# TECHtalk CE

## APPROVED FOR 1 CE UNIT

Approved for 1 CE unit by the Canadian Council on Continuing Education in Pharmacy. File no. 1065-2012-665-I-T. Not valid for CE credits after March 18, 2014.

**Answer this CE online for instant results and accreditation. Visit www.CanadianHealthcareNetwork.ca**

### CE JUST FOR TECHNICIANS

Tech Talk CE is the only national continuing education program for Canadian pharmacy technicians.

As the role of the technician expands, use Tech Talk CE as a regular part of your learning portfolio. Note that a passing grade of 70% is required to earn the CE credit.

Tech Talk CE is generously sponsored by Teva. Download back issues at www.CanadianHealthcareNetwork.ca. The author has no competing interests to declare.

### ANSWERING OPTIONS

1. Answer the lesson online and get your results instantly at www.CanadianHealthcareNetwork.ca

2. Use the reply card included with this CE lesson. Print the lesson, circle the answers on the card, and fax it to Mayra Ramos at 416-764-3937.

To pass this lesson, a grade of 70% (11 out of 15) is required. If you pass, you will receive 1 CEU. You will be advised of your results in a letter from *Tech Talk*. Please allow 8 to 12 weeks.

### CE FACULTY

**CE Coordinator:**
Margaret Woodruff, RPh, BScPhm, MBA
Humber College

**Clinical Editor:**
Lu-Ann Murdoch, BScPhm

**Author:**
Michael Boivin, BSchPhm

**Reviewer:**
Dan Ridley, RPhT

# Self-monitoring of blood glucose

by Michael Boivin, BSchPhm



## Learning Objectives

Upon successful completion of this continuing education lesson, you will be better able to do the following:

1. Discuss the role of A1C testing in the management of patients with diabetes
2. Discuss the recommended frequency for A1C testing
3. Review the various glycemic targets in patients with diabetes
4. Review the role of SMBG in the self-management of diabetes
5. Discuss with a client many common SMBG issues, such as
    a) testing frequency
    b) timing of tests
    c) development of a blood glucose profile

### Introduction

The number of people with diabetes in Canada is increasing tremendously. In 2010, the Canadian Diabetes Association (CDA) estimated that 2.5 million Canadians (7.3% of the population) were living with diabetes.[1] The CDA estimates that by 2020, this number will increase to 3.7 million (9.9% of the population).[1]

**pharmacy** practice

TEVA

To effectively manage diabetes, patients must be taught different strategies to identify variations in blood glucose (ie, low and high levels) and methods to address them. The use of self-monitoring of blood glucose (SMBG) provides patients with a snapshot of their blood glucose pictures at a single point in time. If this tool is used appropriately, it can help educate patients and lead to improvement in overall blood glucose control. If the tool is not used correctly, it will offer little value to the patient and is waste of valuable healthcare resources. Hemoglobin A1C testing is crucial to assess the overall blood glucose control of a patient with diabetes. Together, these two tests provide patients and healthcare providers with a complete picture of blood glucose control.

This continuing education lesson will help technicians work with patients to maximize the use of A1C testing and SMBG. It will also clarify the technician's role in the management of patients with diabetes.

### The biologic basis of diabetes
In people without diabetes, the body has an incredible system designed to keep blood glucose levels within a very tight range. Even when consuming a meal that is very high in sugars or carbohydrates, the body will rapidly adjust and allow for the storage or utilization of the extra glucose. The major hormone involved in controlling the metabolism of glucose is insulin, which is made by the beta cells of the pancreas.

In patients with type 1 diabetes, the body attacks the beta cells and the patient can no longer manufacture any insulin. This leads to a rapid decline in blood glucose control and the need for the person to start insulin immediately.

