



## Updates in Pediatric Obesity

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I have no financial disclosures

### Objectives

1. **Review** the new pediatric BMI growth curves and **recognize** their utility in assessing a child who is obese.
2. **Reflect** on the stigma your patients who are obese may have experienced.
3. **Suggest** practical ways you can overcome stigma in your practice.



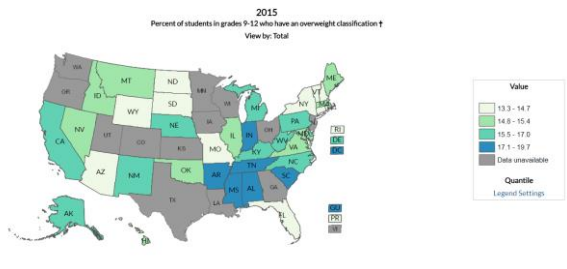
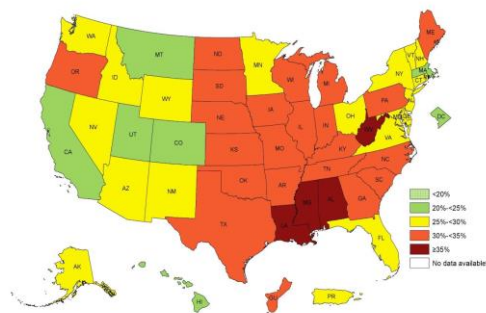
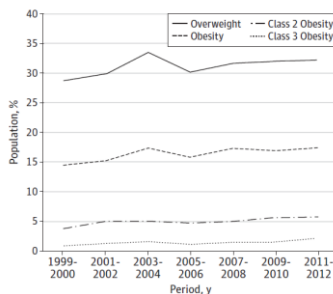


Figure. Prevalence of Overweight, Obesity, Class 2 Obesity, and Class 3 Obesity Among Children in the United States by Year



Skinner AC, Skelton JA. Prevalence and trends in obesity and severe obesity among children in the United States, 1999-2012. JAMA Pediatr. 2014;168(6):561-566.

## Impact

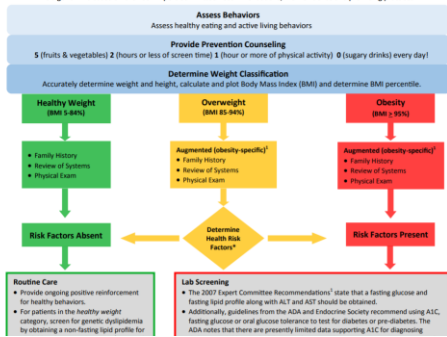
- Mental Health
  - Teasing
  - Bullying
- Asthma
- Obstructive Sleep Apnea
- Orthopedic problems
- CV (high blood pressure)
- Metabolic
  - Lipids, insulin resistance
- Adulthood morbidity



## Our Role: Screen children

**CONCLUSIONS AND RECOMMENDATION** The USPSTF recommends that clinicians screen for obesity in children and adolescents 6 years and older and offer or refer them to comprehensive, intensive behavioral interventions to promote improvements in weight status. (B recommendation)

**Algorithm for the Assessment and Management of Childhood Obesity in Patients 2 Years and Older**  
 This algorithm is based on the 2007 Expert Committee Recommendations,<sup>1</sup> new evidence and promising practices.



Barlow S. Expert Committee. Expert committee recommendations regarding prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report. *Pediatrics*. 2007;120(4):S164-S192.

CLINICAL REPORT Guidance for the Clinician in Rendering Pediatric Care



## The Role of the Pediatrician in Primary Prevention of Obesity

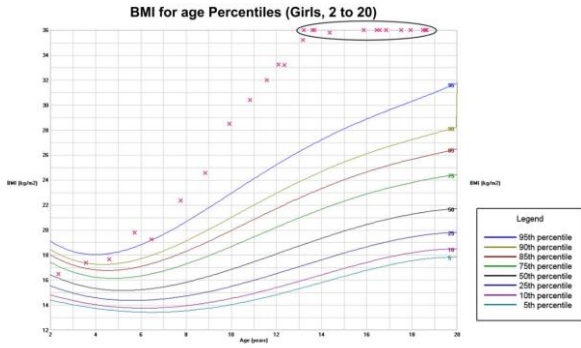
Stephen R. Daniels, MD, PhD, FAAP, Sandra G. Hassink, MD, FAAP, COMMITTEE ON NUTRITION

The adoption of healthful lifestyles by individuals and families can result in a reduction in many chronic diseases and conditions of which obesity is the most prevalent. Obesity prevention, in addition to treatment, is an important public health priority. This clinical report describes the rationale for...

