The Overweight Child: Tips for the Primary Care Provider

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Which spice reduces your appetite?

- A. Oregano
- B. Cinnamon
- C. Garlic
- D. Ginger
- E. Curry
Learning Objectives

• Identify three community and patient based strategies to prevent pediatric obesity.
• Identify three community and patient based strategies to manage pediatric obesity.
Background of the Overweight Problem

• Rapid rate of increase of overweight over the last two decades
• Risk of an overweight child becoming an overweight adult
• Rise in co-morbidities
• Economic Burden
• Lack of training among primary care providers
Obese* Children in the U.S. (*BMI ≥ 95th percentile)

Obese and Overweight* Children 2-5 years old in the U.S. by race (*BMI ≥ 85th percentile)

Background of the Overweight Problem

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Risk of overweight in adulthood

- Overweight children and adolescents have a **30-70%** risk of growing up to be an overweight adult.
Background of the Overweight Problem

• Rapid rate of increase of overweight over the last two decades
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• Economic Burden
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Overweight children have higher risk of developing:

• non-insulin dependent diabetes
• gallbladder diseases
• sleep apnea
• asthma
• mental disorders
• high blood pressure
• Musculoskeletal complaints
• Poor school performance
Background of the Overweight Problem

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What are the top three co-morbidities that drive the health care costs for pediatric obesity?

A. Non-insulin dependent diabetes, sleep apnea, asthma
B. Asthma, mental disorders, high blood pressure
C. Mental disorders, Musculoskeletal and GI complaints
D. High blood pressure, non-insulin dependent diabetes, sleep apnea
Economic Burden:

In 2004:

– privately insured obese children annual health care costs: $3,743 (all children $1,108)

– Medicaid insured obese children annual health care costs: $6,730 (all children, $2,446)

Background of the Overweight Problem

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Stages of Obesity Treatment

• **Stage 1: Prevention Plus**
• **Stage 2: Structured Weight Management**
• **Stage 3: Comprehensive Multidisciplinary Intervention**
• **Stage 4: Tertiary Care Intervention**

Stage 1: Prevention Plus

• Once Overweight or obesity is diagnosed.

• **Focus** is on basic healthy lifestyle eating and activity habits.

• **Goal** is improved habits and as a result improved habitus (BMI Status).

• Frequent Monitoring.

What is the intervention with the strongest evidence for obesity prevention and management

A. Minimize Sugar-sweetened beverages with a goal of 0.
B. Increasing to 5 fruit and vegetable servings or more per day.
C. Consume a healthy breakfast.
D. Reduce foods that are high in energy density.
E. Meal frequency and snacking.
Focus is on basic healthy lifestyle eating and activity habits

- Minimize Sugar-sweetened beverages with a goal of 0**.
- Increase meals prepared at home**.
- Education and modification of portion sizes**
- Reduction of inactive time to < 2 hours/day and if less than 2 years old to 0 time**.
- Increasing active time for children and families to >=1 hour each day**.
- Involve the whole family in lifestyle changes.
- Cultural sensitivity

** = strong evidence

Focus is on basic healthy lifestyle eating and activity habits

– Increasing to 5 fruit and vegetable servings or more per day*.
– Reduction of 100% fruit juices*.
– Consume a healthy breakfast*.
– Reduce foods that are high in energy density *.
– Meal frequency and snacking *.
– Involve the whole family in lifestyle changes.
– Cultural sensitivity


*weaker evidence, but may be important for some individuals
Laboratory Assessment

- >85-94 percentile
  Fasting lipids
  No risk factors

- 85th-94\textsuperscript{th} percentile
  Fasting lipids
  Fasting glucose
  AST/ALT
  with risk factors

- ≥95 percentile
  Fasting lipids
  Fasting glucose
  AST/ALT

Goal: Improved Habits and in turn Habitus

After 3-6 months, if child has not made appropriate improvements move to stage 2.
Stage 2: Structured Weight Management

- Prevention Plus behavior change, but more support and structure
- Specific eating and activity goals with:
  - planned diet, structured daily meals and snacks.
  - Supervised physical activity.
  - Monitoring behaviors with logs.
  - Additional reduction in inactive time
  - Planned reinforcement

Education and Support: the 5 – 2 – 1 – 0 – Blastoff!

