

~ Bugs Life ~
Infectious News



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 CID, Faculty of Health Sciences, Tygerberg, Stellenbosch University

Staff News



Congratulations!

Dr Jean Nachega, Director of CID received his PhD in Pharmacology at UCT on 6 June 2008.

Special Interest:

- ID symposium at Academic Year Day
- Sponsored HIV Summer School in Frankfurt
- Review: Healthcare-associated infections in neonates
- Comments from Prof Mark Cotton

Highlights on page 2:

- High incidence of antimicrobial resistant organisms in nasopharyngeal and blood isolated of HIV-infected children from Cape Town
- MRSA Infections
- Preventing MRSA transmission in nursing homes for older people.

Infectious Diseases Symposium at Academic Year Day 2008

At this year's Academic Year Day there will be a symposium that will focus on Infectious Diseases. It is scheduled for Wednesday morning 13 August 2008 from 8h30 to 11h30. For more information contact Christa de Vries at cdevries@sun.ac.za.

Request for nominations: Sponsored HIV Summer School in Frankfurt

There is an opportunity to be fully sponsored by the German Academic Exchange Service (DAAD) to attend a 10-day summer school at the HIVCENTER of the Department of Internal Medicine of the Johann Wolfgang Goethe University, Frankfurt am Main, Germany, from 27.10.2008 - 7.11.2008. The title of the summer school is "The Global Binding Site – Connecting Individualized Therapy and Public Health Approach in the Treatment of HIV/AIDS"

The summer school is the first training course presented as part of the International Partnership on HIV and Infectious Diseases between the Johann Wolfgang Goethe University in Frankfurt am Main, Germany, the Centre for Infectious Diseases (CID) of Stellenbosch University and the Mafeteng Government Hospital in Lesotho. Topics covered will include Treatment and Care, Anti-Retroviral Treatment and how the new drugs work, Prevention, Pharmacokinetics, Monitoring and Adherence, Pathophysiology and Long-term Side-effects of ARV's, Resistance and Co-infections.

Heads of Departments are herewith requested to nominate potential registrars, medical officers or qualified nurses in their departments. The candidate should write a motivation to accompany the nomination. The two documents should be submitted together to CID before or on 31 July 2008. The CID will then select five candidates for this excellent training opportunity. There is an additional opportunity for **7 alumni of German Universities** to apply to attend this summer school. For more information contact Dr Christa de Vries at cdevries@sun.ac.za

Review: Healthcare-associated infections in neonates

Zingg *et. al.* Current Opinion in Infectious Diseases. 21(3):228-234, June 2008.

Healthcare-associated infections remain a permanent challenge among neonates. Bloodstream infection remains the leading healthcare-associated infection in the neonatal unit, but multimodal interventions have been shown to successfully reduce this life-threatening complication. Emerging pathogens such as methicillin-resistant *Staphylococcus aureus* (MRSA), extended-spectrum-[beta]-lactamase-producing Gram-negative organisms and pan-resistant *Acinetobacter baumannii* or *Serratia marcescens* complicate the use of standard antibiotic treatment and are a particular concern in this setting because of the limitation in antibiotic classes among neonates. Community-acquired MRSA infections are increasing in frequency and are particularly worrisome. The authors of this article offer a simple solution for the prevention of invasive *Candida* infection through Fluconazole .

Prof Mark Cotton of CID and KIDCRU commented that the most important challenges to neonatal care in the public sector are insufficient skilled nurses and insufficient space for sick babies. Infection control is insufficiently practiced and results in spread of resistant organisms. Fluconazole prophylaxis in our setting is of questionable benefit and will definitely produce resistant organisms. To his knowledge Fluconazole prophylaxis has not been validated in an African setting. The most important approach for antibiotics is to treat appropriately and for as short a time as possible. He recommends to always de-escalating from broad- to narrow spectrum as soon as antibiotic-sensitivities become known. He further advocates enteral feeding and the use of breast milk as the primary nutrition. He urges to remove intravascular devices as soon as possible.

