The advent of new technology brings excitement but also new challenges for people with diabetes and diabetes educators. These challenges represent the human experience of technology and range from issues such as learning and mastering new concepts and skills to developing self-efficacy and comfort in living with technological developments. Understanding technology in diabetes includes considering its particular relevance and appropriateness in relation to individual interests, needs and circumstances. There are also various ethical and advocacy issues to consider, including cost, affordability and access to technology.

Diabetes management today is impressive for the various technological developments that are providing new methods and insights for blood glucose (BG) control as well as new ways to learn about diabetes. This issue of The Diabetes Communicator highlights just a few of the innovative and amazing forms of technology that have been developed to improve diabetes management. As we consider these new technologies, we will be faced with new opportunities as well as new questions and challenges. All of this is part of what makes diabetes education and care such an exciting field of study and work.

With the arrival of innovative tools in diabetes technology, including real-time glucose sensors, we are embarking on an unprecedented period in diabetes education and management. Never before have people with diabetes been able to see, minute by minute, 24 hours a day, what is going on inside their bodies with (BG) changes. Previously invisible BG levels are now visible at a glance and the human response to this has yet to be fully understood. This new technology, like most forms of technology, brings new questions while it seeks to answer previous ones. As educators, we will need to learn with and from our clients who are the front-line users of technology. We will also need to work together to share our knowledge and experience regarding the best ways to prepare people to use and fully benefit from technology that is available—or potentially available—to them.

Clients who travel or who monitor diabetes medication and device approval in other countries may be aware of a wider variety of therapies available elsewhere and frustrated by the pace of approval of these options in Canada. In some cases, products are not introduced into the Canadian market or may be available in publicly funded health plans only under specific conditions. In other cases, people affected by diabetes must bear the brunt of the cost associated with accessing new technology to improve their quality of life.

In recognition of these challenges the Canadian Diabetes Association has developed two position statements that address these issues and provide guidance to volunteers and staff throughout the organization as they seek to advocate on behalf of people affected by diabetes.

Access to Diabetes Medication, Supplies and Medical Devices states:
People with diabetes should have timely access to medication, supplies and medical devices that can improve their immediate quality of life and that may decrease the likelihood of future interventions which are often more costly and less effective.
Federal, provincial and territorial governments should commit to the development of an effective formulary.
The Way I See It

Insulin Pump Therapy: Reflections of a Diabetes Educator

Diane O'Grady RN CDE CPT

To date I have trained approximately 150 people—from ages 3 to 73—to use an insulin pump. My experience with pump therapy began in 1998 when I started work in Vernon, British Columbia. I decided to learn all I could and to establish a network of experienced pump trainers across the country.

In the meantime, our clients went elsewhere for training. Most physicians were reluctant to recommend pump therapy, and clients who were trained elsewhere frequently had little preparation and only sporadic follow-up. Many encountered problems with dose adjustments when they arrived back home, and had nowhere to turn.

Since I was learning how to help these people, I decided to become a pump trainer. So far, all but 2 of the 150 are still pumping.

A special highlight for me was “Jackie,” whose blood glucose (BG) levels had been high prior to the conception of her child. Retinopathy was present in both eyes, and doctors counselled her on the maternal and fetal risks associated with pregnancy. Determined to carry her baby through to delivery, Jackie began using her insulin pump to potential. She achieved tight BG control almost immediately, and gave birth 7 months later to a healthy baby girl.

Pump therapy offers more flexibility, and allows for the spontaneity that most people without diabetes enjoy, with appropriate knowledge regarding diabetes management. We’ve seen that the person on pump therapy has more freedom to sleep in, eat late or engage in physical activity with more flexibility than those who are not pumping.

I believe we can help the person make the best choice of by supplying a selection of pumps to be tried with saline, encouraging him/her to contact different suppliers, and providing a list of experienced pump users who have agreed to be contacted.

Preparation starts with a review of basic diabetes management. Experience with multiple daily injections is also helpful. Individuals may begin pump training when the dietitian has determined that they have the skills required to count carbohydrates and calculate correction boluses.

The person, parent or caregiver must be sufficiently motivated to take on the additional responsibilities involved, and cautioned about the inevitable feelings of frustration during the initial stages.

I encourage every person to try the pump with saline so that they can decide how to wear it in different situations, practice set changes and learn about the pump’s technical and bio-mechanical aspects.

Pump start day is usually 1 to 4 weeks after the saline trial. The hours that I spend with the person on this day are used to review the pump operations checklist and diabetes management strategies with respect to the pump. I invite the person to call or e-mail me daily at least until all basal rates have been confirmed.

“I am so happy with the pump and I feel a newfound sense of freedom.”

– Shannon

It is always exhilarating to help a person set out on the path to a better quality of life; I still feel excited every time I train someone!

In spite of client demand, many Diabetes Education Centres are struggling, as I am, with lack of time and resources for pump training. In addition, physicians who are inexperienced in pump therapy hesitate to recommend it in the first place.

I look forward to the day when pump therapy will be given the priority it deserves, and diabetes educators can spend the time needed to ensure their clients a successful transition to this superior form of insulin therapy. We will all reap the benefits!


Cost of Diabetes Medication, Supplies and Medical Devices states:

Federal, provincial and territorial governments should commit to a strategy such that the cost to the individual of diabetes medication, supplies and medical devices, as well as the costs associated with diabetes-related complications, are not a barrier or a burden to managing the disease.

Diabetes educators may find themselves not only being called upon to explain the costs and benefits of new therapies and devices but also to support clients’ advocacy efforts to access these options. The Canadian Diabetes Associations’ team of advocates is also there to support you in these efforts. To learn more about advocacy, visit the Canadian Diabetes Association’s website at www.diabetes.ca.

We hope this issue of The Diabetes Communicator increases your knowledge of promising technological advancements to support people affected by diabetes. A variety of technologies are discussed including ones that can be used directly for diabetes management, as well as those that can be used to assist with diabetes education to promote knowledge, confidence and skills to live well with diabetes.

As we move into an exciting era of real-time monitoring, this issue also includes a personal description of one woman’s experience of using a real-time glucose sensor. Her story, along with the voices and stories of our clients, is important in helping us round out our understanding of diabetes and technology. As educators, researchers and healthcare providers, we have an opportunity to ask new questions and seek answers to ensure that we learn as much about the human experience of technology as we do about the technological development itself. As we move forward with the latest technology in diabetes care, exploring and understanding the personal experiences, perspectives and feelings of our clients will deepen our understanding of what new developments really mean to the lives of people with diabetes.