

Pediatric Obesity School Interventions

Alvord School District



Definition of Obesity

- 30% over ideal bodyweight
- BMI calculation
 - $\text{Weight in pounds} / (\text{height in inches} \times \text{height in inches})$
 - Multiply the result by 703
- BMI as a measure
 - Normal weight 20 - 24
 - Overweight 25 - 30
 - Obese > 30

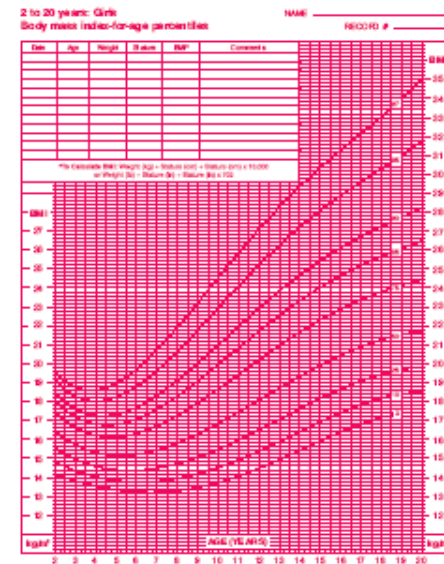
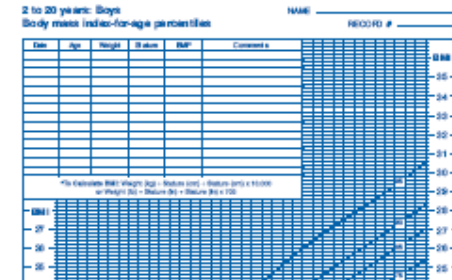
Pediatric Obesity

BMI percentages

- Underweight < 5%
- Normal > 5% < 85%
- Risk of overweight > 85% < 95%
- Overweight > 95%

Age appropriate graphs

- CDC standards



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www.cdc.gov/nchs

CDC
NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND PROMOTION

Incidence of Childhood obesity

- Incidence 15% and increasing
- Accounting for 28 billion dollars of healthcare costs
- Earlier intervention better results
 - Overweight Preschoolers- 20% obese adults
 - Overweight school age children- 40% obese adults
 - Overweight teenagers- 80% obese adults
- Combination of genetic and environmental causes

Complications of obesity

- **Cardiovascular**
 - Hypertension
 - Myocardial Infarctions
 - Strokes
- **Endocrine**
 - Type 2 diabetes
 - Metabolic syndrome
 - Precocious puberty
- **Malignancies**
 - esophagus; colon and rectum; liver; gallbladder; pancreas; kidney; stomach (in men); prostate; breast; uterus; cervix; and ovary.
- **Respiratory**
 - Asthma
 - Sleep Apnea

Risk of obesity

- **70% increase risk of mortality**
 - Comparison of 85,000 men 40-85 years of age
 - Comparing pts with BMI > 30 vs. BMI 22-24.9
- **Lowest risk mortality**
 - Women < 15% average weight
 - Stable adult weight

Factors contributing to pediatric obesity

- **Sedentary lifestyle**
 - Increase physical activity
 - Decrease television and computer time
- **Increased Caloric intake**
 - Monitor intake of processed foods, sodas and juices.
 - Increase intake of fresh fruits (only 24% of 5th graders have 5 servings of fruit per day)

Methods of Controlling the Obesity Epidemic

- Childhood overweight and inactivity has reached epidemic levels in the United States
- Adequate intervention must involve education on long-term lifestyle changes such as:
 - Activity levels
 - Nutrition

It takes a village

- **Medical Group**
 - Senior Leadership
 - Departmental leadership
- **School District**
 - School board and Superintendent
 - School Principals
 - School teachers
 - School nurses
- **Families**
 - Parents
 - Students
 - Siblings

