DIABETES STRATEGY FOR PHARMACISTS

The Diabetes Strategy for Pharmacists (DSP) continuing education course entitled, The ‘how-to, of managing diabetes...A prescription for pharmacists, has been developed to train pharmacists to better understand, communicate with and improve the health of their patients with diabetes. The course covers the spectrum of diabetes management from patient education techniques through diet and exercise recommendations, pharmacotherapy, monitoring issues and more. This program is a great starting point for individuals beginning their journey to becoming a CDE, those who want to increase their knowledge of diabetes to serve their patients better or as a basic refresher course.

Learning Objectives

**MODULE 1: THE BASICS**

- Distinguish among the main types of diabetes: type 1, type 2 and gestational;
- Identify key attributes that help to explain the pathophysiology of type 1 and type 2 diabetes;
- Identify blood glucose BG values that are indicative of prediabetes;
- Identify indicators of metabolic syndrome;
- Identify recommendations for screening for type 2 diabetes;
- Identify target levels for A1C, fasting and postprandial blood glucose levels;
- Explain the influence of lifestyle factors on the prevention of diabetes;
- Describe the role of insulin in maintaining BG levels;
- Describe the role of counter-regulatory hormones in maintaining blood glucose levels;
- Identify factors that contribute to an increase or decrease in BG levels;
- Identify potential benefits from maintaining healthy BG levels; and
- Recognize how people may react to the diagnosis of diabetes.

**MODULE 2: DOES YOUR MESSAGE MATTER**

- Describe factors that characterize the process of self-management education for people with diabetes;
- Describe the benefits of educating people about their diabetes;
- Identify the scope of teaching for people with diabetes that is the responsibility of pharmacists in your practice setting;
- Identify ways that you can integrate assumptions about adult learning into your practice;
- Identify key components in the teaching learning process;
• Describe the importance of goal-setting in the teaching-learning process;
• Discuss how to overcome barriers in the community pharmacy setting (time, location, interested/disinterested learners, retention of information, literacy, language);
• Identify how literacy levels have been linked to the outcomes of diabetes management;
• Describe factors that characterize effective communication;
• Describe the factors that contribute to spoken and written plain language; and
• Explain how to use resources effectively.

MODULE 3: WHAT CAN I EAT?
• Explain key concepts in healthy eating and diabetes;
• Describe the influence of carbohydrate, protein and fat on blood glucose levels;
• Describe a getting started plan for people with type 2 diabetes;
• Identify the influence that nutrition therapy can have on blood glucose;
• Identify recommendations regarding sweeteners;
• Identify recommendations regarding alcohol consumption;
• Identify recommendations regarding vitamins and mineral supplements;
• Explain the Plate Method, Handy Portion Guide and glycemic index (G1)
• Describe carbohydrate counting; and
• Explain the label on a food source.

MODULE 4: BUT I DON’T LIKE TO EXERCISE...
• Identify the benefits of physical activity and exercise for people with diabetes;
• Identify the effect of physical activity on blood glucose;
• Explain aerobic and resistance exercise;
• Identify lifestyle changes that can contribute to increasing activity levels;
• Explain recommendations for aerobic and resistance exercise for people with type 1 and type 2 diabetes;
• Identify three key elements in staying safe and physical activity;
• Explain how to compensate for increased exercise/activity when taking insulin or oral diabetes medications; and
• Discuss how to help people get started to increase physical activity.
MODULE 5: ANTIHYPERGLYCEMIC AGENTS

- Explain the meaning of, “Type 2 diabetes is a progressive disease”;
- Explain how to determine when antihyperglycemic agents should be started in type 2 diabetes;
- State the first-line agent recommended by the Canadian Diabetes Association (CDA) and explain why it is recommended;
- Explain the benefits of using a combination of classes of antihyperglycemic agents to manage diabetes;
- Explain the action of each class of antihyperglycemic agents used for diabetes management;
- Describe the most common side effects and state the contraindication of each class of antihyperglycemic agents;
- Explain on what basis the decision is made to start insulin;
- Explain the benefit of basal insulin added to antihyperglycemic agents;
- Explain how basal insulin can be titrated to achieve target BG levels, and
- Explain the sign that indicates that basal insulin alone is not sufficient.

MODULE 6: INSULIN

- Discuss barriers faced by health professionals in initiating insulin therapy;
- Discuss barriers to commencing insulin therapy experienced by the person with diabetes;
- Identify different types of insulin available in Canada;
- Explain the onset, peak and duration of action of available insulins;
- Explain the meaning of basal and bolus insulin;
- Identify three common insulin regimens and the benefits and challenges with each regimen;
- List the advantages and disadvantages of premixed insulin;
- Describe the use of an insulin pen;
- List the advantages and disadvantages of syringes and pens;
- Discuss syringe reuse and disposal;
- Describe the preparation of a single and a mixed dose of insulin in a syringe;
- Explain the advantages and disadvantages of using an insulin pump;
- Explain the benefits of intensifying insulin therapy in type 1 and type 2 diabetes;
- List the factors that affect insulin absorption;
- Explain the importance of rotating the sites for insulin injections; and
- Discuss the side effects of insulin.
MODULE 7: MONITORING – WHAT’S IT ALL ABOUT?

