Chair’s Letter

One of our innovations over the last year has been to add a pediatric nephrology fellow to the Executive Committee of the AAP Section on Nephrology. We have been very fortunate to have Nicole Christin, MD as our inaugural fellow. Nicole will be on the committee for the last two years of her fellowship. Nicole, currently a fellow at Lurie Children's Hospital of Chicago, has brought incredible insight and enthusiasm to her role. She has a column in this newsletter so I won’t repeat all that she has been doing.

I will, however, try to answer the question, “Why include a fellow on the Executive Committee?” Excuse the cliché, but we believe that fellows are our future and thus it is important that we engage them in the activities of the Section. Nicole is clearly engaged, and she is helping us to engage other fellows. We also hope that Nicole will continue to be involved in the Section after she completes her fellowship.

Along with fellows, we are attempting to engage other members of the Section, especially those who are in the first 15 years of their careers. Most of the speakers at the NCE last year were new speakers. Younger members of the Section are writing articles for our newsletter and other AAP publications. The 2014 candidates for the Section’s Executive Committee included excellent candidates from a diverse age range. We have made the same effort to broaden member involvement in selecting committee members (e.g., the nominations committee and the Barnett Award committee). A diverse and large number of Section members are developing AAP statements on fluid management, appropriate use of the urinalysis, and hypertension.

Engagement has been our theme over the last couple of years. We are excited by our progress. We will continue to reach out to Section members to get involved in Section activities. We need members to give talks, serve on committees, develop content for the website, and write content (articles, patient education publications, etc.). Don't wait for us to e-mail you, however. Please e-mail me if you want to become involved in Section activities.

Larry Greenbaum, MD, PhD
Chair, Section of Nephrology Executive Committee
Lgreen6@emory.edu
2014 AAP Section on Nephrology Henry L. Barnett Award Recipient: Dr. Denis Geary

The AAP Section on Nephrology Executive Committee and Award Committee are pleased to announce that Dr. Denis Geary has been named as the 2014 recipient of the Henry L. Barnett Award. Dr. Geary has dedicated his career to the advancement of clinical care and education in the field of pediatric nephrology.

Dr. Geary attended medical school at University College in Dublin, Ireland. Following an internship in Dublin, he specialized in Pediatrics at the University of Tennessee, and Cork University Hospital and in Pediatric Nephrology at the University of Florida, Guy’s Hospital in London, and the Hospital for Sick Children in London. Dr. Geary’s first academic position was at the University of Toronto and The Hospital for Sick Children in Toronto and he has remained there throughout his career. He is currently a Professor of Paediatrics at the University of Toronto.

Dr. Geary served as Chief of Pediatric Nephrology from 1997 to 2009 at the Hospital for Sick Children. He has also been the Chairman of the Patient Care Committee, Director of the Hemodialysis Program, and Medical Director of the Medical Day Care Unit. Dr. Geary is currently the Medical Director of the Hamad Medical Corporation (Qatar)/Sick Kid’s International Partnership program. In 2002, Dr. Geary received the Richard Rowe Award for Clinical Excellence in Pediatric Medical Care, an award given to a senior physician in the Department of Pediatrics who has demonstrated excellence in the delivery of medical care over a significant period of time. In addition, Dr. Geary is a former President of the Canadian Association of Pediatric Nephrologists and helped found the Midwest Pediatric Nephrology Consortium.

Dr. Geary has engaged in important clinical research throughout his career and has published more than 100 peer-reviewed articles and book chapters. He has drawn attention to the inadequacy of standard three times weekly hemodialysis and championed the use of various forms of intensive hemodialysis in order to improve the care of children with end stage renal disease. He has been an invited speaker on this topic and many others across the world.

Dr. Geary has great passion for teaching and mentorship. For several years he was training program director at the Hospital for Sick Children, in which role he helped train and mentor pediatric nephrology fellows from Canada and many other countries. He has received teaching awards from trainees at the University of Toronto School of Medicine. He co-edits the textbook “Comprehensive Pediatric Nephrology,” which is used by pediatric nephrologists worldwide.

