

TECH talk CE

THE NATIONAL CONTINUING EDUCATION PROGRAM FOR PHARMACY TECHNICIANS 1 CEU

FREE

ANSWER ONLINE FOR INSTANT RESULTS AT WWW.CANADIANHEALTHCARENETWORK.CA

NOVEMBER 2016

APPROVED FOR 1 CE UNIT



Approved for 1 CE unit by the Canadian Council on Continuing Education in Pharmacy. File no. 1065-2016-1817-I-T. Not valid for CE credits after Nov. 1, 2017.

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.

INSTRUCTIONS

1. After carefully reading this lesson, study each question and select the one answer you believe to be correct. For immediate results answer online at www.CanadianHealthcareNetwork.ca.

2. To pass this lesson, a grade of at least 70% (10 out of 15) is required. If you pass, your CEU(s) will be recorded with the relevant provincial authority(ies). (Note: some provinces require individual technicians to notify them.)

CE FACULTY

Acting CE Coordinator:
Rosalind Stefanac

Clinical Editor:
Lu-Ann Murdoch, BScPhm

Author:
Bryan Gray, BSc. Pharm, RPh, CDE, MBA

The Role of the Pharmacy Technician in Hypertension

by Bryan Gray, BSc. Pharm, RPh, CDE, MBA



Learning objectives

Upon successful completion of this lesson, the pharmacy technician will be able to do the following:

1. Gain familiarization with blood pressure basics, blood pressure targets and the complications of high blood pressure (hypertension).
2. Discuss lifestyle factors that can affect the development and progression of hypertension.
3. Describe basic features of the five main classes of antihypertensive agents.
4. Outline several ways that registered pharmacy technicians can assist in hypertension monitoring and management.
5. Increase familiarity with important tips for monitoring blood pressure.

Overview

Cardiovascular disease (CVD) is a major cause of premature death among Canadians and a substantial contributor to the eco-

nomie burden of illness as a long-term disability. This is expected to intensify with the increasing prevalence of obesity and diabetes mellitus, and an ageing population. Other

pharmacy
practice+

eCortex.ca

An educational service for Canadian pharmacy technicians, brought to you by Teva.

medical conditions, such as hypertension and hyperlipidemia, are also associated with an increased risk of CVD and continue to be the cornerstone for pharmacologic interventions in primary and secondary prevention of CVD.⁽¹⁾ The pharmacy team is ideally positioned to help lower the burden and impact of CVD by helping with high blood pressure management. As a key part of the pharmacy team, registered pharmacy technicians can play a large role in pharmacy-based support of patients with hypertension.

Epidemiology

Across Canada, an estimated 1.6 million Canadians are living with heart disease or the effects of a stroke⁽²⁾, and each year more than 66,000 die from heart disease or stroke—one every seven minutes.⁽³⁾ It is becoming an increasingly common problem because of increased longevity and the prevalence of contributing factors such as obesity, physical inactivity and unhealthy diet.⁽⁴⁾

What is Blood Pressure?

Your heart pumps blood throughout your body. Blood pressure is the force of blood against your blood vessels as it circulates through your body. This force is necessary to make the blood flow, delivering nutrients and oxygen throughout your body.

However, high blood pressure, also called hypertension, means there is too much pressure in your blood vessels. This can damage your blood vessels and cause health problems. Usually, you cannot feel changes in your blood pressure, so unless blood pressure is measured, patients may be unaware that they are hypertensive until complications develop.

Blood Pressure Targets

A blood pressure monitor will typically provide two or three numbers:

E.g.		
145	83	74
Systolic mmHg	Diastolic mmHg	Heart Rate beats per minute

Systolic blood pressure: this number will always be higher than the diastolic blood pressure. This is the pressure in your blood vessels when your heart contracts and is

TABLE 1 Blood pressure targets⁽⁵⁾	
Patient Type	Blood Pressure Targets (systolic/diastolic)
Majority of patients	< 140/90 mmHg
Frail elderly	< 150/90 mmHg
Most patients with diabetes	< 130/80 mmHg

pumping blood throughout your body and back to your heart. It is measured in mmHg (millimetres of mercury).