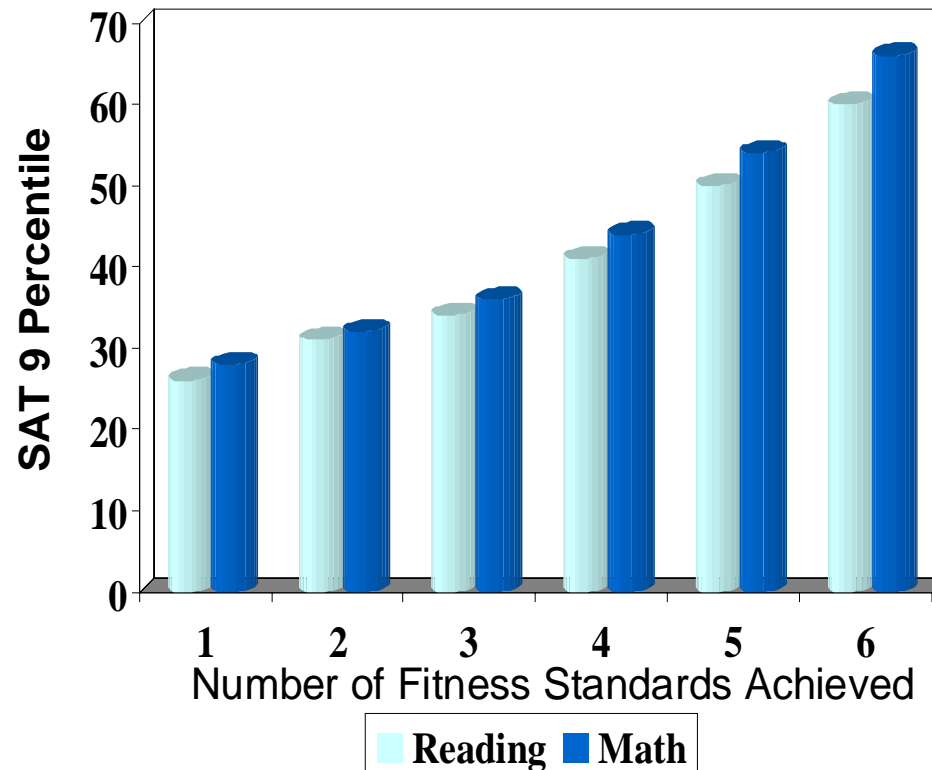
Approaching School District

- **Emphasize benefits**
 - Healthier students
 - Smarter students
 - Fulfilling State Requirements
 - ◆ Life Sciences
 - ◆ Physical education
- **Emphasize partnership**
 - Sharing of resources and ideas

Better health, better grades

Fitness and Academic Performance

2001 Grade 7 SAT 9 and Physical Fitness



Cooperation with school district

- Presentations to School Board
- Contact with School Superintendent
- Meeting with Principals
- Discussing education materials with school teachers
- Integration with school curriculum
- Coordination with school nurses

KP Steps to Health



- Steps to Health aims to positively influence students' health
- The program's aim is supported by four specific data points

Project Overview

- Designed to combat childhood overweight & inactivity
- Developed by a multi-disciplinary group of health professionals (physicians, health educators, dietitians)
- 10 week program geared to 5th graders
- Presented by physicians and residents

Four data points

- **Activities**

- Number of steps per day (measured by a pedometer)
- Hours of screen time (TV, Video games, etc)



- **Nutrition**

- Number of fruits and vegetables per week
- Number of sodas and fruit juices per week



Program Progression

- Interactive student presentation by physicians
- Parent presentation with parent permissions
- Measurement of children (Body Mass Index)
- Children are rewarded (weekly) for keeping track of their four data points
- Data collection
- Graduating students are given a T-shirt and prize

Incentives for students



- Certificate of completion
- Prizes!
- Pride in what they have accomplished

Preliminary results at McAuliffe Elementary school

- **3 month intervention**
 - 4th graders (n=39)
 - ◆ **Decreased BMI by 4.3%**
 - ◆ **Decrease in rate of Overweight children (BMI > 85%) from 46% to 33% a drop of 12%**
 - 5th graders (n=56)
 - ◆ **Decreased BMI 3.3%**
 - ◆ **Decrease in rate of overweight children from 55% to 42% a drop of 12%**

Future Directions

- **Spheres of Influence**

- Physician – 2,000 people
- Medical Group - 400,000
- Community Partnerships 1,900,000
- State Laws 36,000,000
- National Laws 296,000,000

- **Legislature is by far the most effective way to change behavior**