

PedsCases Podcast Scripts

This is a text version of a podcast from PedsCases.com on “Pediatric Obesity.” These podcasts are designed to give medical students an overview of key topics in pediatrics. The audio versions are accessible on iTunes or at www.pedscases.com/podcasts.

Pediatric Obesity

Developed by Chantelle Champagne and Dr. Mary Jetha for PedsCases.com.
May 23, 2011.

Chantelle: Hi, my name is Chantelle Champagne, a medical student at the University of Alberta

Dr. Jetha: Hi I'm Mary Jetha, I'm a pediatric endocrinologist at the University of Alberta, and I have a special interest in helping children manage their weight, helping treat Type 2 diabetes, and also children with high cholesterol.

Chantelle: Today we will be discussing the clinical approach to the management of children who are overweight or obese. As most of us know, rates of childhood obesity are going up at an alarming rate – in fact, they have more than doubled in Canada since the late 1970s. In 2004, Statistics Canada reported that almost 35% of children were overweight or obese. Dr. Jetha, to what can we attribute these increased rates of obesity?

Dr. Jetha: Although there are many causes and contributing factors to obesity, by far the most common reason for excessive weight gain is simply consuming more calories, and expending less energy, than needed for optimal health. Our society has become very obesogenic, meaning that many things in our homes and environment influence us to eat more, and move less than we need to. Some examples of these environmental influences are the abundance/convenience/affordability of fast food, the overuse of packaged and processed foods, the huge increases in portion sizes everywhere, busyness and sometimes stress in the family, increased dependence on media and screens for entertainment, increased dependence on vehicles vs. active transportation, just to name a few.

Chantelle: What other causes of obesity can you identify?

Dr. Jetha: There are a few RARE causes of obesity, such as genetic or other diseases, syndromes, or medications. These things may contribute to weight gain. These patients need the help of weight management specialists to carefully assess how much energy intake and output is needed to maintain a healthy weight.

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Chantelle: Regardless of the cause of the obesity, there are associated health risks, both during childhood and long-term health risks. Dr. Jetha, could you expand on the health consequences of childhood obesity?

Dr. Jetha: Obese children are at risk of many of the same illnesses that are more commonly seen in adults – things like:

- Type 2 Diabetes
- Cardiovascular Disease
- Hypertension
- Dyslipidemia
- Arthritis
- Obstructive Sleep Apnea
- Polycystic Ovarian Syndrome
- Steatohepatitis
- Liver fibrosis
- Depression / Psych conditions
- Cholecystitis
- Pseudotumor cerebri (increased intracranial pressure)

Obese children are not only at risk of developing these risks in the future, but in a recent study of overweight children in Edmonton, Alberta under age 11, 33% were diagnosed with Hypertension, 46% had dyslipidemia, and 50% showed evidence of insulin resistance. Many medical conditions typically diagnosed in adulthood have their beginnings during childhood or adolescence.

Chantelle: Wow, those are shocking numbers. So now that we know that obesity can cause problems in kids. How do we identify at-risk children?

Dr. Jetha: Careful measurement of the child's height and weight, and calculation of the BMI is the first step. A health care practitioner can plot these measurements on growth charts to show how the child compares to most children of the same gender and age. A child who falls way outside of the normal ranges needs a closer look. A child with a BMI in the 85-95th percentile is considered overweight, and a BMI greater than the 95th percentile is considered obese. A high BMI should prompt the health care worker to look more carefully at the child's health and health risk, or refer the child to a weight management specialist. It is important to assess the FULL health of the child, including a thorough history of pregnancy, past growth, nutritional and physical activity patterns, and current symptoms to identify any risk factors for disease and rule out secondary causes of obesity. We should never draw conclusions based ONLY on a height and weight measurement.

Physical Examination should include blood pressure measurement, and assessment for any findings of complications arising from obesity (signs of DM, liver disease, arthritis, etc).

Some basic investigations that should be done to assess an obese child are: Fasting blood glucose and lipid panel in those >10yo, as well as any other relevant tests to investigate signs or symptoms found on history and physical exam.

Chantelle: Once we've identified a child who is overweight or obese, do you have any suggestions on how to tactfully address the matter with the child and his or her family?

Dr. Jetha: Explaining what the measurements mean and why we are concerned is the place to start. We must be compassionate and kind, yet still be clear. I find it helpful to use simple examples and word pictures to explain what is happening inside the body when we eat or when we exercise to help kids and families understand how weight contributes to suboptimal health.

Here are a couple of examples:

We all need to eat. We need food for energy – energy to walk, run, play, grow, and learn. It's like the gas in our car – our fuel. We put some food (fuel) in, and then we use some up doing all our daily things, like showering, walking the dog, going to school - then we put in a little more fuel at lunch, then we use some up at school writing a test, at soccer practice, then we put a little more in, then we use a little more up etc.

But what happens if we don't use up all of this fuel, or if we eat more than we use up? Well, if you put too much gas in car it just overflows and spills onto the ground. Our body doesn't work like that. If our body gets too much fuel and we don't use it up, it turns it into fat, and saves it up – saves it under your skin, around your chin, around your tummy – like putting it in your back pocket, except there are lots of back pockets all over. If we keep eating more than we're using up pretty soon all of these storage spots get really full, they get heavy, they get hard to carry around, and they can start causing other problems in our body.

