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Mask or tissues? SARS ushers in an age of 'respiratory etiquette'

Some see universal masking as unworkable

Favoring old-school etiquette over universal masking, some clinicians are urging a common-sense appeal to patients to use tissues and block coughs and sneezes in case severe acute respiratory syndrome (SARS) makes an unwelcome return. "It's the same thing your mother told you 50 years ago," says **William Scheckler**, MD, a hospital epidemiologist at St. Mary's Hospital in Madison WI.

The approach is seen as a more workable alternative to a draft recommendation by the Centers for Disease Control and Prevention (CDC) to offer surgical masks to all incoming patients with respiratory symptoms. (See *Hospital Infection Control*, October 2003, under archives at www.HIConline.com.)

"We get so high tech we forget about the common-sense, home-remedy kind of things we can do to prevent the spread of infection," says **Susan Kraska**, RN, CIC, an ICP at Memorial Hospital of South Bend, IN. "Washing your hands, tissues are basic. Use your arm to block a sneeze or cough because it prevents contamination of the hands. We seem to moving away from those common-sense things."

Either option is allowable in the Oct. 20, 2003 draft guidelines posted on the CDC SARS web site at www.cdc.gov/ncidod/sars/sars_prepplan.htm. While placing a stronger emphasis on the mask approach, the CDC draft stated: "Consider initiating a universal respiratory etiquette strategy for the facility. Provide surgical masks or tissues to all patients presenting with respiratory symptoms, place patients with respiratory symptoms in a private room or cubicle as soon as possible, and implement use of surgical masks by health care personnel during evaluation of patients with respiratory symptoms."

Respiratory etiquette makes common sense, but it hasn't necessarily been a common practice in waiting rooms, emergency departments (EDs), and other health care settings where symptomatic patients may gather.

"Respiratory etiquette is really not a new concept," explained **Linda**

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Chiarello, RN, MS, epidemiologist in the CDC division of health care quality promotion. "However, actively implementing it for persons with symptoms of a respiratory infection in health care settings is new. It will involve instructing all patients, and I should include all visitors and health care workers, to cover their nose and mouth with a tissue if they are coughing or sneezing."

In comments during a recent CDC health care training broadcast, Chiarello emphasized the importance of having hand hygiene materials and tissues available. "What we are talking about here

really is source control, simply getting people to cover their nose and mouth when they are coughing or sneezing, and to wash their hands," she added. "This strategy is one that will be recommended as part of the new CDC TB prevention guidelines so it really does have implications well beyond SARS." (For more on etiquette, see box, p. 139.)

To assist in planning for incoming SARS, the CDC is encouraging ICPs and other clinicians to consider scenarios and run through a series of questions that include, "What would happen today if a patient with suspect or probable SARS is admitted to your hospital?" (See related story, p. 140.)

"Now is the time to begin planning the way patients with symptoms of respiratory infection are currently handled in your setting," Chiarello said. "Are patients asked about symptoms of a respiratory infection? Are your personnel trained to look for symptoms in patients as well as visitors? What instructions do they provide if they see someone who is symptomatic?"

'It's not going to work'

The controversy regarding masking patients who have respiratory symptoms began with the initial reaction of clinicians in workshop discussions of the CDC draft plans. In particular, primary care physicians and clinicians in outpatient clinics have said in CDC consultants' meetings that "the notion of putting everybody with the sniffles in a mask is ridiculous; it's not going to work," Scheckler tells *HIC*.

"People who come in coughing and sneezing should cover their mouth and nose," he says. "Otherwise, you spread disease. I think the biggest challenge is [EDs] where people sit around for a long time. [But] the respiratory hygiene approach of putting masks on everybody is not cost-effective and not practical."

The biggest SARS threat, based on the nosocomial outbreaks in Toronto and other areas, is unprotected exposure to the undiagnosed patient, Chiarello said. "Prevention begins when a patient or visitor walks through the door of an ED."

In that light, it is understandable that the CDC has pursued a universal masking policy. "But there has got to be a practical way to do this," Kraska tells *HIC*. "We run a busy emergency department. On any given day — particularly in the peak flu season — we can't tell how many folks are going to be presenting in the triage area. A patient [with respiratory symptoms] may be

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Editorial Questions

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coming in for something entirely different.”

Kraska is working with her hospital purchasing department to get cost figures for small “purse-size” tissue packages that could be distributed to symptomatic patients. “I contacted my ED director and [suggested] implementing a respiratory etiquette program,” she says. “We are going to put up respiratory etiquette signs and hand out little pamphlets and little packages of kleenex.”

If the idea catches on nationally, perhaps SARS will do for respiratory infection control what HIV did for infection control of bloodborne pathogens. Prior to the emergence of HIV, far fewer health care workers wore gloves and received hepatitis B immunizations.

“If hospitals set the example in the community, you can spread respiratory etiquette to schools and get the health department on board,” Kraska

Triage, waiting rooms, and respiratory etiquette

Initial examination could lead to exposure

The Centers for Disease Control and Prevention (CDC) is emphasizing that prevention must begin at the first point at which a person with suspect or probable severe acute respiratory syndrome (SARS) encounters the health care system. Key points from a recent CDC health care training broadcast include:

1. Examine triage, reception, and appointment procedures:

Train personnel to query patients about respiratory symptoms and to observe for such symptoms in patients and visitors. Instruct personnel in procedures to follow with patients who are symptomatic.

2. Waiting rooms:

As the infected patient (or an infected person accompanying the patient) waits for care, other people in the waiting area could be exposed. Steps for preventing exposures could include:

- posting visual alerts instructing patients to immediately report symptoms of a respiratory infection and to use “respiratory etiquette”;
- providing separate sick and well patient waiting areas;
- creating physical barriers between patients and triage/reception personnel to further reduce the risk of exposure.