Diastolic blood pressure: this number represents the pressure in your blood vessels when your heart is resting. This can be thought of as the residual or resting pressure. This is also measured in mmHg.

Heart Rate: this is the number of times your heart beats over the course of one minute. This is measured as bpm (beats per minute).⁽⁵⁾

Blood pressure changes constantly, depending on the time of day and the activity. When blood pressure is consistently above the healthy range (see Table 1 for blood pressure targets), this is considered high blood pressure or hypertension.

A simple explanation for why high blood pressure is bad for cardiovascular health relates to the blood vessel pressure. The heart is a muscle that has been beating since the day you were born. This muscle requires blood and oxygen to keep it operating. When the body is active (e.g., exercising), blood pressure and heart rate will increase to match these demands. When the body is at rest, the heart rate and blood pressure normalize. If the resting blood pressure is elevated, this means the heart is pumping against increased pressure. Over time this can cause the heart to wear out and may lead to CVD.

Low blood pressure (hypotension) can also be harmful. Sometimes patients can be taking too much blood pressure medication which can lead to dizziness and lightheadedness, especially if they stand up suddenly. If there is greater than a 20 mmHg drop in systolic blood pressure, or a 10 mmHg drop in diastolic blood pressure, this is called orthostatic (or postural) hypotension. This can lead to dizziness, fainting, or even falls.

Heart rate is also important. A normal resting heart rate is between 60 to 100 bpm.

High heart rates (also called tachycardia) mean the heart is pumping very quickly—this can cause the heart to ‘burn out’ (can cause heart attacks, strokes, heart failure, cardiomyopathy, etc). Low heart rates (called bradycardia) can lead to symptoms such as dizziness, fatigue, or even fainting (syncope).⁽⁵⁾

For more information on hypertension, please view the Canadian Hypertension Education Program (CHEP) Professional Resources: <http://guidelines.hypertension.ca/chep-resources>.

Hypertension Complications

Uncontrolled hypertension can cause a number of complications throughout the body.⁽⁵⁾

- *Coronary artery disease* - For every 20/10 mmHg increase in blood pressure, there is a lifetime doubling risk for heart attack or stroke.
- *Stroke* - The risk of developing stroke increases with higher blood pressure.
- *Retinopathy* - The blood vessels found in the eye are very small. Increased blood pressure can damage these vessels, leading to vision impairment and blindness.
- *Chronic kidney disease* - Similar to retinopathy, the small blood vessels in the kidneys can also become damaged with high blood pressure over time.
- *Heart failure* - Elevated blood pressure can cause the heart muscles to wear out and become damaged over time. Patients with hypertension are three times more likely to develop heart failure.

Lifestyle

Several lifestyle factors can affect the development and progression of hypertension. Technicians should emphasize healthy lifestyle choices to all patients, even when their hypertension is well controlled using medication.

