Child life staff treats the emotional side of hospitalization

On most mornings, pediatric units throughout the Yale-New Haven Children's Hospital (YNHCH) contact child life staff to consult on patients. A little girl who is anxious about an upcoming surgery may benefit from age-appropriate teaching/preparation and work with a medical play doll. A parent who has spent hours at his child's bedside may need a supportive conversation or a break. A patient celebrating a birthday will need balloons, cake and a present.

Mary Lane, child life specialist, and Healther Dubrule, child life intern, spend time with a young patient in the hospital's infant-toddler unit.

"According to the American Association of Pediatrics, 'Child life focuses on the strengths and sense of well-being of children, while promoting their optimal development and minimizing the adverse effects of children's experience in a hospital setting.'" said Ellen Good, manager of child life at YNHCH, who encourages community pediatricians to contact her when their patients face hospitalization. "We support the emotional and developmental needs of children and families in order to make the hospital a less frightening place."

The Yale-New Haven Children's Hospital created one of the nation's earliest programs in 1967, and it continues to serve as a model for similar programs nationwide. Today YNHCH has 10 certified child life specialists, all master's and bachelor's-level educated, and all certified by the Child Life Council, the leading membership organization serving child life professionals.

Six years ago, YNHCH added an arts and enrichment program to the child life department. Three years ago, a program coordinator was hired to collaborate with local and regional artists and cultural institutions to provide creative activities, performances, special events and therapeutic arts activities. The coordinator has introduced such unique programs as a videography project, funded in part by the National Endowment for the Arts, which allows young patients to use digital storytelling to express their experiences.

Child life specialists are assigned to the infant-toddler and school-age/adolescent units, children's clinical research, intensive care, respiratory care and oncology units, family assessment clinic, pediatric specialty clinic infusion room, pediatric surgery center and the emergency department. Staff also consult in the newborn special care unit.

When children are scheduled for surgery, their families can schedule a pre-admission visit where they will meet with a nurse, anesthesiologist and child life specialist. Children and families learn what will occur the day of surgery and how they can prepare themselves.

In their day-to-day work, the child life specialists develop care plans, attend clinical and psychosocial rounds, prepare children for medical/surgical procedures and coordinate morning or afternoon therapeutic playroom or bedside activities.

Their primary goals, however, are to present developmentally appropriate information about events and procedures, normalize the environment, provide play experiences and establish therapeutic relationships with children and parents.

"Each specialist is trained in child development and family systems, and understands what occurs during a hospital experience, so they can take those pieces of information to assess where a child is in his or her development, and how illness and hospitalization will affect that," said Good. For example, a potty-trained toddler may regress in behavior during a hospital stay and need to return to wearing diapers. Concerned parents generally need support to understand this is typical behavior and that when the child feels better, he or she will regain lost milestones.

Child life specialists are always adding to their "toolbox" of techniques to help children cope and master difficult or unpleasant situations. Some of the tools may include guided imagery, blowing bubbles or pre- and post-rehearsal of a medical/surgical procedure utilizing play.

The child life department recognizes the importance of family strengths, and the child's support systems and community links. "We are committed to relationships built on trust, respect and professional competence because we want to develop the confidence, resilience and problem-solving skills that can help both our patients and families deal with the challenges they are facing," said Good.

For more information about child life, call 203-688-2334.

Yale-New Haven Children's Hospital
www.ynhh.org

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news

news…announcements…promotions…facts…
appointments…awards…publications…

One-day PALS course set for Nov. 4

The 3rd Annual Pediatric Advanced Life Support (PALS) Course for the Community Practitioner, which condenses the standard two-day program into a one-day format, will be held at the Anlyan Center for Medical Research and Education at the Yale University School of Medicine. Standard PALS curriculum will be supplemented by talks on preparing for office emergencies, toxicology, closed head trauma and allergic emergencies. Participants will be able to practice procedural skills required for the resuscitation of children. In addition to PALS certification, participants earn 8.5 category 1 CME credits. **For more information, call the Yale Continuing Medical Education Office at 203-785-4578.**

HealthLINK looks at sports drinks and tooth decay

A new study shows long-term use of sports or energy drinks may cause irreversible damage to dental enamel. The study could not confirm damage to teeth in a growing child because it used extracted teeth, but it does draw attention to the effects of acids in these drinks on tooth structure and the need to use caution in deciding how to replenish lost fluids after exercise. An edition of Yale-New Haven Hospital's Pediatric He@lthLINK focuses on this topic and the importance of good dental hygiene. **To order free copies of "Study shows that sports drinks can cause tooth decay" for your office, call Yale-New Haven Hospital at 203-688-2488.**

