Many Doctors Don't Don Infection Control Gowns

BY BETSY BATES
Los Angeles Bureau

LOS ANGELES — Physicians were the least likely among health care workers to comply with hospital rules requiring isolation gowns in rooms of patients carrying multiresistant organisms, according to a study exploring ways to reduce severe nosocomial infection outbreaks.

Among physicians, surgeons were the least compliant, reported Farrin A. Manian, M.D., an infectious disease specialist at St. John's Mercy Medical Center in St. Louis, at the annual meeting of the Society for Healthcare Epidemiology of America.

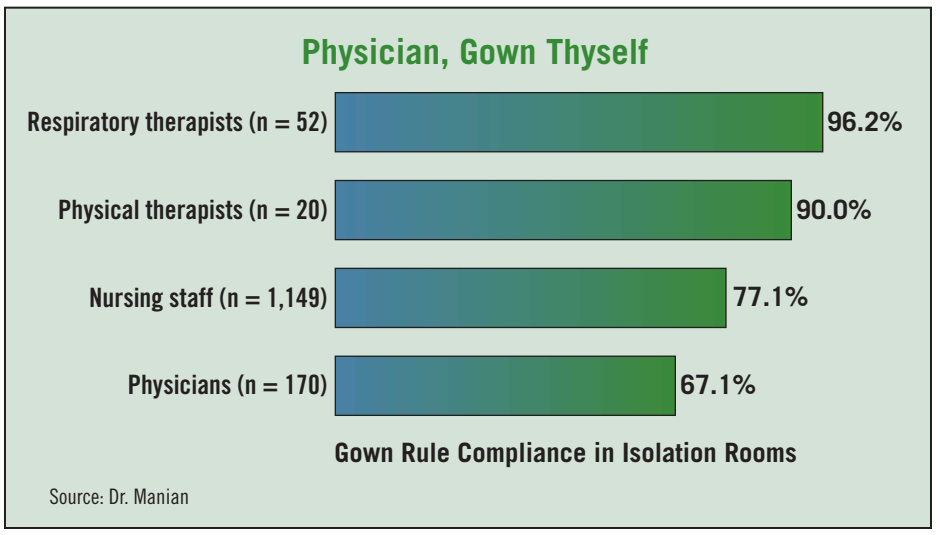
Gowns and gloves are required as part of modified contact precautions (MCP) at Dr. Manian's hospital in an effort to avert the epidemic spread of infections caused by organisms such as methicillin-resistant *Staphylococcus aureus,* vancomycin-resistant enterococci, and *Clostridium difficile*.

All visitors and health care workers must comply with precautions before entering the well-marked rooms of patients infected or colonized by these pathogens.

But just 74% of 2,144 people seen entering MCP rooms wore gowns in a covert observation study coordinated by Dr. Manian and John J. Ponzillo, Pharm.D., at the 900-bed tertiary care medical center.

Health care workers were more likely than visitors to wear gowns, at rates of 77% and 66%, respectively. The health care workers most likely to comply were respiratory therapists, with a compliance rate of 96%. Physicians were the worst at following infection control gown orders, with a compliance rate just over 67%.

Compliance also varied by medical specialty, with intensivists topping the list at a compliance rate of 84%, followed by house staff, 71%, miscellaneous physicians, 70%, internists and family physicians, 61%, and surgeons, 41%.



Logistic regression analysis identified three factors independently associated with noncompliance with the gown rule: location of the patient room in a non-ICU ward, occupation (physician), and male gender. There was a very strong correlation between gown use and glove use among health care workers in the ICU, with 110 of 115 workers (96%) wearing gowns also wearing gloves, compared with 3 of 18 (17%) not wearing gowns.

Dr. Manian stressed the importance of complying with modified isolation precautions in hospital environments increasingly under threat of difficult-to-control nosocomial infections. In an interview about poor physician compliance, he said, "Honestly, I think it has to do with the perception of risk. If I said this patient has Ebola, physicians would comply."

Some physicians, he added, "think rules don't apply to them." ■

Bacterial Contamination of Platelets Poses Unrecognized Transfusion Risk

BY MIRIAM E. TUCKER
Senior Writer

Always consider the possibility of bacterial contamination of blood products—particularly platelets—in patients who experience a febrile reaction to a transfusion, the Centers for Disease Control and Prevention advised.

Transfusion-associated bacterial sepsis is the second most frequently reported cause of transfusion-related mortality in the United States, accounting for 17% of 277 reported transfusion deaths during 1990-1998, the CDC said (MMWR 2005;54:168-70).

