

Raja Ramanathan manages his diabetes by eating well, making healthy choices and with help from a hand-held blood glucose monitor.

Every time he packs for a business trip, Raja Ramanathan makes sure he takes along his blood glucose monitor. In fact, he owns three of the units: one stays at home, one stays at work, and one is always ready to go in his suitcase. He never wants to be far from the little device that helps him keep healthy.

technology overview

Blood glucose meters provide real-time feedback to people living with diabetes that allows them to adjust their insulin therapy, diet and/or exercise regimens to better manage their disease. In turn, this may reduce the long-term health complications associated with diabetes, that include risk of heart disease, stroke, blindness, kidney disease, amputation and erectile dysfunction.

Metering technology has advanced significantly since meters were first introduced in the late 1960's. Today, meters are small, sophisticated devices that are easy to travel with and discreet to use. They require only very small samples of blood, provide very fast, accurate results and are easy to use and interpret.

Raja is one of about two million Canadians living with diabetes. That number is expected to grow to 3 million by the end of the decade.¹

A human resources manager for a global company, Raja began to notice he was feeling run down and always tired. His energy levels just weren't

what they used to be and it was beginning to affect his life, making work and family time more difficult. After his family doctor ordered some tests, Raja was diagnosed with Type 2 diabetes.

Diabetes is a serious disease that impairs the body's ability to produce or use insulin. Without proper treatment and management, it can lead to heart, kidney or eye diseases, erectile dysfunction and nerve damage that may result in amputation of limbs.¹

Since being diagnosed, Raja has learned how to manage his diabetes so he can continue to work effectively, pursue his hobbies and enjoy life with his family. Eating well, meditating and focusing on a healthy lifestyle are some of the keys to his success. Another is regular use of a blood glucose meter that helps him stay on top of his diabetes.

"It's really about managing your lifestyle," Raja explains.

Three or four times a day, starting when he wakes up and about two hours after meals, Raja pricks his finger with a lancet that produces a tiny drop of blood. In less than 10 seconds, his blood glucose meter tells him how much sugar is in his blood.

"It provides me with instant feedback on how I'm doing – whether I've eaten well and, if not, what to do to correct my sugar levels."

Raja normally follows a healthy diet and most times, his blood sugar is within the target range. If the meter reports it's too low, he can take some glucose which he carries with him at all times. If it's too high, he can adjust his insulin use. If not corrected, low blood sugar could cause him to faint and potentially fall into a diabetic coma, a life-threatening condition. High blood sugar could lead to other high-risk health complications.

Without a meter, patients like Raja may not know what is happening to their blood sugar. "If I was feeling woozy, I wouldn't know if it was my blood sugar, or my heart, or something else."

Still, it's not always easy to stay on top of his diet, especially when traveling or working. Long meetings can make it hard to eat small amounts frequently and restaurant meals do not always offer the same, predictable nutrition that patients require to maintain consistent blood sugar levels. That's when having a blood glucose monitor becomes invaluable.

Being able to test his blood sugar on-the-go, means Raja can react to potential problems before they manifest as symptoms. So, he can stay healthy, energetic and productive on business trips – or just as importantly, on family holidays in India!



fast facts

Over 2 million Canadians are currently living with diabetes. That number is expected to grow to 3 million by the end of the decade.¹

People with controlled diabetes are more productive workers, have higher job retention and less absenteeism.²

Every 1 point reduction in A1c (measurement of blood glucose over time) lowers the risk of developing eye, nerve and kidney disease by 40%.³

Each dollar spent on controlling A1c yields healthcare gains up to nearly \$9.00.^{4,5}

Improvements in Diabetes monitoring systems have resulted in:⁶

- 10% decrease in mortality rates.
- 25% decrease in diabetic complications.
- 32% decrease in mortality rates due to high blood pressure.
- 56% decrease in mortality rates due to heart failure.
- 44% decrease in mortality rates due to stroke.

¹ Canadian Diabetes Association, <http://www.diabetes.ca> (2008)

² Testa M, Simonson D. "Health economic benefits and quality of life during improved glycemic control in patients with type 2 diabetes mellitus: A randomized, controlled, double-blind trial." The Journal of the American Medical Association 280 (1998): 1490-1496.

³ American Diabetes Association. "National Diabetes Fact Sheet." <http://diabetes.org/diabetes-statistics/national-diabetes-fact-sheet.jsp> (13 April 2006)

⁴ Eastman R, Javit J, Herman W, et al. "Model of Complications of NIDDM: Analysis of the Health Benefits and Cost-Effectiveness of treating NIDDM with the Goal of Normoglycemia." Diabetes Care 20 (5) (1997): 735-744.

⁵ CDC Diabetes Cost-Effectiveness Group. "Cost-Effectiveness of Intensive Glycemic Control, Intensified Hypertension Control and Serum Cholesterol Level Reduction for Type 2 Diabetes." The Journal of the American Medical Association 287 (2002): 2542-2551.

⁶ MEDTAP International. "The Value of Investment in Health Care." http://www.medtap.com/Products/HP_FullReport.pdf (15 May 2006).

