Pediatric Section Newsletter

Spring 2017

Letter from the Pediatric Section Chair

Hello,

Since Clinical Nutrition Week, the Pediatric Section has been busy. As a section, we submitted some proposals for the ASPEN Nutrition Science and Practice Conference 2018 (formerly known as Clinical Nutrition Week). One proposal we submitted with the Nursing Section. We tried to work with some other sections, but time got away.

ASPEN has worked with section leaders and the Pediatric Section now has a Leadership Council. Members of the Pediatric Leadership Council are:
Steve Plogsted, Chair-Elect
Ruba Abdelhadi
Allison Blackmer
Petrea Cober
John Kerner
Celina Scala

We tried to include representation from multiple disciplines and since the team will be on a rotation, I know the future leaders will try to maintain representation from multiple disciplines. The council has had a conference call and has started working together. I am excited to what new ideas everyone has. As always, please email me with your thoughts and ideas or find me on the LinkedIn page.

One of the ideas that came out of the call was including a review article in future newsletters. We hope to pair an experienced writer with someone who would like to gain writing experience. If you are interested in writing for the newsletter, please email me with your area of interest and if you are experienced or not.

The school year is wrapping up and summer vacations are near. I hope everyone is safe and has fun with family during the summer.

Sincerely,

Kelly Green Corkins, MS, RD, LDN, CNSC

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Member Spotlight: Mark Corkins, MD, CNSC, SPR, FAAD

What is your current job title and work location?

Division chief of pediatric gastroenterology and professor of pediatrics at the University of Tennessee Health Science Center in Memphis, TN

What is your educational background?

I got my Bachelor's degree and medical doctorate from the University of Missouri. I did my general pediatrics training at the University of Iowa. I then did a pediatric gastroenterology fellowship with the University of Nebraska/Creighton University joint fellowship.

How did you get involved in the field of clinical nutrition?

During medical school one of our biochemistry professors, Dr. Boyd O'Dell, felt like medical students didn't get enough nutrition (has anything changed?). So he put together his own textbook and they gave him a lecture a week to talk about nutrition. I got to Iowa City and there was this guy there named Sam Foman, who had done a little nutrition work. Finally during my fellowship, our division chief was Jon Vanderhoof who did studies in a short bowel rodent model. My whole career I kept "running into" people who had a focus on nutrition. I liked nutrition and had great role models that stressed that nutrition was important. I think I was also drawn to it because seemed like a field that was so essential but that nobody else seemed to champion.

What specifically do you do in your current position?

In a word: everything. I'm division chief and fellowship director. I'm chairing our nutrition support subcommittee for the children's hospital. I am in our intestinal rehab clinic as well as my regular gastroenterology and liver clinics. I mix a little committee work for A.S.P.E.N. and the American Academy of Pediatrics. I have a few research projects and writing projects going at any one time.

Why did you become involved in A.S.P.E.N. and what are the benefits of being involved?

I started in the "farm" system. The Iowa-Nebraska chapter asked me to speak at the local meeting. After I spoke, they asked if wanted to stay for the business meeting. You can guess what happed next: I ended up being in leadership, next came some committee work for the national organization. As you become involved, you have to read and learn new areas, it leads to a lot of education. You also meet a lot of folks with a nutrition interest. These are your future research and writing collaborators.

What recommendations would you give to someone just starting out in your field?

Get involved. It is a lot more fun to be busy than to try to find something to do. The more I learn, the more I realize we don't know. Stretch yourself and try to add to the field in some way. Sometimes just doing a little study that can answer one simple question but do so well is so valuable.

Pediatric Section Microsite

Visit the Pediatric Section microsite to access past versions of the newsletter, current research updates, and much more!
Pediatric Section Microsite

Pediatric Section on LinkedIn

Have you joined the new Pediatric Section in LinkedIn? It's the new way to use ASPENet. You need only a basic, free LinkedIn profile if you do not already have one. This is a great new way to connect with fellow sections members and communicate by posting to the group. Check it out! Pediatric Section in LinkedIn

New Opportunities for Enteral tube Location (NOVEL) project Update from Beth Lyman, RN, MSN, CNSC

The NOVEL project would like everyone to be aware of this valuable study below, which is looking to recruit participants. If you know of someone who would qualify and be interested please pass along the information. Together we can support and further research to improve pediatric nutrition!

Oley Foundation is partnering with researchers at University of Kansas School of Nursing need to better understand what information, topics and methods, such as hand held computers for connecting, will

improve services to those with home parenteral nutrition (HPN). Teens and young adults will meet with research professionals and peer study participants using a loaned iPad mini loaned with a secure connection.

