Battling the Bulge: 
Obesity in Kids

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The prevalence of childhood obesity has reached 30% to 35% in the past decade, although some data suggest this figure is under-reported and may be as high as 35% to 40%. Recent publications indicate an increase in the consequences of childhood obesity, including Type 2 diabetes, non-alcoholic fatty liver disease, polycystic ovarian disease, as well as the antecedents of elevated blood pressure and heart disease. Type 2 diabetes, previously taught in medicine as non-existent in childhood, is now being diagnosed in obese children as young as 10.

Further data indicate that children who are obese are more likely to remain obese in later childhood and adulthood, while adolescents who are obese have an 85% chance of maintaining obesity as adults. Those who were obese as children, but not as adults, still carry twice the risk for coronary artery disease as an adult. The chances of a family with one obese parent having a child with obesity are 50%, with that risk rising to 66.7% if both parents are obese.

Clearly, with these risks and the likelihood that obese children will pass these patterns on to their children, childhood obesity is a family-based problem. The family physician can guide a family treatment approach to obesity, starting with young parents and their approach to proper nutrition.

Billy’s case

Billy, 10, has had a problem with obesity since age four. He weighs 65 kg and is 150 cm tall. His parents are overweight; his mother has been so since pregnancy. Family history is positive for heart disease. Billy’s father has hypertension, and his mother has diabetes.

On a regular basis, Billy skips breakfast, and packs a lunch, which comes home uneaten. After school, he eats a high-calorie snack, then supper with his family, avoiding vegetables and fruit. He snacks all evening.

His parents work and are too tired to exercise. He has physical education class twice weekly, and plays hockey on the weekend. It is too cold to play outside during most of the winter.

What can you do for Billy?
**Table 1**

**Practical tips for addressing childhood obesity**

<table>
<thead>
<tr>
<th>Category</th>
<th>Cause</th>
<th>Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food-related</strong></td>
<td>Increase in high-calorie food/fast food/excess sugar</td>
<td>Set a frequency (once/week)</td>
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<tr>
<td></td>
<td>Increase in serving sizes/unbalanced eating habits</td>
<td>Exercise portion control as per Canada’s Food Guide</td>
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<td></td>
<td>Food easily available</td>
<td>Eliminate second servings; teach kids how to identify when they are full, and to eat only when they are truly hungry</td>
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<tr>
<td></td>
<td>Skipping meals</td>
<td>Work out ways to have breakfast and lunches children will eat</td>
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<tr>
<td><strong>Activity-related</strong></td>
<td>Sedentary lifestyle/ease of transportation</td>
<td>Encourage walking, getting off the bus one stop early, playing sports; create an active family model</td>
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<tr>
<td></td>
<td>TV (also computer)</td>
<td>No TV in the bedroom, no eating with TV on</td>
</tr>
<tr>
<td></td>
<td>Video games</td>
<td>Stand while playing</td>
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<tr>
<td></td>
<td>Diminished opportunities</td>
<td>Write a letter to your MP, MPP, or alderperson to encourage and support facilities, and for the funding of activities</td>
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<td></td>
<td>Perception of unsafe neighbourhood</td>
<td>Arrange walking programs to and from school via parent groups</td>
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<td></td>
<td>Both parents work</td>
<td>Discuss extracurricular programs with schools or community centres</td>
</tr>
<tr>
<td><strong>School-related</strong></td>
<td>Decreased physical education</td>
<td>Write letters to school board and/or MPP to raise concern</td>
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<tr>
<td></td>
<td>Machines/cafeterias with high-calorie food</td>
<td>Write letters to school board and/or MPP about funding for healthy snack options</td>
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<tr>
<td></td>
<td>Rushed or no lunch</td>
<td>Write letters to school, school board, and/or MPP about proper dietary schedule for children and teens</td>
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</tbody>
</table>

MP: Member of Parliament  
MPP: Member of Provincial Parliament
Obesity in Children

1. What are the causes of obesity?

Childhood obesity is caused by a myriad of issues, including excess caloric intake; inactivity; excess high-calorie foods; unhealthy family lifestyle; and emotional issues, which can lead to overeating.

2. How do I encourage a child to become more active?

Make specific goals in diet, lifestyle, and eating behaviours that are positive and realistic, and monitor progress in a positive fashion. Try to get the whole family to be more active, and make sure the choice of activity is enjoyable for all. Have the child earn TV or computer/video time by doing a certain amount of physical activity first. Post community events that involve activities for families, and provide physical activity handouts from Health Canada (available at www.healthcanada.ca/paguide, or 1-888-334-9769).

3. What support can I provide to encourage a healthier environment in school?

Write advocacy letters to schools and school boards on behalf of families, promoting healthier cafeteria foods, more appropriate lunch break times, and increased physical activity programs.

4. What method is most helpful in battling childhood obesity?

The most helpful method is for family physicians to contact school boards and governments regarding funding for physical activity and after-school programs. The more letters a government receives, the more likely attention and effort will be given to an issue. Physicians are more likely to be influential in promoting change at a government level.

What is obesity and what causes it?

The definition of obesity is a weight > 120% of the ideal weight for the height of an individual, as seen on a growth chart. The Centres for Disease Control have published body mass index charts for children indicating a definition of obesity of greater than or equal to the ninetieth percentile.

There are many factors that can lead to childhood obesity. A reasonable question is whether obesity is genetic. While the literature indicates genetic contributions between 25% and 40%, most variables are amenable to environmental change.

Frequently Asked Questions

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Obesity in Children

Even in Prader-Willi Syndrome, a monogenic developmental condition of obesity, environmental change leads to weight loss.

The causes of childhood obesity break down into three main categories:

• Food-related causes, all of which contribute to an excess caloric intake;
• Activity-related causes, which lead to a decreased energy expenditure; and
• A third category, which has components of excess food and diminished activity, as well as influences of the school system.

Table 1 lists treatment options for each of the causal categories mentioned. To successfully encourage change in children and families, the physician should work with them to establish one or two changes per visit, with monthly followups.

Surf your way to...

1. Health Canada: Physical Activity Unit:
   www.hc-sc.gc.ca/hppb/paguide
2. Health Canada: Office of Nutrition Policy and Promotion:
   www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/food_guide_rainbow_e.html
Some of the suggestions are not ideal, but rather practical compromises. Children who do not show any progress may have more complicated psychosocial issues.

**How can GPs encourage activity?**

Activity comes in two types:
- Formal, structured activities, like physical education and sports clubs; and
- Non-structured activity, like walking from school, standing while playing video games, raking leaves, playing outside, etc.

Encourage improvements in both forms of activity. Obtain Canada’s physical activity guide from Health Canada or the Canadian Pediatric Society. We often recommend that children “buy” their sedentary (TV/video/computer) time. For example, for every five minutes of physical activity, they can have a half hour of sedentary activity. The best activity for children to do is one they actually enjoy and break a sweat.

Schools are often amenable to change, but must have the will and the method to do so. Suggestions and support from a family physician can be a strong motivator for change. Likewise, a letter to your Member of Parliament, Member of Provincial Parliament, or alderperson is likely to draw attention to these important issues, given that family physicians are highly respected in the community, and have no personal vested interest in the issue being raised. □

References available—contact *The Canadian Journal of Diagnosis* at diagnosis@st.ca.