Patients with type 2 diabetes develop a decrease in insulin secretion by pancreatic beta-cells. This means the body can't make enough insulin to keep the blood glucose levels under control and blood glucose starts to increase. Insulin resistance also develops in type 2 diabetes. This means that the cells don't respond normally to insulin and, as a result, the body needs more insulin to help glucose enter cells. Type 2 diabetes has a genetic component and is more common in certain family and ethnic groups. It is also more common in overweight and obese patients. Patients with type 2 diabetes can

| TABLE 1 - Some key findings of the DCCT and UKPDS trials on the importance of blood glucose control | |
| --- | --- |
| **Diabetes Control and Complications Trial[4]** | **United Kingdom Prospective Diabetes Study[5]** |
| • People with type 1 diabetes<br>• A 10% reduction in A1C (eg, reducing from 8.0% to 7.2%) was associated with a 40%–50% lower risk of retinopathy (eye complication) progression<br>• Patients with tighter blood glucose control had a 42%–57% lower risk of cardiovascular disease and death from cardiovascular causes | • Patients with type 2 diabetes<br>• Every 1% reduction in A1C leads to a<br>  - 37% reduction in microvascular complications (eye, kidney, nerves)<br>  - 14% reduction in myocardial infarction (heart attack)<br>  - 21% reduction in death from diabetes |

be managed by a combination of lifestyle and oral medications to lower their blood glucose levels; insulin is often also required.

### High blood glucose levels
Patients with diabetes commonly ask about the significance of elevated blood glucose levels. Many patients with type 2 diabetes have had the condition for some time and most have few (if any) symptoms at diagnosis. Hyperglycemia (high blood glucose level) is directly linked with the development of various diabetes complications (eg, on the eyes, kidneys and nerves).

> **TECH TIP:** Although the patient may be symptom free at the time of diagnosis, they are at a much higher risk of diabetes complications if they don't get their blood glucose levels under control.

### Hemoglobin A1C
Hemoglobin A1C (A1C) is a valuable measurement tool that assesses the overall glycemic control of a person with diabetes. A1C is a fraction of hemoglobin that results from the linkage of glucose to hemoglobin in red blood cells.[2] Higher levels of blood glucose therefore results in higher amounts of A1C being formed.

The average lifespan of a red blood cell is approximately 120 days. Therefore, an A1C measurement provides information on the average blood glucose level over the past 4 months.[3]

> **TECH TIP:** Although an A1C measurement reflects the average blood glucose concentrations over the past 120 days, it does not reflect blood glucose levels equally over the last 120 days[2]:
> • 50% of the reading is from the blood glucose levels in the preceding month

> • 25% of the reading is from the levels 30–60 days before the measurement
> • 25% of the reading is from levels 60–120 days before the measurement

This is significant, as some patients may improve self-management of their diabetes the month before their A1C tests. They might have a good A1C reading because a greater proporation of their results come from their blood glucose levels over the past month. This is why blood glucose meter testing is very important to complement A1C testing.

### *The link between A1C and diabetes complications*
Studies have shown a strong link between a high A1C and the risk of diabetes complications. They have also demonstrated that a reduction in A1C is associated with a reduction in those risks. Two landmark trials, the Diabetes Control and Complications Trial (DCCT) and the UK Prospective Diabetes Study (UKPDS) have demonstrated the importance of blood glucose control in patients with diabetes. Some key education tips from both of these studies are listed in Table 1.

### *Targets and testing frequency of A1C*
The Canadian Diabetes Association (CDA) clinical practice guidelines stress the importance of A1C to monitor blood glucose control in patients with diabetes. The CDA recommends the following[6]:
• A1C testing every three months for most patients with diabetes
• In adults who have a period of stable lifestyle and blood glucose control, physicians may consider monitoring A1C levels every six months

> **TECH TIP:** For most patients with diabetes the A1C target is normally ≤ 7.0%.[6]

