Welcome to this edition of Pediatric Pulse, a Kentucky Children’s Hospital (KCH) newsletter published especially for referring physicians. In this quarterly newsletter we provide updates on the happenings at Kentucky Children’s Hospital in addition to information on new or interesting services we offer.

In November we added 12 rooms to KCH. These rooms became available on 4 North, which some of you will remember as the original Care by Parent Unit. With support of our KCH Executive Development Council, we were able to refurbish the unit so it could again be used for pediatric patients. Our plans are to develop this into a progressive care unit to allow around-the-clock centralized monitoring of patients. This should alleviate some of our space issues, opening up Pediatric ICU beds and decreasing boarding time in the Makenna David Pediatric Emergency Center.

In this issue, Drs. Iocono and Draus from our Pediatric Surgery division will discuss the care and management of MRSA infections from a surgical point of view. Also, Dr. Stefan Kiessling, pediatric nephrology, will discuss childhood hypertension management.

I want to once again remind you that numerous Kentucky Children’s Hospital records are now available through the UK Physician Portal. The most utilized information to date is the online discharge notes from the newborn nursery and units, along with lab results and procedural notes. More and more daily progress notes are also being made available online. Our liaisons will be glad to show you or your office staff how to access the portal.

As stated in the last issue, we are continuing to focus on improving communication with our referring providers. In the meantime, if you have trouble getting in touch with your patient’s attending physician, please contact me through UK•MDs (toll free 1-800-888-5533) or via email at cwall4@uky.edu.

Carmel Wallace, MD
Interim Chair, Kentucky Children’s Hospital
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Recent reports indicate that severe skin and soft-tissue infections (SSTI) rank as the seventh most common reason for hospital admission among children. The escalating incidence of community-acquired methicillin-resistant Staphylococcus aureus (MRSA) infections in the pediatric population has led to a concurrent surge in surgical consultation for incision and drainage (I&D) of skin and soft tissue abscesses.

What causes skin and soft-tissue infections?
Breaks in the skin, visible and invisible, allow the colonized skin bacteria to enter the soft tissues. The bacteria multiply in the tissues and an infection ensues. The host’s immunologic defenses initiate the inflammatory response. An abscess cavity forms when the body tries to isolate the infection from the surrounding tissues. Review of our surgical patient population shows that MRSA was identified in 70 percent of culture specimens with this presentation.

Which antibiotics are prescribed for skin and soft tissue infections?
Cephalexin is appropriate when MRSA is NOT suspected. Empiric coverage for MRSA is recommended if patients do not respond to β-lactam therapy. When MRSA is suspected, trimethoprim-sulfamethoxazole, clindamycin, doxycycline or minocycline should be prescribed. Hospitalized children with complicated SSTIs should receive intravenous vancomycin or clindamycin.

Why is incision and drainage necessary?
Surgical intervention allows drainage of infection, debridement of devitalized tissue, and healing by secondary intention with subsequent wound care. Community-acquired MRSA is truly a different organism and expresses the PVL toxin that causes soft tissue necrosis. Under sedation or general anesthesia we use a minimally invasive technique in which small stab incisions are made, necrotic soft tissue is debrided, and a soft silastic drain is left in the abscess cavity. Compared to traditional packing, this technique affords less pain for the child, simplified wound care for the caregiver, a better cosmetic result, decreased cost and decreased hospital length of stay.

Who should be referred to Pediatric Surgery?
• Very small children
• Children with multiple abscesses
• Children with signs of systemic illness (fever, sepsis)
• Those who have failed office drainage
• Anytime you don’t feel comfortable treating the child

What should I ask the parents before referring a child to Pediatric Surgery?
• Is there a history of MRSA?
• Has the child had a fever?
• When was the last time the child had anything to eat or drink?
• Ask the parents to not allow the child to eat or drink until the child is seen by a surgeon.