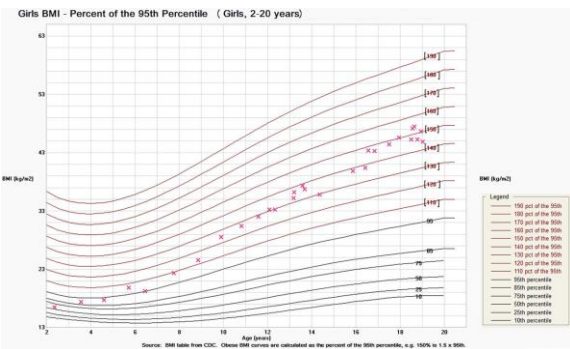
abstract







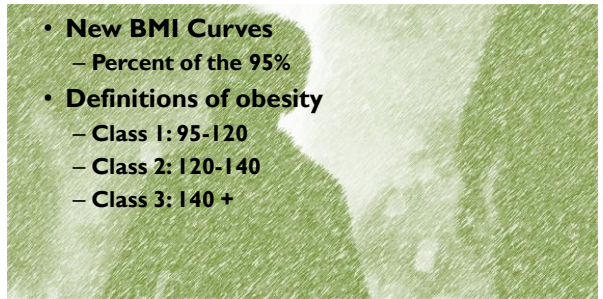
Gulati,Alka,David Kaplan,Stephen R Daniels. ClinicalTracking of Severely Obese Children:A new growth chart. Pediatrics Dec 2012. volume 130,issue 6



Gulati,Alka,David Kaplan,Stephen R Daniels. ClinicalTracking of Severely Obese Children:A new growth chart. Pediatrics Dec 2012. volume 130,issue 6

## Definitions

- **New BMI Curves**
  - Percent of the 95%
- **Definitions of obesity**
  - Class 1: 95-120
  - Class 2: 120-140
  - Class 3: 140 +



## Epic

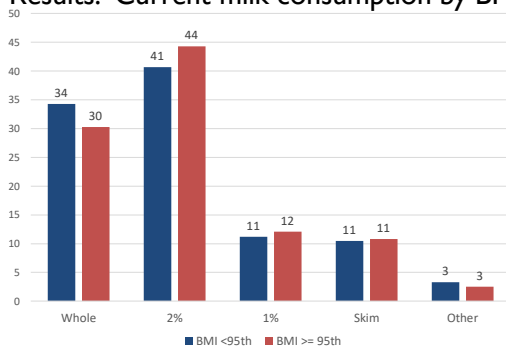
- **ASK** your epic representative if an upgrade of the 2017 update is available.
- **Won't** automatically be updated, need to pick and choose it out of list.
- The nova note # is: **489868** "Extended BMI growth charts for severely obese children"
- **TBD:** color coded BMI charts

## Nutrition Tip

- Share a favorite



## Results: Current milk consumption by BMI



Slide Courtesy of Dr. Sarah Armstrong

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## Nutrition Tip: Milk



## Prior Studies

Skim and 1 % milk	Whole fat
Associated with weight gain (Colditz et al, Archives, 2005)	Lower BMI at age 2 years no difference at 3 years (Gillman et al, J Am Diet Assn, 2010)
Higher BMI (Vanderhout et al, Am J Clin Nutr, 2016)	Lower obesity (DeBoer et al, Archives of Pediatrics 2013)
	Inversely associated with obesity (Benatar et al, PLOS One, 2013)