Physical Activity

Low amounts of physical activity can lead to

TABLE 2 - Antihypertensive classes

	Examples	Mechanism of Action (Simplified)	Side Effects	Questions to ask
Diuretics	<ul style="list-style-type: none"> - hydrochlorothiazide - chlorthalidone - indapamide - furosemide - metolazone - spironolactone 	Diuretics block the reabsorption of salt back into the body, so that it is eliminated in the urine instead. Since water follows salt, more water is eliminated and the fluid in the blood is reduced, leading to a drop in blood pressure	<ul style="list-style-type: none"> - dehydration due to diuretic mechanism of action - may increase glucose (diabetes concern) - may increase uric acid levels (gout concern) - photosensitivity (skin sensitivity to sun/light) 	<p>Are you thirsty? Do you have dry skin?</p> <p>How are your sugars? (simple target is “single digits”)</p> <p>Any pain in joints?</p> <p>Specifically big toe (signs of gout)</p> <p>Any skin rash after sun exposure?</p>
ACE inhibitors (Angiotension-converting enzyme inhibitors)	<p>Drugs ending in “pril”</p> <ul style="list-style-type: none"> - ramipril - enalapril - fosinopril - lisinopril - perindopril - quinapril -trandolapril 	When there is low blood volume, the kidneys release a chemical (renin) that is converted in the lungs (by ACE enzyme) to trigger blood vessel constriction (increase in blood pressure). ACE inhibitors stop this chemical from working by inhibiting the action of ACE and lower blood pressure	<ul style="list-style-type: none"> - development of persistent dry cough in 15% - contraindicated in pregnancy 	<p>Have you had a dry persistent cough without any other cold symptoms?</p> <p>Are you pregnant or planning to become pregnant?</p>
ARBs (Angiotension receptor blockers)	<p>Drugs ending in “sartan”</p> <ul style="list-style-type: none"> - irbesartan - losartan - candesartan 	ARBs work on the same system as ACE inhibitors but block the receptors for angiotensin instead: resulting in lower blood pressure	<ul style="list-style-type: none"> - generally well tolerated - contraindicated in pregnancy 	<p>Are you pregnant or planning to become pregnant?</p>
CCBs (calcium channel blockers)	<ul style="list-style-type: none"> - amlodipine - verapamil - diltiazem - nifedipine 	CCBs trigger the peripheral blood vessels (capillaries in legs and arms, etc) to dilate (open wider) and lower BP Verapamil and diltiazem can also lower heart rate	<ul style="list-style-type: none"> - peripheral edema (leg swelling due to mechanism of action) - constipation 	<p>Are you legs swollen or puffy?</p> <p>Do you feel dizzy standing up too quickly or getting out of bed?</p> <p>Have you had difficulty with constipation?</p>
Beta-blockers	<p>Some drugs ending in “olo”</p> <ul style="list-style-type: none"> - metoprolol - atenolol - propranolol - carvedilol 	The body produces adrenaline which can increase heart rate and heart contraction; beta-blockers block this process and slow down the heart rate and force of contraction—this lowers BP.	<ul style="list-style-type: none"> - bronchospasm (narrowing of the airways—problematic with asthma or COPD) - bradycardia/syncope (slowed heart rate +/- dizziness +/- fainting due to mechanism of action) 	<p>Have you had difficulty breathing?</p> <p>Do you feel faint or dizzy when standing up or getting out of bed? After exercising or activity?</p>

Note: If the dose of antihypertensive medication is too high, or if hypertension is being overtreated, hypotension (low blood pressure) can occur. This can present as dizziness and/or tiredness, especially after standing up, getting out of bed, or after exercise and activity. BP= blood pressure; COPD=chronic obstructive pulmonary disease

hypertension. Alternatively, 30–60 minutes of moderate intensity dynamic exercise (e.g., walking, jogging, cycling, or swimming) on four to seven days per week, in addition to the routine activities of daily living, can improve blood pressure. Exercise by this routine can lower systolic blood pressure by about 7 mmHg.⁽⁵⁾

Weight

Being overweight can increase blood pressure. A weight loss of 10 lbs (4.5 kg) can result in about a 7 mmHg drop in systolic

blood pressure. Weight-loss strategies should use a multidisciplinary approach, including dietary education and increased physical activity.⁽⁵⁾

Alcohol Consumption

Overconsumption of alcohol can increase blood pressure. Alcohol intake should be limited to two drinks per day, with a weekly maximum of 14 drinks for men and nine drinks for women. (Note: One standard drink is considered to be equivalent to approximately 45 mL [1.5 oz] of 80-proof [40%] spir-

its, 355 mL [12 oz] of 5% beer, or 150 mL [5 oz] of 12% wine). Reducing alcohol intake can lower systolic blood pressure by about 5 mmHg.⁽⁵⁾

Dietary recommendations

Diets high in carbohydrates, sodium and saturated fats can increase blood pressure. A diet that is low in saturated fat and cholesterol should be emphasized, including fruits, vegetables, low-fat dairy products, dietary and soluble fibre, whole grains, and protein from plant sources. One recommended

BOX 1 - Dos and Don'ts of Measuring Blood Pressure**Do:**

- Carefully read instructions for your blood pressure monitor
- Go to the bathroom before taking your pressure
- Sit comfortably: feet flat on floor, back supported, arm at heart level
- A bare upper arm is the preferred method (a thin layer of clothing is permissible)
- Wait for 5 minutes
- Put on blood pressure cuff
- Take two readings: wait 1 to 2 minutes between readings with cuff relaxed
- Record date and time with measurement

Don't:

