I have been proud and thrilled to “flex” my FAAP title recently as I joined a chorus of physicians, individuals with chronic disease, hospital organizations and various physician organizations to voice my opinions on health care reform. AAP advocacy advice was urgently shared in leadership calls this summer to disseminate a strategic approach for our collective voice. Our message of dismay as the House Healthcare bill was modified behind closed doors in the U.S. Senate was heard. The proposed deep cuts and restructuring of Medicaid would have ended Medicaid as we know it. Strategically timed call dates with scripted Medicaid FAQs were shared for AAP committees and chapters to disseminate and we inundated Senate Offices with informed calls and letters. The dramatic finale occurred when Senator McCain tipped the fragile balance of Senate votes to prevent dismantling of the Affordable Care Act (ACA). Please be prepared to stay involved as the health care controversies reignite this fall.

Federal funding for 9 million low- and middle-income children on Children’s Health Insurance Program (CHIP) will expire on September 30, 2017 unless Congress reauthorizes it. While CHIP often has broad bipartisan support, there is concern that lawmakers will attempt to tack on less popular measures to the bill that will make it difficult to pass. The high stakes battle to sort out a balanced and constructive approach to health care remains unresolved.

I received permission to share portions of two compelling editorials that were published by Pam Shaw, District VI chair of Kansas and Aimee Olinghouse & Dr. Tony Johnson of Arkansas in conjunction with the AAP Federal Affairs Office. The ACA was passed in 2010 to improve access to health insurance for individuals and families and make coverage more affordable. It mandated that job-based plans and individual plans could not deny coverage, charge more, or refuse to cover treatments due to a pre-existing condition, such as diabetes. It enabled parents to keep their children on their insurance plan until

Continued on Page 3
Endocrinology Meeting Schedule

ISPAD 43rd Annual Conference
http://2017.ispad.org
October 18 – 21, 2017
Innsbruck, Austria

87th Annual Meeting of the American Thyroid Association
http://www.thyroid.org
October 18 – 22, 2017
The Fairmont Empress and Victoria Conference Center
Victoria, BC, Canada

ENDO 2018 – The Endocrine Society Annual Meeting
http://www.endocrine.org/meetings/endo-annual-meetings
March 17 – 20, 2018
McCormick Place West
Chicago, IL

AAP Legislative Conference
aap.org/legcon
April 8-10, 2018
Washington, DC

Pediatric Endocrine Society Annual Meeting
http://pedendo.org
May 5-8, 2018
Toronto, Canada

American Diabetes Association 78th Scientific Sessions
http://professional.diabetes.org/meeting/scientific-sessions/77th-scientific-sessions
June 22-26, 2018
Orlando, FL

AAP National Conference & Exhibition
http://www.aapexperience.org
November 2-6, 2018
Orange County Convention Center
Orlando, FL

Technical Review of Policy

The Section on Endocrinology has been busy serving as expert technical reviewers for draft Academy policy, manuals, and consumer publications. The following documents have been reviewed:

- Policy Statement: Ensuring Comprehensive Care and Support for Transgender and Gender Diverse Children and Adolescents.
- Endorsement Request: Clinical Practice Guidelines for the Care of Girls and Women with Turner Syndrome.
age 26 as long as the policy covers dependents. Preventive health services such as diabetes screenings for high risk patients and pregnant women and “essential health benefits” for chronic disease management and medications were also mandated with no cap on annual dollar limit and no lifetime dollar limit as of 2014.

The ACA required minimal essential coverage as of January 2014. This includes plans purchased in the Health Insurance Marketplaces as well as job-based coverage, Medicare, Medicaid, state Children's Health Insurance Programs (CHIP), TRICARE and the Veterans health care program, and certain other coverage. It remains up to each state to decide whether to extend Medicaid expansion (eligibility to people earning up to 138% of the federal poverty level which is approximately $16,105 for an individual and $32,913 for a family of four in 2014).

Medicaid works, plain and simple. It is a federal-state partnership model which gives states flexibility in deciding how best to cover the needs of patients. In regards to children, Medicaid benefits are designed with children's unique needs in mind to cover essential screenings and all the services that they need. More than 66 percent of children with disabilities and special needs, such as diabetes, congenital heart disease, cerebral palsy and genetic disorders are covered by Medicaid. These children's lives literally depend on Medicaid.

Medicaid is an entitlement program, but it's also an empowerment program. Medicaid allows families to hold down jobs while caring for ill children. It allows pregnant women to access vital services to ensure that they and their babies stay healthy, and it provides critical support for people with disabilities so they can live independently. Medicaid is primarily responsible for a dramatic increase in children with insurance coverage throughout the country. Today, more than 95 percent of children in the United States have insurance coverage and access to medical care. This allows nearly all children to receive well-child visits, vaccines, early treatment for illnesses and chronic medical conditions, therapies and hospital care when needed, which is so important if kids are going to be ready and able to succeed in school and in life.

We clearly have work to do to fix our health care system. As we work to find solutions to our health care policy crisis, let's be thankful to our Academy of Pediatrics team for their significant advocacy guidance to protect our children. Unfortunately, not all children are able to grow up to be adults, but every adult was once a child. We as adults should strive to make sure that every child is given the opportunity to do and be their best as they grow up.

