



Childhood Obesity

Clinical Approach to a Huge Problem

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Newsweek

LIES ABOUT SOCIAL SECURITY BY ALLAN SLOAN

July 3, 2000 | \$3.50

WATER ON MARS
New Hints of Life

'ME, MYSELF & IRENE'
The Wild Men of Comedy

Fat for Life?

Six Million Kids
Are Seriously Overweight.
What Families Can Do.

By Geoffrey Cowley & Sharon Begley

Childhood OBESITY

SPECIAL ISSUE

TIME

OVERCOMING

OBESITY

IN AMERICA

■ WHY WE EAT SO MUCH
 ■ THE ANTI-FAT CRUSADERS
 ■ WEIGHT-LOSS HEROES
 ■ WHAT TO TELL YOUR KIDS
 ■ A GUIDE TO DIET BOOKS

www.time.com AOL Keyword: TIME

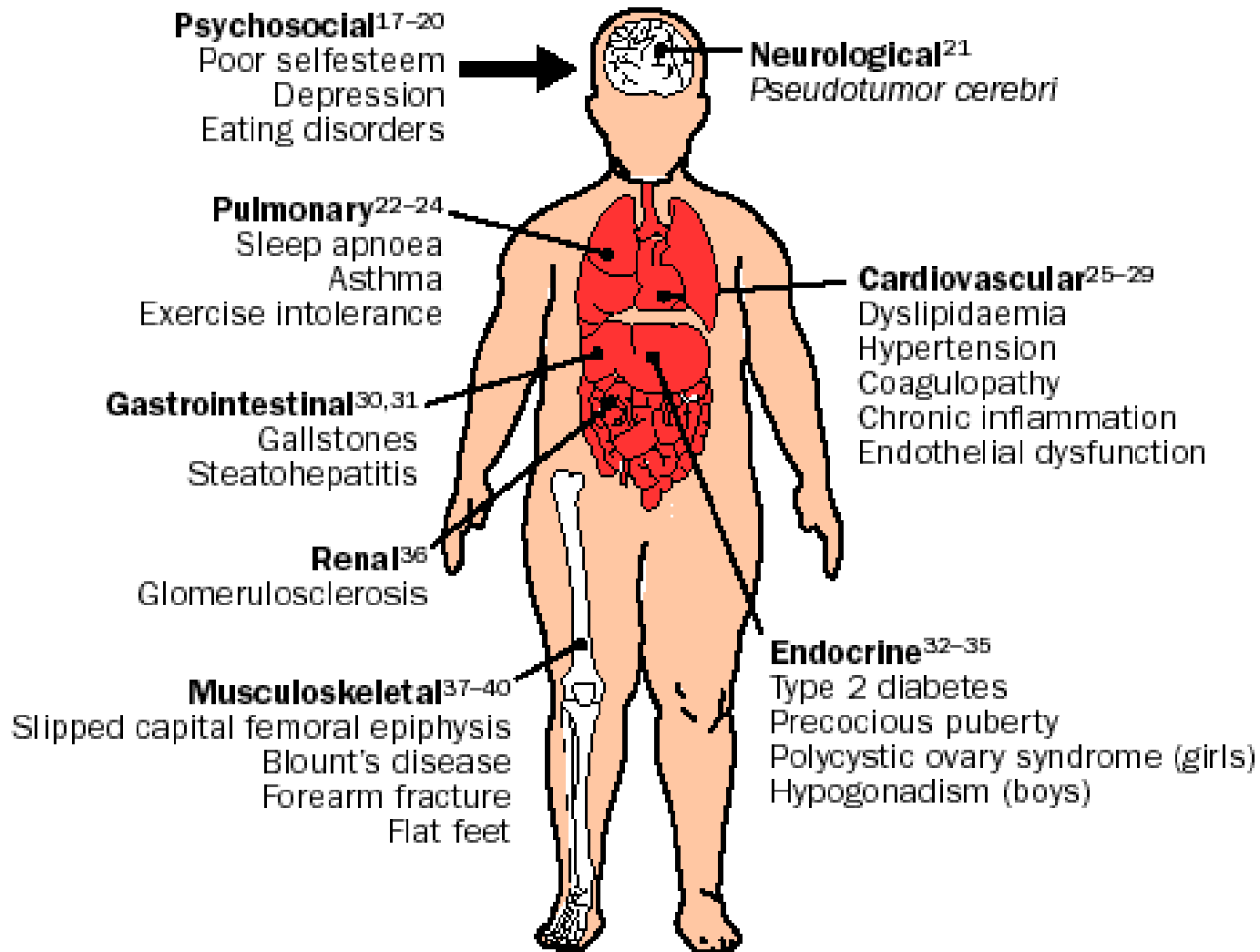
Facts About Childhood Obesity



Obesity is the most prevalent chronic disease in childhood.