## TABLE 2 - Some key educational points regarding A1C testing

- A1C is unaffected by age or sex and can be tested in a non-fasting state.[3]
- The timing of an A1C test is not as important compared with SMBG, as the A1C provides a 120-day average of blood glucose control.
- A1C is approved as a screening test for type 2 diabetes. It is NOT recommended for diagnosing type 2 diabetes in children, adolescents, or pregnant women, and is NOT recommended for diagnosing type 1 diabetes. An A1C value of $\geq$ 6.5% must be confirmed by a repeat test on a separate day in order to diagnose type 2 diabetes.[7]
- Any condition that affects the life of the red blood cells can affect A1C readings:
  - Certain types of anemia, chronic kidney disease, recent donation of blood, and surgery can all DECREASE the A1C value
  - Iron deficiency anemia can INCREASE A1C levels
- When the A1C reading is closer to 7.0%, post-prandial blood glucose concentrations tend to contribute more to the A1C value. At very high A1C readings, fasting blood glucose concentrations have a larger impact on the A1C reading.[8]
- Many patients don't understand what A1C is and how it relates to their blood glucose levels. The following table lists the estimate average blood glucose based on the A1C reading.[9]

| A1C (%) | Estimated blood glucose (mmol/L) | A1C (%) | Estimated blood glucose (mmol/L) |
|---------|----------------------------------|---------|----------------------------------|
| 5 | 5.4 | 9 | 11.8 |
| 6 | 7.0 | 10 | 13.4 |
| 7 | 8.6 | 11 | 14.9 |
| 8 | 10.2 | 12 | 16.5 |

This can be individualized based on specific patients or circumstances (eg, young children, pregnant women)

### Education points

Table 2 reviews some key education points regarding A1C testing. These points can be used to answer patients' questions regarding the importance of A1C testing.

**TECH TIP:** High A1C levels tell us that a change in diabetes therapy is needed but does NOT tell us if the abnormal readings are post-prandial (a reading taken two hours after eating) or if they are caused by high fasting blood glucose.

Until recently the only method of measuring A1C was through a patient's blood sample, drawn and tested at a local laboratory. In the last couple of years, a point-of-care A1C testing device has become available. This device allows the patient to measure A1C at home or through a clinic in the pharmacy setting. This device is highly accurate and is becoming an increasingly used tool in monitoring patients with diabetes.

**TECH TIP:** Point-of-care A1C testing is a great opportunity for both technicians and pharmacists. Technicians can help

the patient obtain an A1C reading and the pharmacist can immediately use this reading to provide the patient with the necessary education and counselling to achieve optimal blood glucose control.

### Self-monitoring of blood glucose (SMBG)

SMBG allows people with diabetes to have a real time picture of their blood glucose level.[10] This simple finger-prick test can provide a person with useful information for tracking both the day-to-day glycemic patterns and long-term glycemic control.[10] By easily detecting hypoglycermia, SMBG can help the patient take appropriate action to quickly correct the situation before it worsens.[8] When SMBG is used correctly it helps to

complement the information from A1C testing and can help the patient self-manage his or her condition.

The 2008 CDA guidelines recommend the following[6]:

- Most people with diabetes can benefit from SMBG. Potential benefits, which may include improvement in A1C, avoidance and identification of hypoglycemia, and increased lifestyle flexibility, are enhanced when individuals receive self-management education that enables them to adjust their dietary choices, physical activity, and medication(s) in response to SMBG values.

**TECH TIP:** SMBG is recommended when a person with diabetes is not feeling "normal" (eg, sluggish, overtired, flu-like symptoms). It can help to determine whether the blood glucose level could be responsible for the way the person is feeling.