Kohl's campaign aims to keep families healthy

The Yale-New Haven Children's Hospital has partnered with Kohl's Department Stores in an ambitious informational campaign aimed at promoting the health and well-being of young children. The hospital is working with pediatricians, community organizations, schools and health fairs in communities throughout Connecticut. The campaign, targeted at parents, focuses on six major areas: developmental milestones, preventing sudden infant death syndrome and shaken baby syndrome, healthy nutrition, dental health and injury prevention. **Pediatricians can request English or Spanish brochures on these topics for patients by calling 203.688.2000 or toll-free 888.700.6543.**

YALE
pediatric UPDATE
The Yale-New Haven Children's Hospital Physician Letter

in this issue:

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Pediatric conference in November
Child life eases hospital stays

'Artificial pancreas' will bring dramatic changes in diabetes care

An honors student, Andrew Nappo of Madison, Conn., enjoys baseball and swimming, and plays the piano, trumpet and guitar. When he was diagnosed with type 1diabetes soon after his 11th birthday, he decided that he would not let the disease slow him down, and he would contribute to research in any way he could. He was an eager participant in the only clinical trial in the country to test the so-called "artificial pancreas" on children.

Nappo, who is now 15, was one of 15 patients who spent two days in the clinical research unit at the Yale-New Haven Children's Hospital (YNHCH) to test the safety and effectiveness of the revolutionary system in which a microcomputer continuously reads blood sugar data from a glucose sensor on the patient's body and links to a pump that automatically adjusts insulin levels. The system will eliminate the need for fingerstick checks, which only measure blood sugar in the moment they're taken.

"If Andrew is in class and his blood sugar goes up, he might not realize it for several hours, and then it takes a half hour or more for him to get back to normal," said his mother, Patricia Nappo. "With an artificial pancreas, he wouldn't have to worry about his numbers going really high or creeping really low."

The artificial pancreas, developed by Medtronic, a Minnesota-based company, is at least five years away from broad clinical use, but it is already changing the way researchers think about diabetes.

Pediatric endocrinologists at YNHCH, supported by a grant from the Juvenile Diabetes Research Foundation, found the device kept glucose in normal ranges substantially longer than under other approaches. They consider it to be the most important breakthrough in type 1 diabetes since 1978, when William Tamborlane, MD, now professor and chief of endocrinology at the Yale University School of Medicine and YNHCH, developed the first insulin infusion pump.

Dr. Stuart Weinzimer and Jeramy Tabuzo, RN, visit with Andrew Nappo, one of the first patients to try the "artificial pancreas" at YNHCH.

"What we're doing is not really a cure for diabetes, but it's a bridge to the cure that will vastly improve the quality of life for people with type 1 diabetes," said Stuart Weinzimer, MD, associate professor at the Yale University School of Medicine, who is leading pediatric research of the artificial pancreas at YNHCH. "We are going to see the face of diabetes treatment change in leaps and bounds. In the next five years, everything that most pediatricians have learned about diabetes management is going to go completely out the window."

The artificial pancreas builds on the

continued on page 2…

Artificial pancreas, continued

idea of the glucose sensors. About the size of a pager, it is made of three synchronized parts: a sensor that monitors sugar levels continuously, an insulin infusion pump with a catheter to drip insulin under the skin and a computer algorithm that controls delivery of insulin.

The blood glucose level of a healthy person ranges between 80 and 120 mg/dl. The goal of a diabetic patient is to keep blood sugars between 80-120 mg/dl before meals, under 180 mg/dl after meals, and between 100 and 120 mg/dl through the night, said Dr. Weinzimer. The automatic monitoring and insulin delivery using the artificial pancreas could keep blood sugars at 80-120 mg/dl at night, no greater than 200 mg/dl during the day. Wild fluctuations would be minimized.

One important line of research focuses on setting the controls on the device to regulate insulin delivery.

"The whole trick to hooking up a sensor to a pump is that you need mathematical formulas," Dr. Weinzimer said. "Let's say the blood sugar is at 150. You can tell the pump to turn on and provide insulin, but how much insulin, and for how long? Once the insulin starts coming down, when should the pump turn off? There are all sorts of mathematical formulas you can use."

While one previous study has shown promise using the artificial pancreas on adults, YNHCH is the only center in the United States testing the device on pediatric patients. National statistics show one in every 400 to 600 children and adolescents has type 1 diabetes. In Connecticut, about half of the 2,000 pediatric patients diagnosed with type 1 diabetes are treated at YNHCH.

"The problem with kids is they are so unpredictable," Dr. Weinzimer said. "You and I have a fairly set schedule. We go to work, we go home, and if we're good we go to the gym. But kids are playing soccer one day, which lowers their blood sugar; the next day they are playing softball and staying in right field, and their blood sugar is up. Parents of kids with diabetes live in fear of the night, when blood sugar levels fall."

