PHARMACIST HEALTH COACHING

CARDIOVASCULAR PROGRAM

APPENDIX A — PHARMACIST RESOURCES

gsc green shield canada

I. MEDICATION ASSESSMENT

THE FACTS[1]

→ Patients with hypertension and/or high cholesterol take **THREE TIMES MORE DRUGS** than patients without these conditions.

→ 36% of hypertensive patients and 42% of high cholesterol patients are **NON-ADHERENT** to their drug therapy.

MORISKY MEDICATION ADHERENCE SCALE (MMAS-4)[2]

ADHERENCE	"YES" ANSWERS
High	0
Moderate	1-2
Low	3-4

STRATEGIES TO IMPROVE MEDICATION ADHERENCE[3]

ASSIST YOUR PATIENTS TO ADHERE TO THEIR MEDICATIONS BY:

→ Tailoring pill-taking to fit patient's daily habits

→ Simplifying medication regimens to once-daily dosing (whenever possible)

→ Replacing two anti-hypertensive agents with a fixed dose combination (where available and appropriate), provided it is the same combination the patient is already taking

→ Utilizing unit-of-use packaging (of several medications to be taken together)

ASSIST YOUR PATIENTS IN GETTING MORE INVOLVED IN THEIR TREATMENT BY:

→ Encouraging greater patient responsibility/ autonomy in monitoring their blood pressure and adjusting their prescription

→ Educating patients and their families about their disease and treatment regimens

Adherence to an antihypertensive prescription can be improved by a multidisciplinary team approach.

II. BLOOD PRESSURE

THE FACTS[4]

→ Hypertension is the **MOST PREVALENT CHRONIC CONDITION** in Canada.

→ **ONE** in **FIVE CANADIANS** have high blood pressure.

→ **34% OF TREATED HYPERTENSIVE** patients are **NOT UNDER CONTROL**.

BLOOD PRESSURE RANGES[3]		
AOBP (AUTOMATED OFFICE BP)	High	SBP ≥ 135 or DBP ≥ 85
OBPM (OFFICE BP MONITORING)	High	SBP ≥ 140 or DBP ≥ 90
HBPM (HOME BP MONITORING) Series mean	High	SBP ≥ 135 or DBP ≥ 85

BLOOD PRESSURE TARGETS[3]		
INDICATIONS	**CONSIDER TREATMENT**	**TARGET**
High risk (SPRINT population)	≥ 130/NA	< 120/NA
Moderate to high risk (TOD or CV risk factors)	≥ 140/90	< 140/90
Low risk (no TOD or CV risk factors)	≥ 160/100	
Diabetes	≥ 130/80	< 130/80

TOD = target organ damage

High Risk: Having at least one of the following factors:

a) Clinical or subclinical cardiovascular disease;

b) Chronic kidney disease (nondiabetic nephropathy, proteinuria < 1g/d, estimated glomerular filtration rate 20-59 ml/min/1.73m^2);

c) Estimated 10-year global Framingham Risk >15%; OR

d) Age ≥ 75 years.

FACTORS THAT AGGRAVATE HYPERTENSION[3]

PRESCRIPTION DRUGS:

- → NSAIDS (including coxibs)
- → Corticosteroids and anabolic steroids
- → Oral contraceptives and sex hormones
- → Vasoconstricting decongestants
- → Calcineurin inhibitors (cyclosporin, tacrolimus)
- → Erythropoietin and analogues
- → Antidepressants — MAOIs, SNRIs, SSRIs
- → Midodrine

OTHER SUBSTANCES:

- → Licorice root
- → Stimulants, including cocaine and caffeine
- → Salt
- → Excessive alcohol use

PATIENT BP MONITORING TIPS[3]

DO:

- → Use a validated electronic device
- → 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 arm is the preferred method (or a thin layer of clothing) on your upper arm
- → Put cuff on and wait for five minutes
- → Take two readings – wait one to two minutes between readings
- → Record date and time with measurement
- → Show your readings to your health care provider

DON'T:

- → Cross your legs
- → Take your blood pressure if you're in a hurry
- → Smoke or drink caffeine one hour before measuring
- → Exercise 30 minutes before measuring
- → Eat a big meal for two hours before measuring
- → Wear tight clothing
- → Talk or watch TV during a measurement
- → Measure your blood pressure if you are cold, nervous, uncomfortable, or in pain

EFFECT OF LIFESTYLE MODIFICATION ON BLOOD PRESSURE[5]

LIFESTYLE CHANGE	MODIFICATION	IMPACT ON SBP/DBP
Sodium Intake	Reduce sodium intake towards 2300 mg (one tsp. of salt) per day.	↓ 5.1 / 2.7
Physical Activity	For all patients, prescribe the accumulation of 30 to 60 minutes of moderate-intensity dynamic exercise (walking, jogging, cycling, swimming) four to seven days a week; higher intensities of exercise are no more effective.	↓ 4.9 / 3.7
Weight	Maintenance of a healthy body weight is recommended for non-hypertensive individuals and hypertensive patients. All overweight hypertensive individuals should be advised to lose weight through a multidisciplinary approach that includes dietary education, increased physical activity, and behavioural intervention.	↓ 1.1 / 0.9
Alcohol	To prevent hypertension, abstain, as there is no safe limit for alcohol consumption. Patients with hypertension should abstain from, or limit alcohol consumption to < 2 drinks per day to lower blood pressure. One standard drink is considered 355 ml of 5% beer, 148 ml of 12% wine, 44 ml of 40% spirits, or 17.2 ml of ethanol.	↓ 3.9 / 2.4
Diet	Follow the DASH eating plan. Emphasize fruits, vegetables, low-fat dairy products, dietary and soluble fibre, whole grains, protein from plant sources, reduced saturated fat and cholesterol.	↓ 11.4 / 5.5

