

SLIM DOWN

Fighting Childhood
Obesity with Healthy
Habits

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*Slim Down:
Fighting Childhood Obesity with Healthy Habits*

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For Emma, Stefano, and Sabrina.

Outline

Part I: The Problem of Childhood

Obesity

1. An American Epidemic

The reasons for the recent increase in obesity in the United States are reviewed. The health complications related to obesity are discussed.

2. Energy Balance: How The Body Works

Weight gain is always due to taking in more calories, in the form of food, than are expended through work and exercise. Useful terms such as calorie, Basal Metabolic Rate (BMR), Thermogenic Effect of Food (TEF), and Total Energy Expenditure (TEE) are introduced and defined.

3. Is my child overweight? Gland Problems and Other Myths

Definitions of obesity and overweight for adults are introduced, as is the concept of Body Mass Index (BMI). The normal growth pattern for children is reviewed. In childhood, obesity is best defined by a pattern of weight gain that does not coincide with

what is expected for that age, utilizing gender appropriate growth curves.

4. Setting the right goals for each child- one size does NOT fit all

Due to continued growth in children, weight loss is not necessary for many children. Rather, a decline in the rate of weight gain is sufficient in most cases. Most importantly, the goal should not be a predetermined target weight, but the incorporation of healthy habits which we hope the child will engage in throughout his life. Weight is de-emphasized; health is stressed.

Part II: The Solution

5. S = Sit at the table to eat: No More Moveable Feasts!

Children tend to overeat if they eat in the car, while doing homework, and especially, in front of the television. Having the child sit at the table to eat helps him be more aware of signals of hunger and satiety and prevents overeating.

6. L = Limit television viewing : No More Flabby Bodies or Flabby Minds!

The amount of time a child spends watching television has been found to be one of the most important predictors of obesity in childhood.

7. I = Include exercise as an essential activity of daily living: Moving is a Pleasure, Not a Chore!

Exercise is essential to maintain health and fitness in our society due to all the luxuries we are afforded which reduce the physical activity necessary to earn a living. Not only do we burn calories by exercising; we also increase our lean body mass. This allows us to continue burning calories at a higher rate even when we are at rest. No weight management program can be successful if it does not incorporate regular exercise.

8. M = Motivate your child with rewards: Payoffs will Pay Off!

The methods of behavioral modification are summarized. Positive reinforcement, rather than punishment, should be adopted as the method for changing childhood behaviors.

9. D = Dine restaurant style not buffet style: Portion Control Leads to Appetite Control!

An approach to meals which reduces the likelihood of eating seconds and overeating is introduced.

10. O = Offer fewer, better snacks: Learn to Love Those Veggies!

By eliminating high fat, calorically dense, between-meal snacks a significant number of calories can be eliminated over a long period of time. Only low-fat snacks, of nutritiously sensible foods such as fresh fruits and raw vegetables, should be offered as snacks to children.

11. W = When in doubt, walk: Hidden Opportunities to Burn Calories!

Extra calories can be burned by taking the stairs rather than riding an elevator, walking to the store rather than driving (when safe and practical), and by doing chores and housework. All of these activities can be done in a fun way.

12. N = Never talk the talk if you can't walk the walk: Be a Role Model, Not a Dictator!

One cannot expect a child to perform behaviors and incorporate habits which are foreign to his parents. The importance of parents serving as role models is emphasized.

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Part I

The Problem

Chapter 1

An Epidemic

The last decade of the twentieth century served as the setting for an epidemic in the United States which will have long-lasting public health repercussions. An infectious agent was not responsible for this epidemic, and so physicians could not prevent its further spread. Despite many advances in the understanding of this condition, especially in the field of molecular genetics, there is no immunization or other medicinal cure in sight.

This condition is associated with many serious illnesses, which constitute the most frequent reasons for physician visits by adults. Among these are heart disease, high blood pressure, elevated cholesterol levels, diabetes, orthopedic problems, gallbladder disease, and even certain forms of cancer. As a result, individuals afflicted with this condition have a higher risk of premature death than the rest of the population. Sadly, children who are delivered by women with this condition are more

likely to be born with birth defects such as spina bifida (where the spinal column does not finish developing, often resulting in paralysis of the legs), and anencephaly (where most or all of the brain is missing).

Alarming, more than one third of U.S. children now have this condition, considerably more than the proportion affected twenty years ago, and so we are now witnessing a surge in the frequency of complications of this condition at younger ages. A notable example is adult onset (or Type II) diabetes, which has significantly increased in frequency in the teenage population in recent years.

The condition I am referring to is, of course, obesity. It is estimated that in this country approximately 65% of men and 55% of women aged 25 or older are overweight or obese. About 300,000 deaths per year can be directly attributed to obesity in this country, which is nearly identical to the total number of people who succumbed to AIDS in the United States through 1999.

From the amount of money spent on treating obesity in adults, including designer diets, exercise

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programs, medications, and surgery, and considering the meager results obtained from most of these methods, it is clear that the most effective approach in the battle of the bulge is prevention. Because the development of obesity is increasing among children, the prevention effort must clearly start in childhood.

There is another compelling reason to address this issue early in life. Basically, old dogs have a hard time learning new tricks. Typically, we form most of our habits by the end of the teenage years. For example, it is uncommon for someone to become addicted to cigarettes if one does not start smoking before the age of eighteen. Most chronic smokers started early in life. The earlier you start, the harder it is to kick the habit.