- Cross your legs (can increase internal blood pressure)
- Take your pressure if you're in a hurry (feeling rushed can increase heart rate or blood pressure)
- Smoke 30 minutes before measuring (nicotine can increase heart rate and blood pressure)
- Drink caffeine 30 minutes before measuring (caffeine can increase heart rate)
- Eat a big meal less than 2 hours before measuring (can increase internal pressure)
- Wear tight clothing (can constrict blood flow in the arm leading to inaccurate reading)
- Talk or watch TV during a measurement (both can alter internal pressure)
- Measure your pressure if you are cold, nervous, uncomfortable, or in pain.

dietary regimen is the DASH diet (Dietary Approaches to Stop Hypertension diet). Following the DASH diet can lower systolic blood pressure up to about 11 mmHg.⁽⁵⁾

Sodium intake

High salt intake can increase blood pressure. Most patients state they don't add salt to their food. However, patients should be advised to check food labels since salt is added to many processed and canned food items. To decrease blood pressure, consider reducing sodium intake to < 2000 mg (5 g of salt or 87 mmol of sodium) per day. Reducing salt intake can lower systolic blood pressure by about 5 mmHg.⁽⁵⁾

Stress management

Daily stress can also increase blood pressure. In hypertensive patients in whom stress might be contributing to high blood pressure, stress management should be considered as an intervention.⁽⁵⁾

Smoking

Smoking has a long list of health complications, including increasing the risk for heart disease and hypertension. Patients who decide to quit smoking will benefit from multiple health improvements, including a reduction in blood pressure.⁽⁵⁾ Depending upon the province of practice, pharmacists may be able to prescribe pharmacotherapy for smoking cessation.

Hypertension management

For patients with hypertension who have no other underlying medical conditions, first-line drug treatments include thiazide/thiazide-like diuretics, beta-blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs) or long-acting calcium channel blockers (CCBs). A combination of first-line drugs may be used if the blood pressure is ≥ 20 mmHg systolic or ≥ 10 mmHg diastolic above target.

The five main classes of antihypertensive drugs are summarized in Table 2, highlighting their mechanism of action, side effects and questions technicians can ask patients to help identify potential side effects.

Registered Pharmacy Technician's Role

Pharmacy technicians can assist in hypertension monitoring and management in several potential ways:

- Promoting and assisting with blood pressure measurement and hypertension screening
- Monitoring adherence to antihypertensive therapy
- Screening patients for potential side effects from antihypertensive medications
- Identifying potential interactions between medications and OTC products.
- Assisting with cardiovascular risk assessment

Promoting and assisting with blood pressure measurement

All pharmacy technicians should have a basic understanding of what blood pressure is and how high blood pressure can lead to cardiovascular disease and other complications. Many provinces permit registered pharmacy technicians to "provide technical device education and training," including the use of a blood pressure monitor.

Technicians can check with their provincial regulatory body to determine their permitted scope of practice (<http://napra.ca/pages/PharmacyTechnicians/default.aspx>).

Whether in the context of a program, service or a consultation, the technician can help with:

- Program or service blood pressure measurements (e.g., hypertension monitoring or screening, hypotension monitoring or heart health program)
- Home blood pressure monitor promotion and sale (accompanying antihypertensive prescriptions). A list of Hypertension Canada endorsed blood pressure monitors is available at <http://hypertension.ca/en/hypertension/what-do-i-need-to-know/how-to-measure-my-blood-pressure/918-public/landing/249-devices-endorsed-by-hypertension-canada>.
- Demonstration and set up of home blood pressure monitor

Technicians can provide patients with important tips on proper blood pressure measurement (Box 1).

More information on how to properly measure blood pressure is available in a YouTube video authored by the World Hypertension League (<https://www.youtube.com/watch?v=egBmUw0Y0IE&feature=youtu.be>).

After checking a patient's seated/resting blood pressure, technicians can also check patients for orthostatic hypotension. To perform this, place the blood pressure cuff on the patient's arm and ask them to stand. The patient should then rest their hand at heart level—this can be done with any hand-hold point available or even on the technician's shoulder. The arm and hand must be kept limp. The blood pressure can then be taken.

