Taking your life to heart

My stay in the cardiac catheterization department
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1. **FOREWORD**

Your doctor has referred you for an exam in the hemodynamics laboratory of the Québec Heart and Lung Institute (IUCPQ-UL). The purpose of this guide is to inform you about the main hemodynamics exams and help you with your return home. It also provides information about the management and treatment of heart disease.

*It’s normal for you to feel worried. Feel free to share your questions and concerns with us.*
Like all body organs, your heart needs oxygen to function. The coronary arteries carry blood to the heart. The first artery—the right coronary artery—supplies the lower part of the heart. The left coronary artery branches into the left anterior descending artery (which supplies the front of the heart) and the circumflex artery (which supplies the back of the heart). In a healthy person, these arteries are smooth and flexible, allowing the blood to circulate easily. However, some risk factors—specifically smoking, high blood pressure, diabetes, high cholesterol and heredity—can cause fat or calcium deposits to form in the arteries that can partially or completely block the arteries and cause atherosclerosis. If the arteries that supply blood to the heart narrow or are blocked, blood flow to the heart can slow or even stop. If you exert yourself and your heart doesn’t receive enough blood, you can develop pain called “angina.” If blood flow is completely blocked for too long, you can have a heart attack (myocardial infarction).
3. THE HEMODYNAMICS LABORATORY

In the hemodynamics laboratory, we study diseases of the heart muscle, heart valves and coronary arteries. We carry out a number of procedures in our laboratory, the most common ones being a coronary angiogram and angioplasty.

The laboratory is actively involved in teaching and research, so a physician in training may take part in your care under the supervision of a cardiologist specializing in hemodynamics. A member of our research team may also ask you to participate in a new treatment study. You are free to decide whether or not to participate.

4. PROCEDURES

4.1 Coronary angiogram

A coronary angiogram is an exam that clarifies the extent of a disease but does not cure it. A catheter is inserted in your wrist or groin to inject an iodinated contrast dye into your coronary arteries. We then use x-rays to reveal any blockages that can hinder blood flow.

During the exam, the doctor may ask you to hold your breath for a few seconds or to take deep breaths in order to take better images of your heart. The doctor will use these images to quickly diagnose your exact condition and recommend the best treatment. In some cases, additional exams will be required and will be carried out at the same time as the angiogram.

Depending on the nature of the blockage(s), treatment may involve:
» medication;
» angioplasty with or without stent;
» coronary artery bypass surgery (heart surgery).
Although it normally causes no pain, you may feel the catheter being inserted.

The contrast dye can sometimes cause mild chest pain and occasionally nausea and a warm sensation. Inform our staff if you experience pain or discomfort during the exam.

4.2 Coronary angioplasty

This procedure removes a blockage from a coronary artery. It will reduce your symptoms (angina, chest pain, etc.). During the angiogram, the doctor may decide to perform an angioplasty if he or she sees a blockage. You will be notified if this is the case.

To perform an angioplasty, the doctor will thread a thin metal wire into your coronary artery using the catheter in your wrist or groin.

An angiogram and angioplasty generally take around 60 minutes. However, the procedures can take longer depending on the complexity.

4.3 Angioplasty without stent

The doctor threads a balloon over the guide wire to the narrowed or blocked part of the artery. The balloon is then inflated for a few seconds. This pushes against the atherosclerotic plaque and opens the artery to improve blood flow. While the balloon inflates, blood flow in the artery is interrupted and you may experience chest pain similar to angina. The pain will disappear progressively as the balloon deflates. It is normal for the pain to last a few minutes. Notify our staff if the pain persists.

4.4 Angioplasty with stent

The doctor may decide to insert a stent to keep the artery open and prevent a blockage from reoccurring. A stent is a small metal mesh tube that is attached to the artery wall at the blockage site. The doctor inflates a small balloon where the artery is narrowed or blocked to expand that section and release the stent. Once in place, the stent remains in your artery permanently.
5. **RISKS**

Hemodynamics exams are done every day in our laboratory to investigate heart problems. These procedures have certain risks but provide valuable information that cannot be obtained otherwise.

In rare instances, some people have had allergic reactions to the iodinated contrast dye or other products used during the procedure. Most reactions are benign (skin breakouts, swelling). However, they can sometimes be life-threatening and require emergency treatment.

*Notify us before the exam if you have ever had a previous reaction to iodine. We will give you a series of medications to reduce the risk.*

Other rare complications can occur, such as hematoma, laceration of the artery (in rare cases, surgery can be necessary to repair the artery), serious heart rate disturbances, brain embolism and paralysis, myocardial infarction and related complications, kidney failure and death.