This research study is for teens age 13 – 17, and young adults age 18-30, who use nutrition given in their vein called HPN. Family members 13 and older are also encouraged to participate.

Research is always voluntary!

Would the study be a good fit for me?

This study might be a good fit for you if:

- You are 13 to 30 years old and use a catheter in your vein to deliver nutrition (HPN)
- You are 13 years or older and the family member of an HPN user 13 - 30
- You are English speaking **What would happen if I took part in the study?** If you decide to take part, or decide to have your child take part, in this research study:
- One iPad mini will be loaned to each family to test connections to internet- based health education and activities for 8 to 12 months
- You will attend 1 or 2 face to face meetings from your home using a secure connection through an iPad mini webcam
- You will complete online surveys every 3 to 4 months for about one year Each study participant will receive $50 to thank them for their time. **To take part in this research study or for more information,** please call or email Cathy Harrington, phone complete the contact form at https://redcap.kumc.edu/surveys/?s=XWJ9HWM48D The principal researcher for this study is Carol E. Smith, RN, PhD, FAAN, University of Kansas, School of Nursing.

Neonatal Research Updates

Provided by Jackie Wessel, Med, RDN, CNSC, CSP, CLE

Complementary Feeding: A Position Paper by the European Society for Pediatric Gastroenterology and Nutrition (ESPGHAN) committee on Nutrition
Study Design: Position Paper

ESPGHAN unlike its North American counterpart NASPGHAN, gets heavily into infant nutrition. In the US we seem to leave that to AAP, although their updates are not as frequent as ESPGHANs, and for years, U.S. Neonatologists have also participated in ESPGHAN's papers as well (Ekhard Ziegler). NASPGHAN has nutrition expertise, but their specialties are more pediatric than neonatal and that may be why they have not commented on neonatal issues as much other than for intestinal failure.
This position paper on complementary feeding is an update to their 2008 version includes updates on introduction of allergenic foods and gluten among the following:

1. Exclusive breastfeeding for at least 17 weeks
2. Exclusive or predominant breastfeeding for 26 weeks

3. Complementary foods should be introduced no earlier than 4 months and no later than 6 months
4. Foods should have a variety of flavors and textures including bitter tasting green vegetables
5. Breastfeeding is encouraged along with complementary foods
6. Whole milk should not be used as the main drink before 12 months
7. Allergenic foods can be introduced any time after 4 months
8. Infants at risk of peanut allergy (those with severe eczema or egg allergy or both) should have peanut exposure between 4 and 11 months
9. Gluten may be introduced 4 to 11 months and large amounts avoided in the first weeks after introduction
10. All infants should receive iron rich foods including meats and /or iron fortified foods
11. No sugar or salt should be added
12. Fruit juices or sugar sweetened beverages should be avoided
13. Vegan diets should only be used under medical or dietetic supervision
14. Parents should be encouraged to respond to the infant's hunger and satiety cues and to avoid feeding as comfort or reward.

Fewtrell M, Bronsky J, Campoy C, et al. Complementary Feeding: A Position Paper by the European Society for Pediatric Gastroenterology and Nutrition (ESPGHAN) committee on Nutrition.

Thin-for-gestational age infants are at increased risk of neurodevelopmental delay at 2 years
Study Design: Prospective Cohort Study

Small for gestational age infants are at risk for developmental difficulties, but identifying those most at risk has been challenging. This paper examined the effect of neonatal body composition and birth weight percentiles on neurocognitive and behavioral outcomes at age two. They introduce another category of thin for gestational age (TGA).

This is a prospective cohort study of term infants from the Cork BASELINE Birth Cohort Study. Infants were put into the following groups: a birth weight <10th centile (SGA, n=51); body fat percentage at birth <10th centile (thin-for-gestational age (TGA, n=51)) or both SGA and TGA infants (small- and thin-for-gestational age (STGA), n=13). The SGA, TGA and STGA groups were compared with a reference group of appropriate-for-gestational age (AGA, n=189) infants. Outcome was assessed at 24 months using the Bayley Scales of Infant Development Version III and the Child Behavior Checklist.
The results showed that the outcomes in the SGA infants did not differ significantly from the AGA group. TGA infants had significantly lower scores across all three domains, with a 0.35, 0.38 and 0.41 SD reduction in language, cognitive and motor scale scores. STGA infants had poorer cognitive outcome with a median cognitive scale score of 90 (IQR 85-95) compared with 95 (IQR 90-100) in the AGA reference group, p=0.005. The adjusted odds ratio of developmental delay at 2 years was 5.00 (95% CI 1.46 to 17.13, p=0.010) in the STGA group.