The award was presented in conjunction with the Pediatric Academic Societies (PAS) annual meeting in Vancouver, B.C. on Saturday, May 3, 2014 during the American Society of Pediatric Nephrology Awards luncheon. Please join us in congratulating Dr. Geary.
Fellow Corner

By Nicole Christin, MD, FAAP
nchristin@luriechildrens.org

Since assuming my role as the SONp Training Fellow Liaison in July, 2013, I have had so many wonderful experiences and I am looking forward to many more exciting opportunities. In the fall, I attended the two day Council of Pediatric Subspecialties (CoPS) Meeting in Chicago where I met with leaders from all of the pediatric subspecialties and those from major academic organizations. I participated in discussions about Board exams costs, fellowship start dates, maintenance of certification requirements, and evaluation of house staff through core competencies and milestones.

I was also in Atlanta this fall for our SONp Executive meeting that coincided with ASN’s Kidney Week. During our very productive Executive Committee meeting, we discussed our goals for the upcoming year, planning our 2015 AAP National Conference topics to present, reviewed upcoming clinical policies and discussed the status of the Hypertension Education in Quality Improvement for Pediatric Practice (EQIPP) module that provides CME and MOC credit and will be launched in 2014.

I am looking forward and excited to travel to Washington DC this summer to participate in the advocacy training session sponsored by the AAP Department of Federal Affairs. Pediatricians from across the country will have the opportunity to develop advocacy skills, learn about timely child health policy topics, hear from Congressional guest speakers and administration and meet with legislators on Capitol Hill. More to come on that experience in my fall column. There is also an article regarding a recent advocacy training in the March, 2014 AAP News (http://aapnews.aappublications.org/content/35/3/3.1.full.pdf).

One of my goals as Fellow Liaison for the Section on Nephrology (SONp) is to revamp and refresh the AAP SONp website (http://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Section-on-Nephrology/Pages/default.aspx). Currently we are undergoing Phase I of the website update. This will include developing a webpage that focuses on information and resources specifically for pediatric nephrology fellows-in-training. My goal for Phase 2 of the website rejuvenation is to make it more educational and interactive for all users, fellows in particular, by adding helpful links and high-yield resources. We would like to invite SONp members to be a part of Phase 2! Please contact me if you are interested.

Finally, if you know of any training fellows who are not AAP members, please ask them to contact me to find out how they can take advantage of the great benefits that come along with being an AAP and SONp member! An overview of the Section and an FAQ that summarizes past achievements and key activities of the Section can be found on the SONp website (http://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Section-on-Nephrology/Pages/About.aspx).

For Upcoming Newsletters

We welcome your input and encourage you to submit ideas or information by email to Larry Greenbaum, MD, PhD at lgreen6@emory.edu or Suzanne Kirkwood at skirkwood@aap.org for future issues of the newsletter.
The Business of Pediatric Nephrology: Billing for Dialysis—
Am I getting all the RVU’s and dollars I should be?

By William Primack, MD, FAAP

Payment and RVU credit for ordering and supervising dialysis treatments is dependent on the number of times you are required to evaluate the patient. For single visits, the CPT code used for hemodialysis is 90935 and for other forms of renal replacement therapy such as peritoneal dialysis or CRRT the CPT code is 90945. Multiple visits which are required by the patient’s clinical condition (i.e. the nursing staff asks you to reevaluate the patient) are represented by 90937 for HD and 90947 for other forms of RRT. As the table below shows, multiple evaluations earn 43% more RVU’s for HD and 61% more for RRT as compared to single evaluations. Obviously to qualify for the higher code, documentation indicating the reason(s) for the reevaluation and results of the reevaluation are required.

Get proper credit for the hard work you do!

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*payment shown in table is Medicare national average January, 2014

Have you Checked-Out the SONp Website Lately?