A blockage can occasionally recur in the treated artery, which can require us to carry out the procedure again.
6. **WHAT YOU’LL NEED FOR YOUR STAY**

- An up-to-date list of your medications
- Your hospital and health insurance cards
- Your medications
- Your eyeglasses or hearing aids, if necessary
- Your walking aids (cane, walker, etc.), if necessary
- Your toiletry bag
- A container for any dental prostheses, if necessary
- Closed-toe slippers with antiskid soles
- Underwear
- A box of tissues
- Your CPAP device if you have sleep apnea

7. **WHAT YOU’LL NEED FOR YOUR RETURN HOME**

Plan a way to get home since you are not allowed to drive after the procedure. (In general, you can drive 48 hours after an angioplasty, unless you have had a heart attack.

You should not be alone in the 24-hour period following your procedure. Make sure someone will be with you at home during that time.

8. **THE DAY OF THE PROCEDURE**

You will be admitted the day before or the morning of your procedure. You can leave on the same day after your procedure. In some cases, your doctor may keep you overnight for observation.
9. BEFORE YOUR EXAM

YOU WILL BE TAKEN TO YOUR ROOM

► An ID bracelet will be placed on your wrist. Do not remove it. We will ask you your name, address or date of birth a number of times during your stay to confirm your identity. This is for your security because a number of people will be involved in your care.
► Blood tests, an electrocardiogram (ECG) and lung x-rays may be carried out.
► An IV will be inserted in your arm.
► We will shave your groin and wrists if necessary.
► A disinfectant solution will be applied to your groin and wrists.
► We may install a device to monitor your heart rate if the doctor so requests.

Some or all of these steps can be done at the Institute’s day centre or at your regional hospital.

NOTIFY US IF:

► You have previously had an allergic reaction to iodine or other medications or substances.
► You are diabetic.
► You have kidney problems or kidney failure.

Our staff can provide you with a video explaining the procedure. Always feel free to ask the nurses or your doctor your questions. A family member can stay with you in your room before and after the procedure but is not allowed in the hemodynamics laboratory. However, there is a waiting room across from the laboratory.
10. IN THE HEMODYNAMICS LABORATORY

10.1 Before the procedure

IN THE OBSERVATION ROOM

- A nurse will greet you and make sure your file is complete.
- You will be given a call bell. Feel free to use it if you need help.
- Manual pressure will be applied to your wrists to see whether blood flow is sufficient for the exam to be done through your wrist.
- The cardiologist specializing in hemodynamics or his or her assistant will examine you, explain the purpose of the exam and related risks, and describe the procedure.
- You must sign a consent form.

The length of your stay in the observation room can vary depending on how long it takes to examine the person ahead of you. Emergencies can occur, which will delay your procedure.

10.2 During the procedure

A nurse and x-ray technician will be with you in the exam room. If you need to urinate, do so before you enter the room. Please note that the room is kept cooler than other rooms in the Institute. If you are cold, simply ask for a blanket.

IN THE EXAM ROOM

- You will lie down on a special x-ray table. Numerous screens will show the specialist your arteries and heart and allow him or her to monitor your heart rate and blood pressure throughout the exam.
- Electrodes will be placed on your arms and thighs so that an electrocardiogram can be done during the exam.
- The nurse will check that your groin and wrists are properly shaved. To do so, your lower body will be exposed for a few moments.
The nurse will disinfect one of your wrists and your groin. Even though the procedure is usually done through the wrist, your groin is always disinfected in case the catheter cannot be inserted in the wrist. The disinfectant solution may feel unpleasantly cold and will stain your skin a reddish pink. To remove the stain, wash the area with soapy water in the days following the procedure.

- You will be covered with clean, sterile sheets.
- It generally takes 15 to 20 minutes to prepare the supplies needed for your exam.
- Once the supplies are ready, the doctor will freeze the skin of your wrist or groin. The doctor will then gently insert a catheter into an artery towards your heart.

**To prevent infection, do not touch the sheets to ensure they remain sterile. The sheets must be changed if you touch them, which will delay the procedure.**

Your cooperation makes things easier for the medical team. During the exam, you will be asked to hold the position the team placed you in. Tell the team if you are uncomfortable since you must not move once the procedure begins.

10.3 After the procedure

You will be taken to the observation room until your file has been completed. If you experience angina or any other discomfort, tell the nurse or doctor immediately.