3. Respiratory etiquette:

Because SARS primarily spreads via respiratory droplets, practicing respiratory etiquette is a simple intervention that confines infectious material at its source. To facilitate respiratory etiquette, outpatient facilities should consider:

- instructing people with symptoms of a respiratory infection to cover their nose and mouth with a tissue when coughing or sneezing;
- making hand hygiene products and tissues available in waiting areas;
- providing designated containers for disposal of used tissues;
- offering masks to symptomatic patients.

4. Protecting the health care worker:

When a patient with respiratory symptoms presents to an emergency department (ED) or outpatient office, there are numerous contact points at which opportunities arise for transmission, including triage and reception, waiting rooms, and examination by the health care provider

Examining a patient presents an opportunity for SARS transmission to health care personnel. In preparing for the possibility that a patient may be a suspect or probable case of SARS, it is important to plan in advance where the examination will be conducted and what personal protective equipment (PPE) the provider will wear.

Health care providers should wear a gown, gloves, respirator (or surgical mask if a respirator is not available), and if the patient is coughing, a face shield or goggles. Assess for the availability of this equipment in the work setting. An N95 or higher respirator that has been fit-tested to the health care worker is the preferred respiratory protection for SARS. If respirators are not available, a surgical mask should be worn. Establish a protocol and provide training on the use of PPE.

Identify an area that will be used for the initial examination of suspect or probable SARS patients. An airborne isolation room is ideal. If none is available, identify an appropriate room for this purpose, preferably one that is farthest from other patient examination areas and has the ability to have the room air directed away from the surrounding area.

5. Transport of patient:

Preventing SARS transmission in an ED or outpatient facility requires consideration of such routine procedures as patient transport and movement in the office or ED setting, including patient transport:

- Determine how and by whom the patient will be transported for diagnostic procedures (e.g., chest X-ray, collection of laboratory specimens) or for hospital admission.
- Create a communication plan for notifying areas that may receive the patient (e.g., admissions office, radiology, inpatient unit) and authorities that need to know about the possible SARS case (e.g., health department, infection control). Ensure phone numbers for these contacts are readily available. ■

says. "Everybody is concerned about SARS, but we should be concerned about any respiratory infection. I think this is a good place to start. As folks become accustomed, they will not treat respiratory illnesses so frivolously. I think it is just raising the level of awareness and being cognizant. If we can stop people from coughing and sneezing in the ED, we can actually cut down [on infections overall]."

Return to sender?

Then again, such precautions may fail to resonate should SARS remain dormant. However, leading epidemiologists say SARS resurgence at some point is almost inevitable. The overriding concern is that SARS will resurface as a seasonal illness along with influenza and other respiratory infections. Indeed, it would be a surprising development if the emerging coronavirus did not return, said **Julie Gerberding**, MD, MPH, CDC director.

"As an infectious disease expert, I can say in my experience, I've never seen a pathogen emerge and go away on its own," she said at a recent press briefing. "I think we have to expect that somewhere, some time, this coronavirus is going to rear its ugly head again; and that's the whole purpose of all this preparedness effort. We can't say where, but given that it showed up once in Asia, it's a good bet that would be the most likely place for it to emerge again. But there's absolutely no proof of that, and I think we have to be prepared for the unexpected."

Preparing for the unexpected means, in effect, that hospitals will be dealing with SARS whether it returns or not. During the last outbreak, the World Health Organization reported 8,422 cases of SARS with 916 deaths. In the United States, there were 74 probable cases and 344 suspect cases. The virus could return via an animal reservoir, humans with persistent infection, unrecognized transmission in humans, or even — as almost happened recently in Singapore — escape from a research lab. (See related story, p. 141.)

"What is the source of the virus?" Gerberding asked. "The short answer is, we don't know. We are continuing to work with our collaborators in Asia and characterize as many of the strains of coronavirus that can be collected, but we have no proof of the specific animal reservoir source of this outbreak. That obviously leads us to be concerned about a potential reemergence."

Meanwhile, both private sector entities as well

Questions lead to answers in 'what-if' SARS scenarios

Hospital-based health care workers should consider how patients with known or suspect severe acute respiratory syndrome (SARS) will be handled from the point of initial contact, the Centers for Disease Control and Prevention advises. One way is to create scenarios based on possible events that might occur and conduct planning exercises to develop a workable procedure for managing SARS patients. Two questions that could be used are:

- 1. What will happen today if a patient with suspect or probable SARS is admitted to the hospital?**
- 2. What will happen today if a patient who has been in the hospital for a week with a diagnosis of pneumonia is found to have SARS?**

A response plan for the scenarios can be developed from an individual (e.g., infection control professional, head nurse, attending physician) or group (e.g., nursing unit) perspective. These are some questions to start the planning process:

- Where will the patient be isolated?
- How will the patient be handled throughout the admissions process?
- Who will care for the patient?
- Do staff know what personal protective equipment (PPE) to wear for working with suspect or probable SARS?
- Do staff know how to properly don, use, and remove PPE?

Plan for a situation in which a SARS patient needs to be placed on a ventilator. Determine:

- Who will perform the procedure.
- Where it will be performed.
- What PPE will be worn.

Plans also should be made for how family members and others who've had contact with the SARS patient will be managed and whether they will be permitted to enter the hospital.

Identify who needs to be in the communications loop and obtain their contact numbers (e.g., local health department, infection control, hospital administration).

The key concerns about a hospitalized patient with unrecognized SARS are the implementation of immediate control measures and establishing systems to identify and monitor exposures:

- Has the patient been isolated? If not, what isolation room will be used?
- Does anyone else have symptoms of SARS? How do we find out?
- Who has been exposed (e.g., health care workers, other patients, visitors)? How do we find out?
- What will be done with exposed patients and health care workers? ■

as government agencies are working hard to improve SARS diagnostics. "We know that we have a very sensitive test for finding the virus genome when it's present, but the difficulty is that people did not seem to have virus present in the relevant samples early in the course of illness," Gerberding said. "So we're still looking for a test that would both be sensitive but also [effective] early enough in the course of illness before the patient became contagious."