High incidence of antimicrobial resistant organisms in nasopharyngeal and blood isolates of HIV-infected Children from Cape Town

Prof Mark Cotton, Elizabeth Wasserman, Juanita Smit, Andrew Whitelaw and Heather Zar *BMC BioMed Central Infectious Diseases* 2008, 8:40.
This article is available from <http://www.biomedcentral.com/1471-2334/8/40>

There is little information on nasopharyngeal (NP) flora or bacteremia in HIV-infected children. The aim of this study was to describe the baseline organisms and antimicrobial resistance patterns of potentially pathogenic bacteria in HIV-infected children enrolled in a prospective study investigating the long-term effects of TMP-SMX and INH prophylaxis. Antibiotic resistance was extremely common with between 80-90% of pathogens (except *M catarrhalis*) were resistant to TMP-SMX. Almost 80% of *S aureus* were methicillin-resistant (MRSA) and 50% of Enterobacteriaceae has ESBL production (resistant to cefotaxime and ceftriaxone). Even though the authors found significantly more MRSA in children on TMP-SMX at baseline, 70% of those not on TMP-SMX also had MRSA, supporting the contention that the organism is well established in the homes of the infants. The most common organisms causing bacteraemia were ESBL-producing Gram-negative organisms. Approximately 75% of the infants had been recently hospitalized and may have acquired the resistant organisms that way. Community-associated infection due to MRSA is an emerging problem in children from developed countries. The colonizing NP flora and high level of antibiotic resistance from Enterobacteriaceae and *S aureus* suggest that empiric antibiotic treatment should be adapted to cover MRSA and ESBL-producing Enterobacteriaceae for SEVERELY ILL HIV-infected infants. Amikacin is a more appropriate aminoglycoside than gentamicin for severely ill HIV-infected children in this region. There is urgent need for more data. Through better access to antiretroviral therapy and reduced hospitalization, the situation may improve.

MRSA Infections



MRSA (methicillin-resistant *Staphylococcus aureus*), a type of staph infection resistant to various antibiotics, is on the rise. The number of MRSA infections treated in hospitals doubled in the USA from 1999 to 2005. Last October, CDC's latest findings, published in the *Journal of the American Medical Association*, drew significant media attention since it coincided with some high-profile cases of high school athletes dying from MRSA. The media said that deaths from MRSA, which killed 19,000 people last year, surpassed the number of AIDS deaths in the United States.

The CDC report stated that 85 percent of all invasive MRSA infections were associated with healthcare settings, such as hospitals or nursing homes. Fifteen percent of reported infections were community-associated, where infection occurred in people without documented contact with healthcare settings.

To help combat MRSA in healthcare settings, CDC has published guidelines for the management of multidrug-resistant organisms in healthcare settings. Through CDC-supported efforts in Pennsylvania, local hospitals have successfully reduced bloodstream and MRSA infections as much as 70% by fully implementing CDC prevention recommendations.

The good news is that MRSA is preventable. The first step to prevent MRSA, is to prevent healthcare infections in general. Infection control guidelines are central to the prevention and control of healthcare infections and ultimately, MRSA in healthcare settings. To learn more about infection control guidelines and to prevent infections in our local settings contact Prof Shaheen Mehtar of CID smehtar@sun.ac.za at the Unit for Infection Prevention and Control (UIPC).

Photos: Courtesy of CCID, Wikipedia and Merck

Preventing the transmission of MRSA in nursing homes for older people

Hughes *et. al.* *Cochrane Database of Systematic Reviews* 2008 (1).

Nursing homes for older people provide an environment likely to promote the acquisition and spread of methicillin-resistant *Staphylococcus aureus* (MRSA), putting residents at increased risk of colonization and infection. It is recognized that infection control strategies are important in preventing and controlling MRSA transmission. The lack of studies in this field is surprising. Much of the evidence for recently-issued United Kingdom guidelines for the control and prevention of MRSA in health care facilities was generated in the acute care setting. It may not be possible to transfer such strategies directly to the nursing home environment, which serves as both a healthcare setting and a resident's home. Rigorous studies should be conducted in nursing homes, to test interventions that have been specifically designed for this unique environment.