• 5: or more fruit and vegetable servings per day
• 2: No more than 2 hours of screen time per day for 2 year olds and over and 0 time for under 2
• 1: year or more of breastfeeding with appropriate foods introduced at around 6 months.
• 0: sweetened beverages
• Blastoff: Move, be active and have fun!
At least 5 fruit and vegetable servings per day

• Offer healthy choices at school, home, and team sporting events

• Model healthy eating behaviors
  – Practice eating family meals

From: choosemyplate.gov, accessed 3-19-2014
Adolescent Fruit and Vegetable Servings by Frequency of Family Meals

Fruit and Vegetable Servings p > .001

Mean Total Fruit and Vegetable Serving Frequencies in One Day Pre and Post Salad Bar Intervention in three LAUSD Elementary Schools

5-2 or less hours of television viewing

• Strategies
  – Choose as a family 1-2 hours of television shows to watch and then turn off the TV when desired shows are finished
  – Remove television and/or computer from child’s bedroom

From: Prevention of Pediatric Overweight and Obesity. Policy statement from the Committee on Nutrition PEDIATRICS Vol. 112 No. 2 August 2003, pp. 424-430
AAP Recommendation

• 0-2 years old: no television

• >2 years old: <2 hours/day of TV and other entertainment media

From: Children, Adolescents, and Television (RE0043), Committee on Public Education
www.aap.org/policy/re0043.html
What can you do to support social justice and prevent obesity?

A. Promote breastfeeding
B. Reduce alcohol consumption
C. Reduce cigarette smoking
D. Promote gum chewing
Answer: Breastfeeding

Support women who live in poverty to breastfeed: it provides equal opportunities for infants to grow and develop optimally.
5-2-1 or more years of breastfeeding

• Key points for support:
  – Pregnancy
  – Newborn period
  – 3-5 days of age
  – One month old
  – Mother going back to work

• Resource
  – www.cdc.gov/breastfeeding

Infant Benefits from Breastfeeding Optimally
Reduced Risk of Disease

AHRQ, 2007

Acute Otitis Media
Atopic Dermatitis
Otitis-con-specific
Asthma
Type 2 Diabetes
Childhood Leukemia
ISCER
Obesity

Mattel Children's Hospital
UCLA
Biological Theories of Why Breastfeeding Reduces the Risk of Childhood Obesity

• Infants-studies under way to evaluate:
  • Infants self-regulate at the breast
  • Different feeding patterns & maternal behavior
    – Breastfeeding mothers are less controlling of the child’s feeding at one-year
  • Reduced risk for early growth acceleration
  • Leptin, ghrelin, adiponectin considered to play a role
  • **Reduces the risk of obesity by 4% for each month of breastfeeding**

Conclusions

• “The evidence for the association is nearly all epidemiologic, so it is difficult to tease-out true causality. Epidemiologic criteria: temporality, dose-response effects and reasonably good consistency of findings.”
• “Biologic explanation is more tentative.”

Communication with Larry Grummer-Strawn, PhD Chief Nutrition Branch, CDC, 2011
Pop quiz

• How can hospitals and employers save money, reduce hospital infection rates, reduce disparities, and attract new patients and employees?
Answer: Baby Friendly

Baby Friendly Hospital
(172 BFH in US, 52 in CA)

Baby Friendly Workplace

Baby Friendly Daycare

From: http://www.babyfriendlyusa.org/find-facilities

Baby Friendly Work Place

- Set up lactation rooms
Baby Friendly Hospital Initiative addresses disparities

- Low-income and black women who gave birth at a US Baby-Friendly hospital, breastfed at equal rates at six months when compared to the overall US population.
- There are elevated rates of initiation and exclusive breastfeeding among the women who delivering at the US Baby Friendly Hospitals (29) in 2003, regardless of demographic factors that are traditionally linked with low breastfeeding rates.

Ten Steps to Successful Breastfeeding

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.

2. Train all health care staff in skills necessary to implement this policy.

3. Inform all pregnant women about the benefits and management of breastfeeding.

4. Help mothers initiate breastfeeding within an hour of birth.

5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
Ten Steps to Successful Breastfeeding

6. Give newborn infants no food or drink other than breast milk, unless medically indicated.

7. Practice rooming-in - mothers and infants remain together - 24 hours a day.

8. Encourage breastfeeding on demand.

9. Give no artificial teats or pacifiers to breastfeeding infants.

10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.
Baby Friendly Hospital Initiative addresses disparities

Figure 3. Exclusive Breastfeeding by Ethnicity; All California Hospitals Versus Only Baby-Friendly Hospitals (2009)

Source: California Department of Public Health Genetic Disease Screening Program, Newborn Screening Data (Form D), 2009.
Healthy People 2020

Increase:

• Ever breastfed from 73.9% baseline to **81.9%**.
• At 6 months any breastfeeding from 43.4% baseline to **60.5%**.
• At 1 year any breastfeeding from 22.7% baseline to **34.1%**.
• Exclusively breastfed through 3 months from 33.1% baseline to **44.3%**.
• Exclusively breastfed through 6 months from 13.6% baseline to **23.7%**.
Healthy People 2020

• Increase the proportion of employers that have worksite lactation support programs from 25% baseline to 38%.

