisis.**
Concluding America’s Legacy of Malaria Prevention

U.S. leadership in the fight to end malaria is the epitome of American greatness, and has put us on the path to eliminating the disease in our lifetimes.

Our long tradition of investing in humanitarian assistance and foreign aid represents the best in American exceptionalism. American foreign policy has long depended on the generosity of our citizens to help those in need around the world, supplying food aid, supporting global health programs and providing emergency assistance in response to natural disasters. Bipartisan support across multiple administrations in the fight to end malaria is the epitome of American greatness.

Malaria today
Since 2000, U.S. efforts to combat malaria have helped save more than 6 million lives, mostly in Africa, and contributed to the reduction of global mortality rates by more than 62 percent.

Malaria has ravaged populations across the globe for millennia, and is often referred to as the world’s oldest, deadliest disease. Even today, the mosquito is the deadliest animal on earth. In 2015 alone, 214 million people were infected with malaria and 429,000 died from the disease. It is most lethal in Africa, where 90 percent of malaria deaths occur, and is one of the top killers of children under five years old.

Malaria also takes a significant toll on the African economy; it is the leading cause of missed days of school and work on the continent, translating to billions in lost economic productivity.

In 2015 alone, 214 million people were infected with malaria and 429,000 died from the disease.

Beginning prevention
Our fight against malaria began at home, in 1914, when Congress appropriated funding to help control the disease in malaria-endemic states. The main objective at the time was to reduce the burden of malaria among soldiers training in malaria-endemic states, and civilians living there.

In 1933, 30 percent of Tennessee River valley residents were at risk of contracting and dying from the disease. This fight eventually gave birth to the Center for Disease Control and Prevention in 1946, which was created under President Harry S. Truman to focus on ridding the country of malaria.

We eliminated the disease in 1951, at a time when the United States was also making essential and substantial financial commitments at home and abroad. For example, we passed the G.I. Bill for veterans returning home from war in 1944. In 1948, we began implementing the Marshall Plan to rebuild war-ravaged Europe. And in the early 1950s, President Eisenhower began advocating for the Interstate Highway System, which rapidly expanded our infrastructure. Our political leaders rejected the false choice between advancing our interests at home and abroad.

Fighting malaria globally
Today, we are the world’s leader in the fight to end malaria globally. In 2005, President George W. Bush created the President’s Malaria Initiative (PMI) with an aspirational, seemingly unattainable goal: reduce malaria deaths by 50 percent to 70 percent in 15 countries in five years.

Thanks to sustained bipartisan support from Congress and the leadership of both Presidents Bush and Obama, U.S. funding to combat malaria — both through PMI and the Global Fund to Fight AIDS, TB and Malaria — has helped drastically reduce malaria mortality rates. This assistance not only advances our moral leadership and saves lives, but also promotes our strategic, economic and security interests. The choice is not binary; we can both do good in the world, and do good by our country.

Yet it is often America’s most experienced military leaders who best understand that diplomacy and foreign assistance are essential to promoting stability, prosperity and peace. Our foreign policy is most effective when rooted in the principles of smart power, the three mutually reinforcing pillars of diplomacy, defense and development.

In order to improve the lives of Americans at home, we must continue to advance our interests abroad. We must follow the courage and wisdom of past presidents and invest in smart, effective policies that also reflect the best of our humanitarian traditions and spirit. Keeping the world on the path to eliminating malaria in our lifetimes is one of the many exceptional American missions we must complete.

By Joshua Blumenfeld, Managing Director, Global Policy and Advocacy, Malaria No More
Before malaria or other vector-borne diseases spread, Esri provides advanced mapping and analytics to find hot spots, support cost-effective resources, and shape policy and intervention. From real-time field operations during outbreaks to predictive modeling of patterns and trends, public health organizations choose Esri to make the maps that run the world. See how at go.esri.com/vector-borne-disease.
Stressing Global Awareness Improves Prevention of Infectious Diseases

By Jeff Somers

Ansha, a 28-year-old mother of two with a third on the way, retraces her experience with a harrowing eye infection—a shockingly common story in northern Ethiopia.