So the good news is that it may be that not all SGA infants are doomed to have worse developmental outcomes. However, thin for gestational age (TGA) infants, in particular those born small and thin for gestational age (STGA); are at increased risk of developmental delay at 2 years compared with the AGA infants.

O'Neill SM, Hannon G, Khashan AS, et al. Thin-for-gestational age infants are at increased risk of neurodevelopmental delay at 2 years. Arch Dis Child Fetal Neonatal Ed. 2017 May; 102:F197-F202

Wide Variability in Caloric Density of Expressed Human Milk Can Lead to Major Underestimation or Overestimation of Nutrient Content
Study design: Prospective study

This study performed macronutrient analysis on expressed human milk from mothers whose babies were hospitalized in the neonatal intensive care unit. The analysis was done on up to five human milk samples per mother and samples were analyzed for protein, carbohydrate, and fat content using reference chemical analyses (Kjeldahl for protein, high pressure liquid chromatography for carbohydrates, and Mojonnier for fat). Calorie content was also calculated. A total of 64 samples from 24 participants were analyzed. Wide variability was found in calorie, protein, carbohydrate, and fat composition. The authors found an average of 17.9 kcal/ounce, with only 34% of samples falling within 10% of the expected caloric density.

The author's conclusions are that the assumption that human milk contains 20 kcal/oz is no longer supported based on this study. This supports using an individualized nutrition strategy as a crucial aspect to optimal nutrition when dealing with human milk. The evidence continues to build for an individualized approach to human milk fortification. The trouble is that without analysis we are guessing as to not only the calories but also the specific nutrients that the milk could be lacking. We have assumed over the years that it is protein most lacking, but it obviously is not the total answer. As more and less expensive human milk analyzers come into the market, hopefully CLEA certified so they can be used for clinical decision-making, it would help to promote improved nutrition as we strive to give more human milk to infants in the NICU. The trouble is that currently, many clinicians get stressed about giving over 24 kcal/oz human milk and there is not an easy nor agreed upon way to do this. If we knew the caloric content of mother's milk as well as the lower macronutrients, we could supplement appropriately and could call the human milk the true calories that it is.

Sauer CW, Boutin MA, Kim JH. Wide Variability in Caloric Density of Expressed Human Milk Can Lead to Major Underestimation or Overestimation of Nutrient Content. J Hum Lact. 2017 May;33:341-350.

Independence of gut bacterial content and neonatal necrotizing enterocolitis severity
Study design: Prospective Descriptive Study

Necrotizing enterocolitis (NEC) is a gastrointestinal disease that occurs predominately in premature infants. NEC severity varies widely and can be devastating. Recent data have demonstrated a strong link between gut microbial dysbiosis and development of NEC. This group of researchers tested the hypothesis that alterations in the gut microbiome at the time of diagnosis would predict the severity of NEC. They prospectively collected stool samples from very low birth weight infants who developed NEC and stratified them by NEC severity.

Fecal bacterial DNA was sequenced using 16S rRNA pyrosequencing and other testing was used to test for differences in microbial communities. Stool samples were prospectively collected for babies at risk for NEC, 489 infants at risk with 30 NEC cases. These 30 infants had 410 fecal samples collected in the 28 days prior to the onset of NEC available for analysis. There were no differences in the pre-NEC gut microbial community between infants treated medically vs. surgically, or those with NEC totalis. In addition, neither treatment of NEC significantly changed the gut microbiome post-NEC among the survivors.

In conclusion, they found no evidence that the gut microbiome, prior to the onset of disease, differentiates the clinical course of NEC. These data suggest that factors other than the gut microbiome may dictate disease severity. This paper does clarify some of the information about the microbiome, but much more is needed to fully understand its role in health and disease.

