

# **A Different Perspective on the Obesity Epidemic**

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There appears to be a consensus about obesity. When a person takes in more energy than they consume, they store the excess energy as body fat. About 20% of the population is prone to store any calories not needed for basal metabolic needs as body fat. This genetic entity, known variably as metabolic syndrome, or syndrome-X, predisposes to ever-increasing body fat mass. The mantra for the treatment has been “diet and exercise.” Obese people have been dieting and exercising without any persistent loss of weight, and, as a result, they give up. What weight they do lose is often regained, and then some. Published studies have found that people who diet are prone to gain more weight in the long run and those who seek a target weight are also prone to fail and give up. A recent study revealed that obese people take in less calories as a group, compared to their lean peers.<sup>1</sup>

## **Current recommendations**

The First Lady has made it a cause célèbre to fight obesity with the basic principles of diet and exercise.<sup>2</sup> The CDC, many state legislatures, and medical professional organizations (The Endocrine Society, the American Academy of Pediatrics) have restated the same philosophy: the obese patient is a product of excessive nutritional intake and too little exercise. If only the obese would eat like thin people and exercise like thin people, they would not be fat. There’s the rub. They do not become thinner when they go on diets and exercise regularly. They are the subject of derision and wholesale public disdain, to the point where there are policymakers who are considering penalizing the obese with higher insurance premiums because they are creating an ever increasing drain on health care resources. At one recent endocrine conference, a reference was made to the map of the United States which showed a clear correlation with the most obese people living in the “red states,” while the “blue states” were populated by leaner folks. The black and Hispanic populations are more often plagued with obesity and this is blamed on poor socioeconomic status and “food insecurity.”<sup>3</sup> Is it not outright foolish to expect that the failed policy of “diet and exercise,” as currently promoted will work if we just keep applying it and spending more health care dollars in the process?

## **The Root of the problem**

When all else fails, consider logic. Teleological theory would explain that in the course of human development, when humans are faced with starvation (i.e. nomadic peoples who lived in the frozen tundra or arid desert where food was available at the watering hole for only two months out of the year), those whose genetic predisposition is to quickly store food energy as body fat would preferentially survive while those who were “inefficient” would starve and die in the “off season.” This would pre-select a population of insulin-resistant fat-storers as the progeny of the future. This explains why certain ethnic groups are more prone to insulin-resistance/metabolic syndrome/type 2 diabetes and why certain geographic regions have more obese populations due to familial clustering. It’s not anyone’s fault.

## **How it all begins**

The infant is born within a family where there is insulin resistance. In the absence of obvious gestational diabetes, the infant is of normal size. When that infant/child begins to take in more energy than the basic metabolic needs, body fat accrues and the more body fat mass, the more insulin resistance and the more insulin resistance, the more body fat storage and the merry-go-round picks up speed silently and relentlessly while the family ignores the issue because it doesn’t make sense. No particular intervention seems to stem the tide and so they give up and go into denial. The patient and the family feel guilty

because everyone around them without this predisposition is judging them to be slothful gluttons, which they are not. Everyone waits for the chunk kid to “thin out” with the adolescent growth spurt, but this does not happen and the obesity compounds itself. “Diet and exercise” are recommended and the patient sits in a classroom with 15-20 other obese people, all of who are embarrassed and defensive and in denial, and they stare a white board with a diagram of the new Food Pyramid staring back at them. The trim and healthy dietitian hands out instructions on healthy eating and the crowd sits quietly, ever anxious to bolt out of the room with plans to discard the paperwork since they know they can’t apply much of what they are told for the long run. These same individuals run the gamut with attempts to exercise: they buy a treadmill, they join a health club, they walk around the block, but they do not lose weight and they give up. They prove to themselves that diet and exercise will not make a difference and they retreat from the world of healthcare professionals and become progressively more obese. Many develop type 2 diabetes and many develop dyslipidemias, hypertension and heart disease.<sup>4</sup>

### **What can be done differently, in hopes of success?**

There is a far greater likelihood that human beings will solve a problem if they understand the roots of the issue and can make sense of how the problem develops over time rather than when they are left in the dark. Removing guilt does a great deal to motivate the patient to unravel what has been going on silently before their very eyes. It is imperative to point out that insulin resistance was once a blessing, but in the face of abundant food supply it can be a curse. Let the patient or parents walk back in time to when the body fat began to accrue and search for silent confounders that would promote an increase in food intake (growth of the facial soft tissue structures at age 5-6 years which allows more passage of air through the nares, thereby enhancing the sense of smell, hence taste; removal of tonsils and adenoids, accomplishing the same end; subtle symptoms of peptic gastritis, mimicking hunger, temporarily resolved by increased frequency of eating).<sup>5</sup> Uncovering such historical events often allows the patient and family to see how they began their journey unwittingly. They are given permission to forgive themselves for what they could not understand. Explain that when their non-essential food energy is preferentially stored, they will be depleted of energy to “get up and go.” How often have they been told to rest up until they have the energy and then to exercise? They sit on the couch waiting, and of course, they burn no energy in the process. They are not lazy-no-good-bums. They just feel that way.<sup>6</sup>

### **Applying the “Perfect Storm”**

There are three components to success and they must be constantly applied for a lifetime to achieve success with loss of body fat and reduction of insulin resistance. The visual metaphor for the patient is to have them slow the current merry-go-round to a stop and then to apply constant pressure in the reverse direction, by taking in less food energy, burning body fat and limiting sedentary activities to the greatest extent possible. These three principles may sound like the same mantra of “diet and exercise,” but they are very different, because they can be achieved and maintained for a lifetime.