Several years ago, Ansha started to experience pain in her eyes. Locals call it “Eyemaze” (itching eye) or “Manskel” (removing of the eye lashes), since that is seemingly the only reprieve from pain. Villagers don’t know this disease already carries a medically-recognized name, that it is highly infectious, or how it can cause permanent blindness.

Ansha had trachoma trichiasis. The Amhara Region of Ethiopia, where Ansha and her family live, is also home to 30 percent of all trachoma cases worldwide.

About the disease
Trachoma trichiasis is a highly infectious disease and the leading cause of blindness in this part of the world. The disease, caused by the chlamydia trachomatis bacteria, is transmitted through flies that have come in contact with infected eyes, or hand-to-eye contact from someone who is infected.

What starts off as an inflammation of the eyes, a little itchy and a little red, turns into a quite painful infection that can lead to visual impairments or irreversible blindness. This happens slowly over time, as the eyelid starts to turn inward, causing the eyelashes to scrape over the eye. These scratches lead to permanent damage.

The pain this disease causes is so horrendous that those afflicted would rather rip out their eyelashes one at a time than deal with the pain. However, when caught in time there is a surgery that can stop the disease. It can only be conducted on one eye at a time, takes 20 minutes, and is performed under local anesthesia, meaning patients are back home able to tend to their family as needed.

No one is immune
Thanks to the quick action of the health workers in northern Ethiopia, Ansha’s surgery was successful and she has regained vision in her right eye. Once healed completely, she hopes to undergo surgery in her left eye. She is one of the lucky ones. Because of the high cost associated with surgery and medicine in that part of the world, not many people are able to get proper treatment. All over the world, including the United States, people die every day from infectious diseases. In 2013, more than 19 million Americans reportedly visited a doctor due to an infectious disease, while millions died.

Staying disease-free
Government health workers can educate local villagers on what has been coined the SAFE strategy for preventing this and other infectious diseases. SAFE (Surgery, Antibiotics, Facial cleanliness, Environment) means understanding about infectious disease, and how to proactively prevent the spread to family and neighbors.

For Ansha and others like her, this means learning about washing your hands and face regularly, separating the animals from the living quarters, and having more sanitary toilets. For North Americans, this might not seem like a stretch, but in northern Ethiopia, in Ansha’s village, clean water is in short supply.

It’s also important to note that with every surgery, even 20-minute surgeries like these, there are risks involved. However, when you are operating in a part of the world where clean water is not available at the push (or swipe) of a button, and flies carry with them some of the worst bacteria imaginable, the risks involved of even the simplest surgeries are exponentially worse.

Increasing education, accessibility to treatment and encouraging more people to donate money and blood are the best ways to help save more lives like Ansha’s around the world, including right here in the United States.
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Where Has Our Prolonged Battle with Infectious Disease Left Us?

We convened a trio of panelists to consider the scope of infectious disease on a global scale. Where do we stand today, collectively, and what’s on the horizon?

What is the most important element to combatting infectious diseases?

We must continue to support research, from basic discovery in the laboratory through applied research in patients to prevent, diagnose and treat infection, to global research targeting prevention. Federal agencies that support research, including the National Institutes of Health, Centers for Disease Control and Prevention, and Department of Defense, must be well resourced, and pharmaceutical companies must be incentivized to target research to areas of greatest unmet needs.

William G. Powderly, M.D.
FIDSA President, IDSA

What is the health care community’s largest obstacle as far as infectious diseases?

Complacency. There is an assumption that we will always have new antibiotics to make many medical services (from organ transplants to joint replacements to cancer chemotherapy) safe and possible. But the reality is that increasing antibiotic resistance, coupled with a dearth of antibiotic research and development, means that we’re running out of treatment options. Many infections are becoming untreatable.

Better diagnostic tools that are easier to use and provide more rapid results will be essential to quickly and accurately identifying infections, to appropriately treat patients and limit the spread of infection. New diagnostics will also help guide appropriate antibiotic use, thereby limiting the development of antibiotic resistance. The health care community responds best to what’s best for patients.

Susan Sharp
President, ASM

What do you predict for the future of infection prevention in the next 10 years?

Public education, new diagnostics, and new antimicrobials are essential. We need to convince the public of the effectiveness and safety of vaccines; the lack of necessity for antibiotics for infections caused primarily by viruses, which are unaffected by antibiotics; and the emergence of resistant bacteria when antibiotics are used inappropriately. New diagnostics and new antibiotics are also imperative in this fight.