As researchers continue to develop the artificial pancreas, much research activity has been directed toward the development of one of its components: the monitor that uses sensors inserted under the skin to read blood sugar levels every few minutes without the pain and inconvenience of fingersticks. These cell phone-sized devices have been approved by the Food and Drug Administration, and are available from Medtronic and other companies at costs that can add up to more $3,000 a year.

"What we're doing is not really a cure for diabetes, but it's a bridge to the cure that will vastly improve the quality of life for people with type 1 diabetes." STUART WEINZIMER, MD

The monitors are not covered by insurance, but the Juvenile Diabetes Research Foundation has campaigned for insurance reimbursement. The Yale-New Haven Children's Hospital is one of five centers in the country participating in a National Institutes of Health study that is testing whether these sensors have a beneficial impact on the treatment of youth with diabetes. Such studies are urgently needed to justify the added expense of the devices.

Meanwhile, all of this research is already making a major impact on diabetes treatment. Dr. Tamborlane called the artificial pancreas research "a major advance" in a long line of advances in diabetes care.

"We have data to show that we are actually beating diabetes just using the therapies we have now," he said. "Small blood vessel disease in the retina is a major area of complication in diabetics. In the past, after seven or eight years of having diabetes, most of our patients had some retinal changes. We just did a survey of eye exams among our pediatric patients with diabetes, and none of them had any abnormalities in their retinas. So we're beating diabetes now, but it takes a tremendous toll on our patients and their parents, and the children are at increased risk for severe low blood glucose events that can lead to seizures or coma. The artificial pancreas will be a dramatic step forward by making control even better at much less risk."

For more information for enrolling patients in clinical trials at Yale, call 203-764-8451 or 203-764-8452.

Researchers look for the best treatments for type 2 diabetes

Sonia Caprio, MD, professor of pediatric endocrinology at the Yale University School of Medicine, always believed in tackling obesity with good nutrition and an active lifestyle. As cases of childhood obesity increase dramatically, bringing a related rise in type 2 diabetes, Dr. Caprio is finding herself at the forefront of research looking at all possible solutions, from intensive calorie counting to medication.

"I've been in this field since 1991, and back then we weren't seeing type 2 diabetes at such a young age," said Dr. Caprio, who has been researching the problem at Yale along with assistant professor Tania Bugert, MD. "It's very new, and it's very difficult," Dr. Caprio said.

One of the hardest tasks is finding clinical trial subjects who have type 2 diabetes, partly because many families don't see obesity as a problem, children don't feel sick enough to seek treatment and many affected families live in low-income or poverty situations and are overwhelmed by other issues. Dr. Caprio has anywhere from 150 to 200 children with type 2 diabetes in her database. She said peak onset is adolescence, and puberty may be a contributing factor.

Most of these patients are enrolled in TODAY (Treatment Options for type 2 Diabetes in Adolescents and Youth), the first clinical trial sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at 13 medical centers around the country including Yale. TODAY has been recruiting 800 children and teens ages 10 to 17. Participants must be overweight or at risk for overweight and within two years of a type 2 diabetes diagnosis.

The goal of the TODAY trial is to find the best way to bring glucose levels into normal range for the longest period of time. Participants are randomly assigned to one of three treatment groups: metformin alone; metformin plus rosiglitazone; or metformin plus intensive lifestyle changes. While metformin is a medication that has been used to treat type 2 diabetes for 40 years and was approved for children in 2001, rosiglitazone, which has an even stronger effect on insulin sensitivity, has not yet been approved for children. The lifestyle changes involve a family-oriented, comprehensive weight management program that focuses on physical activity and nutrition to help subjects lose 7 to 10 percent of their body weight.

Another clinical trial, funded at Yale by the National Institute of Child Health and Development (NICHD), is testing rosigilitazone in the prevention of the progression of pre-diabetes in children. "We have seen that the progression from pre-diabetes to diabetes occurs in 23 months, and children are still gaining a lot of weight in that period," Dr. Caprio said.

Among researchers looking at treatments for type 2 diabetes are (l-r) Tania Burgert, MD; Mary Savoye, RD; Melissa Shaw, exercise physiologist; Sonia Caprio, MD; Cindy Guandalini, APRN, study coordinator for the TODAY trial; and Paulina Rose, RD.

About 18.2 million people have diabetes, and type 2 diabetes accounts for up to 95 percent of cases. There is no national data on the prevalence of type 2 diabetes in children, but studies from clinics across the country have found that the disease is rising dramatically in young people. It appears to be predominant among African American and Hispanic youngsters, with a particularly high rate among those of Mexican descent.