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**Chairperson’s Column**  
*Continued from Page 1*

Public Space Access and Accommodation for Transgender Children and Adolescents

*Ximena Lopez, MD, FAAP and Jim Pawelski, Director, Division of State Government Affairs*

At the 2017 AAP Annual Leadership Forum, the AAP Section on Endocrinology (SOEn) submitted a resolution “Support and Advocacy for Restroom Access by Transgender Children and Adolescents” stating that the Academy stands with the previous US Department of Education and the Department of Justice recommendation of allowing transgender students to use the restroom and facilities that are consistent with their gender identity, and that it opposes legislative and other political interference.

This resolution was adopted by the Forum and the AAP, state chapters, and pediatric advocates have been working on related advocacy efforts.

Because of these efforts, North Carolina remains the only state to enact—and after significant pushback, amend legislation restricting access to multi-stall restrooms (vs. single stall) locker rooms, and other sex-segregated facilities on the basis of a definition of sex or gender consistent with sex assigned at birth or “biological sex.”

During the 2017 state legislative sessions, several state legislatures have considered various policies to restrict public space access and accommodation for transgender individuals.

Lawmakers in 17 states (Alabama, Arkansas, Illinois, Kansas, Kentucky, Minnesota, Missouri, Montana, New York, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Virginia, Washington and Wyoming considered legislation*

*Continued on Page 4*
that would restrict access to multiuser restrooms, locker rooms, and other sex-segregated facilities on the basis of a definition of sex or gender consistent with “biological sex” or “sex assigned at birth.” None of the bills were enacted, including measures introduced during a special legislative session in Texas.

A few other states have, without success, considered legislation that would limit transgender students’ rights at school or that would, (like the NC law), preempt municipal and county-level anti-discrimination laws.

Fourteen (14) states (California, Connecticut, Delaware, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, New Jersey, New York, Oregon, Vermont, Washington) and the District of Columbia protect against discrimination in education, typically with the inclusion of gender identity and gender expression in their nondiscrimination laws.

Recent lawsuits brought by transgender students against school districts for discrimination and/or denial of access and accommodation have been successful in several states, including a federal appeals court unanimously ruling that a 17-year-old student from Wisconsin should be permitted to use the boys’ bathroom, consistent with his gender identity. This was the first time a federal court ruled that Title IX, which prohibits gender-based discrimination in federally-funded schools, protects transgender students.

These resources can be utilized to support related advocacy efforts:

- Child Serving Professionals Coalition Letter
- AAP Statement in Support of Transgender Children, Adolescents and Young Adults
- AAP Statement on Protecting Transgender Youth
- American Academy of Pediatrics Opposes Legislation that Discriminates Against Transgender Children
- AAP Voices | Guiding Families of Transgender Children on a Path Toward Well-Being
- Supporting & Caring for Transgender Children

For consultation and technical assistance on state advocacy initiatives or to learn more about legislation and laws in your state, please contact the AAP State Government Affairs team at stgov@aap.org.

**The Pediatric Endocrine Society Statement on Gender Affirmative Approach of Transgender Youth**

Due to controversies in the medical community regarding the endocrine care of transgender youth, the Pediatric Endocrine Society, through the Special Interest Group on Transgender Health, published a statement on the approach to care. This statement does not intend to provide a clinical care guideline, which was already published by the Endocrine Society and co-sponsored by the Pediatric Endocrine Society. Instead, it emphasizes the importance of an affirmative approach to care in support of one's gender identity, and highlights the needs and rights of transgender youth.

**Reference:**

Metformin for Childhood Obesity: What are the Pros and Cons?

Paul Kaplowitz, MD, FAAP

As a member of the editorial board of Pediatrics, I was recently asked to write a commentary in response to an article which presented a study from Spain looking at metformin for obese children. The strength of the study was looking at both sexes and both prepubertal and pubertal with 40 children in each subgroup, larger than many previous studies. While metformin for 6 months (500 mg bid) did have a modest effect on BMI, the effect was statistically significant only in the prepubertal groups¹. In this article, I would like to expand upon my comments in Pediatrics and give some my thoughts as to when it might be appropriate to use metformin for primary obesity therapy.

Given how few drugs have even modest effects on obesity and are approved in children (only Orlistat at this time) and their various side effects, and the fact that metformin improves insulin resistance, it is no surprise that so many studies have been published on the subject and so many clinicians have tried using it. While I will not review this literature, the summary of a systematic review published in 2014 stated that “metformin provides a statistically significant, but very modest reduction in BMI, when combined with lifestyle intervention over the short term”². I emphasize “over the short term” because nearly all metformin studies have only lasted 6 months, leaving open the question of whether longer treatment would be of greater benefit.

There were many problems with the study from Spain, including that it was, like most studies, limited to 6 months, but the key weakness is that they used dose of 500 mg bid for both prepubertal and pubertal patients and did not escalate. Most of us who use metformin for type 2 diabetes and for PCOS recognize that this is a good starting dose, but escalating to a dose of 1000 mg bid is often required for maximal effect. Since on a mg/kg basis, the pubertal group received a dose which was on the average 1/3 lower than the prepubertal group, their failure to observe a significant BMI Z-score reduction in the pubertal group could be due to their taking a suboptimal dose. Other smaller studies have not observed a puberty-related difference in metformin responsiveness. Also, they questioned patients about diet but only reported on a “healthy lifestyle-diet index,” rather than reporting to what extent patients complied with drug intake or reduced their food index. So it was difficult to tell what factors might have predicted loss of BMI.