### Testing frequency for SMBG

The 2008 CDA guidelines recommend the use of SMBG in all patients with diabetes using insulin.[6] There is significant data showing a positive role of SMBG in any person with diabetes using insulin.[11]

The recommended frequencies of SMBG according to the 2008 CDA guidelines are as follows[6]:

- People with type 1 and type 2 diabetes who are taking multiple insulin injections each day should test three or more times per day
- People with type 2 diabetes on once-daily dosing of insulin in addition to oral hypoglycemics should test at least once per day
- Pregnant women with type 1 or type 2 diabetes should perform SMBG $\geq$ 4 times

## TABLE 3 - Factors that warrant an increase or decrease in SMBG frequency[16]

| Factors that warrant an increase in SMBG frequency | Factors that warrant a decrease in SMBG frequency |
|---|---|
| • Symptoms of hypoglycemia<br>• Infections, travel, or stress<br>• Adjustments in medication, nutrition, and/or physical activity<br>• Entering a new life experience (eg, going away to school, starting a new job, or changing hours)<br>• Experiencing a worsening of A1C values<br>• Patients who are unclear or require additional information about the nature of their disease and/or the effects of their treatment on glucose control<br>• Pregnancy or attempts to become pregnant | • A1C numbers are in the target range<br>• Stable pre- and post-prandial glucose numbers<br>• Patient unwilling or unable to perform frequent blood glucose tests |

**TABLE 4 - 2008 CDA guidelines: recommended targets for blood glucose control in adults[6]**

| | FPG or preprandial plasma glucose (mmol/L) | Uncontrolled 2-hour postprandial plasma glucose (mmol/L) |
|---|---|---|
| Adults with type 1 and type 2 diabetes (nongestational) | 4.0–7.0 | 5.0–10.0 (5.0–8.0 if A1C targets not being met) |

FPG—fasting plasma glucose.
*Note—glycemic targets for children < 12 years of age and patients with gestational diabetes are usually very different than the recommendations in this table.

per day to achieve glycemic targets and improve pregnancy outcomes

There is significant controversy in the use of SMBG testing in patients with type 2 diabetes controlled with lifestyle and/or oral medications alone. The 2008 CDA guidelines recommend that testing frequency should be customized based on the individual patient.[6] Some trials have found the data from SMBG could help primary care physicians guide therapeutic decision-making.[12] Other studies have failed to demonstrate that SMBG testing in these patients leads to any improvement in A1C levels.[13,14] A Cochrane Collaboration review concluded that SMBG might be effective at improving glycemic control in this population.[15]

**TECH TIP:** The exact frequency of SMBG in people with type 2 diabetes who are taking oral medications only has not been determined. For this group it is important to test with purpose. For example, SMBG could be used to help educate people about the impact of an unfamiliar meal or how a new exercise program might affect their blood glucose levels.

Although the CDA provides guidelines on SMBG testing frequency, there are several circumstances where people should either increase or decrease their testing frequency. These factors are listed in Table 3.

*Targets for SMBG*
The 2008 CDA guidelines recommend that blood glucose targets must be individualized for each patient.[6] The recommended targets for MOST people with diabetes are listed in Table 4.

*Timing of SMBG and the development of a blood glucose profile*
Unlike A1C testing, the timing of SMBG is crucial for the patient to achieve the maximum benefit from this diabetes monitoring

tool. The most common testing times are
• before breakfast and two hours after breakfast
• before lunch and two hours after lunch
• before supper and two hours after supper
• bedtime and occasionally during the night (most important in patients on long-acting insulin therapy)

**TECH TIP:** Testing at inappropriate times is of little value in patients with diabetes. For example some patients will test 15 minutes after eating. This reading has little value from both a monitoring or educational standpoint. It is important to stress to patients to test usually before a meal, two hours after a meal, and occasionally at bedtime or during the night.

Developing a blood glucose profile is an excellent method to review a patient's 24-hour blood glucose control. A profile provides the patient, pharmacist, and doctor

with a clear picture of how well the patient's diabetes is under control and the best changes to make to ensure the patient is attaining optimal blood glucose levels.

To develop a blood glucose profile, the patient and the healthcare professional determine a recommended testing frequency. This usually involves taking the CDA guideline SMBG testing frequency and adjusting it based on patient factors and their educational needs. The patient will adjust the timing of SMBG testing each day to eventually develop a picture of their blood glucose control. The patient will record these results in a blood glucose logbook.