Convincing legislators to fund more research and adding incentives to our diagnostic companies will lead to more innovative approaches to this fight. Public awareness of the severity of the issues will ultimately lead to more funding for research into infectious diseases, and improved awareness surrounding the necessity for combating infectious diseases on all fronts — through action from government, researchers and industry.

Leslie Lobel, M.D., Ph.D.
Senior Medical Advisor, ClinicalIRM

Infection prevention will rely on newer and more sophisticated diagnostic assays, including more personalized medicine, more effective vaccinations — i.e., a universal influenza vaccine — as well as the development of new antibiotics to combat new and emerging infectious diseases. If we can mount a convincing public campaign to show the threat associated with infectious disease, the public will demand action.

Many developed societies think we are in the post infectious disease era. The most important element involves surveillance of infectious disease ecosystems to determine what pathogens or potential pathogens are circulating in the environment. In this way, we may preempt an outbreak of an emerging or reemerging infectious agent. In addition, it will facilitate timely availability of vaccines and therapeutics.

The health care community does not see infectious agents as a significant profit source. The biggest obstacle is the lack of a significant profit motive. It must be addressed with the help of government so that infectious disease becomes more attractive economically to the health care community. Government has played such a role in the past, especially in the production of vaccines.

I predict that the major innovation will be high-throughput miniaturized field operable sequencing devices, such that the environment can be surveilled in real time and persons that are sick might have the infecting agent identified rapidly. This technology will be a game-changer for infectious disease diagnostics, control and prevention of outbreaks.
Mom

Just landed. How is he?

Thx for coming. Don’t know... not good.

What are the docs saying?

Said several days before we will know anything.

Why so long?

Dr said something about waiting on cultures. Mentioned resistance??

Mom he looks so weak. I wish I knew what to do.

Hang in there. In taxi. I’m on my way.

More people in the U.S. die each year from antibiotic resistant and healthcare-associated infections than from prostate and breast cancer combined

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How a New Type of Drug Will Help Stop Superbugs

Increasingly deadly, antibiotic-resistant bacteria have stymied scientists for decades. A new class of drug may be the key to ending this public health crisis.

By Dash Lunde

WOCKHARDT - DISCOVERY

WOCKHARDT

CK 5222, a brand new type of antibiotic from Wockhardt, has just been approved by the FDA for Phase 3 clinical trials. This new drug will strike a blow against the global epidemic of adaptive, multi-drug resistant bacteria or “superbugs,” which are becoming ever more prevalent.

“If you look at the disease burden, it’s high and it’s getting worse,” says Dr. Anthony Fauci, Director of the National Institute of Allergy and Infectious Disease. “There are about 2 million infections per year in the United States caused by antibiotic resistance. That accounts for $20 billion in excess spending, as well as $35 billion in lost productivity.”

And at 700,000 deaths per year globally and growing, the seriousness of the problem cannot be underestimated. “We don’t want to revert back to the days when there were certain infections that we just couldn’t treat,” says Dr. Fauci.

A lack of research

Scientists have been stymied by superbugs for what now amounts to decades, due to a combination of the complexity of the bacteria as well as a lack of financial resources in antibiotic research. Because of strict regulations and investments of time and labor, drug discovery and development ends up costing drug makers anywhere from $750 to $1 billion to bring a drug to the market.

“Antibiotics, which are used in one to two week courses,” says Dr. David Livermore, Lead on Antibiotic Resistance for Public Health England, “are less profitable than, for example, heart drugs which the patient takes for years.”

But, according to Dr. Fauci, this public health crisis is going to be more expensive in the long run. “It’s going to cost the healthcare industry that much more money,” he says, “That’s why it’s important to invest in the research that’s going to mitigate the problem.”

A new drug in pipeline

Thankfully, the forward-thinking creators of WCK 5222, Wockhardt, foresaw the threat of superbugs and have been committed to finding entirely new types of drug.

“We recognized that antibiotic research was in decline 20 years ago,” says Dr. Habil Khorakiwala, the chairman of the company. “We devoted our efforts to find new antibiotics, as we were sure that superbugs would emerge.”