#### **Part One**

Nutritional changes must be made sensibly, keeping in mind that the patient and family have an established tradition of picking foods and flavors that are influenced by time constraints, budget restraints, picky eaters, and cultural traditions, to name a few. Therefore, showing the food pyramid and lecturing the patient about mandatory (5-7 fruits and vegetables) and forbidden (no added salt, no fat, and no fast food) items is not going to last beyond the classroom. The patient and those who provide the food for the patient deserve to sit down in private to lay out their true inclinations about food and beverage and to have them modified and portioned such that they can actually have a chance to succeed in moving

forward while taking in less food energy, all the while satisfying their learned cravings through good and bad times. This does not entail calorie counting. It is not dieting. It has a far greater chance of succeeding and is far more palatable to the formerly guilt-ridden obese person. It is cost-effective and entails perhaps one major session and a second briefer session and then only occasional tune-ups thereafter. The patient is made to feel in charge of their food destiny.

### **Part Two**

Physical exertion of the correct nature and the correct duration will burn body fat. Exercise which causes persistent elevation of the pulse rate is often referred to as cardio or aerobic exercise. For the first thirty minutes of such activity in a fed patient, not much body fat is called upon to supply energy. When the ingested food energy and the hepatic glycogen stores are depleted, then the body will begin to use the body fat for energy with which to build muscle in response to the exertion. Muscle mass will increase while body fat stays intact if the exercise is not prolonged.<sup>7</sup> This leads many patients to become discouraged because the 20-30 minutes of daily cardio is often associated with increased weight (lean body mass) and no loss of fat. If, on the other hand, the patient understands that they may need to start with only 15 minutes of cardio three times weekly with a gradual increase to 45 minutes of unrelenting cardio three times weekly, they will begin to see a loss of abdominal girth<sup>8</sup> and a very satisfying, sustainable decrease in clothing size as long as they continue to exercise. More time per day and more days per week will bring faster results, but it is important to let the patient know that the 45 minutes TIW is far more practical to continue into the middle age and senior years. The patient now understands they are in charge of their exercise destiny.

### **Part Three**

Sedentary activities are not in the best interest of the patient and it is unfortunate that our educational system requires that students sit in desks all day. The pitifully small time spent in physical education class provides little effective aerobic activity and the obese patients tend to marginalize themselves to avoid the embarrassment of trying to compete with the slim and fast classmates who take over the team sports. Television and computer screen time, along with portable videogames are most often associated with sitting down or reclining. Minimal or no energy is consumed. If the patient is told they should perform all their “screen time” while standing, they will likely necessarily cut back. This takes incredible self-discipline, but the patient now understands they are in charge of their destiny here, as well.

If the patient applies control in all three of these areas, they are literally guaranteed to lose body fat, decrease their clothing size, fit their clothing more satisfactorily, have more energy, and lose their guilt. They will slow down or perhaps eliminate the progression to heart disease, diabetes, hypertension, and lipid disorders. They will have the self-satisfaction of controlling their destiny.

### **Applying the Art**

The physician’s role is to take the time to discover the undercurrent problem, elucidate for the patient and family the unique way in which the patient began and progressed on the journey ( a hand-out or a video just will not do the job of engaging the patient and pulling them into the picture). Pointing out the physical evidence of insulin resistance (acanthosis nigricans), the deposition of body fat which can mimic breast tissue and which can hide the male genitalia allows the patient to experience hope that things will

improve as the body fat is diminished. The real challenge is to find the nutritionist who will individualize the change in eating habits. The application of exercise lifestyle changes is perhaps the most challenging. A committed “team effort” by family and friends, both skinny and obese is about the only way to engage the patient and keep them on track. Again, an individual approach to tie the exertion to the personal hobbies and interests of the patient and to account for limitations on outdoor time, as well as financial resources is the only way to make change sustainable.

The application of these principles is an art, like much of successful medical intervention. Algorithms and “cookbooks” do not effect change. Follow-up at three month intervals is a practical way to monitor patient success and compliance. The patient should be instructed to stay off a weight scale and to avoid any supplemental programs which included “weigh-ins.” They should be looking for a change to a smaller clothing size over time. The positive feedback for the clinician is the increased success rate of this kind of intervention over any other kind of program which focuses on external interventions such as eliminating food advertizing on television, higher taxes on fast food and “junk food,” removing vending machines, requiring mandatory physical education classes, swallowing a pill which makes food malabsorb, or stapling the stomach.

## **References**

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