The True Benefits of Tight Control

By Gary Scheiner MS, CDE

In many ways, managing glucose levels is a lot like getting a good education. Both are ongoing processes that grow more sophisticated over time. Neither have outcomes that are very well-defined, although test results, report cards and graduations provide performance measures just like blood glucose readings and A1Cs. Perhaps the greatest similarities are the abstract rewards earned for going through the process. Getting an education does not guarantee health, wealth and happiness, but it certainly enhances one's chances for a satisfying career and some degree of personal enlightenment and satisfaction.

Adding to the story line is the fact that achieving tight glucose control depends on, what else, **education.** Not just information that comes from books, classes and relevant web sites… but enrichment gathered from the experience of living with diabetes day-in and day-out.

Even with extensive education, experience and dedication, achieving "tight" control is a major challenge for anyone with diabetes. First, we should decide on what is meant by tight control. Some base it on A1C levels alone; others base it on the results of one's fingerstick blood sugar results. Personally, I like to assess control from the standpoint of the overall average as well as the degree of variation. The lowest possible A1C *without* frequent or severe hypoglycemia is, to me, the essence of tight glycemic control. An A1C below 6% may sound great, but if it comes at the price of frequent lows, it just isn't worth it. Your goal should be to achieve a high percentage of glucose readings within a reasonable target range, with the fewest highs and lows possible.

Regardless of your own personal definition, tight diabetes control requires an almost dizzying array of tools and skills to keep glucose levels as close to normal as possible, as often as possible. At the heart of the process is the notion that insulin levels should simulate normal physiology: we should do what a pancreas normally does on a daily basis. Produce some insulin all the time, more when more is needed, and less when less is needed. Or, as I like to put it, "Think Like A Pancreas".

Accomplishing this feat of amazing balance usually requires the consultation of a multi-faceted and dedicated team of health care professionals. One must learn how to match insulin levels to the liver's secretion of glucose ("basal" insulin requirement), dietary carbohydrates, physical activity, and hormone level changes caused by everything from menses to illness to routine stress. Blood glucose readings must be taken frequently in order to make dosing decisions, and records must be kept and analyzed in order make program adjustments. In essence, it takes countless educated decisions throughout every day to keep glucose levels in-range.

Is It Worth It?

Think back to a time in high school or college when you were staring, bleary-eyed and half brain-dead, at a textbook at around 3am, desperately preparing for an exam. You may have thought to yourself, "Why am I putting myself through this? What's the point?"

The same can be said of managing your diabetes. What's the point in trying to do "A" work? Given the amount of time, energy and (perhaps) money involved, there had

better be something in it. Something good.

Back in the 1930s, soon after the discovery of insulin, Dr. Elliot Joslin spearheaded the notion that insulin was for more than just survival. He believed that meticulous management of diet, exercise and insulin would ultimately allow people with diabetes to flourish. And boy, was he ever right.

We've all heard (and possibly seen first hand) the horror stories about people with diabetes going blind, having their feet amputated, or dying from kidney failure. Unfortunately, the stories are true. Consider the following facts:

- Diabetes is the most common cause of kidney failure, accounting for nearly 45,000 new cases each year.
- Diabetes is the leading cause of blindness in working-age Americans. Nearly half of people with diabetes have some degree of diabetic retinopathy. Cataracts and glaucoma also occur earlier and more often in people with diabetes.
- People with diabetes are more than twice as likely as non-diabetics to have heart disease or a stroke, and to have it at an earlier age.
- Approximately 50% of all people with diabetes develop nerve disease, which can result in a loss of sensation and function in the extremities. Diabetic nerve disease also contributes to erectile dysfunction, digestive disorders, and problems with balance, blood pressure and temperature regulation.
- Diabetes is the leading cause of amputation of the lower limbs, with nearly 100,000 such procedures taking place each year.

The REALLY GOOD NEWS is that lowering your overall average blood sugar level (as measured by A1C) reduces the risk dramatically. The DCCT (Diabetes Control and Complications Trial) and the EDIC (Epidemiology of Diabetes Interventions and Complications) showed strong connections between glucose control and avoidance of the long-term complications of diabetes. In fact, every 1-point reduction in A1C lowers the risk of heart, nerve, eye and kidney disease by about 30%. **Thirty Percent!!!** That, my friends, is huge.

Granted, most of us don't spend our every waking minute thinking about long-term health problems caused by diabetes. But just like any healthy lifestyle choice, there is a certain amount of comfort in knowing that the work we put into it does make a difference.

What About Now?

The long-term benefits of tight control can become a bit blurry when you're trying to decide whether or not to work out after a long day, or if it's worthwhile to do yet another fingerstick reading.. After all, we live in a society that demands immediate gratification! (The fact that you've read this far into this article is a miracle in itself)

More good news: there are many IMMEDIATE benefits to maintaining tight control. For example, near-normal glucose levels, with fewer highs and lows today, means that you will:

- Feel better (improved energy, more restful sleep, less urination & thirst)
- Perform better physically (improved speed, stamina, strength, flexibility)
- Perform better intellectually (improved concentration, focus, memory/retention)
- Have better social skills (stable moods, less anxiety, improved sense of well-being)
- Heal better (quicker recovery from illnesses and injuries; lower risk for colds and other minor illnesses)

- Have healthier skin and gums (high glucose levels tends to cause dry skin as well as an immediate buildup of plaque).

For certain groups, tight control carries additional benefits. During the early stages of pregnancy, tight control reduces the risk of birth defects and miscarriage. During the later stages, it prevents excessive growth of the baby, which means an easier delivery and less risk of hypoglycemia in the baby after delivery.

For those preparing for (or recovering from) a surgical procedure, tight control is essential for preventing infection and accelerating the healing process. Hospital stays, complications and recovery times can be reduced dramatically by maintaining tight control before during and after surgery.

Find Your Cause

There is no question that tight control of diabetes takes considerable work. There is also no question that it comes with considerable rewards. Now, your job is to find a cause… a "mission" if you will… to get the job done. Perhaps you want to stay healthy for a long time for the sake of your children. Or maybe you want to be the best tennis player you can be. Or maybe you just want a really good night's sleep. Whatever your cause, use it as motivation.

You won't be sorry.

Editor's note: Gary Scheiner is a Certified Diabetes Educator with a private practice, Integrated Diabetes Services, based near Philadelphia. He works with individuals and their families on intensive diabetes management via phone and e-mail throughout the world. Gary has had type 1 diabetes for 23 years, and currently uses insulin pump therapy and continuous glucose monitoring to manage his diabetes. He can be reached at 877-735-3648, or gary@integrateddiabetes.com.