As I was reading this paper, I was reminded of a study from Phil Zeitler’s group in Colorado published in Pediatrics in 2008³. They studied 85 patients age 12-19 who had documented insulin resistance but not prediabetes or diabetes. 70% got metformin (escalating to 850 mg bid by 2 months) plus lifestyle counseling and 30% got placebo plus lifestyle counseling. Overall, the metformin group did not see a significant reduction in BMI. However, 11 of those who completed the study (23%) had a 5% or more reduction in BMI. When they looked further at this admittedly small group, they discovered that “subjects who reported a decrease in portion size and were also adherent with metformin (N = 10) lost significantly more weight (BMI ~1.3 kg/m2, p = .005) than adherent subjects not reporting decreased portion size, non-adherent subjects irrespective of change in portion size, and all placebo groups (BMI +.4 kg/m2 for all other groups). Strikingly, 60% of metformin adherent subjects who reported decreased portion size were able to decrease BMI by 5%. (p = .02).” A 5% weight or BMI reduction is considered clinically significant so I wondered if the variable effect of metformin on BMI could be mediated by its effect on appetite. There is indeed support in the literature on decrease in appetite and increase in satiety being a (welcome) side effect of metformin and for this effect being dose-related and mediated at the CNS level⁴,⁵,⁶. This effect on food intake is likely independent of the well-known GI side effects of the drug (loose stools, abdominal cramps, bloating) which about 20% of patients treated with metformin experience during initiation of treatment but resolve after 2 weeks in most subjects.

Regarding the question of metformin therapy for longer than 6 months, one study, that of Yanovski et al. done at the NIH, looked at longer treatment by offering a 6-month open label extension of metformin at a dose of 1000 mg bid to a group of 6-12 year old obese children, and found no additional BMI reduction⁷. A more recent Dutch study⁸ randomized 62 obese subjects ages 10-16 to metformin escalating to 1000 mg bid vs placebo; both groups got a twice weekly exercise intervention. They found that while BMI was significantly lower in the treated group at 6 and 9 months, by 18 months for the 23 subjects who completed the study, the effect was largely lost, with a mean DBMI of +0.2, compared to +1.2 in the placebo group (p=0.015)⁹. There was also a significant mean decrease in body fat mass of 0.2 kg vs +2.0 kg in the placebo group (p=0.007). The authors concluded that long term metformin could result in stabilization of BMI in obese adolescents with a slight improvement in body composition and no serious side effects.

In trying to define the proper role for metformin in childhood obesity, I came up with a list of both good reasons to use

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it and good reasons not to bother.

**Reasons to consider a trial of metformin for uncomplicated childhood obesity:**

1. Since metformin improves insulin sensitivity, it should decrease the rate of progression to prediabetes and type 2 diabetes as shown in the Diabetes Prevention Program trial published in 2002.8
2. Generic metformin is one of the least expensive drugs around especially compared to other drugs used for obesity
3. Once patients get through the first 2 weeks and the drug no longer has any GI effects, it is very well-tolerated and no long-term toxicity has been reported. Lactic acidosis is extremely rare.
4. While it is not a substitute for lifestyle modification, the drug is something which can be safely offered to patients whose families are frustrated by the child's inability to slim down despite being very active and having eliminated sugar-sweetened beverages and junk foods from their diet. In girls in whom I have used metformin for treatment of PCOS, I have seen a few patients who have lost 10-15 kg over the first 2 return visits, though admittedly there are more patients who fail to show such dramatic effects.

**Reasons why it may not be worth trying:**

1. There have been no studies done in children which show that metformin with or without lifestyle modification lowers the rate at which simple obesity or prediabetes progresses to type 2 diabetes, and the rate at which this occurs seems to be lower than in adults.
2. The effect of metformin on BMI is likely limited to the first 6 months of therapy as the 2 studies cited above suggest.
3. Outside of a clinical trial, the compliance with long term metformin therapy is likely to be fair to poor. Once families see that weight loss has leveled off, they are unlikely to continue treatment indefinitely, and will stop returning for follow-up visits. Studies on most weight loss medications suggest that once treatment is stopped, lost weight is usually quickly regained.
4. The message that we should be sending to our families of children with obesity is that long-term lifestyle changes are the cornerstone of treatment and that medications including metformin offer only modest and usually transient benefit.

So when is a trial of metformin for simple obesity justified? I think it should considered for patients who have made a sincere effort to improve their diets and exercise more but cannot lose even a few pounds and are ready to give up trying. Children with prediabetes (fasting BG above 100 or slightly elevated HbA1c) may also benefit from the possible slowing of progression to type 2 diabetes. Families should be informed that the medication may help with short term modest weight loss and is most likely to help if appetite and food intake are decreased and if adherence to treatment is good. And finally, a significant (>5%) decrease in BMI is more likely to occur if the dose is escalated as tolerated to the maximum recommended dose of 1000 mg bid.

