

# WORKING TOGETHER TO PROVIDE HIGH-VALUE CARE IN PEDIATRIC ENDOCRINOLOGY: THE CHOOSING WISELY INITIATIVE

---

Paul Kaplowitz, MD  
Professor of Pediatrics  
Division of Endocrinology

# What is the problem which needs fixing?

- Health care costs in the US are very high and continue increase; a good part of this (? 30%) is due to unnecessary tests, procedures, and treatments
  - Contributes to high cost of the health insurance we all need
- Parents often pressure PCPs into ordering tests which the PCP questions, in the mistaken belief that more testing equates with better care and outcomes
- Unnecessary tests often result in borderline abnormal results → repeat testing and referrals for specialty care
- The high demand for consultations leads to delays in appointments for patients who really need to see us



Children's National™

Health Network™  
Part of the Children's National Health System

Future of Pediatrics 2016

# Objectives

- To discuss the Choosing Wisely initiative and how it might help us in reducing unnecessary care
- To provide specific examples in the field of pediatric endocrinology of common situations in which discussions with families can help avoid testing and referrals for minor problems and normal variations
- To discuss how PCPs and specialists can work together as a team to reduce wasteful testing and treatments

# Choosing Wisely: What is it?

- The American Board of Internal Medicine (ABIM) Foundation launched this initiative in 2012 as a way of advancing a national dialogue on avoiding wasteful or unnecessary medical tests, treatments and procedures.
- ABIM has partnered with 70 physician groups. “In response to this challenge, national organizations representing medical specialists asked their providers to “choose wisely” by generating lists of tests or procedures commonly used in their field whose necessity should be questioned and discussed”.

# Choosing Wisely and the AAP

- The AAP joined this program, and in 2012 a message went out to the membership and to the sections and committees to come up with items for the list and over 100 suggestions were received, which were reviewed and culled down to 2 lists of 5 items, published in 2013 and 2014 which are available at <http://www.choosingwisely.org/societies/american-academy-of-pediatrics/>. In 2015 the section of perinatal and neonatal group published an additional list of 5 items



Children's National™

Health Network™  
Part of the Children's National Health System

Future of Pediatrics 2016

# What type of items are on these lists?

- The things on the list needed to be within that group's clinical domain;
- They needed to be done frequently in practice and incur real costs; and
- They must be evidence-based recommendations, (which means that published studies or clinical guidelines should support each item)

## Some of the items which made the AAP list

- **Antibiotics should not be used for apparent viral respiratory illnesses (sinusitis, pharyngitis, bronchitis).**
- **Computed tomography (CT) scans are not necessary in the immediate evaluation of minor head injuries; use clinical observation/Pediatric Emergency Care Applied Research Network (PECARN) criteria.**
- **Avoid the use of surveillance cultures for the screening and treatment of asymptomatic bacteruria**

# Pediatrics and Choosing Wisely: Looking ahead

- In a field as broad as Pediatrics, it is clear that there are many more than 15 items would should be on the list
- My new role as a volunteer for the AAP is to reach out to each committee and section dealing with patient care to generate at least 5 new items for review
- There is also a great need to educate both PCPs and specialists about what these lists can and cannot accomplish and how we can work together to provide value-based health care



Children's National™

Health Network™  
Part of the Children's National Health System

Future of Pediatrics 2016



# Case scenario #1

- Parents of a healthy 10 year old boy are worried because he is the shortest in his class and his size is having an impact on his participation in sports
- Mother is 5'6" and father is 5'10" but was later than his peers in his pubertal growth spurt
- You review his growth chart and note that he has been consistently 5-10%ile in height; 10-25<sup>th</sup> in weight
- Parents concerned that he is not as tall as he should be for his family; wish him to be considered for growth hormone therapy



# What would you do at this point?

- Refer him to endocrinology without testing
- Order a battery of tests to make sure that nothing is being missed
  - CBC, CMP, free T4, TSH, tTG-IgA, IGF-1, bone age
- Have a discussion with the parents

# What is the evidence?

- His growth pattern and overall health does not suggest any underlying medical issue and “screening tests” in this setting are unnecessary and wasteful.
  - Reference: Sisley et al **Low incidence of pathology detection and high cost of screening in the evaluation of asymptomatic short children.** J Pediatr 2013;163:1045-51
  - A group from Cincinnati Children’s identified through chart review 235 patients with a height of <3rd percentile, negative history and review of systems, and normal physical examination. Incidence of pathology was only 1% and the cost of the screening tests done was \$315,000