The SONp website (www.aap.org/nephrology) has recently received a face-lift and has a new look and feel that is consistent with the other Academy Committee, Councils and Sections. Most importantly it offers easier access to SONp information and other professional resources for members. Among the changes are:

- Information for pediatricians interested in exploring a career in pediatric nephrology
- Resources for fellows in training
- Information for pediatricians participating in maintenance of certification
- Links to AAP advocacy initiatives at the international, national and local levels

We would appreciate your feedback as well as suggestions regarding a resources and links that you find helpful. Please contact Suzanne Kirkwood at skirkwood@aap.org
Council on Pediatric Subspecialties Update

By Frederick Kaskel, MD, PhD, FAAP
SONp CoPS Representative

The Council of Pediatric Subspecialties advances child health through communication and collaboration within its network of pediatric subspecialties and liaison organizations. Recent updates:

1. ACGME released the final list of subcompetencies for which milestones are to be reported. Fellowship programs will need to have a Clinical Competency Committee in place and a webinar was held on February 18, 2014 to review the process. An archived version of the webinar is available on the home page of the CoPS website under “Recent News” (www.pedsubs.org).

2. Fellowship readiness was addressed by an Action Team in collaboration with members of the APPD project that determined the specific qualifications or characteristics that make a resident better prepared to enter a pediatric fellowship and suggestions were offered for a career-focused curriculum for residency program directors.

3. Entrustable Professional Activities for the Pediatric Subspecialties were reviewed on a CoPS webinar in October with information on links to assist in teaching faculty about EPAs and milestones. The slides from the webinar are available on the home page of the CoPS website under “Recent News” (www.pedsubs.org).

4. A Common Fellowship Match Date to simplify the match process for trainees is under development and CoPS supports a single match date in the Fall for all pediatric subspecialties.

5. Finally, CoPS signed a letter supporting funding for Pediatric Subspecialty Loan Repayment Program.

The next CoPS meetings are: May 4, 2014 in Vancouver, Canada (during the PAS) on Sunday, May 4, 2014 from 7 – 9:00 am and October 2- 3, 2014 in Chicago, Illinois.

Volunteers Needed

One of the goals of the Executive Committee is to increase its level of communication with and participation of Section members. As a result, we are currently looking for members who might be interested in serving to:

- Contribute to the Section Newsletter or assist in identifying members and content for future newsletter articles.
- Review existing or develop new articles directed at parents for the Academy’s parent website at http://www.healthychildren.org/english/health-issues/conditions/genitourinary-tract/Pages/default.aspx
- Write an article for the Focus on Subspecialties column in AAP News regarding pediatric nephrology topics. Examples of past articles can be accessed at: http://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Section-on-Nephrology/Pages/Newsletters.aspx
- Participate in the Section Nominations Committee. The Committee is responsible for identifying candidates to serve on the Section on Nephrology Executive Committee and creating the election ballot. Individuals serve for two years or two election cycles.
- Participate on the Henry Barnett Awards Committee. Individuals serve a two year term.

Please contact Suzanne Kirkwood at skirkwood@aap.org if you are interested in serving in any of the above positions or have additional questions.
Recent Advances in Chronic Kidney Disease-Mineral and Bone Disorder (CKD-MBD)

By: Poyyapakkam Srivaths MD, MS

The impact of mineral bone disorder (MBD) in children with chronic kidney disease (CKD) is unique since children have growth perturbations accompanying their bone disorders. Impaired growth has been linked to increased mortality and hospitalizations[1]. In addition, MBD has been linked to vascular health, which has led to the definition of CKD-MBD as the combination of mineral imbalance, bone abnormalities and vascular and soft tissue calcification.

An important advance in CKD-MBD has been the discovery of the fibroblast growth factor 23 (FGF23)-Klotho axis. FGF23 is a hormone secreted by osteocytes in response to increased dietary phosphorus load and it acts with its obligatory cofactor klotho and causes phosphaturia. In addition, it decreases 1 - hydroxylase, thus decreasing the level of 1,25 (OH)2 vitamin D. Elevations in FGF23 are the earliest abnormality in mineral metabolism seen in children with CKD. Portale et al demonstrated an increase in serum FGF23 as early as CKD stage 2, before any changes in serum phosphorus, calcium, PTH or 1,25 (OH)2 vitamin D levels[2]. This increased in serum FGF23 is likely to due to increased expression in the osteocyte, where expression is markedly up-regulated even in very early CKD[3]. Moreover, as GFR decreases, serumFGF23 continues to increase, with levels 10-100 times above normal in children receiving chronic dialysis.