**References:**


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**Gender Verification Testing: Does It Have a Place in Women’s Elite Athletics?**

*Jill Brodsky, MD, FAAP*

Concerns regarding the “true” gender of female athletes were raised from the start of women’s inclusion in track and field events in the 1928 Olympic Games. It was thought that sex testing would deter male athletes from passing as females and obtaining an unfair advantage. Since no advantage would be gained for a female to compete as male, the history of gender verification focuses on proving that females are females without any focus on proving male gender. For much of the twentieth century, the International Association of Athletics Federations (IAAF) and the International Olympic Committee (IOC) embraced conservative ideals shaped by Western beliefs in gender differences to maintain conformity among women athletes.

Initially, buccal smears were used to document female sex through the detection of a Barr Body. Endocrinologists and geneticists opposed this practice stating that the procedure unfairly disqualified women with Disorders in Sex Development (DSD). The IAAF and IOC disregarded the objections and maintained testing. In 1986, Maria Martinez Patino, a Spanish hurdler with androgen insensitivity syndrome and failed buccal smear test, successfully fought her suspension. The IAAF convened a meeting in 1990 which resulted in the cessation of “gender testing” by buccal smear and instituted the right to perform a physical exam on any “questionable” competitors on a case-by-case basis.

When the IAAF implemented the “right to check,” the IOC introduced the use of polymerase chain reaction (PCR) testing for testis-determining genes (SRY). By 1996, medical societies including the AAP, AMA, American Society of Human Genetics, and Endocrine Society had called for the IOC to terminate PCR testing due to the technique’s sensitivity to contamination and potential to create false positives. When the IOC Athletes’ Commission protested the procedure, compulsory testing ended in 1999 prior to the Sydney Summer Olympics. However, similar to the IAAF’s ruling, the IOC maintained the right to check any competitor it deemed “suspicious” usually defined by violating expectations of Western femininity.

In 2011, following Caster Semenya’s rise to success running the women’s 800 meter for South Africa, a policy was enacted by the IAAF that reinstated gender testing, but now using an established lower threshold for testosterone in men to define “normal” for females. Women athletes that “failed” the test were often found to have DSD and unless they were diagnosed with completed androgen insensitivity, they were required to undergo either medical or surgical therapy prior to competition in Olympic events. It has been argued that testosterone levels above the lower normal range for men created no more advantage in women than that derived from other accepted biologic variations such as height, hemoglobin concentration, or fast twitch muscle fibers. The Journal of the American Medical Association noted that it was appropriate for athletes who were born with DSD and were raised as female to be allowed to compete as women.

In 2013, a case series was published on four elite female athletes from developing countries found to have 5a reductase...
deficiency and underwent gonadectomy and feminizing surgery “in order to compete as women”. Ethicists have criticized the hyperandrogenism policy noting that it disproportionately affects female athletes from the “Global South” where women with DSD had less access to specialized healthcare facilities and expert physicians.

Gender verification is an extremely controversial issue and will likely continue to deepen in complexity as we see future Olympic participation of transgender athletes. The court of arbitration for sport suspended the testosterone rule for the Rio Olympics, saying the IAAF had failed to prove that women with naturally high levels of testosterone had a competitive edge. The court gave the IAAF until Fall 2017 to present new scientific evidence.

References:
1. On Sunday, April 26, 2015, the Pediatric Endocrine Society’s Ethics Committee sponsored its annual Ethics Symposium: Controversies Regarding “Gender Verification” of Elite Female Athletes: Sex Testing to Hyperandrogenism. The information used to write the above article was presented at the conference by Drs. Alan Rogol, Myron Genel, David Allen, and Katrina Karkazis and published in Hormone Research in Pediatrics.

Update on Growth Hormone Therapy
Kathleen Bethin, MD, PhD, FAAP

Growth hormone (GH) replacement therapy derived from human cadavers was used from the early 1960’s until 1985 to treat children with severe GH deficiency (GHD)1,2. Due to limited supply, only the most seriously affected children were treated, injections were given 3 times per week and discontinued when an acceptable adult height attained. In 1985, cadaveric-derived GH was discontinued due to treated patients developing Creutzfeldt-Jakob disease. Fortunately, by the end of 1985, the FDA had approved synthetic human GH for the treatment of GHD3. The number of children on GH therapy increased from about 3000 in 1985 to about 20,000 in the mid-1990’s3. As the supply of GH increased, guidelines for use of GH to treat GHD were published in 1995, 2000, and 20034-6.

Twelve years after the last update, the Drug and Therapeutics and Ethics Committees of the Pediatric Endocrine Society has added recombinant IGF-1 therapy to the latest GH guidelines7. As GH has been approved for use for poorly growing children with a multitude of conditions, i.e., with growth hormone deficiency, renal insufficiency, Prader-Willi syndrome, Turner syndrome, children born small for gestational age and idiopathic short stature (ISS)3, these guidelines did not attempt to cover all of these conditions. Instead, the guidelines are focused on treatment of the 3 conditions that may be difficult to distinguish at times: growth hormone deficiency, ISS, and primary IGF-1 deficiency (PIGFD)7. The guidelines were developed following the GRADE (grading of recommendations, assessment, development, and evaluation) approach.