Platelets are particularly vulnerable to bacterial growth because they are stored at room temperature for up to 5 days, whereas other blood components are refrigerated or frozen. An estimated 1 in 1,000-3,000 platelet units are contaminated with bacteria, resulting in life-threatening sepsis in 1 of every 100,000 transfusion recipients and immediate death in 1 of every 500,000 recipients.

These risks are greater than those estimated for transfusion-associated viral infections such as hepatitis C virus or HIV—yet are still likely to be underestimates because bacterial infections attributed to contaminated platelets are underreported, the CDC said.

To reduce this risk, AABB (formerly the American Association of Blood Banks), adopted a new standard in March 2004 requiring member blood banks and transfusion services to implement measures to detect and limit bacterial contamination in all platelet components. Additional guidance for implementation of the standard—aimed at clinicians as well as institutions—was issued in February 2005. It is available at www.aabb.org.

A survey conducted last summer by the Infectious Diseases Society of America (IDSA) suggested that awareness of the problem and of the new standard was not high.

The survey was distributed to all 870 infectious-disease consultant members of IDSA's Emerging Infections Network. Of the 399 who responded, only 36% reported being aware that bacterial contamination of platelets was one of the most common infection risks of transfusion therapy, and only 20% indicated having been familiar with the new AABB standard prior to participating in the survey.

Indeed, the CDC cited two case reports that illustrate the need for awareness and rapid diagnosis of transfusion-associated infections, since false negatives—leading to fatal bacterial sepsis—can occur even when pretransfusion testing complies with the new standard.

In one case, a 74-year-old man with leukemia died of sepsis 21 days after receiving a transfusion consisting of a pool of five platelet unit concentrates. Before transfusion, the pooled unit had been tested with a reagent strip to determine the pH level, a means for detecting the presence of bacteria. Despite the sample having been within the accepted range (pH greater than 6.4), the patient's blood cultures following transfusion grew *Staphylococcus aureus*.

Although the use of pH tests is an option under the AABB standard, they are less sensitive than are culture-based methods in whole-blood–derived samples, which are pooled from multiple donors. However, most blood collection centers only culture apheresis platelets, which are derived from single donors.

But culture had been performed in the second case, a 79-year-old man who received a transfusion of pheresis platelets for thrombocytopenia after coronary artery bypass surgery. Nonetheless, he developed shortness of breath, chills, a fever, and hypotension about an hour after the transfusion, experienced multiple thrombotic events, and died 27 hours later. *Staphylococcus lugdunensis* was later cultured from his blood and the leftover platelet bag.

Here, the volume of the platelet sample—4 mL in a standard aerobic blood culture bottle—was less than the manufacturer's recommended volume for platelet screening. ■

Start Dexamethasone Early In Pneumococcal Meningitis

BY GWENDOLYN HALL
Associate Editor

MIAMI BEACH — Dexamethasone should be started before or with the first dose of antibiotics in patients with suspected pneumococcal meningitis, Karen L. Roos, M.D., said at the annual meeting of the American Academy of Neurology.

It is vital to stop the inflammatory process at the point where inflammatory cytokines are released.

"If you can stop the evolution here, all of the things that go forward from there that lead to the neurologic morbidity from meningitis can be stopped," she said.

In a prospective, randomized, double-blind trial, adjunctive dexamethasone improved outcomes in acute bacterial meningitis.

In the future, there may be all kinds of effective treatments, such as monoclonal antibodies injected at the time of lumbar puncture, but "today, what we have is dexamethasone," said Dr. Roos, the John and Nancy Nelson Professor of Neurology at Indiana University, Indianapolis, and an author of the Practice Guidelines for the Management of Bacterial Meningitis.

An excellent, prospective, randomized, double-blind trial (N. Engl. J. Med. 2002;347:1549-56) has demonstrated that adjunctive dexamethasone improved outcomes in adults with acute bacterial meningitis, giving us evidence-based medicine to back this treatment, she said.

The adult dose is dexamethasone 10 mg, given 15-20 minutes before the first dose of antimicrobial agent or with the agent, and 10 mg IV thereafter every 6 hours for 4 days.

In response to a question from the audience, Dr. Roos said she does not prescribe dexamethasone to patients who have been on antimicrobials for 24 hours or more at the time she sees them.

There has been some concern that dexamethasone might interfere with the absorption of vancomycin into the cerebrospinal fluid. That concern, however, stemmed from a small study in which the dose of vancomycin administered was 15 mg/kg every 8 hours or 7.5 mg/kg every 6 hours—the recommended dose is 60 mg/kg per day. In studies in which patients were given the recommended doses of vancomycin with dexamethasone, there was reliable penetration of vancomycin into the cerebrospinal fluid, Dr. Roos said.

Dr. Roos has received an educational grant from Pfizer Inc. ■