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Metabolism

By Joan Medlen, RD, LD

In the first weeks after our son with Down syndrome was born, my thoughts strayed to his health throughout his life. My impression was that all adults with Down syndrome were very obese. As a dietitian, most of my work had been in the weight management area. I had seen firsthand the effects of long-term obesity on a person's life. I remember emphatically explaining to my husband that we needed to be an aerobically active family. I asked him to consider crosscountry skiing, and to plan for activities like family biking trips.

Now, years later, Andy is a slender, tall boy, like his brother. He eats well but not perfectly. He appears "active," but it's not very aerobic. And, when I look at other children with Down syndrome at conferences and in my community, there seems to be a mix of body types: some are slight and petite, some are thick and stocky, and some are overweight. Where did that early image of obese adults come from? Had I fallen for a myth? Could it be that this younger generation of persons with Down syndrome will not have as many obese adults? Has the increase in community inclusion changed the incidence of obesity?

Probably not. Research suggests children with Down syndrome are as active as their peers, yet use fewer calories overall. They appear to have a lowered Basal Metabolic Rate, which is the rate a person burns calories for fuel when completely at rest or sleeping. Taking that information one step further, it means that they use fewer calories throughout the day to accomplish the same activities as their typical peers.

When Andy hangs out with his friend, and eats the same amount and kinds of foods, does the same activities with the same intensity for the same amount of time, he will burn up to 15% fewer calories than his buddy. Since he ate the same amount of food as his buddy, but needs less to do the job, he has calories leftover. These extra calories—even as few as 50 calories per day—can lead to an increase in weight.

For example, 50 calories is equal to a half of a large red delicious apple. The calories from half an apple leftover at the end of the day for one year will lead to about 5 pounds of increased weight. If that continues for 5 years, it becomes a troublesome 25 pounds. With this in mind, it is easy to see how slender children and adolescents with Down syndrome can change into overweight young adults.

There are three ways to adapt for this difference in metabolism: increase activity, limit calories or increase activity AND limit calories. Focusing on calories alone is one option. However, unless there are other medical reasons, it is risky to limit calories for children under 18 years of age without direct medical supervision. Children have great vitamin, mineral, protein, carbohydrate and energy needs while they are growing. Limiting calories may cause children to get too few of what they need to grow and develop well. For adults, a sole focus on calories becomes a battle of willpower and feels like a punishment.

As with everything else, focusing on positives and abilities has a far greater effect. Beginning with a focus on physical activity has many more positives. A person can choose from a variety of aerobic activities that are enjoyable. Additionally, regular aerobic activity has many health benefits; increased muscle tone, decreased resting heart rate, decreased blood pressure, a sense of well being, better sleep and an increase in metabolism.

Being physically active and focusing on aerobic activity doesn't mean you need to be an Olympic athlete. For the average person with or without Down syndrome, adding small amounts of aerobic activity on a regular basis makes a difference. Even small changes in daily activities can be beneficial.

Coming up with ideas to increase activity is the easy part. The hard part is choosing activities that are motivating. It is important that the person with Down syndrome make the choice of activity and be involved in setting goals.

Working together as a team in planning will help. Write your plans in a special place. Create a list of 2 small, but specific, activities to add in a week. Begin with things that are 99% achievable. Talk about when activities will be and who will participate. Write them on the calendar. Then create a way to track visually as goals are met with a chart or checklist. Remember to leave room for doing more than the goals you write down - a chance to over achieve!

For Andy, we hope to build habits that will last a lifetime and are fun habits that will increase his overall activity and hopefully reduce the risk he will have to fight the battles that extra weight can bring.