Prevention of MRSA Surgical Site Infection

Peggy Thompson, Director, Infection Control

National Nosocomial Infection Surveillance System (NNIS) data show that the rates of methicillin-resistant *Staphylococcus aureus* (MRSA) infections doubled in ICU's between 1992 and 2003. The proportion of *S. aureus* hospital acquired infections caused by MRSA tripled during that same time period. Data show that approximately 30% of adults are colonized with *S. aureus* and 0.9-13.2% of healthcare workers are MRSA colonized. The incidence of MRSA in the United States is skyrocketing and numerous strategies have been evaluated in an attempt to curb the ever-increasing problem in our hospitals. The reduction of MRSA has also been adopted as one of the goals of the Institute for Healthcare Improvements' Campaign to Prevent Harm to 5 Million Lives.

In 2006, William Jarvis, M.D. completed a prevalence study of MRSA in US hospitals. The results showed the prevalence of MRSA to be 46.3 per 1000 inpatients (34 infections and 12 colonizations per 1000 inpatients). This is 8-11 times higher than any previous incidence estimates.

*Chlorhexidine gluconate* (CHG) has been well established as one of the most effective skin prep solutions for pre-operative skin cleaning. Its broad spectrum and residual antimicrobial action surpasses other skin preparations and the occurrence of adverse skin reactions is infrequent. A new preparation of 2% CHG no-rinse cloths has been developed for pre-surgical skin preparation. Several published studies have shown significant reductions in surgical site infection (SSI) rates with the use of the CHG cloths.

*Staphylococcus aureus* is the most common cause of SSI, believed to most frequently originate from the patients own flora. *S. aureus* colonizes up to half of healthy adults. Studies show that MRSA colonization of the nares increased the risk of subsequent MRSA infection by 9-12 times. Mupirocin administered intranasally has been shown to decrease the incidence of surgical site infections in the non-general surgery population.

In December 2006, TGH implemented a program of surgical prophylaxis which included the administration of the no-rinse CHG baths and intranasal mupirocin beginning the day before surgery targeting cardiac, neurosurgery, orthopedic, and vascular procedures. Pre-printed order sets were implemented to enhance compliance with the policy. The goal was to decrease the incidence of surgical site infections with MRSA. The treatment continues for 4 days post-op, omitting the incision site when performing the CHG bath. MRSA surgical site infections in the targeted population have decreased by 60% in 2007. This far exceeded our expectations and encourages the continuation of this practice. You can help by making sure these very important pre-printed order sets are present on your patient’s chart.
Many open access advocates will already have heard that NIH's Public Access Policy, until now voluntary, is set to become mandatory following President Bush's approval on Dec 26th 2007 of the latest NIH appropriations bill, which includes the following wording:

"The Director of the National Institutes of Health shall require that all investigators funded by the NIH submit or have submitted for them to the National Library of Medicine's PubMed Central an electronic version of their final, peer-reviewed manuscripts upon acceptance for publication to be made publicly available no later than 12 months after the official date of publication: Provided, That the NIH shall implement the public access policy in a manner consistent with copyright law."

This is great news both for researchers and for the general public. Perhaps predictably, the publishing organizations who had lobbied strenuously but unsuccessfully against the new policy have lost no time in issuing statements condemning it and forecasting dire consequences. Statements from the Association of American Publishers and STM appear to take the curious position that it is the publishing organizations who are the rightful owners of the intellectual results of scientific research, and that the NIH is taking an appalling liberty by asserting, on behalf of the public, any rights at all over these results.

The NIH Public Access Policy assures that the public has access to the published results of NIH funded research. It requires scientists to submit journal articles that rise from NIH funds to the digital archive PubMed Central. Policy requires that these articles be accessible to the public on PubMed Central to help advance science and improve human health. As of April 7th 2008, all articles arising from NIH funds must be submitted to PubMed Central on acceptance for publication.
Many of you have learned (hopefully not the hard way) that access to patient care areas in the Bayshore Pavilion requires a TGH ID badge to unlock doors and to operate the staff elevators.

By the end of March, access to all surgical suites in the main hospital will require a swipe of your TGH badge as well.

Installation of new scanner locks is scheduled for the Main OR on the second floor, the surgery center on the third floor, East Pavilion, and the cardiac ORs on the third floor.

Individual OR rooms will not be locked. However, every access point to the surgical suites, including doors by the physician locker rooms, will require badge swipes to unlock.

Welcome Dr. S. Parrish Winesett—by Dr. Selim Benbadis

- S. Parrish Winesett, MD, has been a child neurologist in the Tampa Bay area for over 10 years.
- In a brave change of career, he joined the Comprehensive Epilepsy Program as a one-year Epilepsy Fellow. He is spending 6 months at the Cleveland Clinic Foundation, Cleveland, OH, and 6 months here at USF/TGH with Dr. Benbadis, Program Director.
- As of July 1, 2008, he will be the USF Pediatric Epileptologist and will develop the pediatric side of the program, in conjunction with All Children's Hospital in St. Petersburg.

The USF/TGH is a level IV (highest) level Comprehensive Epilepsy Program, and one of the highest volumes surgical center in the Southeast. For more information, see http://epilepsy.usf.edu
The physicians below were added to TGH staff December 31st.

M. H. Halawani, M.D.  Internal Medicine
Mary H. Lien, M.D.  Dermatology
Sumeeta S. Mazzarolo, M.D.  Internal Medicine
Kimberly A. Tobon, D.O.  Neorology
Jennifer G. Tordilla-Wadia, M.D.  Otolaryngology