CHILDHOOD OBESITY AND DIABETES
Foundations of Maternal and Child Health

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OBESITY: DEFINITIONS
- Obesity is measured by the body mass index (BMI)
- For children and adolescents, considers both age and sex
- **Overweight**: BMI at or above 85th percentile, below 95th percentile for children of same sex and age
- **Obese**: at or above the 95th percentile for children of the same age and sex

THE OBESITY EPIDEMIC
- It isn’t drugs. It isn’t drunk driving. The most serious health threat facing American children is obesity.
- Obesity threatens a generation.
- Fat children will be the norm within a decade.
  - Media Street Today, March 2006
- Children's life expectancy being cut short by obesity
  - The New York Times, March 2005

THE CDC BMI-FOR-AGE CHARTS
- Girls (2-20 years)
- Boys (2-20 years)

INCREASES IN CHILDHOOD OBESITY
- Prevalence of Obesity Among U.S. Children and Adolescents

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Ages 2 through 5</td>
<td>5%</td>
<td>7.2%</td>
<td>10.3%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Ages 6 through 11</td>
<td>6.5%</td>
<td>11.3%</td>
<td>15.8%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Ages 12 through 19</td>
<td>5%</td>
<td>10.5%</td>
<td>16.1%</td>
<td>17.6%</td>
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PREVALENCE OF OBESITY BY RACE/ETHNICITY
- BMI-for-Age (95th Percentile)

**WHAT ARE THE CAUSES OF OBESITY?**

Social Ecological Model


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**FACTORS CONTRIBUTING TO OBESITY IN CHILDREN**

- Genetics
- Overeating
- Diet high in fat, sugar, simple carbohydrates
- Frequency of eating
- Physical inactivity
- Environmental factors
  - Parent-child
  - Schools
  - Community

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**WHAT’S HAPPENING IN THE UNITED STATES**

- ↑ prosperity → ↑ calories
- ↑ technology → ↓ exertion
- ↑ indoor entertainment → ↑ sedentary behavior
- ↑ marketing of poor food → ↓ nutrition

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**PHYSICAL CONSEQUENCES OF OBESITY**

- Diabetes (Type II)
- Chronic diseases
- Asthma
- Hypertension
- High cholesterol
- Gallbladder disease
- Stroke
- Orthopedic complications
- Sleep apnea
- More likely to be overweight or obese as an adult

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**PSYCHOLOGICAL IMPACT OF OBESITY**

- Decreased self-esteem
- Negative self-image
- Stigma
- Eating disorders
- Bullying

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**HOW THE UNITED STATES COMPARES**

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**Diabetes: Definitions**

- **Diabetes**: a disease in which the body does not produce or properly use insulin.

- **Types of diabetes**
  - **Type I**: beta cells of pancreas no longer make insulin because the body’s immune system has attached and destroyed them.
  - **Type II**: improper use of insulin combined with relative insulin deficiency.
  - **Gestational**: high blood sugar during pregnancy.

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**Diabetes: Scope of the Problem**

- 5th deadliest disease in U.S.
- 0.2% of individuals younger than 20 years of age have diabetes.
  - Type II is increasing.

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**Prevalence, 1980-2006 (all ages)**

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**Type of Diabetes by Age and Ethnic Group**

<table>
<thead>
<tr>
<th>Type 1</th>
<th>Type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 years</td>
<td>ALL NHW AA H API AI</td>
</tr>
<tr>
<td>10-19 years</td>
<td>ALL NHW AA H API AI</td>
</tr>
</tbody>
</table>

NHW = Non-Hispanic whites; AA = African Americans; H = Hispanics; API = Asians/Pacific Islanders; AI = American Indians.


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**Consequences of Diabetes in Childhood**

- Cardiovascular disease
- High blood pressure
- Stroke
- Neglect of condition – unrecognized
- Diabetic retinopathy – blindness
- Kidney disease
- Neuropathy
- Amputations

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**How to Intervene in Childhood Obesity**

- http://www.nature.com/oby/journal/v14/n6/full/oby2006109a.html