A Day in the Life . . .

Diabetes: A personal and professional challenge

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In a four-part blog series, Dr Huffman discusses a typical work day. Patients in this installment represent composite profiles to protect their personal information. No resemblance to particular patients is implied.

Part I: A day in the office

5:30 a.m.

Up and into the bath toward the monitor, yawning and straining to hear news snippets on the radio. Blood glucose is 112 … a bit higher than usual, but early in the week my nights are seldom long. Bolus 0.5 units correction on the way into the kitchen.

Breakfast is a vanilla yogurt, 8 oz. Bolus 4.2 units, the usual amount, and while one pump is delivering insulin, another is delivering a meal bolus of 10 units (60 mcg) pramlintide (a hormone treatment for Type 1 diabetes which helps reduce insulin needs). A cup of tea, a glance at the morning papers, and I'm out into the late spring sunshine. Good morning, Chattanooga.

6:30 a.m.

Memorial Hospital for morning rounds. In the medical intensive care unit is a middle-aged truck driver who was told by his doctor two years ago that he had high blood glucose. He never filled his prescriptions or followed a diet, and two days ago he arrived in the emergency room with abdominal pain and shortness of breath. His blood glucose was 550, with ketoacidosis and acute pancreatitis. His blood was yellow and foamy with triglycerides, yielding a soapy solution which had been dissolving the cells of his pancreas.

When I first saw him he was joking and apologizing for making such a big deal out of a little sour stomach. What he did not suspect was that people with such high triglyceride levels often die rapidly of fulminant pancreatitis (a life-threatening inflammation of the pancreas), their digestive

enzymes loosed into the bloodstream and dissolving their organs. See just one person die like that and you'll move mountains to keep it from ever happening again.

As it happens, after two days this man is joking again, his sour stomach much improved after liter upon liter of saline, drips of intravenous insulin, and tight blood glucose control. He's fortunate. I order a diet and start an insulin regimen, and ask the diabetes team to begin educating him in self-care of his diabetes.

On the cardiac floor is a 50-year-old man with a 40-year history of diabetes, treated with one or two insulin injections per day. His blood sugars routinely fluctuated from 40 to 400 or greater within an hour's time, according to his history. Nonetheless, after arriving with a myocardial infarction, his cath results showed arterial plaques more characteristic of a long-term smoker than someone with diabetes. He also has smoked for 40 years, by the way.

Intensive insulin with excellent blood glucose control is the best way to keep his new coronary arteries from clogging. So each day I battle 40 years of habit to impress upon him the best tools for controlling his glucose levels better than he's ever done. But in the end, the only sure way to beat old habits is to establish new ones, and we'll do that as a team: himself, me, the dietitians and educators, and a big dose of new experience during the months ahead.

7:30 a.m.

Erlanger Hosiptal for rounds. On the medical floor I visit a young woman I know well from many previous admissions. She mishandles her insulin, forgets to take injections, and is here yet again recovering from diabetic ketoacidosis. She's back on her usual insulin regimen, which works well in the hospital, but she's complaining of abdominal pain. This, too, is recurrent. Nothing wrong can be found. Only narcotics will relieve the pain. Sometimes, our medical system creates or maintains problems which we're frustratingly unable to cure. We reward illness, yet we ignore the needs of the biochemically well.

8:30 a.m.

Into the office, which fills all too rapidly with the morning's scheduled and unscheduled patients. I pass rapidly through the halls, stopping wherever papers need signing. Paperwork is the bane of the modern physician. No matter how many papers one signs, there are always as many more needing urgent attention. Two employees spend most of their days faxing, mailing, and opening paper. Another transcribes dictation, and I need another to handle insurance billing. Add a dietitian and a diabetes educator, and you have the staff necessary to provide modern diabetes care.