- 10% of children less than 2 are overweight
- 21% of children age 2-5 are overweight
- 50% of obese children will be obese adults
- 70% of obese adolescents will be obese adults.
- 70% of obese youth have one risk factor for cardiovascular disease

Complications of Childhood Obesity

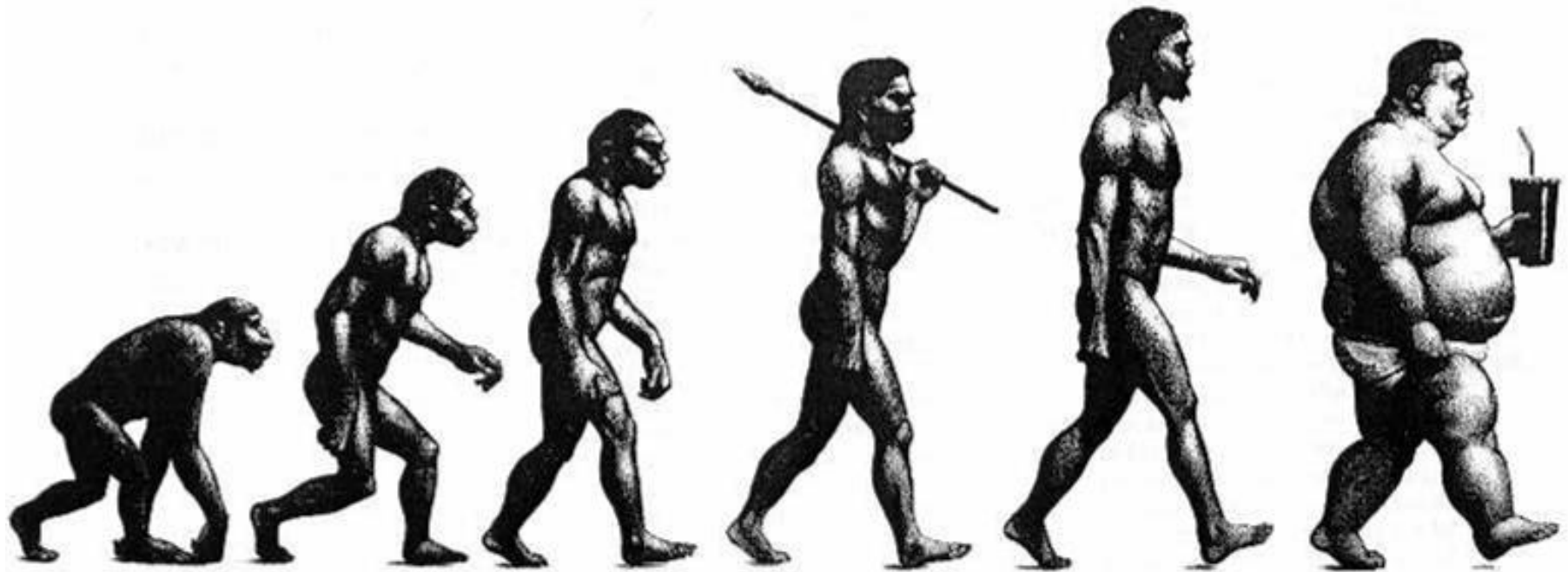


If Obesity Trends Continue...

- Life spans will decrease 2-5 years
- Children will live shorter lives than parents.
 - Predicting “A potential decline in life expectancy in United States in the 21st century.”
 - Olshansky et al. NEJM 353:1138-1145; 2005



The Shape of Things To Come



Goals of This Lecture

- Review Assessment, Prevention and Treatment, guidelines 2007 Childhood Obesity
- Discuss Pediatric Weight Management in Duluth, Minnesota
- Discuss clinical cases, intervention and outcomes
- Discussion and questions



How Do We Evaluate It?



- “Expert Committee recommendations regarding the Prevention, Assessment and Treatment of Childhood and Adolescent Overweight and Obesity.”
 - Pediatrics vol 120, Supplement 4, December, 2007.

