

The Pediatric Consultation and Referral Service makes every attempt to communicate with primary care providers for each patient to which we attend. As our patients and schedules each become more complex, there is an increasing likelihood of adverse events arising from discontinuities in care. Office phones, hospital operators, e-mail, pagers, dictations, back-line numbers... how do we keep track of the multitude of ways to reach each other? There are no easy solutions that are universally applicable, but we would like to partner with you, the community, to improve the care that our patients receive. We would appreciate your feedback and thoughts on this matter as it deserves a systems-based approach. Contact: mshen@seton.org.

The Clinical Dilemma of Aseptic Meningitis

Managing a child who appears to have aseptic meningitis is one of the more difficult tasks in pediatrics. When the LP reveals CSF pleocytosis, should the child be admitted to the hospital with parenteral antibiotics? Sent home from the ED/office? Observed in the hospital without antibiotics?

As with most challenges, there is no one right answer, and each patient deserves a thoughtful review of their clinical presentation and lab findings. However, with the aim of developing a more cohesive community standard, we submit for you our thoughts as hospitalists, and how we generally approach this problem at Dell Children's Medical Center of Central Texas.

First, any child with meningitis who looks "toxic", or "septic", or "terrible" should be admitted to the hospital and given meningitic doses of Ceftriaxone and Vancomycin, pending the results of CSF cultures. That seems clear enough.

It gets murky when the child looks terrific but the CSF contains an elevated number of white cells. Although our practice styles vary somewhat from attending to attending, our group generally follows the guidelines outlined by Nigrovic et al in *Pediatrics* in 2002. In that retrospective cohort study, the authors found five clinically relevant indicators of bacterial meningitis. They defined a point system, called the Bacterial Meningitis Score (BMS), which can be derived by using the following chart:

	0 points	1 point	2 points
Seizure	absent	present	
Peripheral ANC	< 10,000	≥ 10,000	
CSF ANC	< 1,000	≥ 1,000	
CSF protein	< 70	≥ 70	
CSF gram stain	no organisms		bacteria present

Adding together all the individual points yields the BMS. In the paper, there were 144 children with a BMS of 0, all of whom had

aseptic meningitis. 47 of 52 (90%) children with a BMS of 1 had aseptic meningitis. 33 of 38 (87%) of children with a BMS of 2 or greater had bacterial meningitis.

This clinical prediction rule was verified in subsequent paper with a larger sample size, and after the introduction of pneumococcal conjugate vaccine. In that study, two children out of 1,714 with CSF pleocytosis and a BMS of 0 had bacterial meningitis (0.1%). Both children were younger than two months of age.

The authors of the study suggest that children with CSF pleocytosis who are 1) younger than two months, or 2) have a BMS of one or greater should be admitted to the hospital and given parenteral antibiotics, pending culture results. For children over two months of age with a BMS of zero, they recommend withholding antibiotics, and either discharging home or observing in the hospital.

There are, of course, caveats: previous treatment with antibiotics will always cloud the picture, and bloody taps will usually result in an artificially elevated CSF ANC and protein level. Also, clinical judgment, based on a thorough history and physical, is still the most important determinant of patient management. It becomes particularly crucial when there are atypical clinical findings suggestive of HSV encephalitis, TB meningitis, or other less likely causes. Despite these caveats, however, the scoring system is useful because it is quick, easy, fairly intuitive, and it has proven to have a very high negative predictive value.

We hope this information can benefit you in your practice, and help you understand our management plans at the hospital. As always, we welcome your feedback and questions.

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Conference update:

"KEEPING CENTRAL TEXAS CHILDREN WELL"

On Saturday, May 17, 2008, Dell Children's Medical Center of Central Texas will host its first annual pediatric conference, in joint sponsorship with the University of Texas Physicians, Central Texas and the physician practices at the Strictly Pediatrics Subspecialty Center. Set in the Pat Hayes Conference and Education Center of the hospital, the conference will feature a keynote address entitled, "The Karen W. Teel, M.D. Lectureship," in honor of Dr. Teel's pioneering contributions to pediatric healthcare in Central Texas. Dr. George Lister, Professor and Chairman, Department of Pediatrics at UT Southwestern Medical Center in Dallas, will present the inaugural Karen W. Teel, M.D. Lectureship entitled, "SIDS and Home Monitoring: Where Have We Been; Where Are We Going?"