III. CHOLESTEROL

CHOLESTEROL TARGETS[6]

RISK LEVEL / CATEGORY	PRIMARY TARGET LDL	ALTERNATIVE TARGET
High (FRS ≥ 20%) or statin-indicated condition	< 2 mmol/L LDL-C	Apo B < 0.8 g/L Non HDL-C < 2.6 mmol/L
Intermediate (FRS 10%-19%)	< 2 mmol/L LDL-C	Apo B < 0.8 g/L Non HDL-C < 2.6 mmol/L
Low (FRS < 10%)	Pharmacologic therapy generally not indicated	

IV. SMOKING[7]

→ Within **ONE YEAR** of quitting, your added risk of coronary heart disease is cut in half of that of a smoker.
→ Within **FIVE YEARS**, your risk of having a stroke will be nearly that of a non-smoker.
→ Within **10 YEARS**, your risk of dying from lung cancer is cut in half.
→ Within **15 YEARS**, your risk of coronary heart disease will be similar to that of a non-smoker.

V. LIFESTYLE

CANADA'S FOOD GUIDE RECOMMENDATIONS[8]

FOOD	SERVINGS/DAY	EXAMPLE OF SERVING SIZE
Grain products	6–8	1 slice bread, ½ bagel, ½ cup cooked rice, pasta, or quinoa, ¾ cup hot cereal
Fruits and vegetables	7–10	½ cup fresh, frozen, canned fruit or vegetable, 1 cup salad
Milk and alternatives	2–3	1 cup milk, ¾ cup yogurt, 1½ ounce cheese
Meat and alternatives	2–3	2 eggs, 2 tablespoons peanut butter, ¾ cup cooked beans, 2½ ounces cooked fish, shellfish, poultry, or lean meat
Fats and oils	2–3	1 tablespoon canola, olive, flaxseed oil
Sodium	≤ 2300 mg[9]	≤ 1 teaspoon

Refer to Health Canada's "Eating Well with Canada's Food Guide" for serving size description.

DASH DIET[10]

FOOD	SERVINGS/DAY	EXAMPLE OF SERVING SIZE
Whole grain products	6–8	1 slice bread, 1 cup cereal, ½ cup rice or pasta
Fruit and vegetables	8–10	1 medium fruit, ¼ cup dried fruit, ½ cup frozen fruit or vegetable, 1 cup raw leafy vegetable, ½ cup cooked vegetable
Low-fat or fat-free dairy products	2–3	1 cup milk, 1 cup yogurt, 1½ ounce cheese
Lean meats, poultry, and fish	< 6 ounces	1 ounce cooked lean meats, skinless poultry, or fish, 1 egg
Fats, oils	2–3	1 teaspoon soft margarine or vegetable oil, 1 tablespoon low-fat mayonnaise, 2 tablespoons light salad dressing
Sodium	≤ 2300 mg[9]	≤ 1 teaspoon
Nuts, seeds, legumes	4–5*	⅓ cup nuts, 2 tablespoons seeds or peanut butter, ½ cup cooked beans or peas

*Servings per week

CANADIAN PHYSICAL ACTIVITY GUIDELINES[11] & PHYSICAL ACTIVITY TIPS FOR ADULTS (18–64 YEARS)[12]

CANADIAN SOCIETY FOR EXERCISE PHYSIOLOGY

150 minutes of moderate- to vigorous-intensity physical activity per week

Muscle and bone strengthening activities at least two times per week

↑↑ physical activity = ↑↑↑ health benefits

MODERATE-INTENSITY: will cause you to sweat and breathe harder

VIGOROUS-INTENSITY: will cause you sweat and be "out of breath"

VI. CARDIOVASCULAR RISK ASSESSMENT

THE FACTS[4]

→ CV disease accounts for **ONE-THIRD OF ALL DEATHS** in Canada.
→ Every **SEVEN MINUTES**, someone **DIES** from **HEART DISEASE AND STROKE**.
→ Costs the Canadian economy more than **$20.9 BILLION** annually.
→ **NINE IN 10** Canadians have at least one risk factor.

NON-MODIFIABLE RISK FACTORS[3]

→ Age > = 55
→ Male sex
→ Family history of premature cardiovascular disease (age < 55 in men and < 65 in women)
→ Prior history of atherosclerotic disease (e.g., peripheral arterial disease, previous stroke, or transient ischemic attack)

MODIFIABLE RISK FACTORS[3]

→ Hypertension
→ Dyslipidemia
→ Smoking
→ Poor glycemic control
→ Sedentary lifestyle
→ Poor dietary habits
→ Abdominal obesity
→ Stress
→ Non-adherence

CALCULATING CARDIOVASCULAR AGE[6]

To calculate cardiovascular age visit the McGill Comprehensive Health Improvement Program http://myhealthcheckup.ca.

CALCULATING CARDIOVASCULAR RISK[13]

To calculate cardiovascular risk based on the Framingham Risk Assessment go online to http://cvdrisk.nhlbi.nih.gov/.

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