Over the last 10 years global patents filed for antibacterial have declined by 60 percent, whereas patents filed by Wockhardt in these 10 years has increased by 315 percent.

Their latest development, WCK 5222, is a combination of zidebactam and cefepime. This superdrug introduces the first entirely new class of Gram-negative antibiotic treatment in 35 years.

Zidebactam has a novel beta-lactam enhancer effect that overcomes multiple resistance mechanisms in Gram-negative superbugs, making it effective where other drugs have failed.

A public health priority

This new class of drug is a much-needed breakthrough for the global public health community. Earlier this year, the World Health Organization published a list of critical pathogens for which new drugs are urgently needed due to antimicrobial resistance.

Wockhardt’s WCK 5222 meets the urgent threat of carbapenem-resistant enterobacteriaceae and serious threats like multidrug-resistant Acinetobacter baumannii, extended spectrum β-lactamase producing enterobacteriaceae and multidrug-resistant Pseudomonas aeruginosa.

Recognizing the critical need for this drug, the FDA has granted approval for Phase 3 clinical trials, granting it a Qualified Infectious Disease Product status for expedited approval. Because of the high priority of these drugs, Dr. Khorakiwala and his colleagues are hoping to have WCK 5222 approved and freely available by 2020 at the latest.

WCK 5222 is expected to be a life-saving destination therapy for serious hospital-acquired infections such as hospital acquired bacterial pneumonia, ventilator associated pneumonia and bloodstream infections. “Our break through drug, zidebactam, is the most promising remedy for these superbugs,” says Dr. Khorakiwala.

There is also currently movement in within the G20 nations to financially incentivize continuing discovery of novel antibiotics.
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References: 1. MHC Study #609-005 2. MBT Study No. 582-106, Study Protocol # 582.1.1.12.12 3. Bredow, J. et al. Ransomed clinical trial to evaluate the performance of a flexible self-adherent absorbent dressing coated with a soft silicone layer compared to a standard wound dressing after hip, knee or spinal surgery in comparison to standard wound dressing. Poster presentation at 5th Congress of WUWHS, etc.

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In Hospitals, Hand Hygiene Is a Life-Or-Death Issue

According to the CDC, around 722,000 health care-associated infections occur in U.S. hospitals each year. Good hand hygiene is one key to solving the problem.

By Jill Coody Smits

On top of whatever illness or injury caused them to be admitted to a hospital in the first place, about 1 in 25 hospital patients must also deal with infection resulting from the care they receive.

National statistics
According to a 2014 Centers for Disease Control (CDC) survey, these health care-associated infections (HAI) are a major threat to patient safety that could often be prevented by a very simple intervention: proper handwashing.

In a statement announcing the “Clean Hands Count” campaign last May, CDC Director Tom Frieden, M.D., M.P.H. said, “Patients depend on their medical team to help them get well, and the first step is making sure health care professionals aren’t exposing them to new infections. Clean hands really do count and, in some cases, can be a matter of life and death.”

A preventable problem
The Association for Professionals in Infection Control and Epidemiology finds HAI’S problematic enough that they’ve included the issue in the public policy agenda “Voice for Infection Prevention.” In the document’s FAQ about HAI’S, “unclean hands of health care workers” are specified as one way patients acquire infections while hospitalized, and explains that many HAI’S are “preventable through the implementation of proven, evidence-based infection prevention protocols and procedures.”

Promoting hygiene
According to the CDC, health care professionals clean their hands less than half as often as they should. Thus, “Clean Hands Count” aims to convince patients, their loved ones and health care workers to do their part to prevent HAI’S.

Patients and their advocates can help promote good hand hygiene by asking health care professionals to wash their hands before providing care if they notice the step was skipped. In addition, though, the CDC wants to debunk myths about hand hygiene, such as the fear that alcohol-based sanitizer contributes to antibiotic resistance or can damage hands more than soap and water.

Understanding resistance
The CDC notes there are many reasons health care workers might not adhere to good hand hygiene guidelines, including: handwashing agents cause irritation, inconvenient sinks, insufficient soap, being too busy or understaffed, a patient needs immediate attention, or believing infection is a low risk.