# How to discuss with the family

- Given the father's history, this boy might also be a late maturer with a very normal adult height
- A specialist would not recommend GH therapy both because it is not needed and insurance would never cover it, so no real benefit from seeing one
- Need to reassure child that being short can be a challenge but one that can be dealt with without expensive medication

# So why are these children so often referred?

- Perhaps in part because it takes less time to order tests or refer than to spend 10 or more minutes counseling the family
- However, those 10 minutes may save a lot of health care dollars and the time needed for a consultation
- PCPs need to become more comfortable with denying requests of “pushy parents” for testing and referral
  - As a back up plan, one can always fax a note with the growth chart to the Division of Endocrinology requesting guidance

## Case scenario # 2

- A 12 year old AA girl is seen for a well child visit
- Height has been steady at 75<sup>th</sup> %ile (155 cm = 5'1"), but she has gained 20 lb in the past year and is now 75 kg = 165 lb. BMI is 31
- Mother says she is trying to get her to eat healthier
- Mother is 5'2" 200 lb and father is 5'9" 240 lb
- Physical exam is notable for generalized increase in fat and acanthosis nigricans

What would you do at this point?



Children's National™

Health Network™

Part of the Children's National Health System

Future of Pediatrics 2016

# To test or not to test?

Which of the following would you do?

1. A HbA1c to screen her for diabetes or prediabetes
2. A fasting BG
3. Free T4 and TSH to rule out hypothyroidism
4. A 25-hydroxyvitamin D level
5. No testing but counsel re: healthier diet and increasing physical activity
6. Refer to a dietitian

# So what do the tests you ordered show?

- HbA1c 5.9% (5.7-6.4% is “at risk for diabetes”)
- Fasting BG 89
- Free T4 1.3 (0.9-1.6) with TSH 6.1
- 25-hydroxyvitamin D 21 (normal >30)

*Does this child need to see an endocrinologist or a dietitian next?*



# The endocrine perspective.....

- Obese kids, especially those older than 12, are at increased risk for type 2 diabetes
  - Blacks, Hispanics and those with close relatives with type 2 diagnosed at relatively young ages are at higher risk
- *HbA1c is a poor screening test for asymptomatic kids* as it is often in the “at risk” range (especially when run at LabCorp) in kids who test normal on an OGTT
  - Fasting or even random glucose has fewer false positives
  - OGTT optional for borderline A1c but needed if FBS 100-125
  - Nutritional and lifestyle counseling for obese kids and their parents is important regardless of what tests show

# What about the TSH?

- Hypothyroidism is not a cause of obesity
  - Severely hypothyroid patients may gain 5-10 lb of weight which is *water not fat*; mild-moderate hypothyroidism has no effect on weight and treating will not result in weight loss
- Borderline high TSH very common in obesity *and likely is a result, not a cause of the excess fat*
  - Does not require an endo consult but can recheck in 1 year
- Suggest limiting thyroid testing in obesity to patients with goiter or decreased linear growth
  - This may be hard to sell to parents who are looking for an easy answer and have consulted the internet



# What about the “low” vitamin D level?

- Disagreement exists as to whether “low” is  $<30$  ng/ml which is found in 30-50% of our population or  $<20$  but 20-30 range is not associated with any Ca/bone issues
- Assay for 25-hydroxyvitamin D is expensive and is best used for children with evidence of deficiency (bowing or low Ca esp in breast-fed infant) or who have diets very low in dairy w/o vitamin D supplementation
- *It is far more cost-effective* to recommend 600-1000 IU of vitamin D for all children at risk for D deficiency based on diet, skin color and sun exposure than to screen for D deficiency routinely (or when requested by parents)

## Case scenario # 3

- You are seeing a 7 year old girl for a well child check and on your exam you find a symmetric goiter which you had not noticed on your previous exams. The child has no symptoms suggestive of either hypo- or hyperthyroidism. What would you order?
  - Free T4 and TSH
  - Thyroid antibodies
  - Thyroid ultrasound to confirm the goiter

# The results.....

You decide to do all of the above

- The free T4 and TSH are normal
- Thyroid antibodies are slightly positive
- Ultrasound shows an enlarged and somewhat heterogeneous gland with 4 small cystic nodules each measuring 6 mm or less in diameter

What would you do next?