In the interim, shoe-leather epidemiology — some of it by workers who may never have been trained to think that way — is going to be necessary to detect the first cases. Clinicians who dealt with the virus during outbreaks became adept at that, but the prospect is daunting, considering the potential panoply of SARS presentations.

"For SARS, all bets are off," Scheckler states. "We don't know how to identify it. The fever, cough, infiltrate on chest X-ray, and travel history is about all we have. Some people have diarrhea without having the respiratory infections, and apparently there are very few people — but not zero — who can have asymptomatic infections. Whether they can spread the disease . . . isn't clear. It appears the major [viral] shedders have pneumonia, at least."

And hopefully, if they are sitting in your ED, tissues or masks. ■

SARS nearly escapes from lab via researcher

Poor procedures, training needs cited

While epidemiologists await a possible natural resurgence of severe acute respiratory syndrome (SARS), a cautionary tale from Singapore underscores that another global outbreak of SARS could be triggered by a laboratory accident.

Inappropriate laboratory procedures and a cross-contamination of West Nile virus samples with SARS coronavirus in the laboratory led to the infection of a doctoral student in a Singapore lab, investigators have concluded.¹

No evidence could be found of any other source of infection. Genetic sequencing supports the conclusion, as the lab strain and the worker's strain were closely related.

After a rigorous investigation, investigators found no evidence of secondary transmission to

the lab worker's contacts and caregivers. Still, the case reinforces that labs can be a source of infection, threatening both laboratorians and the surrounding community.

The committee identified numerous problems with the lab, and concluded it only should be allowed to open after it has been re-audited and issues related to the structure, the use of the BSL-3 laboratory, training of staff, and a risk assessment of work have been carried out to a level acceptable by a safety committee.

Training needs to be thorough, competency-based, and include a significant period of direct supervision, investigators recommended.

"Training on the responses to emergency situations is critical, because failure to react correctly can result in an incident moving from manageable to an uncontrollable situation," the investigators concluded.

The worker in the SARS case is a 27-year-old man in his third year of a doctoral program in microbiology at the National University of Singapore (NUS).

On the evening of Aug. 26, he developed fever and muscle pain. Between Aug. 27 and Sept. 3, the patient visited his general practitioner, Singapore General Hospital (SGH) emergency department, and a Chinese physician. On Sept. 3, the patient had persistent fever and returned to SGH; at this time, he was admitted. Interviews with the patient revealed that the patient was in a laboratory where SARS coronavirus work was being conducted, and several specimens were taken for testing.

Investigators concluded that the patient acquired the infection through laboratory contamination based on the following evidence:

1. He worked in BSL-3 laboratory 3.5 days before his illness onset. This is consistent with the expected incubation period for SARS. Although the patient reported only working on West Nile virus, the laboratory was doing live SARS work around the same time.
2. Poor record keeping makes it difficult to ascertain if there was live SARS virus in the BSL-3 laboratory on the day of his visit, but it is known it was there two days before.
3. Procedures for laboratory safety differed widely between laboratory personnel and were not always appropriate.
4. Testing of the frozen specimen that patient worked with on Aug. 23 was positive by RT-PCR for the SARS coronavirus and West Nile virus, suggesting contamination.

5. The lab only works on one strain of the SARS coronavirus, so the laboratory strain and patient strain were sequenced for comparison. Approximately 91% of the genome was sequenced from the patient and found to be most closely related to the sequence of the laboratory strain. Minor differences observed likely are the results of the natural mutation rate for the virus.

Reference

1. Singapore Ministry of Health. *Biosafety and SARS Incident in Singapore September 2003: Report of the Review Panel on New SARS Case and Biosafety* 2003: 1-31. ■

Long procedure leads to strep transmission in OR

Surgical workers may need to be followed

In an unusual case with no obvious breaches in infection control, Group A Streptococcus was transmitted to a surgeon and scrub nurse after they performed a prolonged debridement procedure on a patient with necrotizing fasciitis.

In light of the case, infection control professionals may want to conduct surveillance follow-up on health care workers who perform procedures on patients with necrotizing fasciitis caused by Group A strep, said **Rebecca Chandler**, MD, infectious disease fellow at Oregon Health & Science University in Portland.

"If we were in a similar situation again — if we had health care workers who were in a prolonged procedure — it might be worthwhile to screen those health care workers for symptoms," she said.

"Whether they should receive a streptococcal rapid screen, I don't know. But if we have a similar situation again, we are probably going to want to contact the surgeons just to see how they are doing after the procedure," Chandler said.

Epidemiologists were tipped off on the case because the surgeon made the connection between a subsequent sore throat and having worked on the patient in a four-hour debridement procedure. After the procedure, the patient was admitted to the intensive care unit, but died about three hours later.

"[The surgeon] called her chief resident and said, 'I think I have strep throat, and I think I got it from that patient,'" Chandler added. "Both [the

surgeon] and the scrub nurse received antibiotics, and both of them did not see patients for 24 to 48 hours."

According to the Centers for Disease Control and Prevention, Group A Streptococcus has been transmitted from infected patients to health care personnel after contact with infected secretions, and the infected personnel have subsequently acquired a variety of strep-related illnesses (e.g., toxic shock-like syndrome, cellulitis, lymphangitis, and pharyngitis).

Health care personnel who were strep carriers also have been linked to sporadic outbreaks of surgical site, postpartum, or burn wound infections.¹

Chandler recently presented her investigation in San Diego at the annual meeting of the Infectious Disease Society of America.²

Chandler and colleagues began the investigation after the surgeon reported the apparent occupational infection. They identified all health care workers who cared for the index patient and collected oropharyngeal swabs for rapid streptococcal screening and/or cultures. Strep isolates were characterized by *emm* typing and pulsed field gel electrophoresis (PFGE).

Overall, 103 health care workers had some level of contact with the patient. Specimens were collected from 89 (86%). Four had positive rapid streptococcal tests, but only the surgeon and nurse matched the patient strain.

Among 34 operating room contacts, only those two were present for the entire four-hour debridement procedure.