Category	Child BMI (age related)	Adult BMI
Underweight	Less than 5%	Less than 18.5
Healthy weight	5% less than 84%	18.5-24.9
Overweight	85% less than 95%	25-29.9
Obesity	Equal/greater than 95%	30-34.9
		35-39.9
Extreme Obesity		Greater than 40

<http://www.cdc.gov/healthyweight/assessing/bmi/>



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Stage One: Prevention Plus

- Usually Primary Care provider
- Dietary Habits: 5-2-1-0
- **Behavior Counseling:** Breakfast daily, limit meals outside the home, family meals 5-6 days per week, Allow child to self regulate
- **Goals:** Weight maintenance with growth and decreasing BMI
- Monthly follow up- no improvement 3-6 months advance to Stage Two



Stage Two: Structured Weight Management Program

- Primary care provider with appropriate training
- **Dietary habits and physical activity:** develop action plan for nutrient dense foods, structured meal time and snacks, Supervised activity 60 minutes per day, screen time one hour or less.
- **Goal:** decreasing BMI with age, weight loss should not exceed 1 pound per month
- **Monthly follow up:** no improvement advance to Stage Three



Staged Approach, continued

- **Stage 3 Comprehensive Multidisciplinary Intervention**
 - Eating and Activity- same as Stage 2
 - Behavior Counseling-Structured behavior modification in food and activity monitoring-develop short and long term goals
 - Involves primary care provider for behavior modification.
- **Stage 4 - Tertiary Care Intervention**
 - Hospital Setting with expertise in Childhood Obesity
 - Children with significant co morbidities unsuccessful stage 1-3
 - Designed protocol with meal replacement, very low calorie diet, medication and surgery.



Pediatric Weight Management Program in Duluth, Minnesota

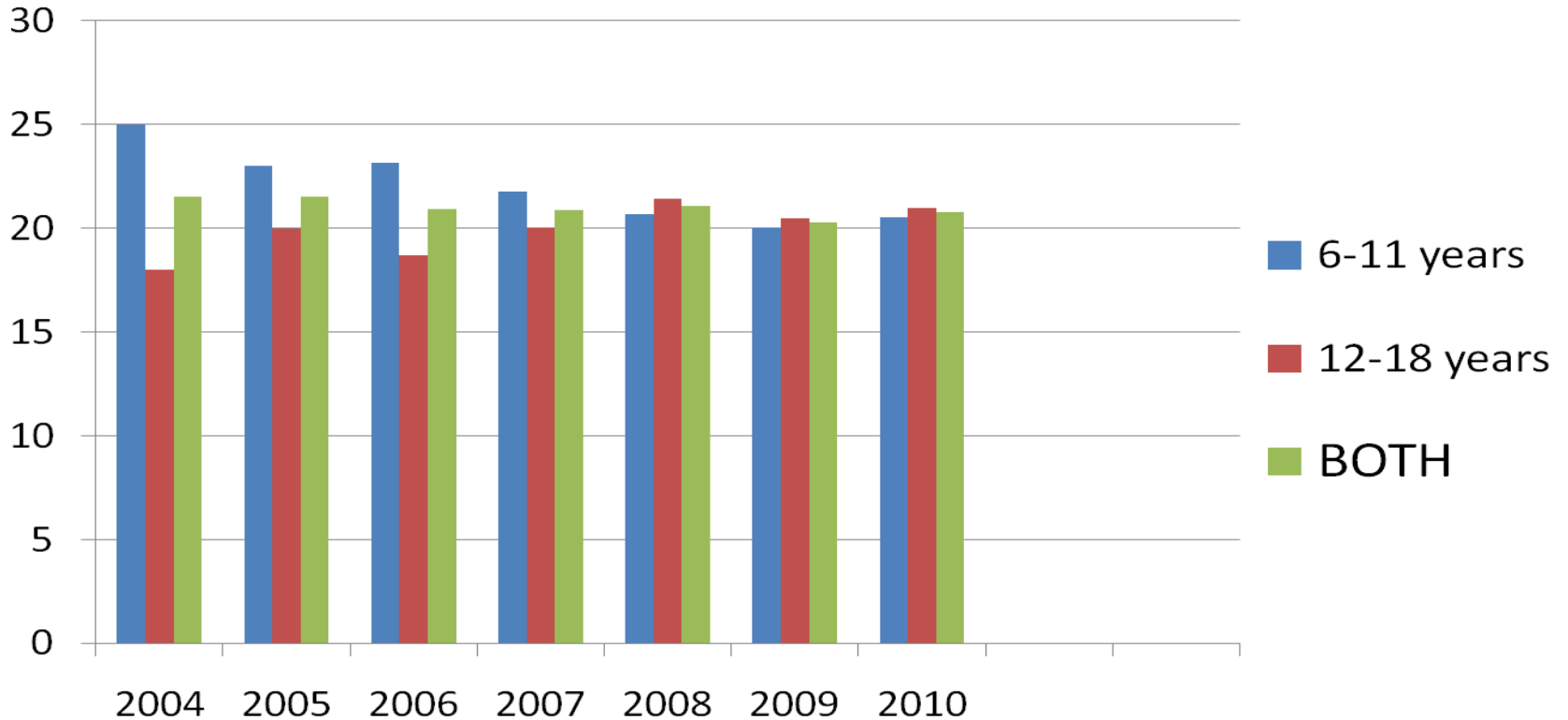
- Started in 2004
- Over 100 patients
- Care Team approach
 - physician (me)
 - Dietician
 - Exercise therapist
 - Behavior therapist
- 4 hour consultation with patient and family
- Follow up visits alternate physician, dietician
- Behavior health referral as needed
- Physical fitness reevaluation every 3 months

