ARKANSAS CLINICIAN'S GUIDE TO WEIGHT PROBLEMS IN CHILDREN AND ADOLESCENTS

Step 1: Calculate BMI

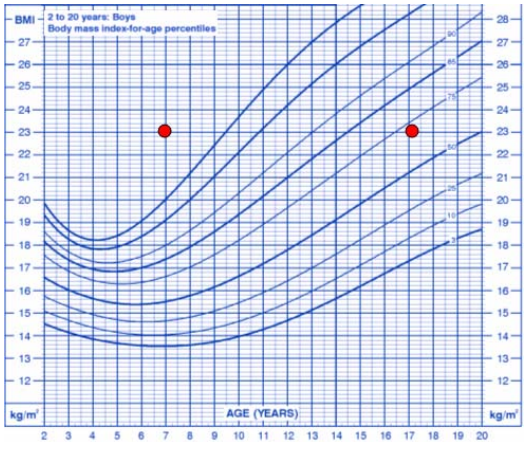
BMI is the relationship of weight to height.

BMI = $\frac{\text{weight (kg)}}{\text{height (m) x height (m)}}$ OR $\frac{\text{weight (lb) x 703}}{\text{height (in) x height (in)}}$

For example, Gary's BMI = his weight (37 pounds) x 703 divided by his height (41 in) squared or 37 x 703/1681. Gary's BMI is 15.5

Step 2: Calculate BMI Percentile

To be sensitive to the issue of a child's self-esteem, the term obesity is no longer used. Remember that the BMI is only a screen for overweight. Clinical correlation is necessary because adiposity is the actual health risk. For example, kids who are very muscular may have an elevated BMI but may still have low body fat. If necessary, contact a dietitian or exercise physiologist who is experienced in measuring body fat.



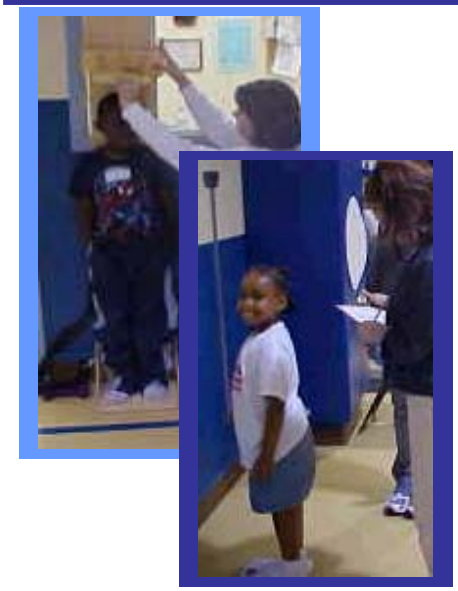
Underweight = < 5th Percentile

Risk of Overweight = 85th to 94th percentile

Overweight = ≥ 95th percentile

Because the BMI of children varies with age and gender, it is necessary to use standardized curves to determine if a child is overweight or not. As you can see on the chart above, a boy of 7 who has a BMI of 23 is overweight whereas another boy at age 17 with the same BMI is not.

Step 3: Choose a course of action



Underweight: Screen for chronic diseases, malnutrition, eating disorders and genetic causes (e.g., thin parents).

Normal Weight: Assess lifestyle and promote healthy habits including 1) a diet low in sugar, saturated and trans fats and high in fruits, vegetables and calcium; 2) at least 30 minutes of physical activity each day; and 3) limiting TV, video game and computer time to 2 hours a day.

Risk of Overweight: Patients with a personal or family history of co-morbidities need full evaluation for overweight (page 2). If no history of co-morbidities, encourage healthy lifestyle as above and follow up in 1 year to recheck BMI.

Overweight: Needs full evaluation and treatment for overweight. See page 2.

Developed by Arkansas Chapters of the American Academy of Pediatrics and the American Academy of Family Practice, UAMS Preventive Nutrition Project, Arkansas Foundation for Medical Care, UAMS College of Public Health, UAMS Department of Pediatrics, Arkansas Department of Health, April 2004

ARKANSAS CLINICIAN'S GUIDE TO WEIGHT PROBLEMS IN CHILDREN AND ADOLESCENTS

Full Evaluation for Overweight

Assess overweight

Age first noted
Perceived causes by child and parent
Prior weight loss attempts
Time in sedentary activities (TV, video games, computer)
Time in physical activity (sports, walking, outdoor play)
Body image, family stress and any depressive symptoms

Assess diet

Milk/dairy (should be 3-5 servings a day of skim or 1%)
Fruits and vegetables (should be 5-9 servings a day)
Intake of soft drinks and fruit and sugar drinks
Fast food consumption
Food behavior (large portions, skipping meals, eating while watching TV, high calorie snacking, binge eating)

Assess Co-Morbidities

Family History: Obesity, Diabetes, Hyperlipidemia, HTN, MI, Stroke
PMH: chronic diseases
ROS: sleep apnea, worsening asthma, exercise intolerance, reflux, limb pain, emotional difficulties, menstrual irregularities

Patient Examination

Body habitus, BP (age appropriate), chest, extremities, acanthosis nigricans, thyromegaly, striae

Labs:

Cholesterol panel
Consider fasting glucose if FHx of type 2 diabetes or signs of insulin resistance
Other lab based on individual findings

Treat Overweight: Based on Readiness to Change

STAGE OF CHANGE	READINESS TO CHANGE	ACTION
Pre-Contemplation	Not currently interested in changing	Give personalized reasons why change would be valuable; reassess at each visit.
Contemplation	Interested in changing within next 6 months but not now	For both contemplation and preparation, ask for start dates for change. Set goals with family and pick goals that can be successfully achieved.
Preparation	Willing to initiate change in next 30 days	
Action	Already making changes	Give encouragement for small changes. Suggest alternative strategies if weight gain continues.
Maintenance	Successful at change and trying to maintain	Continue periodic follow-up visits every 2-3 months as in any chronic disease.

Clinical Pearls

- **First goal is no further weight gain. Children may "grow into" their weight as their height increases.**
- **Increase fruits and vegetables, use skim or 1% milk. Decrease sugared drinks, candy, junk and fast foods.**
- **Turn off the TV while eating. Remove unhealthy snacks from view. Put out fruits and vegetables. Regular meal times including breakfast. Child's fist-size portions only. Limit snacking to healthy foods.**
- **Encourage anything that increases breathing and heart rates (brisk walking, bicycling, dancing, other sports). Work up to one hour a day. Set limits on TV, video, and computer time (2 hrs/day total).**
- **Self-monitoring is one of the most helpful tools. Have them record physical activity and diet, weigh every 2-4 weeks. Review records when patient comes back and give praise and/or problem solve.**
- **Parents should act as role models, play with children, and eat meals together at the table at home.**

If child continues to have inappropriate weight gain, reassess for compliance or the presence of emotional problems. Consider referral for problems beyond your scope of management such as co-morbidities, possible abuse or severe psychopathology.

Community Involvement

To prevent obesity, local school policies on nutrition and physical activity should be improved. Clinicians can and should help guide their local school district's health policy committee.

Resources

For resources, referral and other information, or a free CME program, go to the Arkansas Center for Health Improvement website at http://www.achi.net/