The infected workers reported total compliance with standard surgical barrier precautions and infection control measures. There were no infections among 56 health care workers whose contact occurred outside the OR, despite the fact that only routine, standard precautions were employed, she said. Since the two infected workers were in full barrier precautions, the route of transmission is a mystery.

"The patient did have a positive, rapid streptococcal screen of his pharynx, but our scrub nurse was never in anyway in contact with the patient without him being intubated and without her having a mask on," Chandler explained. "So that is a little curious because she was in her full surgical protective equipment before the patient arrived in the OR."

The bacteria may have become aerosolized during the procedure on the patient's necrotized

(Continued on page 147)



JCAHO Update for Infection Control

News you can use to stay in compliance

JCAHO slates national infection control conference

High-profile emphasis may translate to program resources

With hospital administrators a key target audience, the Joint Commission on Accreditation of Healthcare Organizations has slated a national infection control conference that will emphasize the importance of adequately funding an increasingly important program.

"Infection control is a top priority at the Joint Commission," says **Charlene Hill**, Joint Commission spokeswoman.

JCAHO's National Conference on Infection Control: Rethinking the Approach to Nosocomial Infections, Bioterrorism and Emerging Pathogens is slated for Nov. 17-18, 2003, in Chicago.

"The reason for the conference stems from our concern about infection control in organizations — whether organizations are really prepared," says **Julie L. Hopkins**, executive director of education at Joint Commission Resources, a JCAHO affiliate. "As we have seen with SARS [severe acute respiratory syndrome], you can have something come up unexpectedly and it can really cripple the health care system."

There will be some discussion of the Joint Commission's proposed new 2004 and 2005 infection control standards, but that area will receive more emphasis during a special half-day post-conference, she said. Thus, the conference will not focus so much on accreditation and compliance as the importance of infection control programs in an era of emerging infections and bioterrorism.

"Our focus will start out globally, then go to more of a national and regional level and then down to the organizational level," Hopkins says. "And in those different arenas, we will look at the situation with emerging pathogens and the potential for bioterrorism incidents. As we get

more to the organizational level, we will be looking at reduction of nosocomial infections."

In addition to infection control professionals and hospital epidemiologists, the target audience includes top health care administrators, she says.

"We are encouraging CEOs and the CFOs to attend because we are looking at the allocation of resources," Hopkins says.

Indeed, infection control experts have argued for years that institutional investments in ICP programs translate to huge savings because prevention has always been cheaper than treatment.

The latest example is SARS, with Canadian experts specifically noting that underfunded infection control programs contributed to the prolonged outbreak in Toronto.

"The Joint Commission's audience are the CEOs and managers — the folks that make the big-bucks decisions," says **William Scheckler**, epidemiologist at St. Mary's Hospital in Madison, WI. A scheduled speaker at the conference, he previously chaired a panel that outlined the resources and infrastructure needs of a modern infection control program.¹

The Joint Commission's increasing focus on infection control may finally result in full funding for some of the panel's recommendations, which included a call for adequate staffing and supporting resources for hospital infection control programs.

The Joint Commission conference continues a flurry of infection control developments at JCAHO, which is taking an increasingly serious view of the field and its practitioners. In that regard, one of the Joint Commission's 2004 Patient Safety Goals is reducing health care-acquired infections. (See **related story, p. 146.**) To do that, JCAHO urges all

facilities to comply with hand hygiene guidelines issued by the Centers for Disease Control and Prevention.

In addition, institutions should manage as sentinel events all identified cases of unanticipated death or major permanent loss of function associated with a health care-acquired infection. The Joint Commission also has drafted prescriptive new infection control standards for 2005 and put the field at the top of the list for surprise inspections next year.

In addition to hospitals, the upcoming JCAHO conference will address infection control in ambulatory care, home care, and long-term care organizations. Conference topics include:

- JCAHO's proposed new infection control standards and 2004 National Patient Safety Goals.
- Redefining the roles and skills of infection control professionals.
- Pros and cons of data-driven surveillance.
- How effective infection control programs influence the bottom line.
- Preparedness for bioterrorism, pandemics, and emerging pathogens.
- Lessons learned from SARS, HIV/AIDS, and West Nile virus.

[The registration fee for JCAHO's national conference on infection control is \$545. For more information or to register, call JCR customer service toll-free at (877) 223-6866, 8 a.m. to 8 p.m. CT, weekdays.]

Reference

1. Scheckler WE, Brimhall D, Buck AS, et al. Requirements for infrastructure and essential activities of infection control and epidemiology in hospitals: A consensus panel report. *Infect Control Hosp Epidemiol* 1999; 19:114-126. ■

Spotlight special projects during JCAHO inspections

Multidisciplinary effort impresses surveyor

Don't be shy about emphasizing your success stories when an accreditation surveyor begins making the rounds.

An infection control professional who did just that — including posting a display board outlining the program in a neonatal intensive care unit (NICU) — received glowing reviews during an inspection by the Joint Commission.

"When the surveyor came and looked at the story board and saw the whole process, she was really impressed that we had done this interdisciplinary project and that we had displayed it the way that we did," says **Ellen Novatnack**, RN, BSN, CIC, infection control professional at St. Luke's Hospital in Bethlehem, PA.

Concerns mounted when Novatnack and colleagues found that central/umbilical line-associated bacteremia rates in a low birth weight (less than 1,000 g) NICU were above the 90th percentile when benchmarked against other surveillance hospitals in the Centers for Disease Control and Prevention's (CDC) National Nosocomial Infection Surveillance (NNIS) System.

At the same time, device (central and umbilical line) utilization ratios were below the 25th percentile when compared to other NNIS hospitals, so the ICPs hypothesized that the high infection rates were related more to infection control issues than to device use. There were a variety of pathogens involved, but the primary culprit appeared to be coagulase-negative staphylococcus.

Hospital representatives from infection control, the NICU, and support services collaborated to identify problems, make recommendations, and provide staff education, she says. Overall, some 36 interventions were implemented, including a key change in hand hygiene.