SHAPEDOWN

PEDIATRIC OBESITY PROGRAM



Essentia Health BMI >95% Prevalence Rate (Boys and Girls)





Patients



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4 Year Old

Identification	BMI >95%
Medical Risk	Family History HTN, Diabetes
	Both parents Obese
Laboratory test	Cholesterol >330
Behavior risk	Sedentary time: TV
	Eating : High Calorie High Density foods Minimal fruit and veggies
	Physical activity: at home dance; family walks, outdoor play
Attitudes	Very happy girl, parents highly motivated
Review of Systems	Occasional headache, leg pain
Physical exam	Obesity

Growth Chart

? Close

Head Circum. Length-for-age Weight-for-length Weight-for-age BMI Height Velocity Parents' Height Print Print All

Body Mass Index-for-age Percentiles (Girls, 2 to 20 years)

Zoom: 100% 100%

Reference Datasets

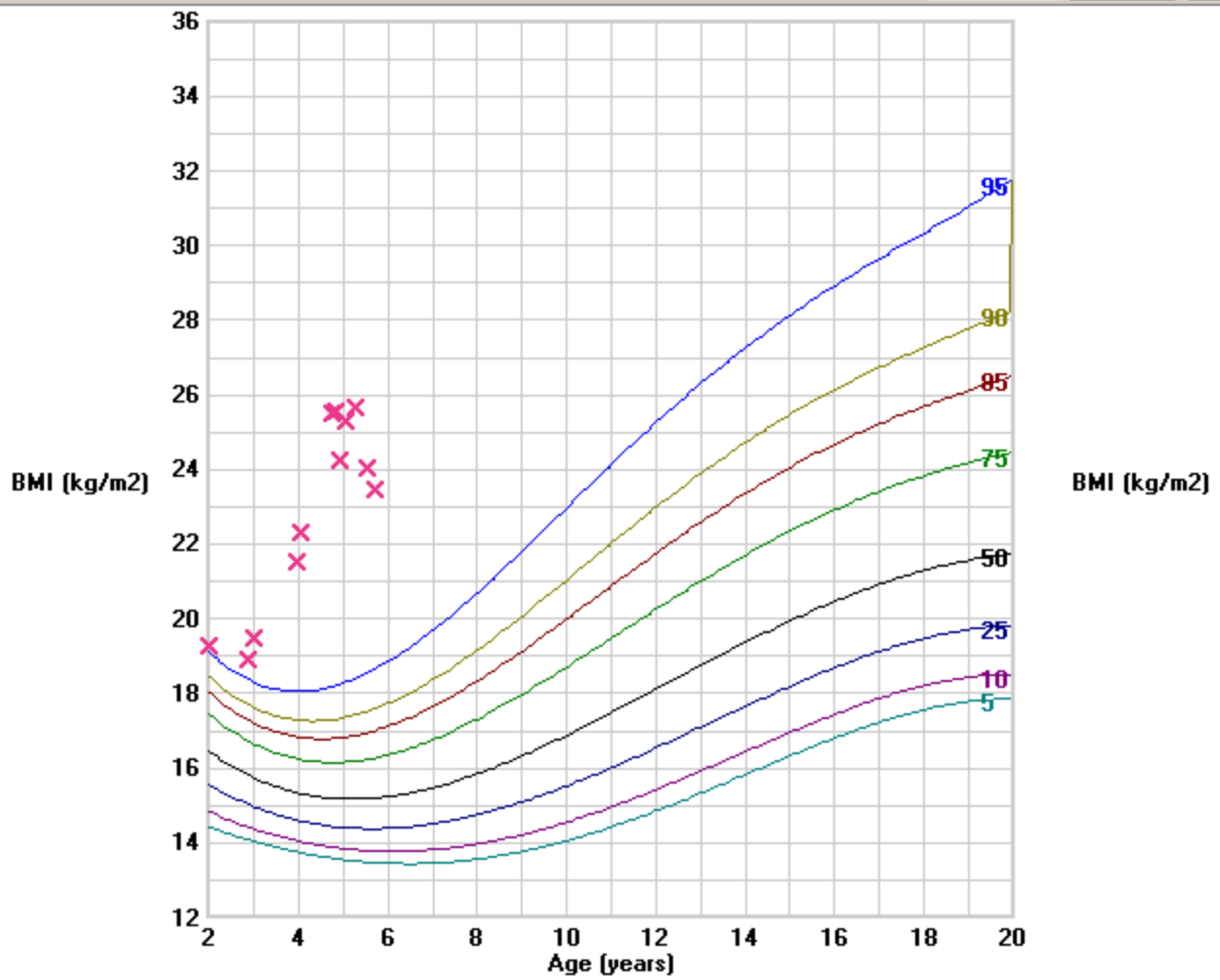
NORMAL GIRLS

Apply patient filter

Show gestation-adjusted age chart (up to 3 years)