The difference between the two pressures can then be provided to the pharmacist for assessment. A 20 mmHg systolic or



a 10 mmHg diastolic drop may indicate orthostatic hypotension.

Monitoring Adherence

An important point when taking blood pressure medication is that it manages but doesn't cure hypertension. It is important to let patients know that stopping a treatment when their blood pressure returns to normal will cause blood pressure to rise again. Medications only work if they are taken regularly! Most antihypertensive medications take up to six weeks to show their full effect. Should adherence concerns be noted, please ask the patient if side effects, lack of understanding, change in instruction, or any other reasons may be the cause and notify the pharmacist as required.

Registered pharmacy technicians can play a large role in prescription adherence. Whether checking a new or refill medication, it is important to notice any early or late fills and to notify the pharmacist to investigate.

Screening for adverse effects

Technicians can help identify possible adverse effects from drugs in the five main antihypertensive drug classes by asking the

questions outlined in Table 2. Any potential problems identified should be brought to the attention of the pharmacist.

Preventing OTC Interactions

Technicians have an important role in preventing OTC drug interactions with antihypertensive medications. OTC decongestants (e.g., pseudoephedrine) found in cough and cold or allergy products can increase blood pressure due to their vasoconstricting action. Decongestants can be sold independently and are also found in a variety of combination products. If a patient is purchasing or asking about any products for colds, allergies or runny nose, ask them if they have high blood pressure and/or refer them to the pharmacist before selling them the product.

OTC anti-inflammatories (NSAIDs such as ibuprofen and naproxen) can also increase blood pressure. These drugs are sold as single-entity products or in combination cough/cold and back pain/spasm products. If a patient is purchasing or asking about any products for pain, arthritis, aches or inflammation, ask them if they have high blood pressure and/or refer them to the pharmacist

before selling them the product.⁽⁴⁾

Cardiovascular Risk Screening

Blood pressure is one component of cardiovascular health. Other factors that can affect heart disease risk include age, cholesterol levels, smoking status, diabetes and family history. Assessment of overall cardiovascular risk is required to optimally manage patients who are at risk of CVD, as more than 80% of Canadians with hypertension have multiple risk factors for CVD.

Technicians can play a role in CVD risk assessment. The most common CVD risk estimator/calculator used by healthcare professionals is the Framingham risk calculator. This tool has been validated and developed in North America and is used to predict a patient's risk for developing CVD within the next 10 years.

Although the Framingham risk score has a high degree of external validity, it has some limitations, including:

- May underestimate risk in patients of lower socioeconomic class
- Does not account for family history of premature CVD
- Does not account for ethnicity, and may

underestimate risk in some populations (e.g., South Asian population) or overestimate risk in others (e.g., Hispanic)

- Does not consider newer risk factors (e.g., genetics)
- May overestimate risk in patients with diabetes

Several electronic Framingham risk score calculators are available. (<http://cvrisk.mvm.ed.ac.uk/calculator/calc.asp>).

A paper-based version is available from the Canadian Cardiovascular Society (http://www.ccs.ca/images/Guidelines/Tools_and_Calculators_En/Lipids_Gui_2012_FRS_BW_EN.pdf).

Tips to become more involved in hypertension management

Registered technicians should talk with the

pharmacy team and pharmacists to see how they can help with blood pressure and CVD management. Some ideas include:

- Having the registered pharmacy technician discuss in-pharmacy blood pressure measurement or the benefits of home blood pressure monitoring with patients for all new or refill blood pressure medications
- Ensuring the registered pharmacy technician is familiar with the different blood pressure monitors available, the various features, different cuff sizes, proper use, batteries required or plug-in capabilities, price points, and proper blood pressure cuff measurements
- Asking the pharmacist about the Framingham risk calculation. This could be a great starting point for a new or expanded clinical program or pharmacy service.

- Asking the pharmacist about monitoring for orthostatic hypotension. This can easily be measured by checking a patient's standing blood pressure after performing a traditional seated blood pressure measurement.
- Check out the CHEP website (<http://guidelines.hypertension.ca/>) for additional helpful resources on hypertension for health-care professionals and patients.

