Note from the editors

Dear reader,

We are excited to share another issue of the Diabetes Newsletter with you! As you will read in this issue, your care team at St. Michael’s has had a busy few months – piloting new technology, hosting social night for young adults, celebrating Diabetes Month, introducing clients to new insulin pumps, and much more. In the coming months, we are proactively planning how to further improve the care we provide. In future issues, you may read about more initiatives like new classes or telemedicine visits. Stay tuned!

We hope you will find this issue informative and fun. As always, we welcome your participation and feedback at any time.

Sincerely,

Editors, Annabell Hall and Lucy Chen

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Insulin Pumps: What’s New on the Market?
Annabell Hall, RN, MN, CDE

The progression of technological advancement has significantly changed diabetes care over the years. The last decade has seen a deluge of new and innovative ways for managing blood glucose. Two methods used by the type 1 population are the continuous glucose monitor (CGM) and continuous subcutaneous insulin infusion (CSII) otherwise known as insulin pump. The last 5 years has been explosive and exciting for this population, with these new devices, as described by one of our patients, Peter Oliver. Now, individuals have more choices in how they want to manage their diabetes.

Cost can sometimes be a barrier. However, more and more insurance companies are covering CGM. The full cost of the insulin pump is covered by the Ontario government.

The world’s first self-adjusting insulin pump on the market is the Medtronic 670G. It is a versatile insulin pump that can be used in 3 different ways:

1. As a stand-alone that delivers insulin according to the rates that are programmed.
2. It can be connected to CGM, so that you can see the results to adjust your rates. This can help you to get better control and decrease hypoglycemia and hyperglycemia.
3. The distinguishing feature is the Auto Mode. The pump uses the blood sugars from your sensor (CGM) to adjust delivery of basal insulin every 5 minutes. You will still need to enter your carbohydrates for bolus doses and your blood sugars for calibrating the sensor.

The Tandem pump is compatible with Dexcom CGM and will have automatic basal insulin infusion in the near future.

The Tandem T:SlimX2 comes with touch screen and rechargeable batteries. Software upgrades can be done via your computer, without replacing the pump hardware.

The Tandem pump will have automatic basal insulin infusion in the future.
The ‘670G’ and Auto Mode: My Experience with Using a New Insulin Pump

By Peter Oliver, person with diabetes

Change is usually hard. You have to say goodbye to one way of doing things and embrace something totally different. I have faced quite a bit of change in the last three years. Three years ago, I said goodbye to taking 6 needles a day (or "harpoons", as my diabetes educators call them) and embraced the Animas Vibe pump and Dexcom G4 continuous glucose monitor (CGM). You would think giving up needles was an easy switch, but it wasn’t because taking needles was a known and predictable process. But once I switched, I never wanted to go back.

Relying solely on finger pricks, I had little awareness of how my blood sugar was, but Dexcom G4 CGM offered me a whole new world of information about where my sugar level was, where it was going, and how fast it was changing. This resulted in fewer highs and lows and less stress. There were several pump and CGM options available at the time. I chose the Animas Vibe pump because it was waterproof and could display my CGM results. After doing my research, I felt I could count on the accuracy of Dexcom G4.

In 2018, Animas announced that it was leaving the insulin pump business, so I faced another change in my treatment. Animas offered me an exchange program with Medtronic so there was no disruption in using insulin pump technology.

In January of this year, I heard that Medtronic had expanded the program to include the new MiniMed 670G System with SmartGuard auto mode. I was able to receive the 670G at no extra cost with the purchase of a CGM 12 month subscription. I was extremely happy I had this option because I’ve heard many describe the type of technology included in the 670G as a "game changer".

To learn to use this new pump, I reviewed the manual and received training from St. Michael’s and Medtronic nurses. During the first training session we connected the pump and CGM to me and set the pump to manual mode. Manual mode worked similarly to the Animas I was used to.

Just over a week later, I came back for a second session during which we set the pump to auto mode. The results have been mind blowing. I am within target blood sugar range 66% of the time with an average blood glucose of 9 +/- 2.9 mmol/l with an estimated A1C of 7.3%. I have seen many long periods when my blood sugar levels are between 5 and 10mmol/l and many flat lines indicating stable blood sugar levels.