- Reassure the family
- Refer to endocrinology for evaluation of the antibodies and the nodules

# The best approach to this scenario

- Free T4 and TSH are appropriate since hypo- and hyperthyroidism often asymptomatic in early stages
- Thyroid antibodies are best obtained after diagnosing hypothyroidism as they are often + in patients who never develop a thyroid problem
- Thyroid ultrasounds need only be done to evaluate a palpable nodule located within the thyroid or an asymmetric goiter
  - A high proportion of patients w/o thyroid disease have small <1 cm cysts or nodules which do not need biopsy or repeat imaging; **thus doing an unneeded U/S increases cost of care without any benefit to child but creates anxiety for parents**



## Case scenario # 4

- A 7 year black girl in your practice is seen because 6 months ago her mother noted some hair around her vagina as well as underarm odor. Mother had menarche at age 12 and father's puberty was on time.
- On exam there is Tanner stage 2 pubic hair but genital exam otherwise negative and no breast tissue is palpated. Growth is increasing along the 90<sup>th</sup> %ile in height and 97<sup>th</sup> %ile in weight.
- What is the most likely diagnosis?

# Premature adrenarche

- Appearance of pubic and/or axillary hair before age 8 in girls and age 9 in boys without other signs of puberty. Very common, especially in AA girls whose average age at pubarche is now about 9 years.
- Which of the following would you order?
  1. LH, FSH, estradiol
  2. DHEA-S, 17-hydroxyprogesterone, testosterone
  3. Bone age X-ray
  4. None of the above



# Is testing needed to make this diagnosis?

- The only abnormal test is typically DHEA-S, the major circulating adrenal androgen
- Bone age is advanced more often than not, and by 2 or more years in about 30% per a recent CNHS study
- The risk of serious pathology (adrenal/gonadal tumors) is very low and non-classical congenital adrenal hyperplasia is usually not treated when mild
- Once you have seen a number of cases like this, you should be able to make the diagnose clinically

# So how to approach this with the family

- Share with them that this not true precocious puberty but a benign normal variation for which no treatment is needed. Menarche occurs  $\geq 2$  yrs after thelarche
- Explain that hormone testing is not needed for diagnosis
- If family is anxious and needs reassurance, refer them to endocrinology
- Or you can offer to monitor child's progress in 6-12 months. Changes of concern would be:
  - A rapid increase in the amount of hair
  - Breast development in girls before age 8, genital enlargement in boys before age 9



Children's National™

Health Network™  
Part of the Children's National Health System

Rapid growth in height

# For more information on managing the common variants of early puberty: Jan 2016 Pediatrics

CLINICAL REPORT Guidance for the Clinician in Rendering Pediatric Care

Evaluation and Referral of Children With Signs of Early Puberty

Paul Kaplowitz, MD, PhD, FAAP, Clifford Bloch, MD, FAAP, the SECTION ON ENDOCRINOLOGY

# Working together on shared care and “value”

- We want to encourage conversations between both PCPs & specialists and parents about care that is wasteful and provides no health benefit to the child
- *If we are to change the culture of medicine* to reduce the high cost of health care in the US, we all need to work together
- Requesting informal consults on cases you are unsure about can limit testing and avoid some specialty visits
  - After talking to one of us you may feel more comfortable telling parents you have “consulted with CNMC endo”, and were reassured there was no endocrine problem

# An example from pediatric endocrinology of a future use of Choosing Wisely in your practice

- As mentioned earlier, I will be reaching out to the multiple specialties within AAP to encourage each to develop a list of 5 items to be considered for Choosing Wisely
- In endocrinology, one item is likely to be “Avoid testing for GH deficiency (or other conditions) in healthy children who are  $\geq 3^{\text{rd}}$  %ile in height and growing at a normal rate”
- So when you encounter patients such as discussed in Case 1 in your practice, sharing this with parents may help convince them not to pursue testing or GH Rx



## In conclusion

- We need to find better ways for our referring providers to work closely with our specialty providers to deliver efficient high value care to the children in our region
  - This means not referring every child whose parents are sure they need to see a specialist
- I would welcome questions and comments as to how we can all do a better job with this