"We went to a waterless agent, and we actually put a pump at every single bedside," Novatnack says. "Because the way our NICU is set up, there were only four sinks in the geographical area of 20 cribs. So we put a pump at every bedside."

Following the interventions, the NICU reported six consecutive months of zero infections, achieving a new benchmark status below the 10th percentile in the NNIS system. The NICU staff gained a heightened awareness that infection control preventive activities reduce infection rates, she says. And, as noted, a JCAHO surveyor was impressed with the multidisciplinary approach and favorable results.

"Joint Commission was on its way, so we wrote this up as a performance improvement project and put it on story board," Novatnack says. "So we actually had this on a display board in the NICU, because one of the things that Joint Commission looks for is whether you are getting information back to staff. This truly was an interdepartmental project. We wanted them to see that we went through all of us, made changes, and the results were positive because the rates were lowered." ■

JCAHO addresses PPR liability concerns

Lawyers, risk managers cite disclosure dangers

The Joint Commission has created two options designed to address legal disclosure concerns related to its Periodic Performance Review (PPR). The PPR is an integral component of the Joint Commission's new accreditation process that debuts in 2004.

The PPR process requires each accredited organization to conduct a midcycle self-assessment against applicable Joint Commission standards; develop a plan of action to address identified areas of noncompliance; and identify measures of success for validating resolution of the identified problem areas when the organization undergoes its complete on-site survey 18 months later.

Under the usual PPR process, organizations will be expected to share all of this information with the Joint Commission at the midcycle point. Joint Commission staff will work with the organization to refine its plan of action to assure that its corrective efforts are on target.

Legal implications

However, health care lawyers and risk managers recently have expressed concerns about the potential discoverability of PPR information, particularly where it is shared with the Joint Commission.

To address these concerns, the Joint Commission has been working with health care legal experts to explore potential options for mitigating these concerns while maintaining the integrity of the PPR process. The two options developed and approved thus far are as follows:

OPTION 1

This approach has been designed to address "waiver of confidentiality" concerns that could arise if the organization shares sensitive performance information with the Joint Commission.

Under Option 1, the organization does the following:

- Performs the midcycle self-assessment, and develops the plan of action and measures of success.
- Attests that it has completed the foregoing activities but has, for substantive reasons, been

advised not to submit its self-assessment or plan of action to the Joint Commission.

- May discuss standards-related issues with Joint Commission staff without identifying its specific levels of standards compliance.
- Provides its measures of success to the Joint Commission for assessment at the time of the complete on-site survey.

OPTION 2

This option has been designed to address concerns that the very requirement for a self-assessment at a specified point in time may create a vulnerability to discovery of the self-assessment findings and any related plan of action.

Under Option 2, the organization does the following:

- Need not conduct a midcycle self-assessment and develop a plan of action.
- Will undergo an on-site survey at the midpoint of the organization's accreditation cycle.
- The survey will be approximately one-third the length of a typical full on-site survey.
- The organizations will be charged a fee to cover the costs of the survey.
- Develops and submits to the Joint Commission a plan of action to address any areas of non-compliance found during the on-site survey. The Joint Commission will work with the organization to refine its plan of action.
- Provides its measures of success to the Joint Commission for assessment at the time of the complete on-site survey. ■

Joint Commission seeking core measure test sites

Two measures deal with infection prevention

The Joint Commission is seeking volunteer hospitals with intensive care units (ICU) that would like to be considered for participation in a pilot test of six proposed ICU core measures.

The core measures include ventilator-associated pneumonia and central line associated bloodstream infections (BSIs).

The pneumonia measure will look at the relationship between patient head elevation and the development of vent-related pneumonia.

The numerator statement for the measure is

the number of ventilator days during which the head of the patient's bed is elevated at least 30 degrees. The denominator is the total number of ventilator days.

The central line BSI measure numerator is central line BSIs by type of ICU. The denominator is the number of central line days by type of ICU.

The pilot test will consist of a four-month period of data collection with monthly transmissions to the Joint Commission. The objectives of the pilot test include:

- evaluation of the reliability of the measure set on three dimensions (the data element level, the measure level, and the accuracy and completeness of case finding);
- evaluation of the data collection effort;
- assessment sampling strategies;
- evaluation and validation of risk models.

Pilot sites will be selected based on criteria that will allow for the broad representation of ICUs across the country necessary to test the measures.

Based on information received, approximately 100 hospitals will be identified and contacted. Pilot sites will be provided with detailed measure specifications, data abstraction/collection tools, abstractor guidelines, and training prior to the implementation of the pilot test.

For more information on the pilot project, go to: www.jcaho.org. ■

2004 Patient Safety Goals include hospital infections

Reduce infections, report sentinel events

Don't forget, new Patient Safety Goals — including reducing nosocomial infections — go into effect as of Jan 1, 2004.

Joint Commission surveyors will be looking for signs of implementation of the following:

1. Improve the accuracy of patient identification.
 - A. Use at least two patient identifiers (neither to be the patient's room number) whenever taking blood samples or administering medications or blood products.
 - B. Prior to the start of any surgical or invasive procedure, conduct a final verification process, such as a time out, to

confirm the correct patient, procedure, and site, using active — not passive — communication techniques.