Legend

- 95th percentile
- 90th percentile
- 85th percentile
- 75th percentile
- 50th percentile
- 25th percentile
- 10th percentile
- 5th percentile



Source: Centers for Disease Control and Prevention (CDC)

13 year old

Identification	BMI >95%; weight 323 Pounds, BMI 42.72 (Adult BMI- Extreme obesity)
Medical Risk	Family Hx HTN, depression, Both parents obesity
Laboratory test	Triglycerides >400
Behavior Risk	Sedentary time >2 hours TV; gaming
	Eating: Large portions, sugary drinks- liters per day, Skips breakfast
	Physical Activity: football, swim, recess, gym class
Attitude	Highly motivated, Mom very supportive
Review of Systems	Anxiety, school avoidance, depression,
Physical Exam	Acanthosis nigricans, striae

Acanthosis Nigricans



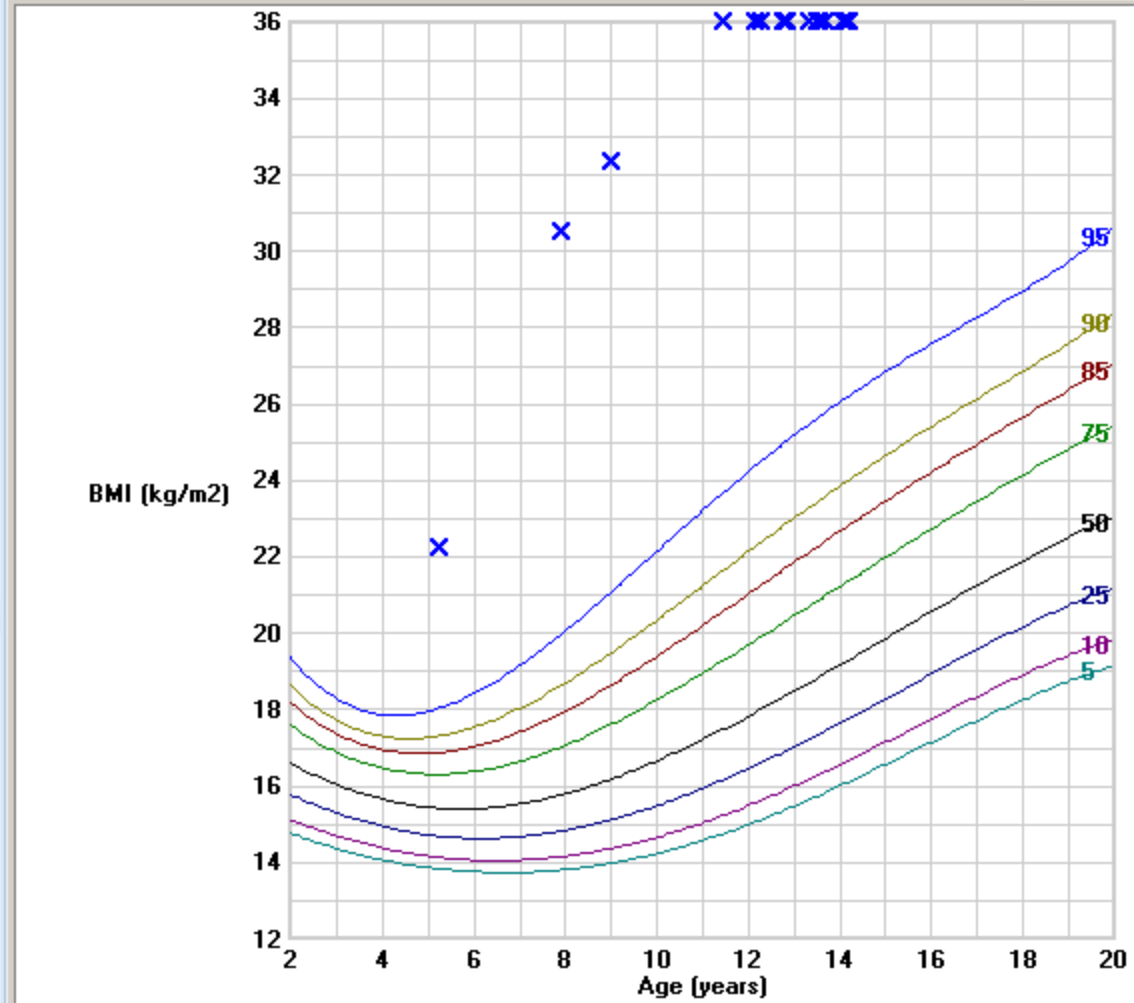
Growth Chart

? Close

Head Circum. Length-for-age Weight-for-length Weight-for-age BMI Height Velocity Parents' Height Print Print All