On a day to day basis, other than testing blood sugar the recommended 4 times per day, I find managing the new pump is less work. The display menu is very easy to read and there are different alarms which are all easy to hear. I also like the fact that the battery is easy to change and the insulin reservoir is larger, holding 300 units instead of 200 units. On the other hand, I need to replace the Medtronic CGM sensor on a weekly basis. With the Dexcom G4 sensor, I only had to replace it every 14 days. Also, my old Dexcom CGM had fewer parts (2 instead of 6) and took less time to change. Overall, the advantages outnumber the inconveniences for me with my new pump and CGM system. I am glad I made the change.
Carbohydrate Counting

By Meaghan Elger RD, CDE, MSc,
Johanna Prehogan RD, CDE

There are many factors that affect your blood sugar level. The carbohydrate in the food you eat is one of those factors. Carbohydrate counting (or carb counting) can help you figure out how the food you eat affects your blood sugar and, if you take insulin, it can help you choose the right amount of insulin to take with your food.

There are four main groups of food that contain carbohydrate.

- Starchy foods like bread, pasta, rice, potatoes, beans and cereals
- Fruits and sweet vegetables like bananas, apples, carrots and peas
- Sugars like juice, honey, regular pop, ice cream and chocolate
- Milk and yogurt

There are a few different ways you can figure out how much carbohydrate is in your food.

1. You can use nutrition labels.

Here are the steps to follow when reading a nutrition label.

- First, look at the serving size. The information on the label is only for that serving size.
- Next, go down to the "Total Carbohydrate" line. This is usually a number in grams.
- Right below that, you may see a line that says "fibre". Because fibre does not break down into sugar, it does not increase your blood sugar level, so you should subtract the fibre from the total carbohydrate. This gives you your "net carbohydrate" in one serving size.
- Now you need to think about the size of the serving you are having. If it is twice as big as the serving size on the label you would multiply the net carbohydrate by 2 and if it is half the size you would divide the net carbohydrate by 2.

2. You can use nutrition scales

To use these scales you place your food on the scale, enter a code to tell the scale what you are weighing, and then the nutrition information appears on the scale.

3. You can use websites

If you do not have the nutrition label, or you are at a restaurant, you can use general nutrition websites or restaurant websites.

4. You can use phone apps

There are lots of phone apps that give general nutrition information and there are also apps for carbohydrate counting. Try a few and find your favourite!

Testing your blood sugar

- Testing your blood sugar is great way to see the impact of your food on your blood sugar level or see if your insulin dose matches the amount of carbohydrate you ate.
- Talk to your diabetes team for help deciding how much carbohydrate you should eat or how to match your insulin to your food.

Example:

\[ 21g - 2g = 19g \]

Total carbohydrate minus Fibre = Net carbohydrate

Example:

\[ 21g \times 2 = 19g \]
Tips

Increasing Accuracy of your Carbohydrate Counting

• Weigh your food using a scale
• Use measuring cups as your serving spoon for foods such as rice, pasta, or mashed potatoes
• Make a cheat sheet with the amount of carbohydrate in your favourite foods or recipes

Reducing Carbohydrate

Reducing the amount of carbohydrate you eat can help you lower your blood sugar levels. To reduce your carbohydrate at a meal, you could reduce your portion size or you could try choosing a lower carbohydrate option. Here are some lower carbohydrate options for replacing pasta.

<table>
<thead>
<tr>
<th>Serving size: 1 cup</th>
<th>Net carbohydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular pasta</td>
<td>43 grams</td>
</tr>
<tr>
<td>Spaghetti squash</td>
<td>8 grams</td>
</tr>
<tr>
<td>Zucchini noodles</td>
<td>3 grams</td>
</tr>
<tr>
<td>Konjac noodles</td>
<td>0 grams</td>
</tr>
</tbody>
</table>

Free Apps

Figwee

Figwee is a photo based carbohydrate counter that allows you to search for a particular food and visually estimate your portion size. Moving an arrow up and down allows you to match the amount seen on your screen to your portion size. The nutritional information is then displayed for the chosen portion. This app can be used in a mobile or desktop version.

Cook & Count

This app helps you calculate the nutritional information in your homemade recipes. You enter the ingredients and number of servings for your recipe and the app does the calculations for you.