The guidelines strongly recommend that children with GHD or severe PIGFD be treated with GH or IGF-1, respectively, to normalize adult height and avoid extreme shortness. For diagnosis of GHD the guidelines recommend against using GH provocative testing as the sole diagnostic criterion. In individuals who meet auxological criteria, have a hypothalamic-pituitary defect and deficiency of one or more other pituitary hormones, provocative GH testing is unwarranted. In a newborn with hypoglycemia and corresponding GH less than 5 mcg/L, GH provocative testing is unnecessary if there is at least one other pituitary hormone deficiency or ectopic posterior pituitary with pituitary hypoplasia and abnormal stalk. The guidelines recommend harmonized GH assays and sex steroid priming of prepubertal girls and boys, older than 10 and 11 years respectively, when performing provocative GH testing. The guidelines address dosing of GH, monitoring and when to discontinue, safety issues and transitional care.

Treatment of ISS with GH has long been a controversial issue. These guidelines recommend that children with ISS meeting FDA criteria for GH therapy be evaluated on an individual basis to determine whether or not to initiate treatment. And, since not all children with ISS show a response, the need for GH should be reevaluated 1 year after starting therapy. The guidelines also recommend that patients with severe PIGFD be treated with IGF-1 to increase height. It is recommended that treatment be begun in children who meet auxologic and low IGF-1 criteria, have secondary causes of IGFD excluded...
and fail a trial of GH if etiology is unknown. To prevent hypoglycemia, it is recommended that the drug be administered 20 minutes after a carbohydrate-containing meal/snack.

These guidelines are based on what we have learned with more than 50 years of experience with GH and should help us to get GH to those who would benefit the most. However, there are still barriers to optimal treatment of patients who require GH therapy. To address these issues the Endocrine Society hosted a GH Summit at Endocrine Society Headquarters. Present at the meeting were representatives from providers (representing the PES, AAP and Endocrine Society), insurers, pharmaceutical companies and patient advocates from Magic Foundation and Human Growth Foundation. The last GH Summit was about 20 years ago and did not include the insurers or patient advocates. The purpose of this summit was to identify barriers to optimal treatment of patients with GH and identify best practices to meet current and future challenges for collaboration across providers, patients, payers and manufacturers. Following is a synopsis of the identified barriers to GH therapy and potential solutions discussed at the Summit.

One of the major and longstanding issues with the use of GH is the difficulty in diagnosing GHD. The cut-off of 10 ng/mL is arbitrary. GH provocative testing for GHD is time-consuming (e.g., glucagon stimulation test takes 3 hours) and may be labor-intensive and higher risk (e.g. insulin tolerance test). Further, the assays for GH, IGF-1 and IGFBP-3 which are used to substantiate GHD are not necessarily standardized. In addition, GH therapy is both overprescribed for treatment of short stature and abused for perceived strength and anti-aging benefits. These issues have led each payer to develop their own criteria for GH therapy coverage. To overcome these barriers, providers need to first agree on criteria for diagnosis of GHD and then payers need to all adopt these criteria. Second, providers and professional societies need to demand harmonized lab assays. Third, providers need to ensure that GH is not overused by discontinuing treatment in patients with ISS who are not responding to GH therapy.

Another major barrier to access to GH therapy is the cost for payers and patients. GH therapy is expensive. Prior to 2003, the pool of patients who met FDA criteria for GH therapy was relatively small. However, in 2003, ISS became an FDA-approved diagnosis for GH therapy. Since payers must balance scarce economic resources with sustainability, coverage for GH therapy became more restrictive. This along with higher co-pays or high out of pocket co-insurance has led to high financial burden for families.

Two other major issues leading to time off therapy are demands on provider/staff time and changes to preferred product or insurance carrier. Every payer has their own prior authorization (PA) forms. Standardization of these forms across payers and pre-population of some fields would greatly reduce burden on provider staff. Dropping the requirement of reauthorization of patients with anatomical GHD (e.g., pituitary surgery/radiation). Timely notification of changes in formulary status of GH would ensure a smoother transition from one GH delivery device to another. If providers only treated children with ISS who were truly in need of treatment and reevaluated children with ISS after 12 months of therapy, discontinue GH in those who do not respond, payers may be more willing to cover GH therapy in patients with ISS.

There are also adults with GHD who benefit from treatment; GH has beneficial effects on cardiovascular and bone health. However, most adults with GH go untreated. Increased education of providers that GHD is a lifelong disease in some patients would improve access to treatment. We also need a better way to transition patients with permanent child-onset GHD from a pediatric to an adult provider.

Lastly, as with any medical condition, lack of adherence is another major barrier to GH therapy. There are at least 4 manufacturers who are developing long-acting GH (LAGH) products that may improve adherence. As these LAGH come to market, a long-term registry looking at adherence, safety, efficacy and cost-effectiveness compared to daily GH is necessary. A registry is fantastic idea but we are still left with the question who should/ will pay for it?