Barron LK, Warner BB, Tarr PI. Independence of gut bacterial content and neonatal necrotizing enterocolitis severity. J Pediatr Surg 2017 April 5 . pii: S0022-3468(17)30178-1. doi: 10.1016/j.jpedsurg.2017.03.029. [Epub ahead of print

The Effects of Enteral Feeding Improvement Massage (EFIM) on Premature Infants: A randomized controlled trial
Study Design: Prospective Randomized Controlled Trial

This study was conducted to look at the effects of an enteral feeding improvement massage (EFIM) for premature infants in regard to their feeding, growing, and superior mesenteric blood flow (SMA) blood flow aspect by a randomized control trial. There is not much information in the literature regarding the effectiveness of premature infants' enteral feeding improvement by tactile stimulation massage. The study group had 55 patients less than 34 weeks gestation. Twenty-six were randomized into an experimental group and 29 were randomized into a control group. Premature infants in the experimental group received EFIM twice a day for 14 days, and infants in the control group received a sham exercise.

The study found that the experimental group had reached full enteral feeding significantly faster and had a heavier weight and larger head circumference after 14 days. The experimental group also had higher SMA peak velocity (Vmax) and lower RI (resistant index). In addition, the experimental group of the feeding intolerant subgroup had a higher SMA Vmax and Vmin.

The conclusions stated from the article are that this is now an approved evidenced based technique. I would say that more research needs to be done with a greater N and neutral researchers. This seems like a small number of infants studied to make such a sweeping statement. But I am not disagreeing that it was helpful in this small study, and that it may have greater implications for the positive but I would not make it a generalized recommendation just yet.

Kim H, Bang KS. The Effects of Enteral Feeding Improvement Massage (EFIM) on Premature Infants: A randomized controlled trial. J Clin Nurs. 2017 Apr 17. doi: 10.1111/jocn.13850.
Prospective Randomized Controlled Trial

Human milk oligosaccharide composition predicts risk of necrotizing enterocolitis in preterm infants
Study Design: Cohort Study

As discussed earlier, NEC is a too common gastrointestinal disease that occurs mainly in premature infants. NEC incidence is significantly lowered in breast-fed compared with formula-fed infants. Infant formula lacks human milk oligosaccharides (HMO), such as disialyllacto-N-tetraose (DSLNT), which prevents NEC in neonatal rats. However, it is unknown if DSLNT also protects human preterm infants.

The researchers conducted a multicenter clinical cohort study and recruited 200 mothers and their very low birth weight infants that were predominantly human milk-fed. They analyzed HMO composition in breast milk fed to infants over the first 28 days post-partum, matched each NEC case with five controls and used logistic regression and generalized estimating equation to test the hypothesis that infants who develop NEC receive milk with less DSLNT than infants who do not develop NEC. Eight infants in the cohort developed NEC (Bell stage 2 or 3). DSLNT concentrations were significantly lower in almost all milk samples in NEC cases compared with controls, and its abundance could identify NEC cases prior to onset. When the researchers used aggregate assessment of DSLNT over multiple days, it enhanced the differentiation between the NEC cases and control subjects.

The conclusions were that the DSLNT content in breast milk is a potential non-invasive marker to identify infants at risk of developing NEC, and screen high-risk donor milk. In addition, DSLNT could be part of a plan of novel therapeutics in an effort to decrease the incidence of NEC.

Autran CA, Kellman BP, Kim JH, Asztalos E, Blood AB, Spence EC, Patel AL, Hou J, Lewis NE, Bode L. Human milk oligosaccharide composition predicts risk of necrotising enterocolitis in preterm infants. Gut 2017 Apr 5. pii: gutjnl-2016-312819. doi: 10.1136/gutjnl-2016-312819. [Epub ahead of print]

Milk Fat Globule Membrane Supplementation in Formula Modulates the Neonatal Gut Microbiome and Normalizes Intestinal Development
Study Design: Experimental animal study

Breast milk has many beneficial properties and unusual characteristics including a unique fat component, termed milk fat globule membrane (MFGM). It also decreases the incidence of NEC in infants on human milk as compared to formula. Breast milk yields important developmental benefits, however, there are situations where it is unavailable and not all centers use donor human milk resulting in a need for formula feeding.

Most infant formulas do not contain MFGM (Enspire® a term milk based formula does have MFGM), but derive their lipids from vegetable sources, which differ greatly in size and composition. In this study the effects of MFGM supplementation on intestinal development were tested and the microbiome as well as its potential to protect against Clostridium difficile induced colitis in rats. The pup-in-a-cup model was used to deliver either control or MFGM supplemented formula to rats from 5 to 15 days of age; with mother's milk (MM) reared animals used as controls. Rat pups receiving the control formula had significant deficits in intestinal development as compared to mother's milk littermates. The addition of MFGM to formula restored intestinal growth, Paneth and goblet cell numbers, and tight junction protein patterns to that of MM pups. The gut microbiota of MFGM and MM pups displayed greater similarities than the control formula, and proved protective against C. difficile toxin induced inflammation.

