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Pediatric gastroenterologist
Helen John-Kelly, MD, with patient Grace Cooper
Dear Physician Colleagues,

It's a pleasure to welcome you to this issue of Cottage Children’s Hospital magazine, a biannual publication that introduces you to our physicians and helps you become more familiar with our services. Cottage Children’s Hospital (CCH) provides comprehensive care to ill and injured infants, children, and adolescents through our neonatal and pediatric intensive care units, acute inpatient pediatric services, and outpatient subspecialty clinics.

These are exciting times at CCH. Our programs and scope of services continue to grow. As you will read in these pages, we have recently expanded our ability to offer superior pediatric care in our growing Central Coast communities with the opening of two new outpatient clinics, in Ventura and Santa Barbara, and the expansion of our existing clinic in Pismo Beach.

Also in this issue, two of our outstanding specialists offer interesting insights into their areas of clinical expertise. Dr. Marjan Haghi, a pediatric endocrinologist, provides a comprehensive overview of the management of Type 1 diabetes in children and adolescents. Dr. Kate Wesseling-Perry, a pediatric nephrologist, presents a case study of a young gross hematuria patient.

I hope you will take the opportunity to enjoy this publication, and to contact us if we can be of service to you and the children to whom you provide care.

Sincerely,

Steven C. Barkley, MD
Chief Pediatric Medical Officer
Director, Neonatal Intensive Care Unit
COTTAGE CHILDREN’S HOSPITAL
SANTA BARBARA

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We welcome your feedback about Cottage Children’s Hospital magazine. Please email your thoughts and comments to Children@sbch.org

COTTAGE CHILDREN’S HOSPITAL MAGAZINE
Steven C. Barkley, MD Executive Medical Editor, Gary Hopkins Executive Editor, Maria Zate Advisory Editor, Albert Chiang + Deja Hsu Art Directors

Cottage Children's Hospital
Managing Type 1 Diabetes in Kids and Teens
While many tools are available to help young patients cope with the disease, early detection is critical
BY MARJAN HAGHI, MD

IN THE UNITED STATES, approximately 215,000 children and adolescents, about 1 in 400, are affected by diabetes (type 1 and type 2). Additionally, from 2002 to 2005, about 15,600 youth were diagnosed with type 1 diabetes and about 3,600 with type 2 diabetes annually. During childhood, the majority of diabetes cases are type 1. In adulthood, the reverse is true, with about 5 percent type 1 diabetes and 90-95 percent type 2 diabetes.

W HILE THE PROSPECT OF doing multiple daily blood glucose measurements and insulin injections and counting grams of carbohydrate in foods may seem daunting, the rewards for maintaining well-controlled blood glucose are many and far-reaching. We learned from the Diabetes Control and Complications Trial (DCCT), a major clinical study conducted from 1983 to 1993, that intensive glycemic control can dramatically lower the risk of complications. The follow-up study, called Epidemiology of Diabetes Interventions and Complications (EDIC), showed an additional reduction in cardiovascular events by 42 percent.

Tools for Managing Diabetes
Nowadays, we have many tools to help manage diabetes. Newer insulins allow us to deliver basal-bolus insulin in a way which is near-physiologic. Insulin pump therapy allows us to use fractions of units and adjust for variations in insulin sensitivity and exercise, leading to tighter glycemic control with less risk for hypoglycemia. Continuous glucose monitoring systems (CGMS) are a new adjunct to insulin therapy and measure glucose in interstitial fluid, providing data on glucose trends in real-time which can alert the user to rapid rises or falls in glucose levels before they become problematic. Currently, fingersticks are still required for dosing, though awareness of glucose trends can help guide insulin management decisions.