REFERENCES

1. Kennie N, Watson B, Iglar K. Practice tips. Cardiovascular risk assessment in family practice: a practice-based tool. *Can Fam Physician*. 2008;54(1):34-5.
2. Public Health Agency of Canada. Tracking Heart Disease and Stroke in Canada, 2009.
3. Statistics Canada. Causes of Death, Canada, 2011. CANSIM data. Released January 28, 2014.
4. BMJ Best Practice. Essential Hypertension. <http://bestpractice.bmj.com/best-practice/welcome.html> Accessed March 28, 2016
5. Daskalopoulou SS, Rabi DM, Zarnke KB, et al. The 2015 Canadian Hypertension Education Program recommendations for blood pressure measurement, diagnosis, assessment of risk, prevention, and treatment of hypertension. *Can J Cardiol* 2015;31:549-68.

QUESTIONS

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

1. A patient approaches the pharmacy counter with their blood pressure readings: 145 mmHg / 83 mmHg. Which is the correct interpretation?

- Systolic blood pressure / heart rate
- Diastolic blood pressure / heart rate
- Diastolic blood pressure / systolic blood pressure
- Systolic blood pressure / diastolic blood pressure

2. A patient approaches the pharmacy counter asking what their blood pressure target is. Which medical condition affects their blood pressure target?

- gout
- asthma
- diabetes
- psoriasis

3. At the pharmacy you check a patient's seated and standing blood pressure. They are confused why they are having it checked while standing. You state you are checking for orthostatic hypotension. Which of the following is false?

- Orthostatic hypotension can cause retinopathy
- Orthostatic hypotension is a systolic blood pressure drop of 20 mmHg or diastolic blood pressure drop of 10 mmHg when changing positions

c) Orthostatic hypotension causes dizziness, fainting or even falls

d) Orthostatic hypotension can be the result of over-medicating with blood pressure medications

4. After checking a patient's blood pressure, it is found to be 163/103. You discuss the potentially high reading with the patient, but they don't understand what the concern is since they don't "feel" that their blood pressure is high. Which of the following is not a complication of uncontrolled hypertension?

- Stroke
- Chronic kidney disease
- Weight gain
- Heart failure

5. A patient picking up their prescription for hydrochlorothiazide and amlodipine asks what else they can do in addition to medication to help lower their blood pressure. One option would be to:

- consider a daily intake of salt over 3000 mg/day
- consider drinking 2-4 drinks daily to reduce stress
- follow the DASH diet which is high in carbohydrates, fat, and sodium

d) physical activity of 30-60 minutes per day of moderate intensity activity

6. Amlodipine belongs to which antihypertensive class?

- ARBs (angiotensin receptor blockers)
- CCBs (calcium channel blockers)
- Beta-blockers
- Diuretics
- ACE-inhibitors (angiotensin converting enzyme inhibitors)

7. Beta-blockers lower blood pressure by:

- removing excess water from the body
- dilating peripheral blood vessels in the arms and legs
- blocking the renin-angiotensin system in the kidneys and lungs
- reducing heart rate and force of contraction

8. Pharmacy Technicians can help with hypertension by:

- Promoting and assisting with blood pressure measurement and hypertension screening
- Monitoring adherence to antihypertensive therapy
- Screening patients for potential side effects from antihypertensive medications
- All of the above