• Explain A1c;
• List the benefits of SMBG;
• State the CDA recommendations for frequency of BG checking;
• Determine the best times to check BG for people on different management regimens;
• Explain pattern management;
• Explain the difference between and the benefits of keeping a logbook and downloading a meter;
• Review a logbook and interpret results;
• Describe two methods for insulin dose adjustment;
• Discuss the adjustment of medication or insulin for special events, such as travel, physical activity, surgery, religious or cultural events;
• Explain the features of various meters; and
• Describe the limitations of urine testing for glucose

MODULE 8: ACUTE COMPLICATIONS

• Define hypoglycemia;
• Recognize the effect of fear in relation to hypoglycemia;
• Identify the causes and symptoms of hypoglycemia;
• Identify ways to prevent hypoglycemia and explain the treatment for hypoglycemia;
• Explain how to use glucagon in the treatment of hypoglycemia; and
• Describe one method for managing hypoglycemia unawareness.
• Identify the causes of diabetic ketoacidosis (DKA) and how to prevent it;
• Describe the signs and symptoms of DKA and explain how to treat it;
• Describe people most at risk of developing hyperglycemic hyperosmolar state (HHS);
• Explain preventive strategies for HHS;
• Describe the signs and symptoms of HHS and explain how to treat it;
• Identify the mortality rate for HHS.
• Explain the importance of insulin administration for people with diabetes during times of concurrent illness;
• Describe the use of BG and ketone testing during a period of illness;
• Explain insulin adjustment during times of concurrent illness;
• Discuss strategies to help people obtain sufficient carbohydrate intake during times of illness; and
• Describe when medical or hospital intervention is necessary.
MODULE 9: CHRONIC COMPLICATIONS

- State the reason for encouraging best possible BG levels in people with diabetes;
- List the treatment goals for preventing complications;
- State the recommended type and frequency of screening for all complications;
- Describe why diabetes puts people at higher risk for cardiovascular disease;
- Describe the recommendation regarding ASA use in people with diabetes;
- Describe the changes that occur on the retina in mild, moderate, severe non-proliferative and proliferative retinopathy;
- Describe the changes in vision that accompany each stage of retinopathy;
- Outline the stages of nephropathy from onset to chronic kidney disease;
- Describe what treatment is recommended in the early stages of kidney disease;
- Explain how chronic kidney disease can impact people and their families;
- Describe how to assess a foot for sensation;
- Describe daily foot care for people with diabetes; and
- Describe the prevalence of erectile dysfunction.

MODULE 10: LIFESTAGES

- Describe the pathophysiology of gestational diabetes;
- List the risk factors for gestational diabetes;
- Describe management strategies for gestational diabetes;
- Describe future implications of gestational diabetes for mother and baby;
- Describe the reasons for planned pregnancy in women who have diabetes, and
- Describe management strategies for women with type 1 and type 2 diabetes who become pregnant.
- Describe the psychosocial impact on the family of the diagnosis of diabetes in a child;
- Describe the principles of management of diabetes in children, and
- Describe the difference between type 1 and type 2 diabetes in children with reference to management and future implications.
ACCREDITATION

The Canadian Pharmacists Association is approved by the Canadian Council on Continuing Education in Pharmacy as a provider of continuing pharmacy education.

The **DSP online course** has been approved for 12.0 CEUs under the program numbers 02CPhA2003-09DSP01 through 02CPhA2003-09DSP10. Accreditation of this program is valid until April 30, 2015. According to CCCEP guidelines, participants have two attempts to achieve a score of 70% on the post-test questions. A letter of completion will be sent to participants who successfully complete all 10 module post tests.

The **DSP online course** has been approved by l’Ordre du pharmaceins de Québec (OPQ) for 12.0 CEUs under the program numbers 11-1929-01 through 11-1938-01. Accreditation of this program is valid until September 30, 2012. According to OPQ accreditation criteria, participants have two attempts to achieve a score of 70% on the post-test questions. A letter of completion will be sent to participants who successfully complete all 10 module post tests.

AVAILABILITY

The Diabetes online course is a self directed CE course, available through the website [www.diabetespharmacists.ca](http://www.diabetespharmacists.ca)

PRICING

See [www.pharmacists.ca/diabetes](http://www.pharmacists.ca/diabetes) for member and non-member pricing for the DSP online course.
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At the time of writing, and during subsequent reviews, every effort was made to ensure that the content information was up to date and accurate.

The development of this program was funded in part by the Public Health Agency of Canada (PHAC) and is a component of the Diabetes Strategy of Pharmacists (DSP), an initiative to raise the level of care pharmacists can provide to persons with diabetes.

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