Figure 1 is an example of SMBG timing for a patient willing to test twice daily. You can see that after 1–2 weeks the patient will have an idea of their blood glucose levels at each of the key times for blood glucose testing.

**TECH TIP:** A blood glucose profile can help both patients and their healthcare professionals see differences in the patterns of their blood glucose readings. If, for example, after eating at a restaurant, a patient has a two-hour after-supper reading of 11.8 mmol/L and he usually has a reading of 8.9 mmol/L, it tells the patient that the meal contained too many carbohydrates and portions should be adjusted slightly the next time the patient visits this restaurant.

**FIGURE 1 - Example of SMBG timing to develop a blood glucose profile**

| | Breakfast | | Lunch | | Supper | | Bed | Notes |
|---|---|---|---|---|---|---|---|---|
| | Before | 2 hr after | Before | 2 hr after | Before | 2 hr after | | |
| Monday | X | X | | | | | | |
| Tuesday | | | X | X | | | | |
| Wednesday | | | | | X | X | | |
| Thursday | | | | | | | X | |
| Friday | X | X | | | | | | |
| Saturday | | | X | X | | | | |
| Sunday | | | | | X | X | | |
| Monday | | | | | | | X | |
| Tuesday | X | X | | | | | | |
| Wednesday | | | X | X | | | | |
| Thursday | | | | | X | X | X | |
| Friday | X | X | | | | | | |
| Saturday | | | X | X | | | | |
| Sunday | | | | | X | X | | |

X—suggested testing time to help develop a blood glucose profile for a patient testing twice daily.

## Role of the registered technician

The roles of pharmacists and registered technicians are changing dramatically in Canada. Registered technicians are becoming a tremendous resource for pharmacists to help manage the workload and give pharmacists opportunities to provide extended pharmacy services such as medication reviews, education, pharmaceutical opinion, and patient consultations.

With the growing number of patients with diabetes, the need for more professionals to educate this patient population will likely increase tremendously. Registered technicians are being recognized through provincial legislation as having the expertise to provide training on different blood glucose meters. They can expand this role by ensuring the patient understands the most appropriate times to perform SMBG testing and the suggested testing frequency.

Adherence to SMBG testing is generally poor. Sixty-seven percent of people with type 2 diabetes practice SMBG less than once daily.[10] Once the testing frequency is determined the technician can consider an auto-refill program for diabetes test strips to ensure these patients don't run out of their testing supplies.

By providing patients with the tools (eg, log books) to develop a blood glucose profile, helping the patient select the most appropriate blood glucose monitor, encouraging adherence to A1C testing and SMBG, and identifying patients that are not meeting blood glucose targets, the technician can help direct the patient to other resources such as the pharmacist, the diabetes education centre, or the physician to ensure they are doing everything possible to help the patient reach optimal blood glucose targets.