Carb Manager

This app is geared towards low carbohydrate and ketogenic eating, but it can also be used for carbohydrate counting and weight loss. The food database is comprehensive and user-friendly. This app also tracks “Diabetes Carbs” (this is also known as “net carbohydrate”, which is the total carbohydrate minus the fiber and half the sugar alcohols).
Smart Shopping for Groceries

By Suela Cela, MSW

For a lot of people, saving money on food is crucial and especially a priority for those who have to pay towards the cost of their medications. Unfortunately, as food prices continue to rise, many people have turned to less healthy food alternatives as the most affordable ones.

Here are some tips and tricks that might be helpful to shop on a budget while keeping up with a nutritious diet:

**Meal planning and making a grocery list:** Decide on a weekly meal plan with all your family members so everyone is happy with what you will eat that week. Then you create a list of groceries you will need for these recipes/meal ideas. The list will help you buy the food you need for the week and only what is necessary. Without a list and meal plan, you are more likely to buy unnecessary food items.

**Be Flexible with your grocery list:** Keep an eye on sale items. Everyone likes a good deal! If this week’s deal at No Frills is $1 per broccoli crown, about $2 dollars cheaper than brussel sprouts, then change it up. It is ok to swap one ingredient for another while still making a good food choice.

**Set a Grocery Budget:** It might be helpful to set up a budget to know exactly how much you can afford each month after you have counted all your fixed monthly expenses (i.e. rent, medication etc.) This might help you not go overboard during your weekly grocery trip.

**Shop in the most affordable stores** such as No Frills or Walmart as opposed to Metro or Sobeys. Sometimes people shop in more expensive stores because of convenience of proximity. If an affordable store is farther and you need to use the public transit, you might want to choose non-rush hours for your grocery shopping trip.

**Make good use of technology and available apps:** Use available reward point systems. No Frills uses “PC Optimum Point System” which allows you to collect points, check flyers ahead of time and get offers tailored to you. You can download their app “PC Optimum” for free or make sure to apply for a PC optimum card next time you visit the store or online.

**Check store flyers** beforehand so you know what to expect and add items in your list as per meal planning.

**Stock up on sale items:** You can save a lot of money on sale items. If a box of berries or spinach is 50% on sale then you might want to buy more of the same item and freeze them to use at a later date. You can do the same with non-perishable items like canned goods etc.

**Substitute with frozen:** In the winter, fresh fruits and veggies that are not produced locally tend to be very expensive. When fresh is not an affordable option, choosing frozen fruits and veggies still remains a healthy choice.

**Freeze any extra or leftover food:** Avoid throwing away or wasting food, freeze the extra meals in individual packs. You just need to remember to take them out of the freezer the night before to defrost.

**Shop in bulk:** Some items like nuts or grains are often cheaper in bulk than when pre-packaged. Wal-Mart at times offers bulk items. While Costco is known for their pricey membership, it is not a bad idea to tag along with your friends or family who might have a membership at Costco.

**Be creative with affordable items** i.e. canned goods: a chick pea salad out of a can will provide a good amount of fiber and protein for your daily intake. You can rinse the salt by rinsing it thoroughly with water or buy a low salt choice.

I hope some of these tips will help with your grocery budget. Take time to assess your own personal situation and set goals. Making a food budget is easy – the hard part is sticking to it!

Please be aware of what you are eligible for:

Reach out to Daily Bread or other food banks in your community as needed.

Anyone who is in receipt of Social Assistance and Ontario Disability Support Program is eligible to attend Daily Bread on a regular basis. Daily Bread happily accepts anyone who needs their support.

If you receive Ontario Works or Ontario Disability Support Program benefits, ask your worker about the Special Diet Allowance and have the form signed by your physician, nurse or dietitian. You might get some extra money on a monthly basis depending on your medical condition.
Recently, we celebrated World Diabetes Day on November 14, 2018. The focus for 2018 and 2019 is “The Family and Diabetes”. We asked some of the patients who receive care and services through the St. Michael’s Diabetes Comprehensive Care Program to tell us about their experiences with diabetes, and the family support systems that help them manage the disease.