• Reduce the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life from 25.6% to 15.6%.

• Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies from 2.9% baseline (currently at 6.9%) to 8.1%.
5-2-1-0 sweetened drinks and Education and modification of portion sizes

- USDA MYPlate
- Focus on 1-2 changes/month
  - Modification of fruit juice and sugary drink consumption
    - Eliminate soda
    - Limit juice to half a cup per day
  - Reducing milk to 1% fat after 2 years old
  - Limit high fat food
  - Review portion size

From: choosemyplate.gov
What can you do that:

✓ is fun
✓ makes you feel good
✓ improves your health
✓ makes you look younger
✓ is free
Exercise!
The Poor Man’s Plastic Surgery!
5-2-1-0-Blastoff! families Increasing active time for children

Access to Parks: ie safety, location, fitness zones

CDC Recommendation
60 minutes of moderate exercise per day

Aerobic activity
Muscle Strengthening
Bone Strengthening

From:
- www.cdc.gov/nccdphp/dnpa/physicalactivity.htm
- www.cdc.gov/nccdphp/dnpa/recommendations.htm

Mattel Children’s Hospital - UCLA
Increasing active time for children and families

- Become a role model and incorporate physical activity into daily activities.
Increasing active time at the work site

• Incorporate physical activity into daily activities

From:
• www.cdc.gov/nccdphp/dnpa/physicalactivity.htm
• www.cdc.gov/nccdphp/dnpa/recommendations.htm
Cultural Openness

• Strategies
  – Follow the ABCs of counseling
    • Active listening
    • Body language (no barriers)
    • Caring and open mind
  – Motivational Interviewing
    • “... method of communication rather than a set of techniques. It is not a bag of tricks for getting people to do what they don’t want to do; rather, it is a fundamental way of being with & for people - a facilitative approach to communication that evokes change.”

# Nutrition During the Life Course

<table>
<thead>
<tr>
<th>Stage</th>
<th>Optimal</th>
<th>Compromised</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prenatal</strong></td>
<td>• Breastfeeding education</td>
<td>• No breastfeeding education</td>
</tr>
<tr>
<td><strong>Infant</strong></td>
<td>• Introduce solid foods at 6 months</td>
<td>• Introduce solid foods at 4 months or younger</td>
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<tr>
<td></td>
<td>• Continues to Breastfeed &gt;= 1 year</td>
<td>• No breastfeeding</td>
</tr>
<tr>
<td><strong>Toddler</strong></td>
<td>• Change to 1% milk</td>
<td>• Continues to drink whole milk</td>
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<tr>
<td></td>
<td>• TV watching &lt; 2 hours per day</td>
<td>• TV watching &gt; 2 hours per day</td>
</tr>
<tr>
<td><strong>Preschool (2-5)</strong></td>
<td>• Drinks 1/2 cup of juice per day</td>
<td>• Drinks &gt;1 cup of juice per day</td>
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<tr>
<td></td>
<td>• Physical activity ≥ 60 minutes per day</td>
<td>• Physical activity ≤ 30 minutes per day</td>
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<tr>
<td><strong>Elementary (6-12)</strong></td>
<td>• Infrequent soda consumption</td>
<td>• Drinks 1 or more sodas per day</td>
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<td></td>
<td>• Frequent family meals</td>
<td>• Infrequent family meals</td>
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<tr>
<td><strong>Middle &amp; High School (13-18)</strong></td>
<td>• Infrequent fast food meals</td>
<td>• Frequent fast food meals</td>
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Health and Developmental Outcomes

Body Mass Index

- Optimal
- Compromised

Prenatal, Infant, Toddler, 2-5, 6-12, 13-14, 15-18
The Purpose:
Wellness for Life
Personal Goals

• Become a role model
  – Provide support for healthier environments for your employees and colleagues
  – Exercise regularly
Fruit comes from flowers
Fruit is very good to eat
I like to eat fruit