Nevertheless, the CDC says health care providers may need to wash their hands up to 100 times in a 12-hour shift. While there are challenges, handwashing is a relatively simple thing that may be the key to preventing the spread of HAI’S in a health care setting.
Are Your Health Care Linens Really Clean?

By Paula Andruss

While many industries have a need to provide clean linens for their clients, for health care professionals properly cleaned laundry can be a matter of life or death.

From bed sheets and gowns to scrubs and lab coats, hospital laundry is exposed to a wide variety of germs and contaminants that could infect vulnerable patients if not processed correctly. That makes choosing a dependable commercial laundry service crucial to providing optimal healthcare.

Rigorous standards
When a textile services operation is certified by a third-party health care accreditor, it indicates the facility and its employees meet strict quality standards for processing the laundry generated in medical facilities. These requirements often exceed typical industry standards, and the facilities are subject to regular inspections to ensure continued compliance with regulatory guidelines.

Controlling infection
One of the biggest challenges for commercial laundry facilities serving the health care community is to make sure potentially hazardous substances, including blood and germs, do not spread or survive to return to the facility.

To earn a certification for hygienic cleanliness, companies are typically subjected to third-party, quantified biological testing and inspection that analyze the quality control procedures in place when cleaning textiles that have blood or other potentially infectious materials on them. This ensures they’re being thoroughly processed to eliminate those threats so infections don’t spread and patients receive the safest linens possible.

Safer facilities
Certification also confirms that these facilities are employing best management practices, both inside their facilities and with their customers as well.

According to the U.S. Department of Labor’s Occupational Safety and Health Administration, in addition to contaminated textiles that subject workers to blood, infectious materials and sharp medical objects, health care laundry facilities present other potential hazards, including dangerous chemicals, heat stress, lifting hazards, fire hazards and slips, trips and falls.

Certified laundry facilities have educated and trained their employees and supervisors to identify and address ways to decrease the risk of incidents, as well as recognize and deal with worksite problems if they arise. The fewer onsite issues they have, the better results they can achieve for their customers.

Smother services
In addition to the exceptional quality and safety surrounding the linen care operations, certified companies have also showed that they provide efficient and dependable operations to their clients, from maintaining proper inventory levels to providing responsive and timely customer service.

It’s all part of a concerted effort by leading laundry facilities to demonstrate their commitment to helping hospitals fight infections and keep their patients and employees healthy and safe.

Proven, Quantified Hygienically Clean Linens and Garments

Infection prevention to minimize HAIs requires your laundry service to be Hygienically Clean Healthcare Certified to ensure linens, gowns, scrubs and other textiles are safe from microbes, molds and fungus:

- Proven best laundry practices detailed in quality assurance (QA) manuals
- Multiple third-party inspections that document and follow consistent, proven protocols
- Quarterly testing of clean laundry to internationally recognized standards

An advisory board of laundry, epidemiology, infection control, nursing and other healthcare professionals meets quarterly to review standards and best practices for continuous improvement.

FREE TRAINING - Order Six C’s for Handling Soiled Linens in a Healthcare Environment training video and join the Hygienically Clean Healthcare Community to access other resources at www.hygienicallyclean.org.
6 Ways to Decrease the Risk of Surgical Site Infection

By Zoe Alexander

They are not only the most common of all hospital-acquired infections, but also the costliest. Here’s how patients can mitigate their risk and remain in charge of their well-being.

In 2013 alone, there were an estimated 157,500 surgical site infections associated with inpatient surgeries. Although health care advances are continuously made, the rate is still too high. A surgical site infection (SSI) is, according to the CDC, an infection that occurs after surgery in the part of the body where the surgery took place. They take a substantial economic toll — roughly $3.5 to $10 billion annually. “Patients have to be their own advocate in their own health care,” declares Lisa Spruce, director of evidence-based Perioperative Practice. Here, Dr. Spruce lists a few crucial areas where patients can be their own advocates leading up to, and after surgery.

1. Full disclosure. From prescriptions to supplements to herbs, even if only temporary, your doctors should know about it, as it could affect your surgery and care. Even with what may feel like early symptoms of a cold, postponing surgery may be necessary. Chronic diseases such as diabetes also impact healing, so the primary care doctor and surgeon should all be knowledgeable of the condition and upcoming procedures.