Adapted from slide courtesy Dr. Sarah Armstrong

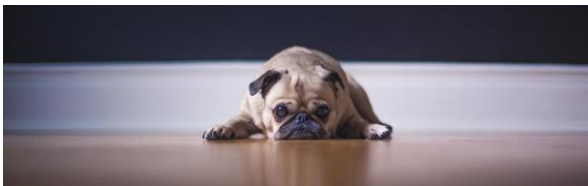
## Stigma

[Kung Fu Panda](#)



## What is stigma?

- A person who is stigmatized has 'some attribute, or characteristic, that conveys a social identity that is devalued in some particular social context'



Handbook of Social Psychology, 4th edn, Vol. 2. McGraw-Hill: Boston, 1998, pp 504-553

## Weight Stigma's Pervasiveness

- Evidence of weight bias in:
  - Employment (lower wages, less likely to be hired)
  - Health care  
(Schwartz et al., 2003; Teachman & Brownell, 2001; Puhl & King, 2013; Phelan et al., 2013; Puhl et al., 2013)
  - Education
  - Family, co-workers, teachers
  - Peers  
(Puhl & Brownell, 2003; Puhl & King, 2013; Puhl & Heuer, 2011)



Slide courtesy of Dr. Eliana Perrin

## Methods



Slide courtesy of Dr. Eliana Perrin  
Reference: Throop EM, Skinner AC, Perrin AJ, Steiner MJ, Odulana A, Perrin EM. Pass the popcorn: "obesogenic" behaviors and stigma in children's movies. *Obesity* (Silver Spring). 2014;22:1694-1700

## Results

- Lots of unhealthy behaviors
- Stigma about body size
  - Weight-related stigma in 80% of movies and 25% of 10-minute segments!
  - Stigma almost always related to overweight (94%) rather than underweight
- More segments considered unhealthy (33%) than healthy (17%)



Slide courtesy of Dr. Eliana Perrin

## Stigma



### Implicit Weight Bias in Children Age 9 to 11 Years

Ashley Cockrell Skinner, PhD,<sup>1,2</sup> Keith Payne, PhD,<sup>1</sup> Andrew J. Perrin, PhD,<sup>2</sup> Abigail T. Parner, PhD,<sup>2</sup> Janna B. Roward, MPH,<sup>2</sup> Anna Barbone-Cone, PhD,<sup>2</sup> Cynthia M. Bulik, PhD,<sup>1,2</sup> Michael J. Steiner, MD, MPH,<sup>2</sup> Eliana M. Perrin, MD, MPH<sup>2</sup>

abstract

**OBJECTIVE:** Assess implicit weight bias in children 9 to 11 years old.

**METHODS:** Implicit weight bias was measured in children ages 9 to 11 ( $N = 114$ ) by using the Affect Misattribution Procedure. Participants were shown a test image of a child for 350 milliseconds followed by a meaningless fractal (200 milliseconds), and then they were asked to rate the fractal image as "good" or "bad." We used 9 image pairs matched on age, race, sex, and activity but differing by weight of the child. Implicit bias was the difference between positive ratings for fractals preceded by an image of a healthy-weight child and positive ratings for fractals preceded by an image of an overweight child.

**RESULTS:** On average, 64% of abstract fractals shown after pictures of healthy-weight children were rated as "good," compared with 59% of those shown after pictures of overweight children, reflecting an overall implicit bias rate of 5.4% against overweight children ( $P < .001$ ). Healthy-weight participants showed greater implicit bias than over- and underweight participants (79%, 1.4%, and 0.3% respectively;  $P = .049$ ).

**CONCLUSIONS:** Implicit bias toward overweight individuals is evident in children aged 9 to 11 years with a magnitude of implicit bias (5.4%) similar to that in studies of implicit racial bias among adults.





## Stigma: 6As to help

- Awareness
- Attention to what is in our control
- Appreciate that shaming doesn't motivate
- Autonomy
- Address the consequences of stigma
- Advocate and educate

Courtesy Dr. Scott Kahan

## Stigma: Awareness

- What role do you play?
- How can you help?