**WRIST INSERTION**

If the wrist is used, the catheter will be immediately withdrawn and the bleeding stopped using a clamp that compresses the artery for a few hours. It is normal for the clamp to feel tight and be uncomfortable. **Do not touch it.** A nurse will check the clamp regularly and adjust it as needed.

You will walk out of the exam room to your stretcher accompanied by two members of the team.

Move your fingers slightly to stimulate blood flow and prevent numbness caused by the clamp. **If you notice any bleeding, tell the nurse or doctor immediately.**
GROIN INSERTION

You will be transferred to a stretcher and taken to the observation room.

The catheters will be immediately withdrawn if blood thinners were not used. The small tubes are simply removed and your groin is compressed for a number of minutes to stop the bleeding. A compressive bandage will then be applied for a few hours. If blood thinners were used, a vascular closure device such as Angio-Seal™ or Perclose™ will be inserted into the groin artery.

Make sure to keep your leg extended. You can move your toes slightly. If you notice any bleeding, tell the nurse or doctor immediately.

An attendant will take you to your room on your stretcher.

11. IN YOUR ROOM

Back in your room, a device may be installed to monitor your heart rate. A nurse will check your vital signs regularly and take your pulse in your wrist or foot.

Blood tests and an ECG may be carried out depending on the doctor’s orders.

Tell your nurse immediately if you notice swelling under or bleeding from your bandage, if you experience sharp pain in the chest or at the puncture site, or if you have any other discomfort.
11.1 Wrist insertion

- Be sure to keep your arm extended and relaxed. The nurse can place a pillow under your arm if you need one.
- Do not bend the wrist of the affected arm. You can move your fingers to stimulate blood flow and prevent numbness.
- Your hand may look bluish when the clamp is in place. This will disappear when the clamp is removed.
- You should stay in bed while the clamp is in place.
- You can have a snack if you are hungry.
- You can go to the bathroom but you must be accompanied since there is a slight risk of low blood pressure or bleeding at the puncture site.
- Do not sit up in bed since the bleeding will then take longer to stop.
- The nurse will check the wrist clamp regularly. Once the bleeding has stopped, the nurse will remove the clamp and apply a bandage.
- **Never remove the wrist clamp yourself.**

11.2 Groin insertion

- As prescribed by your doctor, you will be on bedrest for a few hours after the procedure. You must follow this order to prevent any recurrence of bleeding or the formation of a hematoma, which could extend your stay in the hospital.
- Stay lying down and do not raise your head. Raising your head or sitting up in bed can cause bleeding to reoccur. If this happens, your bedrest period starts over again.
- Do not bend the leg of the affected side. You can move your toes to stimulate blood flow and prevent numbness.
- You can have a snack 1 to 2 hours after the procedure depending on the doctor’s orders. However, you must wait for the nurse’s permission.
- If you need to be repositioned in your bed, ring for help. Sudden movements can cause bleeding.
- Ring if you need to urinate.
- The nurse will remove the compressive bandage from your groin in accordance with the doctor’s orders (generally 2 to 6 hours after the procedure). An adhesive dressing will then be applied.
- A nurse will help you the first time you get out of bed because there is a slight risk of low blood pressure or bleeding from the puncture site.
The doctor will see you to explain how the procedure went and tell you whether an angioplasty was performed or any stents installed. You may not see the doctor again before your discharge.

12. **LEAVING THE HOSPITAL**

You will normally be discharged a few hours after the procedure. Your doctor may decide to keep you overnight if additional monitoring or exams (ECG, blood tests, etc.) are necessary the next morning.

If a stent or stents were installed, the specialist will prescribe a medication that you must take for at least one month. This medication helps prevent blood clots inside the stent(s). During this time, your heart will accept the stent in the artery wall and cover it with a thin layer of cells that prevents blood clots from forming afterwards.

Before you can leave, the nurse will remove the IV and the heart rate monitor, check your dressing and give you the necessary documents. If you saw the doctor in the hemodynamics laboratory observation room, you may not see him or her again before leaving.

13. **RETURNING TO WORK**

Discuss your return to work with the specialist.

*Your convalescence will vary depending on your employment.*
14. RETURNING HOME

14.1 General information FOR ALL PATIENTS

- Follow your doctor’s orders regarding driving. Unless you had a heart attack, you can usually resume driving 48 hours after an angioplasty.
- Make an appointment with your family physician or cardiologist depending on the specialist’s recommendations.
- The specialist may give you a prescription for additional medication before you are discharged. Have it filled at the pharmacy as soon as you leave to start taking the new medication as soon as possible.