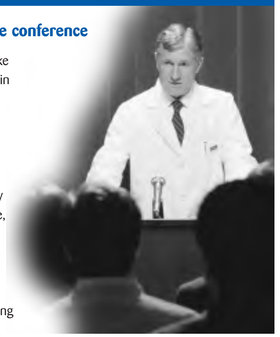
"Pediatricians need to take a strong role," Dr. Caprio said. She stressed the importance of staying alert to symptoms such as moderate to severe obesity, acanthosis nigricans (dark, velvety patches in the skin folds of the neck, groin or armpits) gestational diabetes in the mother and family history of diabetes. "One thing we know is that treating a child is also treating the family and their environment. We need to begin going over nutrition with parents from day one, detecting weight problems very early on and working with families to prevent further problems."

Save the date

November 3rd

Register now for Pediatric Update conference

The 4th Annual Yale Pediatric Update will take place November 3 at the Quinnipiack Club in New Haven. This conference serves as the preeminent general pediatric course in the region, and will provide important updates on a variety of topics of importance to practitioners who care for children. Topics will include urinary tract infections, mercury and autism, indications for growth hormone, diagnostic challenges and sports injuries. There will also be a special seminar on HIV prevention in high risk adolescents. Participants earn 8 category 1 CME credits. For more information, call the Yale Continuing Medical Education Office at 203-785-4578.



Welcome New Faculty

Andrea Louise Benin, MD, an epidemiologist, has been appointed to the position of system director, Clinical Quality, for the Yale New Haven Health System. She will play a significant role in coordinating clinical quality improvement for system-wide initiatives. Dr. Benin spent the last four years working with groups in MIS and Decision Support to develop a range of automated measurements of healthcare quality using clinical information systems. Before coming to New Haven, she was an epidemic intelligence service officer and a staff epidemiologist for the Centers for Disease Control and Prevention in Atlanta. Dr. Benin completed her internship and residency in pediatrics at the Dartmouth-Hitchcock Medical Center in New Hampshire. As a Robert Wood Johnson scholar at the Yale School of Medicine, she received training in health services research including clinical quality measurement, and advanced training in pediatric infectious diseases and medical informatics.

Karen Dorsey, MD, PhD, has been appointed as an instructor in general pediatrics, and will attend in the Pediatric Primary Care Clinic. Dr. Dorsey received her medical degree at the Washington University School of Medicine and completed her pediatric residency at the Children's Hospital of New York-Presbyterian. As a Robert Wood Johnson Clinical Scholar at the Yale University School of Medicine, Dr. Dorsey completed a fellowship at the Yale Child Study Center and received her Ph.D. in the Investigative Medicine Program. Dr. Dorsey received a K-12 award as part of the Yale Mentored Clinical Research Scholar Program for research focusing on assessment and prevention of obesity in a community setting.

Matthew R. Grossman, MD, has joined the pediatric staff as director of clinical care for the infants and toddlers unit at the Yale-New Haven Children's Hospital. He will act as an admitting hospitalist, consultant and inpatient unit director. Dr. Grossman received his medical degree from the SUNY Stony Brook School of Medicine and completed his residency at the Yale University School of Medicine. He was previously a teaching assistant at SUNY Stony Brook School of Medicine and a research assistant at the Rockefeller University in New York City. He is certified in neonatal resuscitation and pediatric advanced life support. In addition to his clinical responsibilities, Dr. Grossman will play an active role in resident and staff education.

Mustafa Khokha, MD, has joined the pediatric critical care section as an assistant professor. Dr. Khokha was previously an adjunct assistant professor in pediatric critical care at the University of California Medical Center in San Francisco, and an assistant researcher in molecular and cell and biology at the University of California in Berkeley. He received his medical degree from the Northwestern University Medical School, and has a bachelor's degree in biomedical engineering from Northwestern University. He completed his pediatric internship and residency at St. Louis Children's Hospital at Washington University in St. Louis, Missouri, and a postdoctoral fellowship in molecular and cell and biology at the Laboratory of Richard Harland at the University of California in Berkeley.

Susan Anne Walsh, MD, has been appointed clinical instructor in pediatrics and attending physician in the pediatric emergency department. Dr. Walsh graduated from the University of Medicine and Dentistry of New Jersey-New Jersey Medical School. She completed her internship and residency at the Yale-New Haven Children's Hospital, and a fellowship in pediatric emergency medicine at the Yale-New Haven Children's Hospital. Dr. Walsh has taught and lectured on pediatric emergencies, including pediatric toxicology, pediatric abdominal emergencies and pediatric airway emergencies. In addition to her clinical responsibilities, Dr. Walsh serves as medical director for Pediatric Advanced Life Support at YNHCH and will play an active role in resident education.