### REFERENCES

**1.** Canadian Diabetes Association. Diabetes: Canada at the tipping point—charting a new path. Available at: http://www.diabetes.ca/advocacy/reports-and-information/diabetes-canada-at-the-tipping-point (accessed April 10, 2011).
**2.** Renard E. Monitoring glycemic control: the importance of self-monitoring of blood glucose. American J Med 2005;118(9 Suppl 1):12–19.
**3.** Saudek CD, Derr RL, Kalyani RR. Assessing glycemia in diabetes using self-monitoring blood glucose and hemoglobin A1c. JAMA 2006;295(14):1688–97.
**4.** The Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. N Engl J Med 1993;329(14):977–986.
**5.** Stratton IM, Adler AI, Neil HAW, et al. Association of glycaemia with macrovascular and microvascular complications of type 2 diabetes (UKPDS 35): prospective observational study. BMJ 2000;321(7258):405–12.
**6.** Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2008 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada. Can J Diabetes. 32(suppl 1):s1–s201.
**7.** Goldenberg R, Cheng A, Punthakee Z, Clement M. Use of Glycated Hemoglobin (A1C) in the Diagnosis of Type 2 Diabetes Mellitus in Adults. CANADIAN JOURNAL OF DIABETES. 2011:247–249.
**8.** Dailey G. Assessing glycemic control with self-monitoring of blood glucose and hemoglobin A(1c) measurements. Mayo Clin Proc 2007;82(2):229–35; quiz 236.
**9.** Nathan DM, Kuenen J, Borg R, et al. Translating the A1C assay into estimated average glucose values. Diabetes Care 2008;31(8):1473–78.
**10.** Banerji MA. The foundation of diabetes self-management: glucose monitoring. Diabetes Educator 2007;33(Suppl 4):87S–90.
**11.** Blonde L, Karter AJ. Current evidence regarding the value of self-monitored blood glucose testing. Am J Med 2005;118( Suppl 1):20-6.
**12.** Polonsky WH, Jelsovsky Z, Panzera S, Parkin CG, Wagner RS. Primary care physicians identify and act upon glycemic abnormalities found in structured, episodic blood glucose monitoring data from non-insulin-treated type 2 diabetes. Diabetes Technol Ther 2009;11(5):283–91.
**13.** O'Kane MJ, Bunting B, Copeland M, Coates VE, On behalf of the ESMON study group. Efficacy of self monitoring of blood glucose in patients with newly diagnosed type 2 diabetes (ESMON study): randomised controlled trial. BMJ 2008;336(7654):1174–7.
**14.** Gomes T, Juurlink DN, Shah BR, Paterson JM, Mamdani MM. Blood glucose test strips: options to reduce usage. CMAJ 2010;182(1):35-8.
**15.** Welschen LMC, Bloemendal E, Nijpels G, et al. Self-monitoring of blood glucose in patients with type 2 diabetes who are not using insulin. Cochrane Database Syst Rev 2005;(2):CD005060.
**16.** International Diabetes Federation. Self-monitoring of blood glucose in non-insulin-treated type 2 diabetes. Available from: www.idf.org/webdata/docs/SMBG_EN2.pdf (accessed 2013 Feb 26).

## QUESTIONS

Please select the best answer for each question or answer online at www.CanadianHealthcareNetwork.ca for instant results.

1. What was the estimated number of people with diabetes in Canada in 2010?
a) 0.8 million
b) 2.5 million
c) 3.8 million
d) 5.4 million

2. Which of the following statements regarding type 2 diabetes is TRUE?
a) It is caused by the complete destruction of the beta cells in the pancreas
b) It is commonly occurs in patients with insulin resistance
c) The most commonly affected groups are smaller women
d) All of the above

3. Which of the following statements regarding A1C is TRUE?

a) It is caused by the binding of sugar to white blood cells
b) It has to be tested in a fasting patient
c) It gives an average blood glucose reading over the last 120 days
d) All of above are true

4. Henry has type 2 diabetes. If he is able to lower his A1C level from 9% to 8%, what is the reduction in his risk of heart attack?
a) 2%
b) 14%
c) 21%
d) 37%

5. How frequently should most patients with diabetes have their A1C levels tested?
a) Once a month

b) Every 3 months
c) Every year
d) Every 3 years

6. What is the recommended A1C target for most people with diabetes?
a) ≤ 2.0%
b) ≤ 4.0%
c) ≤ 5.0%
d) ≤ 7.0%

7. A patient has heard that A1C testing can be done at the pharmacy. Which of the following statements is TRUE regarding point-of-care A1C testing?
a) Point-of-care A1C testing devices are not as accurate as laboratory testing
b) Point-of-care A1C testing can only be done in the pharmacy or diabetes clinic

setting; home testing is not recommended

c) Point-of-care A1C testing can help identify people with poor diabetes control; the pharmacist can immediately provide education and counselling to improve this control

d) All of the above

8. Which of the following conditions can increase A1C levels?
a) Donation of blood
b) Recent surgery
c) Iron deficiency anemia
d) Chronic kidney disease