As our patients with type 1 diabetes move through childhood and adolescence toward adulthood, it is our duty to help them prepare for this transition. This begins with building a foundation of good basic skills and habits, and encouraging a healthy lifestyle including regular activity. Visits with the diabetes team should be every three months and include A1C and blood pressure measurements, careful physical exams and routine screening labs. The age-adjusted A1C goal per American Diabetes Association (ADA) recommendations is less than 8.5 percent for age 0-6 years, less than 8 percent for ages 6-12, and less than 7.5 percent for teens. A medical ID and glucagon kit should always be carried and can be life-saving. Vaccinations should include an annual flu shot. The ADA also recommends pneumococcal vaccine and hepatitis B.

Children usually have a school care plan in place. In college, teens will need to be aware of their rights so they can advocate effectively for themselves.

EARLY DETECTION IS KEY
Despite all the recent advances, many children still present at diagnosis in diabetic ketoacidosis, which can be life-threatening. Public education posters, such as the one shown below from Diabetes UK, a leading British charity, can teach parents to recognize these symptoms and seek timely medical attention. Though the symptoms are harder to recognize in infants, possible signs include larger, heavier diapers which soak the bed or a tell-tale yeast infection.

As our patients with type 1 diabetes move through childhood and adolescence toward adulthood, it is our duty to help them prepare for this transition.

Perhaps we can have a similar education campaign to protect our children right here, as early detection of diabetes can be life-saving.

For an expanded version of this article, with footnotes, please visit www.cottagechildrenshospital.org
Cottage Children’s Hospital recently expanded access to care for Central Coast pediatric patients and their families with the opening of a new subspecialty outpatient clinic in Ventura and the expansion of pediatric services at its existing clinics in Santa Barbara and Pismo Beach. The Ventura clinic offers pediatric gastroenterology care. The Pismo Beach clinic now offers pediatric nephrology, pulmonology and rheumatology care, in addition to other pediatric services. As a result, children with diseases specific to these specialties will be able to receive care at either of the two clinics, without having to travel to Santa Barbara. CCH also has recently opened a new outpatient clinic in Santa Barbara to house its pediatric rheumatology, pulmonology and nephrology services. This is in addition to the hospital’s three existing Santa Barbara-based outpatient clinics that offer specialized pediatric hematology-oncology, gastroenterology and endocrinology care.
### Santa Barbara Clinics Physicians’ Schedule

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<thead>
<tr>
<th>Doctor and Specialty</th>
<th>Santa Barbara Clinics and Phone Numbers</th>
<th>Days at Santa Barbara Clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEDIATRIC GASTROENTEROLOGY</td>
<td>2329 Oak Park Lane, Santa Barbara, CA 93105&lt;br&gt;(805) 569-7876</td>
<td>M-F, 9am-5pm unless at the Pismo Beach or Ventura clinic</td>
</tr>
<tr>
<td>Helen John-Kelly&lt;br&gt;Drew Kelts</td>
<td></td>
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<tr>
<td>PEDIATRIC ENDOCRINOLOGY</td>
<td>427 W. Pueblo St., Ste. C&lt;br&gt;Santa Barbara, CA 93105&lt;br&gt;(805) 569-7850</td>
<td>M-F, 9am-5pm unless at the Pismo Beach clinic</td>
</tr>
<tr>
<td>Marjan Haghi&lt;br&gt;Hidekazu Hosono</td>
<td></td>
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<tr>
<td>PEDIATRIC NEPHROLOGY</td>
<td>2409 De La Vina St., Santa Barbara, CA 93105&lt;br&gt;(805) 569-8987</td>
<td>3rd Thursday of each month</td>
</tr>
<tr>
<td>Katherine Wesseling-Perry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEDIATRIC PULMONOLOGY</td>
<td>2409 De La Vina St., Santa Barbara, CA 93105&lt;br&gt;(805) 569-8987</td>
<td>2nd and 4th Tuesday of each month</td>
</tr>
<tr>
<td>Shirleen Loloyan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEDIATRIC RHEUMATOLOGY</td>
<td>2409 De La Vina St., Santa Barbara, CA 93105&lt;br&gt;(805) 569-8987</td>
<td>M-F, 8am-5pm unless at the Pismo Beach clinic</td>
</tr>
<tr>
<td>Miriam Parsa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEDIATRIC HEMATOLOGY/ONCOLOGY</td>
<td>2329 Oak Park Lane, Santa Barbara, CA 93105&lt;br&gt;(805) 569-8394</td>
<td>M-F, 9am-5pm unless at the Pismo Beach clinic</td>
</tr>
<tr>
<td>Daniel Greenfield&lt;br&gt;David Slomiany</td>
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### Pismo Beach Clinic Physicians’ Schedule