So what do we need to do? We have to figure out how much food you need for you. Right now all of your pockets are pretty full, and that might start causing some problems. We still need to eat, but we need the right amount – not too much so that we don't keep stretching the pockets. We can even empty them out a bit – start using up some of that fuel in your back pockets. And, if we eat just a little less than we use up, we'll empty the pockets even faster!

Or this is an example I might use for teenagers, especially a teenager who is already developing some of the comorbidities like hypertension or high cholesterol (I talk and draw a little sketch while I'm talking).

It's like you're on the road to Calgary. The signs say "Calgary – this way". So you go along, and as long as you follow the signs and stay on the road you will get to Calgary. But if you are on the road to Calgary, but you really don't want to go to Calgary, you want to go to Jasper, you have to take the exit that says "Jasper – turn here". So you take the exit. You're not immediately in Jasper, but you're on the right road.

Well, here's you, on the road, with some extra weight, and some aches in your knees. You're going along and there's a sign - it says: "high insulin". You keep going along the road. A little further along, there's another sign – it says "high cholesterol" and these start putting some strain on your body. You keep going and see another sign that says "Resting Heart Rate 90". This road (you've been on it now for 15 years!) has brought you to here, today.

Where do you think this road might be leading? That's right. With no change, it could be leading to the city of Heart Attack, the village of Diabetes, the town of Arthritis, or the community of Ill Health, or the Ballpark of Four Hundred Pounds. So here you are, at this spot on the road. You've seen the signs. You know the destination. Is that where you want to go? If it is, then stay on the road, keep doing what you're doing, and the road will take you there.

But if you don't want to go there, you have to take an exit to go in a different direction. You might need to look at the map. When you do, it says "Nutrition, Smaller Portions, move around, find people to help, stop eating junk". In fact, there were some signs back here on the road that said "Better Health – this way", but you didn't really pay attention and just kept going along. These signs "high insulin", "high cholesterol" and "resting heart rate 90" are like "Caution" signs, like your body trying to tell you something, saying "Hey Jimmy! Trouble ahead! Take the exit!" When you decide to take the exit, the first thing you do is get in the right lane, and then turn the steering wheel. You don't immediately arrive at the destination of "Health" but you've started along the road that will get you there. Pretty soon you'll start seeing some signs that let you know you're going the right way. Signs like "Cholesterol Down", "baggy Pants", "Improved Fitness" or "No more knee pain". But if you never get off the wrong road, If you don't take the exit, you'll never get there.

Chantelle: Those are some really useful tips to help educate children and their families! Could you go over the main treatment options available to overweight children?

Dr. Jetha: The main goal is to attain a balance between food and physical activity that will slow down, stop, or reverse the weight gain. Teaching families about lifestyle behaviours that can shift the balance toward less energy intake and more energy expenditure is the key. Strict diet and exercise regimens generally don't work very well in most home environments due to distractions, motivation, and busyness. Promoting healthy behaviours and helping families develop healthy habits is the first step. When families work together, rather than singling out a particular child, there is a better chance of success. Some specific suggestions are as follows:

- Dietary – Calorie restriction is generally not recommended because of the risks of impaired growth and nutrient deficiencies. However, overweight and obese children, or adults for that matter, do need to cut down on the amount they eat. Some strategies that can help achieve lower calorie intake are: Aim for a balanced diet, high in vegetables and fibre (Canadian Food Guide), Reduce

sugar- sweetened beverages (i.e. no pop, limit or dilute juice), serve smaller portion sizes, and limit meals in front of the TV or away from home, plan ahead

- Activity – emphasize a more active lifestyle over a strict exercise regimen, choose activities that the child is likely to be good at and enjoy doing

Some children will need more specific and detailed treatment plans and these are developed on an individual basis by weight management specialists.

Chantelle: So in summary, take home points are:

- 1) Childhood obesity puts children at risk for both immediate and long term medical consequences
- 2) Obesity should be approached in a sensitive and non-judgemental manner, enlisting the whole family to adopt a healthier lifestyle
- 3) Treatment predominantly involves altering nutrition and activity habits and behaviours, and specialists like registered dietitians and/or formal weight management programs can be of great help.

Dr. Jetha: Yes. In most cases, the child, teen, and/or family need to be willing to take an honest look at their current and past nutritional and physical activity patterns that may have contributed to weight gain. Once they are willing to do this, health care practitioners can help them identify where they can start to make changes that will lead to health.

Chantelle: Just before we go, could you give us some simple advice that we can give to all our patients and their families to help them prevent obesity and work to maintain a healthy weight?

Dr. Jetha: Sure, an easy way to counsel patients on simple lifestyle changes they can make is the 5-2-1-0 approach. 5 fruits and vegetables per day, 2 hours or less of screen time per day, 1 hour of physical activity per day, and 0 sugar-sweetened beverages per day (<http://www.childhoodobesityfoundation.ca>). Even more simple than that: If you are carrying or gaining more weight than you want or need, cut down on food intake and increase physical activity until you find the right balance.

References

References available upon request.