Body Mass Index-for-age Percentiles (Boys, 2 to 20 years)

Zoom: 100% 100%



Reference Datasets

NORMAL BOYS

Apply patient filter

Show gestation-adjusted age chart (up to 3 years)

Excluded encounters

Oct 08, 2007

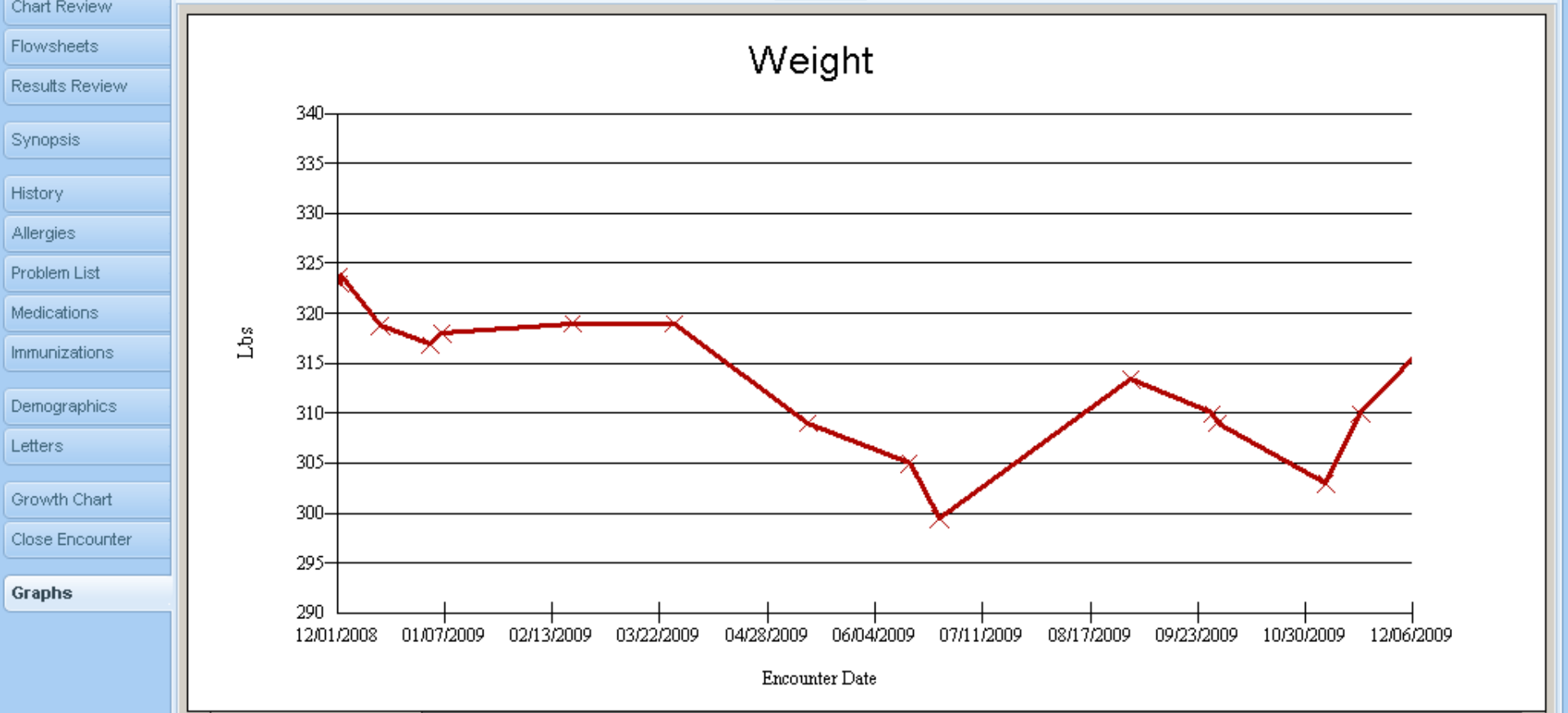
