CHCA Improvement Topic

Antibiotic-Impregnated Catheters

April 2008

Antibiotic-Impregnated Catheters Reduce Risk of Expensive Bloodstream Infections in Pediatric Patients

THE CHALLENGE.

Cost of One Bloodstream Infection = $46,133

Bloodstream infections are counted as a major contributor to harm in pediatric patients receiving treatment through central venous catheters. These infections are both costly and dangerous. Bloodstream infections account for 30 percent of all health care associated infections in pediatrics according to the CDC's National Nosocomial Infection Surveillance System (NNIS).

A recent CHCA improvement collaborative estimated one bloodstream infection can cost children's hospitals **$46,133** due to the longer length of stay and additional ancillary utilization, making it the most expensive of all nosocomial infections.

THE SOLUTION.

Many children's hospitals are deploying process improvement strategies to reduce the occurrence of bloodstream infections. Minocycline/Rifampin-impregnated catheters have emerged as an effective infection prevention tool. In studies, these catheters were 12 times less likely than other treated catheters to produce catheter-related bloodstream infections, protecting against S. epidermidis and MRSA[1]. Consistent use can help children's hospitals meet national safety standards for infection prevention.

To help Owner Hospitals control infection risk while effectively managing supply costs, CHCA established an agreement with Cook Medical to provide the antibiotic-impregnated catheter at a discount.

Spectrum Antibiotic-Impregnated Catheters, coated with minocycline and rifampin, can significantly decrease hospital and Intensive Care Unit length of stay.

THE RESEARCH.

Published studies indicate Cook Spectrum catheters are highly effective in preventing bloodstream infections.

New England Journal of Medicine[2]

- Bloodstream infections are 12 times less likely when patients receive the Cook catheter
- Colonization is three times less likely when patients receive the Cook catheter

[2] R. Daroulche, I. Raad, et al., "A Comparison of Two Antimicrobial-Impregnated Central Venous Catheters." New England Journal of Medicine, 340(1999), 1-8.

Annals of Internal Medicine[3]

- Less bacteremia
  - There was a significantly lower incidence of catheter-related bacteremia in patients receiving the Cook catheter
- Protection against infection for at least two weeks
  - Provides protection again S. Epidermidis, the most common cause of catheter infection

[3] I. Raad, R. Daroulche, et al., "Central Venous Catheters Coated with Minocycline and Rifampin for the Prevention of Catheter-Related Colonization and Bloodstream Infections: A Randomized, Double-Blind Trial," Annals of Internal Medicine 127(1997), 267-274.

Learn more at cookmedical.com.

Contract # CH-MS-005. Owner Hospitals can experience the advantages of group purchasing for antibiotic-impregnated catheters by participating in the CHCA contract.

Victoria Sullivan, Director
Group Purchasing Services
913.262.1436
Victoria.Sullivan@chca.com

[1] Antimicrobial Agents and Chemotherapy, May 2007, p. 1656-1660, Vol. 51, No. 5
0066-4804/07 doi:10.1128/AAC.00350-06
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Comparative Activities of Daptomycin, Linezolid, and Tigecycline against Catheter-Related Methicillin-Resistant Staphylococcus Bacteremic Isolates Embedded in Biofilm
Issam Raad,[1] Hend Hanna,[1] Ying Jiang,[1] Tanya Dvorak,[1] Ruth Reitzel,[1] Gassan Chaiban,[1] Robert Sherertz,[2] and Ray Hachem[1]*

Child Health Corporation of America