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<th>Doctor and Specialty</th>
<th>Pismo Beach Clinic and Phone Number</th>
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<tbody>
<tr>
<td>PEDIATRIC GASTROENTEROLOGY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>Every other Thursday</td>
</tr>
<tr>
<td>Helen John-Kelly&lt;br&gt;Drew Kelts</td>
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<td></td>
</tr>
<tr>
<td>PEDIATRIC ENDOCRINOLOGY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>Dr. Haghi: 3rd Friday of the month.&lt;br&gt;Dr. Hosono: 2nd, 3rd, and 4th Tuesday of the month</td>
</tr>
<tr>
<td>Marjan Haghi&lt;br&gt;Hidekazu Hosono</td>
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<tr>
<td>PEDIATRIC NEPHROLOGY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>Call for more information</td>
</tr>
<tr>
<td>Katherine Wesseling-Perry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEDIATRIC PULMONOLOGY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>Call for more information</td>
</tr>
<tr>
<td>Shirleen Loloyan</td>
<td></td>
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<tr>
<td>PEDIATRIC RHEUMATOLOGY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>9am-4pm&lt;br&gt;2nd and 4th Monday of the month</td>
</tr>
<tr>
<td>Miriam Parsa</td>
<td></td>
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</tr>
<tr>
<td>PEDIATRIC SURGERY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>2nd Friday of the month</td>
</tr>
<tr>
<td>Tamir Keshen&lt;br&gt;Charles J. Stolar</td>
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<td></td>
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<tr>
<td>PEDIATRIC HEMATOLOGY/ONCOLOGY</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>1st Tuesday of the month</td>
</tr>
<tr>
<td>Daniel Greenfield&lt;br&gt;David Slomiany</td>
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<tr>
<td>PEDIATRIC ORTHOPEDICS</td>
<td>2 James Way, Ste. 112, Pismo Beach, CA 93449&lt;br&gt;(805) 556-3037</td>
<td>1st and 3rd Wednesday of the month</td>
</tr>
<tr>
<td>Sean Early&lt;br&gt;Michael Maguire</td>
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### Ventura Clinic Physicians’ Schedule

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<tr>
<th>Doctor and Specialty</th>
<th>Ventura Clinic and Phone Number</th>
<th>Days at Ventura Clinic</th>
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<tbody>
<tr>
<td>PEDIATRIC GASTROENTEROLOGY</td>
<td>100 N. Brent St., Ventura, CA 93003&lt;br&gt;(805) 569-7876</td>
<td>Every other Tuesday</td>
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<tr>
<td>Helen John-Kelly</td>
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</table>
Dark urine can be a worrisome sign for children and parents alike and, while it may be benign, as in the case of concentrated urine or ingestion of dyes such as beets, it may also be a harbinger of renal or systemic disease. The first evaluation can be performed by urine dipstick in the clinic or urgent care setting, followed by laboratory-based urinalysis. These tests will ascertain whether the urine truly contains blood and/or myoglobin; elevated urine protein concentration will also be detected.

“Gross hematuria,” or blood in the urine visible to the eye as a color change, can be caused by a variety of conditions. In girls, menstrual blood can be confused as hematuria. True hematuria can be caused by urinary tract infection, vigorous exercise (“March” hematuria), kidney stone disease, trauma, hemoglobinopathy, renal cysts and/or hydronephrosis, or glomerulonephritis. In the absence of proteinuria, the workup includes a blood pressure measurement, serum creatinine and electrolyte measurements, serum complement concentrations, urinary calcium excretion, a urine culture, and a renal ultrasound.