Legend

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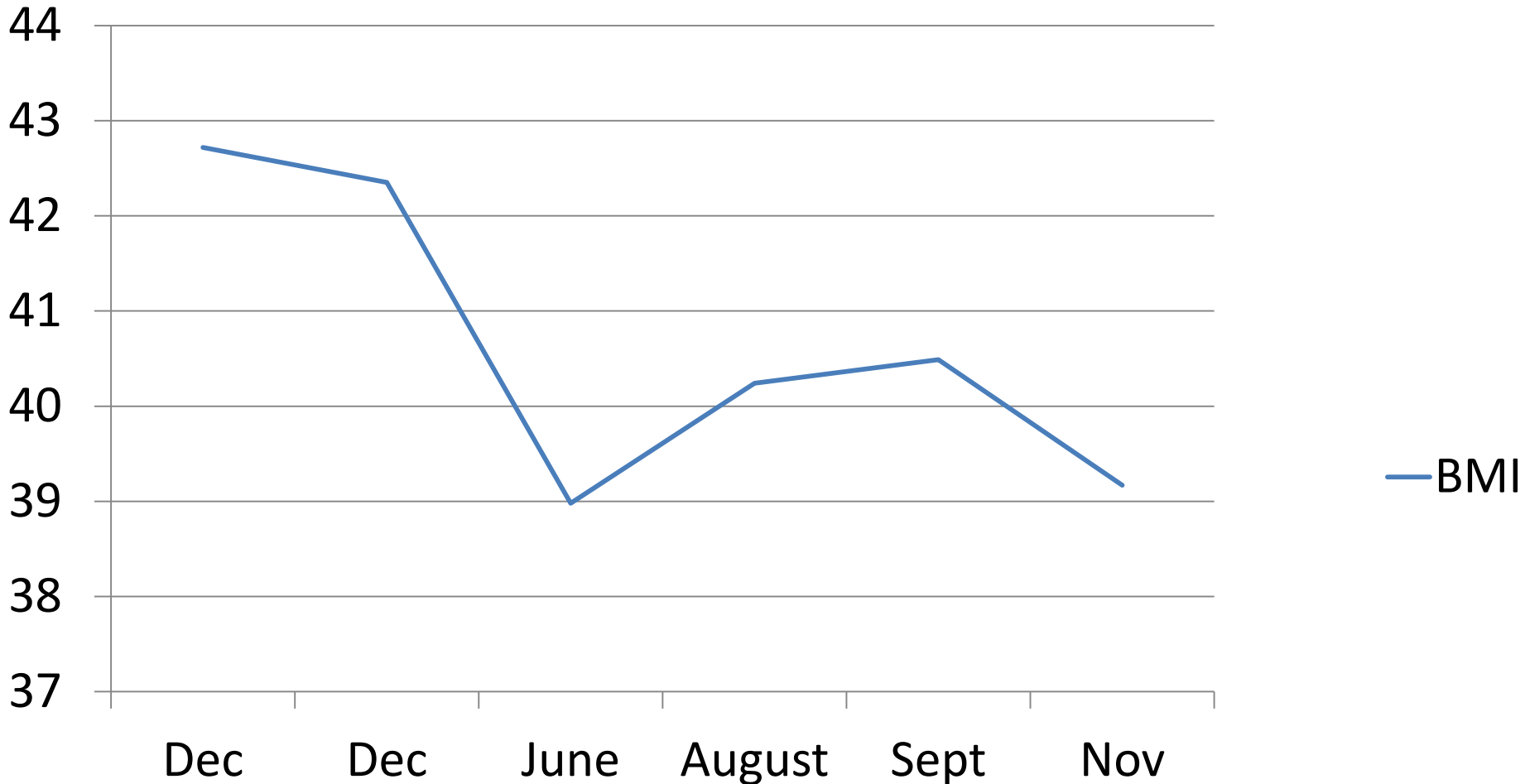
Graphs ? Close X

SnapShot
 Blood Pressure
 Pulse
 Respirations
 Peak Flow
 O2 Saturation
 Weight
 Temperature
 Height
 Print Graph