Of all the medicines, devices and procedures we have for treating diabetes, education remains our most potent weapon. Two-thirds of all people with diabetes can theoretically control their blood

glucose to normal levels with proper diet and physical activity alone, but to do so requires a wealth of knowledge — most of it beyond what can be gleaned from television or most other media. Knowledge is power, I tell people with diabetes. With the right supply of usable information one can create a healthy environment and avoid eating and doing what would sicken or kill him or her.

In the past, doctors blamed their diabetes patients for not achieving or maintaining good control of their diabetes, this in the days when most physicians had little insight into diabetes and less understanding of how difficult its care might be. Patients in those days learned to fear their doctors, and too often to hate themselves, for not being able to fulfill their doctors' orders.

Unfortunately, most patients received inadequate education and insufficient tools to permit control of their condition. Poor diabetes control was a self-fulfilling prophecy, and many of today's physicians were trained in that era, learning to blame their diabetes patients for failing to achieve perfection with what amounted to Stone Age tools. This is why today's endocrinologists stress education not only for patients, but for young physicians during medical school and residency. Today the diabetes specialist adapts diabetes care to his patients' needs as individuals, and assists them in controlling their blood sugar in any circumstances they may encounter.

In the office I collaborate with people regarding their diabetes care, analyze blood glucose charts downloaded from insulin pumps and monitors, associate patient historical information with blood glucose trends, and modify medical therapies as needed to improve blood glucose control.

More simply, I listen to my patients and help them with tools and techniques to manage their blood glucose levels through whatever problems and stresses life throws into their path.

Today a five-year-old girl visits with her parents. We've been helping them obtain an insulin pump to control her erratic blood glucose levels. The educator assists the parents in placing an infusion site and presents the child with a pump case shaped like a stuffed animal, which clips onto her dress. The patient is delighted. After a prolonged education session, the family leaves for the hospital, where we'll monitor her first night on the pump and adjust insulin doses to meet her needs.

In the next room, a 67-year-old woman I've followed for many years has high blood sugars for the past six weeks — since her husband died. Controlling her diabetes means helping with her loneliness and grief. We help her think about her own future, offer options for social contacts and volunteering. Sometimes helping others can bring personal problems into a better perspective. We'll follow her closely until she finds a new equilibrium.

A new patient is next: middle-aged, overweight and hyperglycemic on maximum doses of multiple pills for diabetes. He's deathly afraid of needles. In speaking with him I discover that his mother

had diabetes, and began taking insulin only after she'd lost a leg and her kidneys, and died soon thereafter. He's afraid that taking insulin means he's about to die.

This is a common misconception. Insulin is simply another means, often the best means, for controlling recalcitrant diabetes. Proper insulin treatment makes diabetes better, speeds healing, improves kidney function, and prevents limb loss and all other diabetes complications. Most important, it can also make people with uncontrolled blood sugars feel much better. Insulin is absolutely what this man needs. If, that is, he can see how easy insulin therapy can be.

So we educate him on insulin pen therapy, using little tiny needles he can barely see and which cause no pain. After taking a sample injection, he's shedding his fears and able to give himself a shot. He leaves proudly, more capable, and ready to take matters of diabetes control into his own hands. We are supremely thankful for insulin pens, which administer some 80 percent of the injected insulin I prescribe.

12:45 p.m.

Lunch is homemade vegetable soup, 55 grams CHOeq; 1 ounce Muenster cheese, 5.5 grams. Total insulin 6.1 units. Pramlintide 10 units. Review today's journals.

Dr Huffman attended North Carolina State University and received his BS in Chemistry and Biology in 1977 and a MS in Biochemistry in 1979. He received his MD from the University of North Carolina at Chapel Hill in 1982, and completed his Medical Externship in Medical Service at John Umstead Hospital in Butner North Carolina in 1983. His Internal Medicine Internship, Residency, and Fellowship were completed at Baylor Affiliated Hospitals in Houston TX, and in 1989 he moved to Chattanooga TN, with his wife Dr. Terry Melvin. He was diagnosed with Type 1 Diabetes at the age of 12.