There is no doubt that the most effective approach to combating obesity is adopting changes that include regular exercise, avoidance of a sedentary lifestyle, and the consumption of a balanced diet without an excessive number of calories. This fact is hard for many to accept, because results do not come quickly, and it requires sustained effort for a long period of time -your entire

life. There are dozens of weight loss programs that promise quick, effortless results. Some programs actually promise weight loss without exercise while allowing the consumption of more food! Many programs utilize vitamins, minerals and herbs, suggesting the preposterous notion that obesity is due to a nutritional deficiency. A few claim that eating the right combination of foods will achieve weight loss. Of course the medical community contributes to the confusion of the public by prescribing appetite suppressants, as if the reason for obesity was just a matter of too much hunger.

There are basically two explanations for the popularity of weight loss programs based on illogical or absolutely ridiculous principles. One is the lack of scientific sophistication typical of the average American. Some people mistrust the method of study and analysis that has contributed the most to man's understanding of how nature works. I know of no newspaper in the country that doesn't have an astrology section. You don't read the newspaper? No problem. You can dial a 1-900 number and consult a psychic by telephone. Why this

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remarkable individual who is able to foretell the future is waiting for your call to charge you by the minute instead of earning millions with the stock market remains a mystery.

The other reason for the success of these programs is the deep sense of despair and helplessness that many have when it comes to managing their weight. It is often the most desperate who are likely to fall for such schemes, as they have the greatest desire and need to believe in them. The fact remains that “lose pounds fast” programs are as likely to work as “get rich quick” schemes. When the weight loss program fails, as it inevitably does, the individual’s feeling of helplessness grows, the hope for successful weight control fades and the individual believes, “Nothing works, I’ve tried everything”. The truth is they’ve only tried the wrong things.

The SLIM DOWN approach is not a “lose all your weight quickly and effortlessly” scheme. It is a blueprint for a healthy lifestyle. The focus is not on weight or pounds, but on behavior. Adopting these desirable behaviors leads to improved fitness and

health, which is the ultimate goal, rather than shooting for a target weight. The aim is to acquaint children with a life-style of regular exercise, avoidance of inactivity, and maintaining a healthy relationship with food. The goal is for children to incorporate these life-style changes into their daily routine, and utilize them every day: not just during their childhood years, but into adulthood.

The reasons for weight control are many. The health benefits are primary, but equally important is how enhanced physical appearance increases one's feelings of self-worth. A person who is very overweight is often regarded as having poor impulse control or is judged to be generally lazy. Obesity can have a negative impact on job promotion and employment. Our appearance is not just a cosmetic issue, whether it is the manner in which we dress, walk, and talk, our hairstyle, or whether or not we have tattoos or wear jewelry on our nose. It communicates to others how we view ourselves, our values, and who we aim to be.

Finally, one can invoke a spiritual explanation for wanting to maintain a healthy weight. If we

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believe that our life is a gift granted to us by a creator, not by mere chance, but perhaps to serve a specific purpose, we then realize that we have a duty to preserve our health in order to fulfill our mission. We cannot show a lack of appreciation for the opportunity given to us, by destroying our body with drugs, alcohol, or by not maintaining fitness. The body is our temple. We must not vandalize or desecrate it.

Chapter 2

Energy Balance

The regulation of body weight is ultimately a phenomenon of energy balance. If the input of energy into the body exceeds the output, the body gains weight. If the output exceeds the input, the body loses weight. Energy is put into the body by eating food. Energy is taken out of the body through physical exertion.

The energy of food is contained in the chemical bonds between the different atoms that make up the food molecules. Cleaving these bonds can release energy in the form of heat, which is measured in calories. A calorie is the amount of heat required to raise the temperature of one gram of water by one degree centigrade. In nutrition, energy is more easily measured in kilocalories (kcal) or Calories (with a capital c). A kilocalorie is 100 calories, or if you prefer, the amount of heat required to raise the temperature of one kilogram of water by one degree centigrade.

The universe behaves according to laws of physics, which unlike laws created by man cannot be broken, even if no one is looking. Heat transfer is governed by the laws of thermodynamics, which state that in a closed system energy can neither be created nor destroyed - the sum total of energy remains the same. Thus, once heat energy is inserted into a human body in the form of food, the energy cannot just disappear or dissolve. The body, by performing work, can consume the energy, but whatever is left over will be stored. Unfortunately, the most efficient storage form that our bodies have for energy is fat, not muscle. If it were otherwise we could all eat our way to looking like Arnold Schwarzenegger.

Therefore, if an individual takes in more energy than he needs for the amount of work his body performs, he will gradually increase the amount of fat composition of his body. Note that the absolute amount of food taken in is not as important as the balance between energy input and output. So it is entirely possible to eat relatively little, but still

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gain weight, if one has an extremely sedentary lifestyle.

Let's take the example of an imaginary credit card that charges no interest (yes, it's too good to be true). I use the card and the first month charge \$60. At the end of the month I pay just the minimum payment due of \$10. The balance is \$50. The second month I charge another \$60 and pay the minimum payment of \$15. The balance is now \$95. It is easy to see that if I continue at this slow, steady rate, within a year or two I will be severely in debt.

This is precisely what happens with many people who gradually, over a long period of time, incur a huge caloric debt. They often wonder how they could have accumulated so much weight. After all, they don't eat that much. And perhaps, they do exercise a little. "It must be my metabolism", they conclude. The basic, undeniable truth is that they ate too much for the amount of exercise they did, or if you prefer, they didn't exercise enough for the quantity of food they ate. Just be thankful our body doesn't charge us interest every month!