**POST-INFECTIONOUS ACUTE GLOMERULONEPHRITIS (PIAGN)**

Gross hematuria, combined with proteinuria, hypertension and a rise in creatinine, may occur in children after an acute illness. However, blood pressure management is critical in the acute phase as acute onset hypertension in these previously normotensive children may result in seizures. A chest X-ray is often helpful in establishing the diagnosis of intravascular volume overload and, once confirmed, diuretics are helpful in reducing pulmonary congestion, blood pressure and peripheral edema. Although typical PIAGN does not require a kidney biopsy, serum complement levels should be followed after the acute illness; C3 concentrations should return to the normal range within four to six weeks of the onset of hematuria. Children with abnormal C3 values that do not return to normal within six weeks should undergo a kidney biopsy to evaluate for other causes of low complement glomerulonephritis, including lupus nephritis and membranoproliferative GN (MPGN), that do not self-resolve and that, if left untreated, lead to progressive renal dysfunction.

Despite a clinical scenario seemingly consistent with PIAGN, the 12-year-old in our case presentation had low C3 levels in combination with moderately low C4 levels and values did not return to normal. Her kidney biopsy was consistent with MPGN. She was treated with immunosuppressants and followed in the nephrology clinic to monitor her kidney function, blood pressure and urinary protein excretion.

To learn more about CCH, visit www.cottagechildrenshospital.org. See back cover for physician and staff directory.
**Vital Signs**

**News in brief about Cottage Children’s Hospital**

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**Steven C. Barkley, MD**

- **Mehrdad Mehr, MD**, has been appointed the new Medical Director for the Pediatric Intensive Care Unit (PICU) at Cottage Children’s Hospital.

- **Mehrdad Mehr, MD**
  - Dr. Mehr joined CCH in the summer of 2012 from The Floating Hospital for Children at Tufts Medical Center in Boston. He has worked at a number of PICUs including at Hasbro Children’s Hospital in Providence, RI; Lehigh Valley Hospital in Allentown, Pa.; and Boston Medical Center and Massachusetts General Hospital in Boston.
  - He earned his bachelor of arts degree in history and biology and his medical degree at Boston University, and studied one year abroad at St. Catherine’s College at Oxford University as a Visiting Scholar. He completed his pediatric residency at Hasbro Children’s Hospital/Rhode Island Hospital, Brown University School of Medicine, and his fellowship in pediatric critical care at The Children’s Hospital of Philadelphia.
  - Dr. Mehr is certified in pediatric critical care medicine by the American Board of Pediatrics.

- **Santa Barbara Cottage Hospital**
  - has been re-verified as a Level II Pediatric Trauma Center by the Committee on Trauma of the American College of Surgeons (ACS). This achievement recognizes the hospital’s dedication to providing optimal care for injured pediatric patients.
  - A total of 154 patients were treated in the pediatric trauma center at Santa Barbara Cottage Hospital's Cottage Children's Hospital in 2013. The Cottage pediatric trauma center, which received its first verification in April 2013, is the only one of its kind between Los Angeles and San Jose.
  - Santa Barbara Cottage Hospital also was re-verified as a Level II Trauma Center for adult patients. Both the adult and pediatric trauma centers at Cottage provide crucial services throughout Santa Barbara County and into areas of Ventura, San Luis Obispo, Monterey and Kern counties.

- To learn more about CCH, visit www.cottagechildrenshospital.org.

See back cover for physician and staff directory.
COTTAGE CHILDREN’S HOSPITAL

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Phone numbers listed are for daytime business hours only

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Stella Riddell, RN
Clinical Nurse Specialist/NICU
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Jaynie Wood
Child Life Specialist
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