References:

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**Improving Safety and Reliability in Diabetes Care**

*Sam Casella, MD, MSc, FAAP*

With the increased prevalence of both type 1 and type 2 diabetes in youth, most pediatricians will encounter diabetes as a co-morbidity. Effective care involves close monitoring of glucose, use of hypoglycemic agents, dosing in a very narrow therapeutic range, and compensation for food intake and physical activity. It should surprise no one that this becomes very challenging when children are acutely ill – particularly when hospitalization is required. In fact, insulin is among the most common medications involved in medical errors. Insulin errors have been implicated as a leading cause of fatal adverse drug events in hospitalized patients. The Child Health Patient Safety Organization (CHPSO) has recognized the seriousness of this problem and convened a panel of experts to develop a risk assessment tool. Members are urged to bring this document to the attention of your local hospital and/or clinic to see if there are hazards that could be addressed to improve the safety of diabetes therapy. The content has been reviewed by the AAP Section of Endocrinology and has been endorsed by the Pediatric Endocrine Society. The document is available to the public and can be downloaded from the Children’s Hospital Association website: [https://www.childrenshospitals.org/quality-and-performance/patient-safety/alerts/2017/high-risk-pediatric-populations](https://www.childrenshospitals.org/quality-and-performance/patient-safety/alerts/2017/high-risk-pediatric-populations)

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**Announcement!**

**AAP Endorsed Clinical Practice Guidelines for the Care of Girls and Women with Turner Syndrome: Proceedings from the 2016 Cincinnati International Turner Syndrome Meeting**

Congratulations to Dr Philippe Backeljauw and Claus Gravholt for leading this important initiative!

New international guidelines for the clinical care of Turner syndrome (TS) individuals have recently been published in the *European Journal of Endocrinology*. These guidelines have been developed through the work of many specialists covering all aspects of the care of TS females throughout the entire life span. The document is the result of the input of many professional societies, including specialists from the European Society of Endocrinology, Pediatric Endocrine Society, the European Society for Paediatric Endocrinology the Endocrine Society, and members of the AAP. In addition, representatives from patient advocacy groups participated in work groups that developed the guidelines consensus statement. The full article is available online at: [http://www.eje-online.org/content/177/3/G1.full.pdf+html](http://www.eje-online.org/content/177/3/G1.full.pdf+html)
Do our in-utero exposures increase our risk for obesity of future metabolic complications? Studies on the developmental origins of health and disease continue to be a growing area of interest given the prevalence of obesity and insulin resistance. Pediatricians are faced with the concern that this vicious cycle of obesity and diabetes will continue to persist through multiple generations of high-risk populations. Here in South Texas we are following a cohort of infants with the aim of understanding if in-utero exposure to maternal diabetes and/or maternal obesity is associated with higher offspring adiposity or methylation changes at birth in regulatory genes associated with insulin resistance.

A key component in understanding the mechanisms that may lead to metabolic alterations is identifying if these metabolic changes mirror changes in body composition (i.e. percent body fat). Identification of risk factors, such as maternal obesity, gestational weight gain, and maternal diabetes, which may have short and long-term effects on body composition, is important in identifying future metabolic risk. It is now well identified that intrauterine exposure to maternal diabetes increase the risk of having a large for gestational infant and there is a growing body of evidence that supports changes in body composition such as increased fat mass.\(^1,2\) Our preliminary data (currently not published) also suggest a higher percent body fat in infants of mothers with diabetes versus mothers without diabetes in our specific cohort.

Traditional methods of measuring adiposity such as weight z-scores, BMI z-scores, waist to hip ratios, and skin fold measurements are often technically limited and subject to inter and intra observer variability given the serial nature of such measurements. The advantage of these anthropometric measurements is that normative data exists for growing children.

Air displacement plethysmography, commercially known as the PeaPod\(^\circ\), and dual-energy X-ray absorptiometry (DXA) scans both offer an alternative method of measuring percent body fat that have been validated in infants for the accurate assessment of body composition.\(^3,4\) Air displacement plethysmography uses the principles of Boyle's law to determine fat mass and fat free mass and DXA scans have the additional capacity to evaluate the distribution of fat and fat free mass, as well as the evaluation of bone mineral content.\(^3\)

Air displacement plethysmography measurements are reliable, can be done quickly, are well tolerated, and can be followed in a serial manner with growing amounts of normative data.\(^3\) This technology accounts for infant movement, which is often a limitation of DXA scan measurements and does not expose the infant to radiation. However, air displacement plethysmography will not give regional assessments of body fat and rather is reported in terms of fat and fat free mass (i.e. 2-compartment model).\(^3,4\)

Currently this technology is utilized primarily in pediatrics for investigational purposes. One may envision a future in which wellness programs may utilize this technology as a measure of sustainability to lifestyle changes in primary prevention of obesity, type 2 diabetes, hyperlipidemia, and cardiovascular disease in children.

References:
New Benefit for Fellowship Trainee Members!
PREP Subspecialty Self Assessments

The American Academy of Pediatrics (AAP) now offers PREP Subspecialty Self Assessments to all Fellowship Trainee Members as part of their member benefits. This includes PREP Endocrinology! PREP Subspecialty Self-Assessments are accessed online and can be utilized to complement board preparation. We encourage all pediatric endocrinology fellowship trainees to belong to the AAP and the Section on Endocrinology. To join, visit shop.aap.org/aap-membership.