9. Mr. Smith says he has an A1C reading of 8%; what is his estimated average blood glucose level?
a) 5.4 mmol/L
b) 10.2 mmol/L
c) 11.8 mmol/L
d) 16.5 mmol/L

10. If an adult patient without other medical conditions has three different A1C readings on three separate days at 7.2%,

can his physician diagnose him with type 2 diabetes?
a) Yes
b) No

11. Yolanda is a patient with type 1 diabetes. What is the CDA-recommended SMBG testing frequency?
a) At least once daily
b) At least twice daily
c) At least 3 times daily
d) At least 4 times daily

12. Walter is currently using oral diabetes medication to control his diabetes. What is the CDA-recommended SMBG testing frequency?
a) At least once daily
b) At least twice daily
c) At least 3 times daily
d) Testing frequency should be individualized

13. Which of the following factors would warrant an increase in SMBG frequency?
a) Symptoms of hypoglycemia
b) Infection

c) Travelling
d) All of the above

14. Kelly shows you her blood glucose log book. When you look at her pre-breakfast readings you see she has had a 3.8 mmol/L, a 5.5 mmol/L, and a 7.2 mmol/L reading. Which of the readings is within the recommended target range?
a) 3.8 mmol/L
b) 5.5 mmol/L
c) 7.2 mmol/L
d) All of the above

15. What are the benefits of developing a blood glucose profile?
a) It helps to provide a 24-hour picture of a patient's blood glucose control
b) It can help to identify patterns in blood glucose readings
c) It is an excellent education tool to help patients understand high or low blood glucose level readings
d) All of the above

---

# TECH talk CE

**Self-monitoring of blood glucose**
**1 CEU • MARCH 2013**
**CCCEP # 1065-2012-665-I-T  Tech.**
**Not valid for CE credits after March 18, 2014.**

**Now accredited by the Canadian Council on Continuing Education in Pharmacy**

| | | | | |
|---|---|---|---|---|
| **1.** a b c d | **4.** a b c d | **7.** a b c d | **10.** a b | **13.** a b c d |
| **2.** a b c d | **5.** a b c d | **8.** a b c d | **11.** a b c d | **14.** a b c d |
| **3.** a b c d | **6.** a b c d | **9.** a b c d | **12.** a b c d | **15.** a b c d |

First Name                          Last Name

Pharmacy Name

Primary Licensing Province      Licence #      Secondary Licensing Province      Licence #

Home Address                    City                          Province

Postal Code                    Telephone                    Fax

Email                                              Year Graduated

**Type of practice**
❑ Drug chain or franchise      ❑ Grocery store pharmacy
❑ Banner                       ❑ Hospital pharmacy
❑ Independent                  ❑ Other (specify):
❑ Mass merchandiser            _____

❑ Full-time technician
❑ Part-time technician

Are you a certified technician?
❑ Yes      ❑ No

**Please help ensure this program continues to be useful to you by answering these questions.**

1. Do you now feel more informed about "Self-monitoring of blood glucose"?
   ❑ Yes  ❑ No
2. Was the information in this lesson relevant to you as a technician?
   ❑ Yes  ❑ No
3. Will you be able to incorporate the information from this lesson into your job as a technician?  ❑ Yes  ❑ No  ❑ N/A
4. Was the information in this lesson... ❑ Too basic  ❑ Appropriate  ❑ Too difficult
5. How satisfied overall are you with this lesson?
   ❑ Very  ❑ Somewhat  ❑ Not at all
6. What topic would you like to see covered in a future issue?_____

**HOW TO ANSWER:**  **Answer ONLINE for immediate results at www.CanadianHealthcareNetwork.ca**

**For information about CE marking,** please contact Mayra Ramos at 416-764-3879 or fax 416-764-3937 or email mayra.ramos@rci.rogers.com. All other inquiries about Tech Talk CE should be directed to Tasleen Adatia at 416-764-3926 or tasleen.adatia@rci.rogers.com.