2. Self-care. Leading up to surgery, improve your nutrition and daily activity to encourage internal oxygen flow and a stronger recovery. For smokers, the most important thing is to quit smoking 4 to 6 weeks before surgery. But even 24 hours could decrease risk of infection.

3. Listen and ask. It may sound simple, but following your doctor’s instructions is central to preventing infection. If you have questions, ask. Even if you can’t think of specific questions, don’t hesitate to talk through certain elements where you don’t feel as clear.

4. Post-surgery plan. Patients should coordinate with a family member or close friend. “If your surgeon says you can, and you’re able to, start getting up and moving around to increase mobility,” says Dr. Spruce. “You have a better chance of not acquiring infection if you’re moving around.”

5. Remain alert. It’s also crucial to ensure that patients can recognize early signs of infection, so they can contact their doctors immediately. Be sure to know which symptoms are common for your type of incision.

6. Second opinions. Patients don’t always realize how much their own understanding and influence comes into play. “A lot of patients have a ‘This can’t happen to me’ type of attitude,” says Phil Barie, M.D. and executive director at the Surgical Infection Society Foundation for Research and Education. “But it can.”

While each operation and patient carry varying levels of risk, “It all comes down to a dialogue,” says Dr. Barie. “Patients need to make sure all of their questions are answered, and they have to follow the instructions they receive. All of these things are factors that the patient can bring to the partnership and help the surgeon reduce the risk.”

And SSIs are still a big problem.

Let’s work toward a future without preventable surgical site infections. We’ve developed Surgical Safety Solutions—a comprehensive initiative to help give surgical professionals and infection preventionists a path to progress in their fight against SSIs.

Discover how you can join the mission at Go.3M.com/FightSSIs

Who’s Addressing the Threat of Antimicrobial Resistance?

Antimicrobial resistance is a global public health crisis that must be addressed through scientific research.

Antimicrobial resistance is a public health crisis that is global in nature. In the United States, antimicrobial-resistant bacteria cause more than 2 million infections and are responsible for 23,000 deaths each year, resulting in approximately $20 billion in excess medical spending and $35 billion in lost productivity. The problem, however, is not limited to bacteria. Antimicrobial resistance also threatens our ability to prevent and treat infections caused by viruses, fungi and parasites.

What’s proper stewardship? Antibiotic stewardship, precautions against spread of bacteria particularly in the hospital setting, and public education can help limit the occurrence and spread of antibiotic resistance. In addition, scientifically proven public health initiatives, such as vaccination against certain bacterial infections and improved hygienic practices, are essential.

In 2013, an ambitious, new clinical program was begun focusing on antimicrobial resistance. Since that time, over 25 studies have been run to evaluate new diagnostics, treatments and approaches to thwart antimicrobial resistance. Research efforts are addressing three of the most urgent antimicrobial resistance threats: Neisseria gonorrhoeae, which causes the sexually transmitted disease gonorrhea; Clostridium difficile, which can cause life-threatening diarrhea and occurs most commonly in people who have been hospitalized and treated with antibiotics; and carbapenem-resistant Enterobacteriaceae, which is resistant to nearly all antibiotics available today, and a growing threat among hospitalized patients.

The key research
This effort is supporting pre-clinical studies in the test tube and in animals to develop novel antibiotics and create interventions that harness the body’s naturally occurring microorganisms, called the microbiome, to fight off invaders.

Antimicrobial-resistant bacteria cause more than 2 million infections...

In addition, this push has led to testing on multiple fronts: testing of multiple antibiotic drug candidates in human clinical trials; funding the development of highly sensitive, rapid diagnostics—including those that can distinguish between bacterial and viral infections; testing of approved antibiotic drugs for optimal use to limit or slow the emergence of resistance; and developing vaccines to prevent infections, so treatments aren’t necessary.

Researchers are concurrently endeavoring to develop a national database that will track genomic and clinical data for specific pathogens. In this particular effort, teamwork is crucial. In the looming presence of antibiotic resistance, surgeries, organ transplantation, hospitalizations and cancer chemotherapy will become unsuitably high-risk endeavors for affected patients.

The scientific, medical and public health communities must act urgently to address this current and growing threat.