- Benefits of AAP and Section on Endocrinology membership for a pediatric endocrinology fellowship trainee:
- Access to PREP Endocrinology Self-Assessment
- Access to Individual Learning Plans (ILP) through PediaLink to keep track of learning and meet ACGME requirements
- Receive communications from the Section on Endocrinology through Section member listserv and bi-annual newsletter
- Involvement with educational activities of the section
- Opportunity to serve as the Fellowship Trainee on the Section Executive Committee
- Opportunity to develop educational content for professionals or patients/families
- Serve as a technical review of policy and publications developed by the Academy

Membership dues for Fellowship Trainees beginning July 1, 2017 will be $125/year and the Section on Endocrinology dues are an additional $20 per year.

We are excited about this new membership benefit and hope you will take advantage of this member benefit and consider becoming involved with the Section on Endocrinology.

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Announcement!
Paul Kaplowitz, MD, Endowed Lectureship Award

Congratulations to Dr Karen Rubin, MD, for receiving the 2017 Paul Kaplowitz, MD, Endowed Lectureship Award for Cost-Effective Care in Pediatric Endocrinology!

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The AAP and PES Leona Cuttler Quality Improvement Award

Congratulations to Kristina Cossen, MD, for receiving the Leona Cuttler Quality Improvement Award for her abstract entitled, “Quality Improvement in the Perioperative Medical Management of Pediatric Thyroidectomy.”
New and Renewed Members

Rebecca Aguirre, MD
Yasmin Akhtar, DO, FAAP
Brooke Anderson, MD, FAAP
Sanjay Bansal, MD, FAAP
Malgorzata Bujarska
Kelsey Eitel, MD
Sarah Corathers, MD, FAAP
Alison Coren, MD
Sissi Cossio, MD, FAAP
Kelly Fegan-Bohm, MD, MPH, MA, FAAP
Mauricio Flores, MD, FAAP
Teresa Frazer, MD, FAAP
John Galgani Jr, MD, FAAP
Martin Goldsmith, MD, FAAP
Luisa Gonzalez Ballesteros, MD, FAAP
Michael Haller, MD, FAAP
Rubina Heptulla, MD, MBA, FAAP
Jennifer Ikle, MD
Jody Krantz, MD, FAAP
Amit Lahoti, MD, FAAP
Michael Lin
Lauren McClure, DO
Emily Montgomery
Joyce Munga, MD, FAAP
Susan Rose, MD, FAAP
Chris Sebastian
Akash Sinha, MBBS, MD, MRCPCH, FRCPC, FAAP
Suad Taha, MD
Cara Tillotson, DO, FAAP
Kate Travis
Aurelia Wood, MD, FAAP

Not a Member?  Joining is Easy!

Current members of the Academy in good standing are eligible to join the Section on Endocrinology by contacting the AAP Customer Service at 866/THE-AAP1 (866-843-2271).
Choosing Wisely – Section on Endocrinology

Dear Section members:

We are pleased to announce the release of the Choosing Wisely list developed by the Section on Endocrinology (SOEn). As many of you know, the Choosing Wisely (CW) campaign began in 2012 under the auspices of the American Board of Internal Medicine as a way for physicians to contribute to reducing the amount of unnecessary care delivered to patients which some estimate to be as high as 30%. The idea is to highlight tests and procedures which experts in the field feel are overused and of low value in most cases. So far over 70 physician groups including the AAP have joined this initiative and the AAP released 2 lists of 5 items each in 2013 and 2014 then from the entire field of Pediatrics. In early 2016, I volunteered to be the CW physician champion for the AAP with the goal of getting as many specialty sections and committees as possible to develop their own lists of 5 items (CW requires lists of 5 items). We sent out a message to all SOEn members requesting their input and then the SOEn executive committee developed a list of 6 items each of which was supported by published studies or guidelines. The list was then circulated to other AAP sections for their input. We found that the Section on Obesity agreed that thyroid testing and insulin measurements were generally not helpful in obesity and they are co-sponsors of that item. The list then went to the AAP Executive Committee for review and we incorporated their suggestions. Then the list of 6 went to the ABIM and their internal reviewers had enough concerns about an item on DEXA scanning that we decided to eliminate it since we still had five; changes to other items were made and approved by the SOEn executive committee. Finally, the list went out to all 70 participating physician groups and no further changes were requested. So we are excited to be the first AAP specialty group (aside from Perinatal medicine which developed their own list outside of the AAP) to have our own list of items published. Several other specialty groups are working on their own lists and some of those should be ready to publish in the coming months. We hope that these lists will encourage PCPs and members of our own specialty to be more judicious in ordering certain tests and to share these recommendations with parents, especially those who insist on doing tests that we feel are not necessary. We want to thank those of you who responded to our survey and hope that you find this list useful.

Sincerely,

Paul Kaplowitz, MD, PhD, FAAP

Please see the Choosing Wisely list on pages 15-17 in this newsletter.
Five Things Physicians and Patients Should Question

1. Avoid ordering LH and FSH and either estradiol or testosterone for children with pubic hair and/or body odor but no other signs of puberty.
   