2. Improve the effectiveness of communication among caregivers.
 - A. Implement a process for taking verbal or telephone orders or critical test results that require a verification read-back of the complete order or test result by the person receiving the order or test result.
 - B. Standardize the abbreviations, acronyms and symbols used throughout the organization, including a list of abbreviations, acronyms, and symbols not to use.
3. Improve the safety of using high-alert medications.
 - A. Remove concentrated electrolytes (including, but not limited to, potassium chloride, potassium phosphate, sodium chloride > 0.9%) from patient care units.
 - B. Standardize and limit the number of drug concentrations available in the organization.
4. Eliminate wrong-site, wrong-patient, wrong-procedure surgery.
 - A. Create and use a preoperative verification process, such as a checklist, to confirm that appropriate documents (e.g., medical records, imaging studies) are available.
 - B. Implement a process to mark the surgical site and involve the patient in the marking process.
5. Improve the safety of using infusion pumps.
 - A. Ensure free-flow protection on all general-use and PCA (patient controlled analgesia) intravenous infusion pumps used in the organization.
6. Improve the effectiveness of clinical alarm systems.
 - A. Implement regular preventive maintenance and testing of alarm systems.
 - B. Assure that alarms are activated with appropriate settings and are sufficiently audible with respect to distances and competing noise within the unit.
7. Reduce the risk of health care-acquired infections.
 - A. Comply with current hand hygiene guidelines by the Centers for Disease Control and Prevention.
 - B. Manage as sentinel events all identified cases of unanticipated death or major permanent loss of function associated with a health care-acquired infection. ■

(Continued from page 142)

wound, but the most compelling factor appears to be the prolonged contact with the patient.

"He was intubated prior to his entry into the operating room," she said. "He wasn't coughing at the time he came in, either. So what seemed to be more interesting — rather than his pharynx [as the source] — was that those two actually had contact with his wound longer than anyone else. Whether . . . it was aerosolized from the wound, I don't know."

Since infection control measures were being followed, the best way to protect health care workers may be to simply follow them after such procedures.

"I can't think of any way other way to try and protect these health care workers; but maybe in these type of cases, there should be surveillance cultures," Chandler told *Hospital Infection Control*. "I don't know if they would be candidates for prophylactic therapy; I know that has been ruled out for close contacts of patients with necrotizing fasciitis."

Reference

1. Centers for Disease Control and Prevention. Healthcare Infection Control Practices Advisory Committee. Guideline for infection control in health care personnel, 1998. *Am J Infect Control* 1998; 26:289-354.

2. Chandler RE, Lee Le, Post MT. Transmission of Group A *Streptococcus* to health care workers in the operating room. Abstract 559. Presented at the Infectious Disease Society of America. San Diego; Oct. 9-12, 2003. ■

Covert chemical attack may be hard to detect

CDC warning includes signs of symptoms

Media images to the contrary, a chemical terrorist attack may not be so obvious as people choking in a subway or being hosed down and decontaminated in the streets.

On the contrary, a chemical attack actually could go undetected until an alert epidemiologist begins putting the pieces together, warns the Centers for Disease Control and Prevention (CDC).

"Most people, when they think of chemicals, they focus on what happened in Tokyo with the sarin gas being released in the subway, or

things like a tanker truck full of chemicals being exploded," says **Martin Belson**, MD, medical toxicologist with the CDC national center for environmental health.

"We want to make sure they are also focused on deliberate poisoning of various media like food or water. It may be a little more insidious, where depending on the distribution of that food and water, they may kind of trickle into different EDs or to their doctor. It may not be an overwhelming mass of people becoming ill," he points out.

To help health care workers recognize a chemical release-related illness, the CDC recently identified examples of chemical-induced illness. (See table, p. 148.)¹

A covert release of a chemical agent might not be identified easily for at least five reasons:

1. Symptoms of exposure to some chemical agents (e.g., ricin) might be similar to those of common diseases (e.g., gastroenteritis).
2. Immediate symptoms of certain chemical exposures might be nonexistent or mild despite the risk for long-term effects (e.g., neurocognitive impairment from dimethyl mercury, teratogenicity from isotretinoin, or cancer from aflatoxin).
3. Exposure to contaminated food, water, or consumer products might result in reports of illness to health care providers over a long period and in various locations.
4. People exposed to two or more agents might have symptoms not suggestive of any one chemical agent (i.e., a mixed clinical presentation).
5. Health care providers might be less familiar with clinical presentations suggesting exposure to chemical agents than they are with illnesses that are treated frequently.

Vital clues may tell tale

Epidemiologic clues that might suggest the covert release of a chemical agent include:

- an unusual increase in the number of patients seeking care for potential chemical release-related illness;
- unexplained deaths among young or healthy people;
- emission of unexplained odors by patients;
- clusters of illness in people who have common characteristics, such as drinking water from the same source;
- rapid onset of symptoms after an exposure to a potentially contaminated medium (e.g.,

Selected* Clinical Syndromes and Potential Chemical Etiologies

Source: Centers for Disease Control and Prevention. Recognition of illness associated with exposure to chemical agents. *MMWR* 2003; 52(39):938-940.

paresthesias and vomiting within minutes of eating a meal); unexplained death of plants, fish, or animals (domestic or wild);

- a syndrome (i.e., a constellation of clinical signs and symptoms in patients) suggesting a disease commonly associated with a known chemical exposure (e.g., neurologic signs or pinpoint pupils in eyes of patients with a gastroenteritis-like syndrome or acidosis in patients with altered mental status).

Reference

1. Centers for Disease Control and Prevention. Recognition of illness associated with exposure to chemical agents. *MMWR* 2003; 52(39): 938-940. ■



ABSTRACT & COMMENTARY

MRSA strains strike both home and hospital

Distinct resistant strains emerge in communities

Synopsis: *Staphylococcus aureus* is a versatile enemy. It is spreading in the community, as well as in the hospital, with increasing resistance to

antibiotics. Its armamentarium now includes not only resistance to methicillin and vancomycin but also means of spread and pathogenic mechanisms we clearly need to know more about — and soon.

Source: Baggett HC, Hennessy TW, Leman R, et al. **An out break of community-onset methicillin-resistant *Staphylococcus aureus* skin infections in southwestern Alaska.** *Infect Control Hosp Epidemiol.* 2003; 24:397-458, 460.