When is a pediatric infectious disease consult appropriate?
• Any patient undergoing a second I&D for an abscess.
• Any patient with multiple family members/primary caregivers with a history of MRSA abscess.

How can the spread of MRSA be prevented?
• Keep wounds that are draining or have pus covered with clean, dry bandages until healed.
• Clean your hands with soap and water or use an alcohol-based hand rub.
• Do not share personal items (towels, razors, clothing, etc.).
• Establish cleaning procedures for frequently touched surfaces and surfaces that come into direct contact with skin.
Stefan G. Kiessling, MD, FAAP
Chief, Pediatric Nephrology

What is hypertension?
Hypertension in children is defined as repeated blood pressure measurements above a certain threshold when compared to other individuals. It has become a major health concern in children, primarily due to the epidemic of obesity. Also, children with hypertension tend to have an often treatable underlying cause when compared to adults. Uncontrolled hypertension is a well-known risk factor for organ disease such as heart and kidney in adults and there is increasing evidence the same might be true for children.

What causes hypertension?
In nonoverweight children, hypertension is most commonly related to primary diseases of the kidney (kidney scarring, glomerulonephritis, renal arterial stenosis), the heart or the endocrine system. The recent obesity epidemic has significantly contributed to a larger incidence and prevalence of hypertension in the pediatric population. Obesity affects about 20 percent of children and adolescents in the United States, and it has been estimated that of those, more than 30 percent have hypertension.

Is hypertension a serious condition?
Hypertension can be a serious condition, especially when blood pressures are very high and remain untreated for a prolonged period of time. There is increasing evidence that uncontrolled hypertension carries similar risks for children when compared to adults. Uncontrolled hypertension can lead to coronary artery disease (CAD), stroke, retinopathy and kidney disease depending on the degree of blood pressure elevation and presence of associated risk factors like diabetes and overweight.

How is the diagnosis of hypertension made?
Hypertension in children is defined as three independent upper-extremity blood pressure readings (taken manually) above the 95th percentile adjusted for gender, age and height. Specialized centers oftentimes recommend prolonged blood pressure recording while the child is doing normal daily activity. This is called a 24-hour ambulatory blood pressure reading. It has in the recent past become a very important tool in assessing presence and severity of hypertension in children.

Children with hypertension are often asymptomatic but can present with headaches, recurrent nosebleeds, dizziness and blurred vision.

Primary care interventions:
• Awareness is key to recognition and intervention. Children should have their blood pressure monitored per guidelines issued by the American Academy of Pediatrics.
• Overweight and obese children should be monitored extra carefully in light of the high chance for related blood pressure elevation.
• Trained nursing staff and equipment should be available to correctly measure patients’ blood pressure.
• Machine blood pressures greater than the 95th percentile should be retaken manually.
• Counseling about the importance of scheduled exercise and a healthy diet to maintain optimal weight or support weight loss in case overweight is a concern.

Referral to the UK Pediatric Hypertension Clinic:
We would be happy to assist in the evaluation and management of any child with possible hypertension. Our clinic is equipped with state-of-the-art 24-hour blood pressure monitors and a dietitian who can assist in the management of overweight or obese children.

To refer a patient, call UK•MDs at 1-800-888-5533. To contact the clinic directly, call 859-323-6211.

Physician Liaison Program

UK HealthCare is excited to announce the arrival of the 2012 Physician Handbook for Patient Referral. This resource is a comprehensive directory of all UK HealthCare departments and physicians. To request a copy by mail, please contact Nikki Sadler at 859-323-4845 or njsadl2@uky.edu. To view the directory online, go to ukhealthcare.uky.edu/ukmds and click on 2012 Physician Handbook.

If you have questions, please visit the UK HealthCare Physician Liaison Program Web page at ukhealthcare.uky.edu/UKMDs/liaison.asp or contact Tarra Crane at 859-559-7602 or tlcran2@email.uky.edu.
Meet our new physicians

Kentucky Children’s Hospital is pleased to welcome two neonatologists to the Neonatal ICU.