   Premature adrenarche is usually the diagnosis and does not involve activation of the pituitary-gonadal axis but is due to an early increase in adrenal androgens. DHEA-S levels are elevated for age but do not alter the management of this common and generally benign condition.

2. Avoid ordering screening tests looking for chronic illness or an endocrine cause, including CBC, CMP, IGF-1, thyroid tests, and celiac antibodies, in healthy children who are growing at or above the 3rd percentile for height with a normal growth rate (i.e., not crossing percentiles) and with appropriate weight gain.

   Even in children who are below the 3rd percentile for height with a normal history and physical exam, the incidence of newly diagnosed pathology was found to be only about 1%. In patients who have significant short stature (e.g. ≤-2.5 SD) or who are well below their genetic potential based on parental heights, tiered or sequential screening may be considered.

3. Avoid ordering Vitamin D concentrations routinely in otherwise healthy children, including children who are overweight or obese.

   Although a 25-hydroxyvitamin D concentration, reflecting both vitamin D synthesis and intake, is the correct screening lab to monitor for vitamin D deficiency, current evidence is not sufficient to suggest that screening in otherwise healthy including children who are overweight or obese is necessary or safe.

   Global consensus recommendations caution against population-based screening for vitamin D deficiency (1). The US Preventive Services Task Force also has noted that variability of current assays and unclear cutoffs for deficiency may lead to “misclassification” of persons as having vitamin D deficiency, and that this misclassification “could outweigh any benefits if there are harms” (2). The American Academy of Pediatrics report on Optimizing Bone Health in Children and Adolescents advises screening for vitamin D deficiency only in patients with disorders associated with low bone mass such as rickets and/or a history of recurrent, low-trauma fractures (3).

   It has been shown that children who are overweight or obese have a greater likelihood of having low vitamin D levels (4). If the history suggests an obese child has insufficient dietary intake of vitamin D (e.g., little milk intake), a vitamin D supplement should be recommended, which is more cost-effective than 25-hydroxyvitamin D measurements for both screening and monitoring therapy.
Avoid routinely measuring thyroid function and/or insulin levels in children with obesity.

TSH levels can be slightly elevated in obesity but this is more likely a consequence of obesity and rarely true hypothyroidism [1, 2]. Free T4 levels are usually normal and if so there is no proven benefit to treatment when TSH is minimally elevated. Testing thyroid function in otherwise healthy children should be considered only if stature and/or height velocity is decreased in relation to the stage of puberty [3, 4].

There are significant limitations in the use of insulin levels as a marker of insulin resistance; furthermore, it is not necessary to order this test to establish a weight control management plan [3, 5]. (This item submitted jointly with the AAP Section on Obesity)

Avoid routinely ordering thyroid ultrasounds in children who have simple goiters or autoimmune thyroiditis.

Limit this study to children who have asymmetric thyroid enlargement, palpable nodules, or concerning cervical lymphadenopathy. Ultrasound can detect nodules that elude palpation, and one prospective series found that 31.5% of patients with Hashimoto’s thyroiditis will have thyroid nodules [2]. The majority of these lesions, however, are not harmful. Overuse of ultrasonography results in needless health care costs and time expenditures for families. More importantly, insignificant findings can create anxiety within patients and parents who are fearful of thyroid cancer. In some cases, the abnormal findings will lead to additional radiographic studies, fine needle aspiration, or aggressive treatment of “pseudo-disease” that will not improve the health of patients.

There is a known association of thyroid cancer with Hashimoto’s thyroiditis, and a pathologic diagnosis of papillary carcinoma was made in 3% of patients in the study cited above [2]. However, there is insufficient evidence to conclude that detecting nodules before they are palpable leads to better outcomes [1]. It seems prudent, therefore, to perform a careful annual physical exam of the thyroid, as recommended for all children who are at increased risk of thyroid cancer [2]. If that exam reveals asymmetry, palpable nodules or significant cervical adenopathy then ultrasonography is indicated [2].
How This List Was Created

The American Academy of Pediatrics’ Section on Endocrinology (SOEn) consists of pediatric endocrinologists, pediatricians, and allied health care professionals who are actively involved in some aspect of the study of endocrinological disease in infants, children and adolescents. SOEn strives to inform pediatricians, parents, communities and policy makers on endocrinological disease in children. Thus, the Executive Committee of SOEn was queried to develop a list of on diagnostic and management decisions that have resulted in patient harm either from a misdiagnosis or inappropriate therapy. The list was shared with membership of the Section on Endocrinology for feedback and then finalized by the SOEn Executive Committee. These five clinical issues are the result. Consensus on the items was received from 20 AAP expert groups. The list was critically reviewed and approved by the AAP Executive Committee.

AAP’s disclosure and conflict of interest policy can be found at www.aap.org.

Sources


About the ABIM Foundation

The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policymakers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice.

To learn more about the ABIM Foundation, visit www.abimfoundation.org.

About the American Academy of Pediatrics Section on Endocrinology

The American Academy of Pediatrics is an organization of 66,000 primary care pediatrics, pediatric medical specialists, and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents and young adults.

For more information, visit www.aap.org.

For more information or to see other lists of Things Clinicians and Patients Should Question, visit www.choosingwisely.org.