“I was 50 when I was diagnosed,” says John Speakman, 70, whose family support is provided by his wife, Frances. “I was denying it. But I had lost about 30 pounds, and I was a walking skeleton, and I was scared. At work, word was going around that I had cancer or AIDS, so I went to my GP and was immediately sent to St. Michael’s. I’ve now been seeing Dr. Amir Hanna at St. Michael’s for 20-odd years. The diabetes clinic is not a scary place, it’s nice and friendly and there’s quite a lot of laughter. It’s very comforting to see the familiar faces.”

Speakman says his experience improved dramatically a few months ago, when he started using the Dexcom continuous glucose monitor.

“It’s astonishing,” he says. “It all works through my phone, and there’s an alarm like a French police car if my levels drop. It certainly gets my attention, and it links to Frances’s phone, so she never has to worry.”

“It’s changed our lives,” adds Frances. “It gives me more freedom, because I worry that he might get low blood sugar when I’m not there. It will ping me, and by the time I call, he’s already taken steps to deal with it. John has always been good at taking care of himself, watching what he eats, exercising and keeping track. I never really had to worry until earlier this year, when he had a hypoglycemic incident that required emergency medical care. It was frightening, but now, with the alarm, it’s given me peace of mind.”

Families provide crucial support in diabetes care

Adapted from original article by Mary Dickie, Communications Advisor

John and Frances Speakman is one of 3 families we spoke to

MySMH Project

Dana Whitham RD MSc, Clinical Leader/Manager

The staff at the Diabetes Clinic are thrilled to be piloting a new program for the hospital aimed at improving the patient experience. The program is called MySMH and our team has been working with a group of patient advisors and our physicians over the past year to design this tool. One of the main features of MySMH is to provide you with a text message indicating your expected wait time in the clinic.

When you arrive in clinic, our clerical team will be collecting your consent to receive information from us by text message, telephone call and/or email. If you select text message, you will get your expected wait time in clinic pushed to your phone. Based on your feedback, you will be notified once you arrive and then can request an update simply by texting the word “update” to our number. Of course, if there is a substantial change in your expected wait time, we’ll send you a notification.

MySMH also allows us to go green! You will no longer need to bring a slip of paper to the front desk to be rescheduled but please make sure that you do book your appointment before you leave! Another great feature is an improvement to the email you receive from us. Emails will be sent with your appointment details and reminders will have detailed information on when and where to come and what to bring with you.

The emails will also have a token to access a MySMH portal that will show you when your appointments are booked and provide other relevant information to you about your appointments, our clinics and the services we offer.

We look forward to having you attend and use the tool.

As always, your feedback is very important to us. If you have any comments or suggestions to improve the tool, we’d love to hear them! Please feel free to email me directly at whithamd@smh.ca.
Recipes

Cauliflower Fried Rice with Crispy Tofu
Makes 4 Servings / Adapted from www.pinchofyum.com

Baked Tofu:
15 ounces extra firm tofu, pressed and cubed
1 tablespoon olive oil
1 tablespoon soy sauce
1 tablespoon cornstarch

Cauliflower Fried Rice:
1 medium-sized head of cauliflower, cut into florets
swish of olive oil
2 garlic cloves, minced
1 knob of ginger, grated
3 cups any low carb veggies (peppers, broccoli, mushrooms, bok choy, zucchini noodles etc.)
a splash of soy sauce
a splash of Sriracha
a splash of sesame oil
3 beaten eggs
green onions for topping

Nutrition Info for 1 Serving:
Calories: 230 kcal
Protein: 20.6 g
Carbohydrates: 18g
Fibre: 5g
Net Carbs: 13 g

Instructions

Baked Tofu:
Preheat the oven to 450°F. Toss the tofu, olive oil, soy sauce, and cornstarch together. Arrange on a baking sheet lined with parchment paper. Bake for 20-30 minutes, stirring halfway through.

Note: Tofu may be replaced with another protein (beef, chicken, pork, or other protein)

Cauliflower Fried Rice:
Run the cauliflower florets through the food processor in batches until they reach a rice-like consistency.
Heat your olive oil over medium heat. Add the garlic, ginger, and 3 cups veggies. When it’s really sizzling, add the cauliflower, soy sauce, and Sriracha. Sauté for just a minute or two until the cauliflower barely softens. Make a well in the middle of the hot pan. Add sesame oil and eggs, and gently pull the eggs around in the center with a spatula to make scrambled eggs. Once cooked, stir the scrambled eggs in with the fried rice. Top with more Sriracha and green onions