If heart surgery is recommended, make an appointment with your cardiologist or attending physician as quickly as possible to discuss the operation. Your cardiologist or attending physician must confirm the surgery request with our cardiac surgery department.

14.2 Wrist insertion

- Keep the bandage on for 48 hours unless it becomes wet or dirty. If it does, clean the puncture site carefully with soap and water and avoid scrubbing too hard. Dry the area well and cover it with a clean dressing.
- You can raise your arm with a pillow to prevent swelling.
- Do not strain, push with or lean on your arm for 48 hours.
- You can take a bath or shower with lukewarm water. Protect the puncture site with a transparent plastic wrap (for example, Saran-Wrap™).
- Bruising is normal and can extend up to the elbow.
- Consult a health professional if the puncture site becomes hard or bumpy, or if you develop numbness or severe pain. You may develop hardness or a bump during your stay, and the care team will evaluate it before you leave. If the bump increases instead of shrinking once you leave, seek medical advice.
14.3 Groin insertion

- Keep the bandage on for 48 hours unless it becomes wet or dirty. If it does, clean the puncture site carefully with soap and water and avoid scrubbing too hard. Dry the area well and cover it with a clean dressing.
- Avoid moderate (for example, gardening, taking the stairs, etc.) and strenuous (mowing the lawn, jogging) exertion for 48 hours. Do not strain, push with or lean on your leg for 48 hours. You can progressively resume your activities afterwards.
- If you have a long drive home, stop every 2 hours to walk for a few minutes.
- Do not take a bath for 48 hours. You can take a shower with lukewarm water.
- Bruising is normal and can extend to the buttocks or knee.
- Consult a health professional if the puncture site becomes hard or bumpy, or if you develop numbness or severe pain. You may develop hardness or a bump during your stay, and the care team will evaluate it before you leave. If the bump increases instead of shrinking once you leave, seek medical advice.

**IMPORTANT!**

**If the puncture site is bleeding**
- Apply pressure for 15 minutes with a clean towel or dressing.
- See whether the bleeding has stopped.

**If the bleeding lasts longer than 15 minutes**
- Continue to apply pressure and ask someone to take you to the hospital or the nearest community health services centre, or call 911.

**If the bleeding has stopped**
- Clean the site carefully, dry it well and apply a clean dressing.
15. SAFETY TIPS FOR THE ANGIO-SEAL™ OR PERCLOSE™ SYSTEMS

15.1 Resuming activities

- For the first two days, avoid sitting for long periods. If you have a long drive ahead of you, stop every 2 hours to walk for a few minutes.
- For the first three days, avoid stretching, moderate (for example, gardening, taking the stairs, etc.) and strenuous (mowing the lawn, jogging) exertion. Do not lift any objects over 10 pounds. You can progressively resume your activities afterwards.
- For the first four days, take lukewarm showers only to help the wound heal.

15.2 Driving

- You must follow all medical orders regarding driving. You can usually drive 48 hours after an angioplasty, unless you have had a heart attack.

15.3 Wound care

- Change your bandage daily or more frequently if it gets wet or dirty.
- Examine your wound daily to be sure it is healing well.
- Clean your wound carefully with water and mild soap, dry it carefully, and cover it with a new adhesive bandage from a brand such as Elastoplast™ or Band-Aid™.
- Your wound will heal in around four days.

IMPORTANT!

See a doctor if you have:
- a fever (38.5°C or 101.3° F);
- wound discharge, oversensitivity, redness, warmth or swelling;
- numbness or pain in the leg when walking.
IF THE WOUND IS BLEEDING

- Apply pressure for 15 to 20 minutes with a clean towel or dressing until the bleeding stops. If it has stopped, go to the hospital or community health services centre nearest you to ensure there are no blood vessel complications.
- If the bleeding continues or resumes, continue to apply pressure and ask someone to take you to the hospital or community health services centre nearest you. Medical intervention may be required.

ANGIO-SEAL™ INFORMATION CARD

- Keep the card with you for 90 days, after which the angio-seal™ will dissolve.

16. MEDICATIONS

Before you are discharged from the hospital, your doctor will very likely give you a new prescription for antiplatelet agents. Once you have left the hospital, go to the pharmacy immediately to have your prescription filled and begin taking it as prescribed.