By Anthony S. Fauci, M.D., Director, National Institute of Allergy and Infectious Diseases
Ensuring Proper Ventilation from Surgical Smoke

Despite the numerous smoke evacuation tools from device manufacturers, and smoke safety education programs, not enough hospitals are taking this critical hazard seriously.

Surgical lasers — and the blurred vision and recurrent cough that accompanied the exposure to them — were once part of the typical workday for Pam Tomlinson. A registered nurse, BSN, MEPC, Tomlinson’s insistent cough only grew worse. Other health issues crept in, until finally she collapsed and was rushed to the emergency room.

Professional hazards
The diagnosis was sarcoidosis, a chronic lung disease that causes multiple lesions and inflammation. She was also diagnosed with emphysema, asthma and chronic obstructive pulmonary disease. Essentially, while working when patient tissue was being cauterized, creating a foul-smelling and toxic plume of surgical smoke, Tomlinson had in fact inhaled the equivalent of 6 unfiltered cigarettes in just 15 minutes. Over 20 years, working eight hours a day, she’d essentially inhaled one-and-a-half packs of cigarette smoke per day.

Where there’s smoke
Surgical smoke contains chemical toxins, viruses and bacteria. Some researchers think that sarcoidosis develops if the immune system responds to a trigger, such as bacteria, viruses, dust or chemicals — all elements that have been identified in surgical smoke plume. Without an appropriate smoke evacuation system in place, surgical plume can spread these harmful elements directly into the lungs of anyone in the operating room.

And it does. Surgeons and nurses who used electrosurgery to excise HPV (human papilloma virus) have turned up with these same HPV strains growing in their airway. Scientists have also found carcinogenic compounds, such as benzene and formaldehyde in collected samples of surgical smoke, according to Mary Ogg, MSN, a senior perioperative nursing specialist for the Association of peri-operative Registered Nurses (AORN).

Surgical smoke is dangerous for patients, too. During minimally invasive surgeries, smoke limits the surgeon’s visibility, causing longer surgical procedures, and patients can absorb the toxic chemicals in smoke.

Taking a stand
As Tomlinson adjusts to living with chronic lung disease, she is undergoing treatment for her sarcoidosis, which OSHA has reportedly deemed to be caused by working in an unsafe environment that did not take steps to adequately evacuate surgical smoke. Tomlinson is also taking every opportunity she can to speak out against the dangers too many of her colleagues and their patients are breathing in.

Tomlinson had in fact inhaled the equivalent of 6 unfiltered cigarettes in just 15 minutes...

“Today, only half of practitioners are aware surgical smoke is a serious health hazard,” Ogg notes. She says inconsistent and inadequate smoke evacuation use and an unsafe reliance on surgical masks — even high filtration masks that still permit inhalation of surgical smoke particles — can put these professionals at risk.

“Nurses talk to each other frequently about the negative health effects of breathing in surgical smoke exposure,” adds Ogg, “but they can make a difference by speaking up beyond their own profession to raise awareness about this occupational danger.”

Lack of initiative
Comprehensive education and safety programs released by OSHA, NIOSH and AORN offer hope — notably via the Go Clear smoke safety education program. Still, Ogg worries that too few hospitals make smoke evacuation mandatory.

Hospital leaders can change this with support from all surgical professionals by trialing surgical smoke evacuation technology, educating staff and taking appropriate steps and safety measures to ensure surgical smoke safety is standard practice. Too often these practices are lacking or incomplete, Ogg says: “Surgical smoke safety is a workplace safety obligation that all hospital leaders should champion.” She also believes patients can play an important role in these efforts by asking and requesting their surgeons evacuate surgical smoke.

By Carina Stanton, Writer, AORN
WHERE THERE’S SURGICAL SMOKE, THERE’S DISEASE

Smoke is a telltale sign of something we can’t yet see—like health and safety risks hovering in the operating room. It’s been proven that surgical smoke, the dangerous by-product generated by lasers, electro-surgical pencils, ultrasonic devices and other surgical energy-based devices, contains carcinogens and can transfer diseases such as HPV. Surgical smoke has also been shown to carry intact human and viral DNA. While hospitals are highly focused on safety procedures to protect patients and surgical staff, they often overlook protecting them from the dangers associated with surgical smoke.

To learn more about eliminating these dangerous biohazards from the operating room, visit ENDSURGICALSMOKE.ORG

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