This study showed that in rat pups the addition of MFGM to formula promotes development of the intestinal epithelium and microbiome and protects against inflammation in this study.
Interesting results and would like to see this duplicated in greater numbers and then translated to humans although the question would be: how to measure an improvement in intestinal development: serum citrulline or some other marker that could be used as a measure of intestinal development?

Bhinder G, Allaire JM, Garcia C, et al. Milk Fat Globule Membrane Supplementation in Formula Modulates the Neonatal Gut Microbiome and Normalizes Intestinal Development. Sci Rep. 2017 Mar 28;7:45274. doi: 10.1038/srep45274.

Higher growth, fat and fat-free masses correlate with larger cerebellar volumes in preterm infants at term
Study Design: Prospective Descriptive Study

Smaller cerebellar volumes in very low-birthweight (VLBW) infants at term have been related to adverse cognitive outcomes. In the literature, poor head circumference growth has been related to worse developmental outcome by Ehrenkranz using the NICHD database. This study evaluated whether cerebellar volumes were associated with a growth in body composition during hospital stays.
Forty-two VLBW infants were recruited. Cerebellar volumes and body composition were measured by magnetic resonance imaging (MRI) and air-displacement plethysmography, respectively, at 40 weeks of gestational age and anthropometric and nutritional data were collected. Twenty term-born controls were also included.

The mean gestational age and birth weight of the VLBW infants were 29.4 (±1.9) weeks and 1120 (±290) g. There was a positive correlation between cerebellar volumes and daily weight gain from birth to term ($R^2 = 0.26$, $p = 0.001$), weight ($R^2 = 0.25$, $p = 0.001$), length ($R^2 = 0.16$, $p = 0.01$), fat mass ($R^2 = 0.15$, $p = 0.01$) and fat-free mass at term ($R^2 = 0.20$, $p = 0.003$). In multiple regression analysis, daily weight gain, mechanical ventilation and postconceptional age at MRI were independently associated with cerebellar volumes. Anthropometric data and cerebellar volumes were similar between VLBW and control infants.

The conclusions were that higher growth, higher fat mass and fat-free mass were associated with larger cerebellar volumes in VLBW infants when measured at term.

Paviotti G[1], De Cunto A[1], Zennaro F, et al Higher growth, fat and fat-free masses correlate with larger cerebellar volumes in preterm infants at term. Acta Paediatr 2017 Mar 12. doi: 10.1111/apa.13829. [Epub ahead of print]

The Speed of Increasing milk Feeds: a randomized controlled trial
Study Design: Upcoming Prospective Randomized Controlled Trial

This paper announces the SIFT trial which will be important in the US for helping us design or redesign feeding protocols. In the UK, 1-2% of infants are born very preterm (<32 weeks of gestation) or have very low birth weight (<1500 g). Very preterm infants are initially unable to be fed nutritional volumes of milk and therefore require intravenous nutrition. Milk feeding strategies influence several long and short term health outcomes including growth, survival, infection (associated with intravenous nutrition) and necrotizing enterocolitis (NEC); with both infection and NEC being key predictive factors of long term disability. Currently there is no consistent strategy for feeding preterm infants across the UK. The SIFT trial will test two speeds of increasing milk feeds with the primary aim of determining effects on survival without moderate or severe neurodevelopmental disability at 24 months of age, corrected for prematurity. The trial will also examine many secondary outcomes including infection, NEC, time taken to reach full feeds and growth.

Two thousand eight hundred very preterm or very low birth weight infants will be recruited from approximately 30 hospitals across the UK to a randomized controlled trial. Infants with severe congenital anomaly or no realistic chance of survival will be excluded. Infants will be randomly allocated to either a faster (30 ml/kg/day) or slower (18 ml/kg/day) rate of increase in milk feeds. Data will be collected during the neonatal hospital stay on weight, infection rates, episodes of NEC, length of stay and time to reach full milk feeds. Long-term health outcomes comprising vision, hearing, motor and cognitive impairment will be assessed at 24 months of age (corrected for prematurity) using a parent report questionnaire.

Abbott J, Berrington J, Bowler U, Boyle E, Dorling J, Embleton N, Juszczak E, Leaf A, Linsell L, Johnson S, McCormick K, McGuire W, Roberts T, Stenson B; Sift Investigators Group. The Speed of Increasing milk Feeds: a randomised controlled trial. BMC Pediatr. 2017 Jan 28;17(1):39. doi: 10.1186/s12887-017-0794-z.