**M. Douglas Cunningham, MD**

Dr. Cunningham received his medical degree from the University of Cincinnati. He later completed a residency at the U.S. Naval Hospital in San Diego, and a fellowship with specialized training in neonatal-perinatal medicine at the University of California, San Diego.

Dr. Cunningham is board certified in pediatrics and neonatal-perinatal medicine. His research interests focus on neonatal pulmonology. Dr. Cunningham has given nearly 200 lectures; written many abstracts and articles; served as a consulting physician; received multiple research grants; been recognized by his medical peers; received numerous awards; and held prestigious appointments nationally, regionally and locally.

From 1974 until 1998, Dr. Cunningham served as UK HealthCare’s chief of neonatology. He then returned to his home state of California and continued his career at the University of California, Irvine. After more than 20 years of service in California, Dr. Cunningham has rejoined the UK HealthCare team as the interim chief of neonatology.

**Ragheed Katkhuda, MD**

Dr. Ragheed Katkhuda earned his medical degree at the University of Aleppo, Syria. He completed residencies at Case Western Reserve University in Cleveland and the State University of New York at Stony Brook. Dr. Katkhuda also completed a four-year fellowship at University of Iowa Hospitals and Clinics in Iowa City.

Dr. Katkhuda’s research interests include the developmental origins of adult disease and cardiovascular changes in the offspring of diabetic mothers. Fluent in English and Arabic, he is certified by the Educational Commission of Foreign Medical Graduates (ECFMG) and the American Board of Pediatrics.

To refer a patient to our new physicians, call UK•MDs at 859-231-9922 or 1-800-888-5533.

Keeping children safe

**Carbon monoxide poisoning**

As the temperature drops outside, we reach for warm clothing, raise the heat settings on furnaces, and often use other heating sources that may increase the risk of death from carbon monoxide poisoning.

**Carbon Monoxide (CO) Poisoning – FACTS**

- Carbon monoxide is an odorless, colorless toxic gas.
- CO causes illness by decreasing the amount of oxygen present in a person’s body.
- At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue.

**Where does carbon monoxide come from?**

- CO is created when burning any fuel, such as gasoline, propane, natural gas, oil, wood and charcoal.
- Items such as generators, portable heaters, or improperly ventilated stoves, fireplaces and running cars can lead to a buildup of CO gas in enclosed or semi-enclosed spaces.

**Who is at risk?**

- Everyone is at risk for CO poisoning.

**Simple steps to protect yourself and your family from CO poisoning**

- Install a CO alarm outside sleeping areas and on every level of your home.
- Place CO alarms at least 15 feet away from a fuel-burning appliance.
- Test alarms monthly and replace batteries as needed.
- Make sure alarms can be heard and practice an escape plan.
- Have all gas-, oil- or coal-burning appliances inspected by a technician annually.
- Never use a stove for heating.
- Never use a grill, generator or camping stove inside your home.
- Never leave a vehicle engine running inside a garage.

**If alarm sounds:**

- Get everyone out of the house quickly and into fresh air. Call for help from outside your home.
- If you’re experiencing symptoms, call 911.

For more information, contact Safe Kids Fayette County at 859-323-1153 or visit our website www.safekidsfayettecounty.com or on Facebook.

Outreach Corner

The Pediatric Listserv is sponsored by UK HealthCare and intended to cover topics important to the practice of pediatrics and encourages the participation of all providers. There are basic guidelines for participation to ensure the best possible experience for all listserv members. All material posted by Kentucky Children’s Hospital is screened to ensure accurate and pertinent information.

Unlike other listservs, the amount of material is minimal and of highest impact for our providers. In the coming months, we will offer AMA-accredited CME credit for participation in vignettes through the listserv. If you would like more information on joining the Pediatric Listserv, please contact physician liaison Tarra Crane at tarra.crane@uky.edu or 859-257-5736.