The conference offers an opportunity to review and renew the collaborative working relationships among healthcare partners across disciplines and settings necessary to deliver of high quality and safe pediatric care. The conference seeks to enhance primary care practices serving the healthcare needs of Central Texas children by providing a forum in which current medical issues that are relevant and practical to the office practices may be addressed in a multidisciplinary and interactive manner. The activities planned for this conference will allow participants to engage content-experts across disciplines on many topics in a dialogue of opinions. The conference activities aim to impart participants with renewed consensus of practice and utilization of our healthcare resources and services.

In addition to the Karen W. Teel, M.D. Lectureship, the morning plenary session will present information on medical malpractice prevention, dermatology, brain tumors, and pediatric hospitalist practice. Lunchtime medical education updates will inform conference attendants of the latest developments on training the next generation of pediatricians in Austin. Afternoon topic presentations will allow groups of content experts across disciplines to engage participants in a dialogue of practice consensus in areas such as Attention Deficit Hyperactivity Disorder; adolescent suicide prevention; prevention of obesity complications; preadolescent sports injury and prevention; asthma; headaches and migraines; and others.

For more information, please contact Patty Bardole at (512) 324-9999 ext 86805 or email DCMC-Annual-Conference@seton.org.

PEDIATRIC GRAND ROUNDS AT DELL CHILDREN'S HOSPITAL

FRIDAY, JUNE 13, 2008

7:30-8:30 AM in Sig Auditorium
"The History of Childhood"

Dr. Christopher Greeley

(Child Abuse Expert, University of Texas Health Sciences Center in Houston)

Dr. A. Patricia Del Angel

(Developmental Pediatrics, Specialty for Children, Dell Children's Medical Center)

Dr. Celia Neavel

(Family Practice/Adolescent Medicine, People's Community Clinic/ Dell Children's Medical Center)

FRIDAY, JUNE 20, 2008

7:30-8:30 AM in Command Center
"Hyperlipidemia"

Dr. Catherine McNeal

(Pediatrician, Internal Medicine, Scott and White, Temple Texas)

FRIDAY, OCTOBER 10, 2008

7:30-8:30 AM in Sig Auditorium
"Complicated Pneumonia"

Dr. Jordan Scalo

(Pediatric Pulmonologist, Austin Children's Chest Associates/Dell Children's Medical Center)

FRIDAY, JULY 11, 2008

7:30-8:30 AM in Sig Auditorium
"The Five Best Articles in Pediatric Asthma"

Dr. Brendle Glomb

(Pediatric Pulmonologist, Austin Children's Chest Associates/Dell Children's Medical Center)

FRIDAY, OCTOBER 17, 2008

7:30-8:30 AM in Command Center
"Improving Efficiency in a Children's Hospital"

Dr. Paul Hain

(Chief of Staff, Pediatric Hospitalist, Vanderbilt Children's Hospital)

THURSDAY, JULY 17, 2008

12:15-1:15 PM in Sig Auditorium
Neonatology/Pediatric GRs

(Speaker/Topic TBA)

FRIDAY, NOVEMBER 7, 2008

"Syncope"

Dr. Arnold Fenrich

(Pediatric Cardiologist, Specialist in Electrophysiology, Texas Children's Hospital, Joining Pediatrix in Austin this fall)

FRIDAY, AUGUST 15, 2008

7:30-8:30 AM in Sig Auditorium
"Atopic Dermatitis... Are We Just Scratching the Surface?"

Dr. Moise Levy

(Pediatric Dermatologist, Specialty for Children/Dell Children's Medical Center)

FRIDAY, NOVEMBER 14, 2008

7:30-8:30 AM in Sig Auditorium
"Research in a Children's Hospital"

Dr. Karla Lawson

(Research Scientist, Dell Children's Medical Center)

FRIDAY, AUGUST 22, 2008

7:30-8:30 AM in Sig Auditorium
"Late Effects of Chemotherapy – Life After Cancer"

Dr. Virginia Harrod

(Pediatric Oncologist, Specialty for Children/Dell Children's Medical Center)

THURSDAY, DECEMBER 11, 2008

12:15-1:15 PM in Sig Auditorium
"OOOO, Baby, Baby: Teens, Sex, and the Media"

Dr. Victor Strasburger

(Chief of Adolescent Medicine, University of New Mexico School of Medicine)

FRIDAY, SEPTEMBER 12, 2008

7:30-8:30 AM in Sig Auditorium
"Multidisciplinary Approach to Down Syndrome"

Dr. LaDonna Immken

(Medical Genetics, Specialty for Children, Dell Children's Medical Center)