The June 2003 issue of *Infection Control and Hospital Epidemiology* contains a series of articles on community-onset infections due to methicillin-resistant *Staphylococcus aureus* (MRSA). Although most of the studies are several years old, there are some important points to be made and ideas for future research. It is important to recognize that there has already been a lot of work done with 20,000 articles on MRSA referenced in Medline. It also should be noted that even the CDC's National Nosocomial Infection Surveillance (NNIS) study indicates more than half of the nosocomial *S. aureus* infections acquired in the hospital are due to methicillin strains. The Baggett¹ study describes an outbreak of community MRSA (COMRSA) in rural southwest Alaska, where 240 cases are reported from 1999 to 2000. Eighty percent of the *S. aureus* infections were reported as resistant, which was a dramatic increase from several years before. The infections caused were almost all skin and soft-tissue and were more likely in men. Only 19% of patients were hospitalized. Of the strains, it was remarkable that so many were susceptible to non-beta-lactam antibiotics. Virtually all strain were susceptible to tetracycline, rifampin, trimethoprim-sulfa, and ciprofloxacin. Seventy percent were reported as susceptible to clindamycin, although only 30% were susceptible to erythromycin.

Seal² reported an increase in MRSA from 13% in 1986 to 28% in 2000 of the *S. aureus* strains isolated at the University of Chicago medical complex. This was accompanied by a comparable rate of increase in the resistance to macrolides, as well as ciprofloxacin, but not to gentamicin or trimethoprim-sulfa. The study also found the methicillin-resistant strains to be more resistant to other antibiotics than the methicillin-susceptible one.

Jernigan³ cultured patients admitted to Grady Hospital in Atlanta and essentially found all could be traced to prior hospitalizations, but his study was done in 1998. Fishbain⁴ looked for acquisition of MRSA among patients hospitalized at Tripler Army Medical center in Honolulu and found only 1.7%; but the study period was short, and percent

of admissions sampled low. Acquisition seemed to correlate with time in the hospital as well as the intensive care unit. Calfee⁵ sampled family members of patients with MRSA who returned home after being hospitalized in Charlottesville, Va. They found about 15% at least colonized, but the follow-up times were variable, and it was unclear whether the hospitalized patients were the source or not. Campbell⁶ sampled 62 children in Louisville, KY, and found the hospital and community-onset strains the same by antibiogram testing.

Johnson⁷ studied 26 COMRSA strains in Detroit and found there to be at least three clones by pulse-field electrophoresis. Tambyah⁸ virtually found all strains of MRSA isolated within 48 hours of admission in a large teaching hospital in Singapore in 1998 were health care-associated and resistant to clindamycin, gentamicin, and trimethoprim-sulfa. Kenner⁹ cultured 404 patients seen in the outpatient clinics at Tripler Army Medical Center and found 38% colonized with *S. aureus* and 2% with MRSA. Risk factors for MRSA included male gender and recent hospital care. COMRSA strains were more likely to be susceptible to oral antibiotics.

Jernigan¹⁰ also studied 494 patients in an outpatient clinic in Atlanta and found 24.7% colonized with *S. aureus* and 3% with MRSA, but the survey was done in 1997-98. The MRSA strains were associated with prior hospitalization and chronic diseases. Said-Salim¹¹ reviewed the available literature on COMRSA strains and found evidence of at least 30 geographically distinct strains. Scarnato¹² found up to 3.3% of staff in a geriatric facility in France were at least colonized with MRSA, and virtually all of them were nurses or nursing assistants.

Eckhardt¹³ found evidence of spread of MRSA in a neonatal intensive care unit in Atlanta.

Comment by Alan D. Tice, MD, FACP, Infectious Disease Consultant, John A. Burns School of Medicine, University of Hawaii, Honolulu.

It is clear from the reports in this issue that *S. aureus* is a formidable and versatile microbe. It has successfully eluded many of our best antimicrobials and can carry a toolkit that makes it a deadly pathogen in many respects.¹⁴

The concept of community-acquired or community-onset strains is a difficult yet important one as it has been thought that most strains are bred in the hospital and may not survive long in the community. It would be nice if we could control the acquisition and spread of these strains in the hospital, but such is not the case. It is clear from the

articles that strains can be carried home to set up a focus there — and then be brought back into the hospital — as was the case a few years ago.

What also is apparent is that there are distinct strains, or more likely sets of strains, of MRSA in the community that are not hospital acquired but may cause serious infections as well. They seem to be replacing the methicillin-susceptible strains and possibly some of the hospital-acquired strains as well, but it is not clear why. The origin of these strains also is uncertain, although there is talk of a Samoan strain.¹⁵ Many also appear surprisingly susceptible to oral antibiotics, although their clinical value has not been adequately demonstrated. They produce primarily skin and soft-tissue infections that are eventually self-limited, although the sores and boils may be extensive and painful at times. It is interesting to see how many patients survive and even recover even though they have been on antibiotics that appear completely inactive by *in vitro* testing.

The definition of which MRSA strains are “health care-associated” and which are not also is problematic. A 48-hour window after admission does not help in many instances, as health care is so pervasive in our society. Most people are exposed to the medical care industry on a frequent basis: either through their own care or by employment or through other people close to them who are. The classification of a strain of *S. aureus* as MRSA vs. MSSA is also limited, as it is only one component of this complex organism. Toxin production, survival factors, growth factors, and other pathogenic mechanisms may be more important in many instances. This may be even more important with the advent of vancomycin resistance.

It is obvious *S. aureus* is a major threat and that it is growing. We need a variety of means to respond. Means of more rapid identification and infection control are critical. Clinical trials of the older oral antibiotics also are urgently needed, although there are few pharmaceutical companies interested in supporting them. Understanding of how it causes disease and how to combat the processes would also be helpful. A vaccine would be great, but it is not on the near horizon.¹⁶

References

1. Baggett HC, et al. *Infect Control Hosp Epidemiol* 2003; 24:397-402.
2. Seal JB, et al. *Infect Control Hosp Epidemiol* 2003; 24: 403-408.
3. Jernigan JA, et al. *Infect Control Hosp Epidemiol* 2003; 24:409-414.