Policy of feeding very preterm infants with their mother's own fresh expressed milk was associated with a reduced risk of bronchopulmonary dysplasia
Study Design: Prospective Observational Multicenter Study

Since 2005, the French Food Safety Agency has recommended that very preterm or low-birth weight babies should be fed with pasteurized, expressed breast milk and feeding policies on this vary widely in French neonatal units. This paper investigated the differences between using a mother's expressed milk, in fresh or pasteurized forms, for very preterm infants.

This observational multicenter study analyzed data on 926 very preterm infants: 636 from neonatal units who used the mother's own fresh milk and 290 who used the mother's milk after pasteurization. We analyzed necrotizing enterocolitis, bronchopulmonary dysplasia, in-hospital mortality, late-onset sepsis, weight gain, length of hospital stay, the duration of parenteral nutrition and the duration of enteral feeding with a nasogastric tube. Multivariate analyses were conducted to assess the impact of maternal milk policies. For their results, after adjustment, there was a reduced risk of bronchopulmonary dysplasia in the fresh milk group with an odds ratio of 0.40 and 95% confidence interval of 0.27-0.67 ($p < 0.001$). No other statistically significant differences were observed.

In this study, feeding very preterm infants with their mother's expressed fresh milk was associated with a reduced risk of bronchopulmonary dysplasia, and further investigations are needed to evaluate the clinical impact of this practice. I am not sure why the French Food Safety Agency recommended this, as there is literature by Akinbi et al (JPGN 2010 51:347-352.) that describes the changes in human milk when it is pasteurized. The immunomodulatory proteins in human milk are reduced by pasteurization, making pasteurized donor milk more vulnerable to colonization and therefore the use and handling recommendations are more stringent than in fresh expressed milk. Evaluating this practice is a good idea.

Dicky O, Ehlinger V, Montjaux N, Gremmo-Féger G, Sizun J, Rozé JC, Arnaud C, Casper C; EPIPAGE 2 Nutrition Study Group; EPINUTRI Study Group. Policy of feeding very preterm infants with their mother's own fresh expressed milk was associated with a reduced risk of bronchopulmonary dysplasia. Acta Paediatr. 2017 May;106(5):755-762. doi: 10.1111/apa.13757. Epub 2017 Feb 28.

Neurology Research Updates

Neurology research updates provided by Lauren Kronisch, RDN.

Clinical Aspects of Glucose Transporter Type 1 Deficiency Information from a Global Registry
Study Design: Population study

Between 2013-2016, 181 patients ages 0-65 years with Glucose Transporter Type 1 Deficiency (G1D) were studied through a worldwide registry for G1D patients with the goal of developing a mathematically derived prognosis guide based on clinical features at diagnosis point. Math employed included a x^2 test comparing age group at diagnosis and treatment efficiency and a logistic regression model for possible interdependence of treatment efficacy based on ketogenic diet ratio, age of diagnosis, and type of genetic diagnosis. Results showed high-fat, low-carbohydrate diets initiated as

close to diagnosis as possible show positive effects; but, in a change from previous notions, the modified Atkins diet may be as effective as the traditional ketogenic diet in positive impacts on symptoms.
One quarter of cases present with white brain matter abnormalities including subcortical U-fiber hyper-intensity, prominent perivascular Virchow spaces, and late myelination features. Early diagnosis and treatment including a high-fat, low carb diet showed the best outcomes possible.

Su J, Kelly D, Hao J, et al. Clinical Aspects of Glucose Transporter Type 1 Deficiency Information from a Global Registry. JAMA Neurol. 2017 April 24. doi:10.1001/jamaneurol.2017.0298

A.S.P.E.N. Mentoring Program

Are you interested in sharing your experience and expertise with another A.S.P.E.N. member? Would you like to learn from a fellow A.S.P.E.N. clinician? If so A.S.P.E.N.'s new mentoring program is right for you! Set up a profile as either a mentor or mentee at the link below to be paired with another A.S.P.E.N. clinician. Don't miss this great opportunity to network and grow both personally and professionally.
A.S.P.E.N. Mentoring Program

Member Updates and Spotlight

We want to hear from you! The A.S.P.E.N. Pediatric Section group is proud of the many accomplishments of our members and we'd like to highlight what you're doing. If you have any feedback or ideas, noteworthy awards, presentations, published research, or projects that you'd like to share with our members please let us know by contacting the section group newsletter editor Celina Scala at Scalacm@gmail.com.