

## Olympic rower Chris Jarvis is focused on two goals: keeping his blood sugar in balance, and winning gold for Canada.

Chris Jarvis has never let his Type 1 diabetes slow him down. A world-class athlete, he has competed on the Canadian National Rowing Team for four years. He has achieved several international podium finishes and recently won a Gold Medal at the 2007 Pan Am Games. His next athletic challenge was always clear: the 2008 Olympic Games in Beijing.

### technology overview

An insulin pump delivers insulin in much the same way a healthy pancreas does. The pump holds insulin in a reservoir and the insulin is delivered through an infusion set into the body via a tiny tube inserted just under the skin. The continuous glucose monitoring transmitter monitors glucose levels every 5 minutes, 24 hours a day, and sends information to the insulin pump via wireless technology.

While Chris remains focused on winning more gold medals for Canada, he also tracks another even more important personal goal. Chris works every day to keep his blood sugar levels in balance.

When he was 14, Chris was diagnosed with Type 1 diabetes, a disease that affects over 200,000

Canadians.<sup>1</sup> Basically, his pancreas does not produce insulin, the hormone responsible for ensuring his body can process glucose. To survive, Chris' body must receive insulin from another source. In the past, Chris relied on carefully planned injections of insulin by needle, accompanied by intermittent blood glucose testing (by pricking a finger and testing a small drop of blood) to monitor his glucose levels – not a particularly convenient process for a competitive athlete.

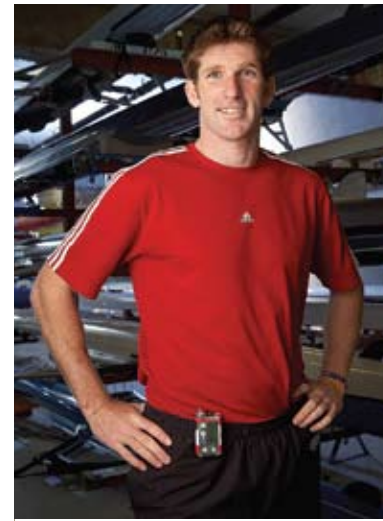
Today, with the help of an integrated insulin pump and continuous glucose monitoring system, Chris is free from the rigid meal, exercise and sleep schedules required by injection therapy. His new pump continuously monitors glucose levels, enabling him to make better decisions on his insulin program and meal choices to accommodate his challenging work.

The system displays glucose values every five minutes and alerts patients when glucose levels become too high or too low. This enables patients to discover how diet, exercise, medication and lifestyle affect their blood sugar control and track how fast their glucose levels are changing

– and in what direction. Patients can see their glucose levels and know how and when to make a correction.

“I am thrilled knowing that better control is possible,” says Chris. “It gives me a sense of confidence knowing exactly what’s happening inside my body.”

Up to 97 per cent of people who switch to an insulin pump stay with it because it provides less pain, fewer social limitations, fewer hassles, less life interference and more flexibility.<sup>2</sup> It allows patients to free themselves from the inconvenience of multiple daily injections, allows them to eat what they want, as well as when they want. Insulin pump technology also reduces risks of long-term health complications, such as retinal eye, nerve, kidney and cardiovascular diseases.<sup>3</sup>



### fast facts

- Over 2 million Canadians have diabetes and that number is expected to reach 3 million by the end of the decade. About 10 per cent of diabetes patients have Type 1 diabetes, which is normally diagnosed in children and adolescents.<sup>1</sup>
- Insulin pumps reduce risk of long-term health complications.<sup>3</sup>
- People with controlled diabetes are more productive workers, have higher job retention and less absenteeism.<sup>4</sup>
- Continuous glucose monitoring can detect 60% more lows than fingersticks alone.<sup>5</sup>
- Continuous glucose monitoring has been proven to reduce A1cs by 1%.<sup>6</sup>

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

<sup>2</sup> Bode BW et al. Diabetes Metab Res Rev. 18 (Suppl 1):S14-20 (2002)

<sup>3</sup> DCCT Research Group. New England Journal of Medicine, 329 (14):977-86 (1993)

<sup>4</sup> 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: 1490-1496 (1998)

<sup>5</sup> Bode BW, et al. Diabetes Research and Clin Practice. 46:1883-90 (1999)

<sup>6</sup> Deiss D, et al. Diabetes Care. 29:2730-2 (2006)