CE/CME questions

17. Linda Chiarello, RN, MS, said the biggest SARS threat, based on the nosocomial outbreaks in Toronto and other areas, is:
 - A. transmission via fomites in the environment
 - B. the shortage of N95 masks
 - C. unprotected exposure to the undiagnosed patient
 - D. cross-transmission from workers to patients
18. In an unusual case with no obvious breaches in infection control, Group A Streptococcus was transmitted to a surgeon and scrub nurse after they performed a prolonged debridement procedure on a patient with:
 - A. toxic shock syndrome
 - B. necrotizing fasciitis
 - C. community-acquired pneumonia
 - D. HIV co-infection
19. Epidemiological clues that might suggest the covert release of a chemical agent include:
 - A. unexplained deaths among young or healthy people
 - B. emission of unexplained odors by patients
 - C. clusters of illness in people with common characteristics, such as drinking water from the same source
 - D. all of the above
20. How many of 798 surveyed facilities using hand hygiene products reported that a fire attributed to or involving an alcohol-based hand rub dispenser had ever occurred?
 - A. zero
 - B. one
 - C. four
 - D. seven

Answer Key: 17. C; 18. B; 19. D; 20. A

CE/CME instructions

Physicians and nurses participate in this CE/CME program by reading the issue, using the references for further research, and studying the questions. Participants should select what they believe to be the correct answers, then refer to answer key to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. After completing this semester's activity in December 2003, you must complete the evaluation form that will be provided and return it in the reply envelope to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you. ■

4. Fishbain JT, et al. *Infect Control Hosp Epidemiol* 2003; 24:415-421.
5. Calfee DP, et al. *Infect Control Hosp Epidemiol* 2003; 24:421-426.
6. Campbell AL, et al. *Infect Control Hosp Epidemiol*. 2003; 24:427-430.
7. Johnson LB, et al. *Infect Control Hosp Epidemiol* 2003; 24:431-435.
8. Tambyah PA, et al. *Infect Control Hosp Epidemiol* 2003; 24:436-438.
9. Kenner J, et al. *Infect Control Hosp Epidemiol* 2003; 24:439-444.
10. Jernigan JA, et al. *Infect Control Hosp Epidemiol* 2003; 24:445-450.
11. Said-Salim B, et al. *Infect Control Hosp Epidemiol* 2003; 24:451-455.
12. Scarnato F, et al. *Infect Control Hosp Epidemiol* 2003; 24:456-458.
13. Eckhardt C, et al. *Infect Control Hosp Epidemiol* 2003; 24:460.
14. Baba T, et al. *Lancet*. 2002; 359(9320):1,819-1,827.
15. Adhikari RP, et al. *J Antimicrob Chemother* 2002; 50(6):825-831.
16. Shinefield H, et al. *N Engl J Med* 2002; 346(7): 491-496. ■



JOURNAL REVIEW

False alarm? No fire found in hubbub on hand rubs

Survey finds no alcohol-fueled fires

Boyce JM, Pearson ML **Low frequency of fires from alcohol-based hand rub dispensers in health care facilities.** *Infect Control Hosp Epidemiol* 2003; 24:618-619.

Despite an ongoing flap between fire safety and infection control, the likelihood of alcohol hand hygiene products contributing to a fire appears to be exceedingly remote, the authors report.

Not one of 798 surveyed facilities using the hand hygiene products reported that "a fire attributed to (or involving)" an alcohol-based hand rub dispenser had ever occurred. Although a few facilities

had been using alcohol-based hand rubs since the 1980s, 87% of respondents started using them routinely after January 2000. The initial date of use of alcohol-based hand rubs was available for 766 (96%) of the facilities. These facilities had accrued an estimated combined total of 1,430 hospital-years of use of an alcohol-based hand rub.

"We believe that the potential benefits of having these products available in easily accessible areas of health care facilities (e.g., hallways) far outweigh the apparent low (and undocumented) potential fire hazard that may occur with their use," the authors emphasized. Health care workers in some parts of Europe have used alcohol-based hand rubs routinely for decades. Compared with soap and water hand washing, the products require less time to use; can be more accessible than sinks; cause less skin irritation and dryness; are more effective in reducing the bacterial count on hands; and when made widely available within an institution, have been shown to improve hand hygiene practices among workers. In view of these advantages, the Centers for Disease Control and Prevention now recommends the routine use of alcohol-based hand rubs by health care workers, as long as their hands are not visibly soiled. However, the implementation of alcohol-based hand rubs, particularly the placement of the dispensers in hallways, has been impeded in health care facilities in several states because of the concerns of local fire marshals that they may pose a fire hazard.

To obtain data on the frequency of fires related to alcohol-based hand rub dispensers, in March 2003, the authors administered a web-based questionnaire to members of the Society for Healthcare Epidemiology of America, the Association of Professionals in Infection Control and Epidemiology, and the Emerging Infections Network of the Infectious Diseases Society of America. Out of 840 responses representing all 50 states, 798 respondents (95%) reported alcohol-based hand rubs were being used in their facilities. Dispensers were located in patient rooms in 80% of facilities, in treatment rooms in 89% of facilities, and in hallways in 61% of facilities. The authors conceded that the fact that 95% of respondents reported using

COMING IN FUTURE MONTHS

■ Exclusive coverage of the Joint Commission's landmark conference on infection control

■ Full-blown drug resistance in a strain of *Acinetobacter*

■ Post-SENIC scene: What proportion of infections are preventable?

■ CDC finalizes guidance for SARS in health care

■ Reaching a truce on the fire-alcohol hand hygiene issue

alcohol-based hand rubs suggests that personnel working in facilities using these products were more likely to complete the questionnaire than those working in institutions where such products had not yet been adopted. "Nonetheless, the data provided by the survey, when combined with decades of experience with alcohol-based hand rubs in Europe, suggest that the incidence of fires associated with the use of these products in health care settings is extremely low," they concluded. ■

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- cite solutions to the problems associated with those issues, based on guidelines from the federal Centers for Disease Control and Prevention or other authorities, and/or based on independent recommendations from clinicians at individual institutions. ■

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