

AGROMEDICINE PROGRAM UPDATE

MUSC DEPARTMENT OF FAMILY MEDICINE – DIVISION OF PUBLIC HEALTH AND PUBLIC SERVICE
295 CALHOUN ST., P. O. BOX 250192, CHARLESTON, SC 29425

Wm. M. Simpson, Jr., MD, Editor
Simpsovm@musc.edu
843-792-2281 Fax 843-792-4702

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PROGRAM NOTES

>The year continues to speed by! Graduation is here and a new group of residents will arrive in July, freshly minted by medical schools around the country. At the same time, Dr. Ivar Frithsen will switch from his role as fellow to Associate Medical Director of the Agromedicine Program and assistant professor in the College of Medicine.

Congratulations to him and to all of the graduates you are connected with, as all begin new stages in their lives!

>Dr. Schuman's new book, Rainbows in Washtubs, now has a publication date of November 1, 2007. It will be available in both paperback and hard cover editions from Haworth Press.

>Bee sting reactions and tick-borne diseases are this spring's most requested topics for our speaking engagements. We have several presentations scheduled in the next few weeks, and would be happy to add your group to our list.

Please call the office or email us with your request.

It is an honor and a privilege to be given the opportunity to speak to groups of all sizes, ages and interests.

>Talking about years flying by...another five years have passed since we evaluated hospital admissions and emergency room visits for pesticide poisoning in SC. We plan another in our series of publications on the topic as soon as data is available.

RECENT CONSULTS

>A newly arrived junior faculty member at a SC university noted a smell in one of the bedrooms of his temporary apartment. His landlord related that an area of the bedroom had been treated for termites. The professor contacted Mike Weymann and Cam Lay at the Clemson Pesticide Regulatory Office. Further investigation revealed that a previously registered termiticide (never licensed for interior use) had been sprayed in a wall void in the

bedroom after removing a baseboard. The bedroom was closed off and a window was left open. Wipe samples obtained in the bedroom showed chlorpyrifos (an organophosphate) residue only on the baseboard. The professor, his wife and two children (four years and six months old) lived in the apartment. The mother and father had had no symptoms. The two children had vomiting and diarrhea with mild upper respiratory symptoms and low-grade fever for a couple of days after the smell was noted.

The organophosphate termiticide was formulated for soil application, so was certainly not applied according to label directions. The odor of the product is that of the petroleum distillates which are used to distribute the active ingredient. The active ingredient is essentially odorless and has a low vapor pressure (so does not "off-gas" to any significant extent).

With fever, the symptoms reported in the children are much more likely due to a

viral syndrome than a response to the acetylcholinesterase inhibitor. Nevertheless, due to the parents' concern, the children were seen by their physician (they were completely without symptoms or physical findings) and a red cell cholinesterase level was drawn on the older child. (The initial application was made in late March—serum cholinesterase returns to normal rapidly, red cell levels change slowly as irreversibly inhibited red cells are replaced).

If the initial RBC cholinesterase level is normal, no further testing is necessary. If it is low, a repeat test is required 3-4 months later to insure that the low level is not a normal variant.

FROM THE LITERATURE

>Unintentional Poisoning Deaths –US 1999-2004

Apropos our mention of data collection on pesticide poisonings, the CDC reports on data from the National Vital Statistics System.

Nearly all poisoning deaths in the US are attributed to drugs, and most drug poisonings result from the abuse of prescription and illegal drugs. Previous reports had indicated a substantial increase in unintentional poisoning mortality during the 1980's and 1990's. This report summarizes the results of more recent information. Poisoning mortality rates increased each year from 1999 to 2004, rising 62.5% in the

five year period. Increases were largest among 15-24 year olds (113%), women (103%), Caucasians (76%) and those living in the South (113%). Larger rate increases occurred in states with more rural populations. Previous studies using multiple cause-of-death data indicate that the trend described in this report can be attributed primarily to increasing numbers of deaths associated with prescription opioid analgesics and psychotherapeutic drugs and overdoses of cocaine.

--MMWR 2007;56:93-96

Editor's note: There is not much good news in this report. The bad things that have happened in inner cities in the past are happening now with increasing frequency in the rural South, to young adults. Interventions on several fronts—more careful prescribing, modifying prescription drugs to reduce their potential for misuse, improved resources for treatment of drug dependence, to name but a few—are necessary, and soon.

>MRSA Transmission between Cows and Humans

Readers recall Dr. Frithsen's article on MRSA in the March issue of the Agromedicine Program Update. Now researchers from Hungary and the Netherlands report the isolation of MRSA from cows with subclinical mastitis and from a person who worked with these animals. The bovine and human strains were indistinguishable by

phenotyping and genotyping methods. They report this as the first documented case of direct transmission of MRSA between cows and humans, although the direction of transfer could not be proven.

--Jahasz-Kaszanyitzky E, Janosi S, Somogyi P et al. *Emerg Infect Dis.* 2007;13(4):630-1

>What works to reduce contact rates during a pandemic?

Researchers at the Rollins School of Public Health and the CDC used stochastic simulation models to explore the effects of school closings and voluntary confinement of ill persons and their household contacts. They found that school closings would have no substantial effect on pandemic-related outcomes in the absence of measures to decrease out-of-school contacts. However, if persons with influenza-like symptoms were encouraged to stay home, rates of illness and death might be reduced by ~50%. By preventing ill long term care facility residents from making contact with other residents, illness and deaths in this vulnerable population might be reduced by ~60%. Restricting activities of infected persons early in a pandemic could decrease the pandemic's health effects.

--Haber MJ, Shay DK, Davis XM et al. *Emerg Infect Dis.* 2007; 13(4):581-9

Closing thought:

You can only cure retail, but you can prevent wholesale.

--Brock Chisholm