Increased levels of FGF23 have been linked to left ventricular hypertrophy[4], vascular calcifications[5] and increased mortality[6]. In an elegant experimental study, Faul et al[7] demonstrated that left ventricular hypertrophy occurs in a klotho independent fashion and is caused by activation of FGF 2 receptors in a canonical pathway. Klotho is the obligate coreceptor for FGF23 and is expressed predominantly in the distal convoluted tubule of the kidney. Tissue klotho expression is decreased in early CKD in experimental animals and its decreased expression can cause vascular calcification. In a seminal study, administration of Klotho reversed vascular calcification in rats[8]. Once FGF23 binds to klotho, a portion of Klotho is cleaved and released into the circulation, resulting in soluble klotho (sKlotho). sKlotho has independent phosphaturic and calcium conserving effects[9]. sKlotho is decreased in children with CKD[10], although its role in MBD is still to be determined. The FGF23-klotho axis is only one part of an increasingly complex regulatory pathway that also includes bone proteins such as DMP1, sclerostin and PHEX.

Interestingly, despite these new discoveries, nutritional vitamin D deficiency may have an important role MBD in children with CKD. Deficiency of 25 (OH) vitamin D (< 20 ng/ml) is present in at least 50% of pediatric CKD patients and has been associated with 1,25 (OH)2 vitamin D and CRP levels,[11] suggesting its traditional and nontraditional roles.

Bone biopsy remains the gold standard for diagnosing bone abnormalities, though it is not done universally because of its invasive nature. Recently, KDIGO proposed that bone biopsy be interpreted in terms of bone turnover, mineralizaton and bone volume (TMV classification) since previous interpretations focused mainly on turnover, but other abnormalities were also common in patients with CKD. Indeed, Wessling-Perry et al[3] have shown that skeletal mineralization defects start in pediatric patients as early as CKD stage 2, even before defects of bone turnover or any biochemical abnormality, except an increase in circulating FGF23 levels.

Noninvasive assessment has been used in CKD to assess bone morphology. DEXA scan, which measures areal bone mineral density and therefore bone mass, does not seem to reflect bone histomorphometry or microarchitecture. Quantitative CT (QCT) assesses cross-sections of the central and axial skeleton; peripheral QCT assesses the tibia or distal radius to provide spatial or volumetric bone mineral density (vBMD). It also allows distinction between cortical and trabecular compartments. In addition, pQCT enables calculation of the ability of bone to resist bending or torsion and thus fracture risk. Denburg et al[12] demonstrated that children with lower cortical vBMD have increased fracture risk. However, such studies are limited in children and at present we do not yet have a single non-invasive test to define bone changes in CKD, though high resolution pQCT and high resolution MRI may be useful in the future.

Continued on Page 7
Treatment
The focus of treatment of MBD in children with CKD remains reduction in serum phosphorus and control of PTH. Reduction of serum phosphorus utilizes the combination of dietary reduction of phosphorus and use of phosphate binders. Calcium based phosphate binders are still widely used in pediatric CKD. In adults, calcium based phosphate binders have been shown to increase positive calcium balance and contribute to vascular calcifications\textsuperscript{13}. Sevelamer has been shown to halt vascular calcification and decrease mortality in nondialysis adult CKD patients\textsuperscript{14}. Lanthanum has been used in adult CKD patients, but experience is limited in pediatrics. Though firm conclusions cannot be drawn about the choice of phosphate binders in children, it seems prudent to avoid calcium based binders in children with normal or high serum calcium levels.