9. A patient walks into the pharmacy and asks you if you could help them check their blood pressure. You notice they are a bit short of breath from the walk in from the parking lot. You proceed to:
- immediately check their blood pressure by having them sit with both feet flat on the ground and arm at heart level
 - have them sit for 5 minutes prior to checking their blood pressure
 - have the patient remove their shoes to avoid leg pressure and then immediately check their blood pressure
 - have them sit for 5 minutes with their legs crossed prior to checking their blood pressure
10. During the day, you make calls to patients for refill reminders on their regular medications. A patient is coming up due for their first refill on a new blood pressure medication (Ramipril). When talking to the patient, they thought that after taking the medication for a month their hypertension would be "cured." Is this true or false?
- True
 - False
11. A regular patient at your pharmacy approaches the counter to pay for some OTC items. They have a runny nose, look tired, and are complaining they haven't been able to sleep the last few nights due to their cold. Which OTC medication can increase blood pressure so the patient would need to be advised?
- bottle of Naproxen liquid gels
 - bottle of Acetaminophen extra strength
 - bottle of saline nasal spray
 - bottle of vitamin C gummy candies
12. A patient visits your pharmacy after a doctor's appointment. The doctor provided the patient with a copy of their blood work where they have their cholesterol and blood pressure checked. There is a section on the lab work called "Framingham risk score." The score is 22%. The patient asks what this score measures—you respond that it:
- measures the 10-year risk for developing heart failure
 - measures the 10-year risk for developing heart disease (e.g., heart attack or stroke)
 - measures the annual risk for developing a stroke
 - measures the annual risk for developing hypertension
13. Which factor is NOT considered part of a cardiovascular disease risk assessment?
- Blood pressure / hypertension
 - Age
 - Mental health status
 - Smoking status
14. When checking a blood pressure prescription renewal that is overdue/late, which is the best first course of action?
- Contact the patient's doctor
 - Fill the prescription for a smaller quantity
 - Discuss adherence issues with the pharmacist and/or patient
 - Fill the prescription as is
15. Caffeine can increase blood pressure and/or heart rate
- True
 - False

TECH CE

Presented by **pharmacy practice+**

Sponsored by **TEVA**

The Role of the Pharmacy Technician in Hypertension

1 CE • NOVEMBER 2016

To find this lesson, enter the CCCEP number 1065-2016-1817-I-T

Not valid for CE credits after Nov. 1, 2017.

*REFERENCE ONLY: PLEASE SUBMIT YOUR ANSWERS ONLINE

- | | | | | |
|------------|--------------|------------|-------------|-------------|
| 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 e | 9. a b c d | 12. a b c d | 15. a b |

Now accredited by the Canadian Council on Continuing Education in Pharmacy

FOR IMMEDIATE RESULTS, ANSWER ONLINE AT www.CanadianHealthcareNetwork.ca

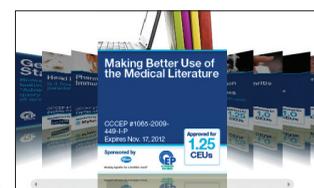
> Sign in and click on **eCortex.ca**
OR click on **Education** and then **ECortex**.

> To find this lesson, enter the CCCEP number (1065-2016-1817-I-T) in the **Quick Search ECortex**, and hit **Go**.

OVER
100 FREE
CCCEP-
APPROVED
CE LESSONS
ONLINE



Canadian
HealthcareNetwork.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 Vicki Wood at 416-764-3923 or vicki.wood@rci.rogers.com.

To answer this CE lesson online

Our CE lessons are hosted at [eCortex.ca](http://www.ecortex.ca), part of [CanadianHealthcareNetwork.ca](http://www.canadianhealthcarenetwork.ca), the online home of *Pharmacy Practice+*.

To take CE lessons online, sign in at [CanadianHealthcareNetwork.ca](http://www.canadianhealthcarenetwork.ca) and click on the eCortex logo.

Already signed in? Use this handy quick link:

<http://www.ecortex.ca/course/view.php?id=845>

To find this lesson, enter the CCCEP number (1065-2016-1817-I-T) in the Search box

Find a Course

[Browse by Topic](#)

My Profession <input type="checkbox"/>	▶ All	Expiring: - <input type="button" value="v"/>
Accredited <input type="checkbox"/>	▶ Other Learning	Credits: - <input type="button" value="v"/>
Newest <input type="checkbox"/>	▶ Popular	Duration: - <input type="button" value="v"/>

Not registered at CanadianHealthcareNetwork.ca?

The process is quick and easy. Go now to [CanadianHealthcareNetwork.ca](http://www.canadianhealthcarenetwork.ca)

Upon completing your registration, you will immediately receive a verification email from us. Click on the link in the email, and your login credentials will be sent to you.

Your registration includes access to pharmacy CE lessons and other learning, online tests, your letters of completion, transcripts and more.

If you have any questions please contact:

FOR ENGLISH LESSONS

Mayra Ramos

FAX (416) 764-3937 **EMAIL** education@canadianhealthcarenetwork.ca

POUR DES LEÇONS FRANÇAISES (For French-language lessons)

EMAIL ecortex@halldata.com