## Weight Stigma Is Common In Healthcare

Source of Weight Bias	Ever Experienced	Experienced Multiple Times
Family members	72	62
Doctors	69	52
Classmates	64	56
Sales clerks	60	47
Coworkers	54	38
Spouse	47	32
Restaurant servers	47	35
Nurses	46	34
Employer	43	26
Dietitians	37	26
Sister/Brother	37	28
Teachers	32	21
Mental health professionals	21	13

Puhl, Brownell 2006.

Slide courtesy of Dr. Scott Kahan

## Stigma: Awareness

Harvard bias test: [implicit.harvard.edu](http://implicit.harvard.edu)

## Stigma:Attention

- How can you not make things worse?
- *Primum non nocere*



## Bias and Stigma Cause Harm

- Less time spent in appointments
- Less intervention
- Less likely to receive preventive health services and exams, cancer screenings, pelvic exams, mammograms
- Missed diagnoses

Bacquier et al., 2005; Bertakis & Azari, 2005; Campbell et al., 2000; Galuska et al., 1999; Hebl & Xu, 2001; Kristeller & Hoerr, 1997; Price et al., 1987; Adams et al., 1993; Drury & Louis, 2002; Fontaine et al., 1998; Olson et al., 1994; Ostbye et al., 2005; Wee et al., 2000; Aldrich & Hackley, 2010.

Slide courtesy of Dr. Scott Kahan

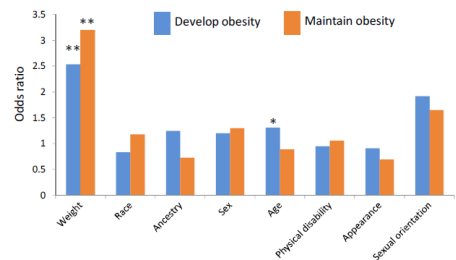
## And Doesn't Help Address Obesity

- Impaired weight loss efforts
  - Higher calorie intake, higher program attrition, less weight loss
- Maladaptive eating behaviors
  - Binge eating, crash dieting, emotional eating
- Avoidance of physical activity
- Lower motivation for exercise

Schvey, 2011; Careli, 2009; Witt, 2010; Durso, 2012; Eisenberg, 2011; Haines, 2006; Neumark-Sztainer, 2002; Puhl, 2006; Puhl, 2011; Puhl, 2007; Bauer, 2004; Fahn, 2002; Matthews, 2005; Schrimmer, 2003; Storch, 2006; Schmitt, 2010; Seaton, 2009; Vartanian, 2008; Vartanian, 2011; Sutin, 2013.

Slide courtesy of Dr. Scott Kahan

## Weight Discrimination and Obesity Risk



\*P<0.05, \*\*P<0.01

Sutin AB, Terracciano A. PLOS One 2013;8(7).

Slide Courtesy Dr. Scott Kahan

## Stigma: 6As to help

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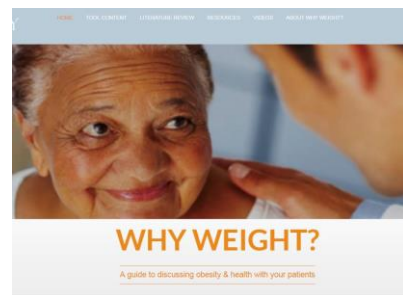
## Stigma: Attention

- Words matter and we control them

## Stigma: Attention

- People first language

## Whyweightguide.org



## Obesityaction.org



The OAC is dedicated to improving the lives of individuals affected by the disease of obesity.

## AAP Resources



<https://hcw.aap.org/resources/Pages/default.aspx>

## AAP Resources

**Changing the Conversation About Childhood Obesity**  
Expanded Version of *Change Talk: Childhood Obesity™* Now Available!

Role-play simulation prepares pediatricians and other healthcare providers to lead real-life conversations with parents and kids about healthy weight



Features Three New Opportunities to Learn and Practice Motivational Interviewing (MI) Skills

**ChangeTalk**  
pediatric obesity

<https://hcw.aap.org/resources/Pages/default.aspx>

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## Gratitude

- Dr. Sarah Armstrong
- Dr. Eliana Perrin
- Dr. Richard Chung
- Dr. Scott Kahan



## Thank you

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