Use actual time values for points on x-axis

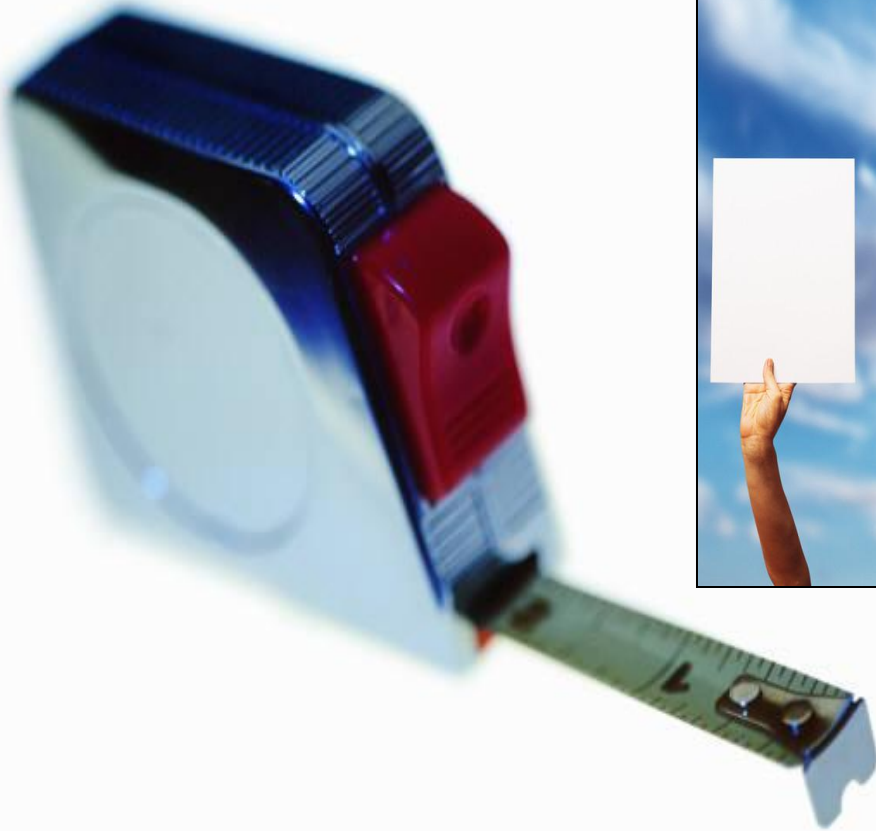
BMI change in one year 13 year old-(adult BMI)



Identify	4 yr, 67lb	13yr 323lb
Medical Risk	Cholesterol 330	Triglycerides 400
Patient History	none	Anxiety
Patient Growth	2-4 years	Several years
Parents Obese	Both parents	Both parents
Family History	Diabetes, HTN	HTN,depression
Behavior Risk		
Sedentary Time	Head start	Screen time
Eating/meals	Calorie dense	Sugary Drinks
Physical Activity	Dance, play time	Football
Attitudes		
Parents/Patient	Highly motivated	Highly motivated
BMI % change	-9% (68lb)	-9% (299lb)



Tools and Handouts







EAT RIGHT. BE ACTIVE. HAVE FUN.

FIND "THE BARE NECESSITIES"
OF HEALTHY LIVING AT
MyPyramid.gov

Ad Council **USDA** © Disney

Pediatric Weight Management Program Action Plan

- **Nutrition Goals:**

- When thirsty, I will drink water, sugar free drink or diet pop instead of regular pop, fruit drinks or sport drinks every day.
- I will not have second helpings at dinner for the main course for at least ___days of the week.
- I will eat a healthy breakfast at least ___ days of the week.
- New goal
-

- **Physical Activity Goals**

- I will walk at least ___ minutes___ per week.
- I will play outdoors daily for at least ___days per week.
- I will limit my computer, TV and gaming time to ___ hours per day
- New goal
-

- **Family Support Goals**

- My family will have at least five meals together as a family this could be breakfast, lunch or dinner.
- I will help my parents prepare a healthy dinner at least once a week.
- My family will remove high fat and high sugary foods from our house so I won't be tempted to eat these foods.
- New goal

5 – 2 – 1 – 0

- **5** - Eat at least 5 servings of fruit AND vegetables per day
- **2** - Limit TV or screen time to 2 hours or less per day
- **1** - Get 1 hour or more of physical activity every day
- **0** - Zero sugary drinks, Drink water or milk
- Breastfeeding- support and encourage



The Big Five-Habits Contributing to Obesity

1. Fast food >1 time per week
2. Screen time >2 hours per day
3. Family Meals <3 times per week
4. Sweet Beverages >1 serving per day
5. Physical activity <30 minutes per day

- AAFP vol. 78, no.1 July 2008; "Childhood Obesity, Highlights of AMA Expert Committee Recommendations"
Goutham Rao, MD



How Much Physical Activity Do Children Need?

- Toddlers to teens: ***60 minutes per day***
- **Aerobic Activity:** most of 60 minutes of Moderate intensity (bike, ski, rollerblade, run)
- **Muscle Strengthening:** 3 days per week, part of 60 minutes (sit ups, pushups, gymnastics)
- **Bone Strengthening:** 3 days per week, part of 60 minutes (skip, hop, jump rope, running)



***“A bear, however hard he tries,
grows tubby without exercise.”***
- Winnie the Pooh



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Conclusion

- Providers have an important role managing pediatric obesity- use the universal assessment as a guide. (www.mnaap.org)
- BMI screening from age 2-18, yearly preferred
- Know *5-2-1-0*, *Use an Action plan*
- Support breastfeeding initiatives in your clinic and hospital setting
- Seek out community resources for physical activity



Objectives

- Identify tools and resources for calculating and plotting BMI at every well child visit.
- Identify appropriate prevention options for overweight and obese children.
- Identify treatment options for obese children.
- Identify practical tools and resources that can help children and families control their weight.