Normalization of serum phosphorus is the initial treatment in children with hyperparathyroidism. However, most patients require vitamin D therapy, which could be either as active vitamin D or calciferol supplements. Calcitriol or paricalcitol therapy offers a survival advantage in adults with CKD or ESRD. Zheng et al\textsuperscript{15} demonstrated in a recent meta-analysis that participants receiving vitamin D had lower mortality compared to those with no treatment (adjusted hazard ratio, 0.74; 95% confidence interval, 0.67-0.82), with paricalcitol having a slight survival advantage (HR 0.95). The calcimetric cinacalcet is another option for controlling hyperparathyroidism. In the recently concluded EVOLVE trial cinacalcet did not improve cardiovascular mortality, but reduced parathyroidectomy by nearly 50%\textsuperscript{16}. However, use of cinacalcet has not been evaluated in a large trial in pediatric CKD, though small case series have shown modest reductions of parathyroid hormone levels\textsuperscript{17}.

In conclusion, CKD-MBD effects bone and growth, but also has widespread systemic effects on cardiovascular health. Novel biochemical markers and techniques are evolving to provide better definition to this important complication, providing hope that interventions utilizing these markers will improve morbidity and mortality in CKD.

References:
Recent Advances in Chronic Kidney Disease—Continued from Page 7


Upcoming Meetings

European Renal Association-European Dialysis and Transplant Association – 51st Congress
May 31-June 3, 2014
Amsterdam, Netherlands
http://www.era-edta2014.org/

47th Annual Scientific Meeting of the European Society of Pediatric Nephrology
September 18 – 20, 2014
Porto, Portugal
http://espn2014.org/

AAP National Conference & Exhibition
October 11-14, 2014
San Diego, CA
http://www.aapexperience.org/

Kidney Week 2014
November 11-16, 2014
Philadelphia, PA
http://www.asn-online.org/education/kidneyweek/
SONp's Role in the AAP National Conference & Exhibition (NCE)

The SONp is the voice of pediatric nephrologists within the AAP. One of the ways that this is achieved is by developing and submitting pediatric nephrology related topic proposals for the AAP NCE that is held each fall. This year the NCE will be held on October 11-14, 2014 in San Diego, California (http://www.aapexperience.org/). The NCE annually draws 7 – 8,000 pediatrician, student, intern, resident and allied health professional attendees. Dr. Doug Silverstein serves as the Program and Education Chair and collaborates with the Section Executive Committee to determine the topic and proposal content each year.

Below are the pediatric nephrology sessions that were offered in 2013 and are upcoming in 2014:

**2013**

1. Updates in Major Topics in Nephrology: Hypertension and Nephrotic Syndrome  
   Faculty: Joseph Flynn, MD, FAAP and Jorge Ramirez, MD, FAAP

2. Updates in Major Topics in Nephrology: Hematuria and Proteinuria  
   Faculty: Beth Vogt, MD, FAAP

**2014**

1. A RIVUR Runs Through It: Lessons Learned from the Vesicoureteral Reflux Study  
   Faculty: Tej K. Mattoo, MD, FAAP and Saul Greenfield, MD, FAAP

2. Urinalysis: Secret of the Sediment, Hematuria and Proteinuria  
   Faculty: Brad Dixon, MD, FAAP

3. Pediatric Hypertension: A Rising Problem  
   Faculty: Daniel Feig, MD, FAAP

One of the benefits of AAP membership is the opportunity to serve as faculty for these and other AAP sponsored CME events. Thank you to all of you who have participated as faculty for the nephrology sessions offered at the NCE! Please contact Dr. Doug Silverstein, MD at dslsilverstein2001@yahoo.com or Suzanne Kirkwood at skirkwood@aap.org if you have suggestions for future topics or are interested in serving as faculty at future NCE.
Welcome to our New SONp Members

If you know of others who might be interested in joining the Academy and the Section please have them call 1-800-433-9016 ext. 5885 or go to www.aap.org. The link entitled Member Benefits will take them to an application. Current Academy members may join the Section by accessing the online application (member ID and login required) at: http://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Pages/Council-Section-Membership.aspx

AAP FELLOWS:

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A special welcome to training fellows who were added to the Section. (As of July 1, 2012, Section dues for pediatric nephrology training fellows were eliminated.)