It is important to understand your medications in-depth: their names, their effects and the dosage (how many pills to take and when to take them). Understanding your drug regimen will help you better understand the importance of following the medical recommendations. You can ask your pharmacist to explain your medications and provide you with information sheets.

It is also important for you to keep an accurate, up-to-date list of your medications and their dosage with you at all times. Bring this list with you each time you see a health professional (doctor, nurse, pharmacist or dentist).

Numerous classes of drugs are used to treat coronary artery disease. They each work differently and several drugs often need to be combined for optimal treatment. Below are the classes of drugs you are likely to receive.
16.1 Short-acting nitroglycerin
(Nitroglycerin spray)

Angina pain is a sign that your heart lacks oxygen. Nitroglycerin relieves angina by dilating the blood vessels that supply the heart. This increases blood and oxygen flow to the heart. In addition, by dilating the blood vessels, nitroglycerin reduces the strain on the heart and its oxygen needs.

Short-acting nitroglycerin is used to quickly alleviate chest pain (angina) or prevent it before exertion. It is administered with a spray. Always keep your nitro with you because you never know when you’ll need it!

USE

- If you have chest pain, sit down for a few minutes. If the pain persists, spray 1 to 2 doses under or on the tongue or on the inside of your cheeks.

- If the nitro does not relieve your symptoms, call an ambulance and go immediately to the emergency room of the hospital nearest you.

PRIMING

Some nitroglycerin sprays can require priming. Ask your pharmacist whether this applies to you. If so, your pharmacist can help determine the best priming technique.

**Important!**

If you need to use your spray regularly, talk to your doctor right away so that your treatment can be adjusted, if necessary.
16.2 **Long-acting nitrates**
(Isosorbide, nitroglycerin patch, etc.)

These drugs work by dilating your heart’s blood vessels to improve blood and oxygen flow. They also help the heart work better. Their effect lasts longer than that of short-acting nitroglycerin. These drugs are generally used for regular angina prevention.

**USE**

- If your doctor prescribes a nitro patch, it is important to apply and remove it at the specified time. You must also rotate application sites to prevent skin irritation.

16.3 **Beta blockers**
(Acebutolol, atenolol, bisoprolol, carvedilol, metoprolol, propranolol, sotalol, etc.)

These drugs are used to improve heart function. They slow your heart rate, which reduces the strain on your heart and prevents angina. Beta blockers are also used to control high blood pressure and heart failure.

To assess whether your medication is working, your doctor will measure your resting blood pressure and heart rate. Your medication will usually be adjusted so that your resting heart rate is between 50 and 60 beats per minutes.

16.4 **Calcium channel blockers**
(Amlodipine, diltiazem, felodipine, nifedipine, verapamil, etc.)

These drugs prevent calcium from entering certain cells of the heart and blood vessels. They relax coronary arteries and other blood vessels, which increases oxygen supply to the heart. Calcium channel blockers can be used to prevent angina and control high blood pressure or heart rate.

**PRECAUTION**

- Tell your doctor if your feet, ankles or calves swell after using a calcium channel blocker.
- Verapamil can cause constipation. If any of these side effects occur, talk to your doctor or pharmacist.
16.5 Angiotensin II receptor blockers
(Candesartan, eprosartan, irbesartan, losartan, telmisartan, valsartan, etc.)

These drugs are used to control high blood pressure or treat heart failure (by helping the heart beat harder and work better).

PRECAUTION

- These drugs are sometimes prescribed with a diuretic in the same pill. They may therefore make you urinate more frequently. This is normal and will stabilize after a few days.

16.6 Antiplatelet agent
(Aspirin® [acetylsalicylic acid])

Low-dose Aspirin (80 to 325 mg per day) is used to thin your blood and prevent blood clots.

Aspirin can also be used with another antiplatelet agent (for example, clopidogrel, prasugrel or ticagrelor) after a coronary stent to prevent blood clots in the stent.

PRECAUTION

- Aspirin should be taken with food because it can irritate your stomach. To prevent this, your doctor may prescribe coated Aspirin. In this case, you must swallow the tablets whole without chewing or crushing them.

16.7 Other antiplatelet agents
(Ticagrelor, clopidogrel, prasugrel, etc.)

These agents work by reducing the ability of platelets to stick together. They work differently than Aspirin.

These drugs are used in conjunction with Aspirin to prevent blood clots after a stent. They are usually taken for 30 days to one year, depending on your medical condition. Be sure to follow the treatment duration prescribed by the doctor.
Clopidogrel can sometimes be used on a long-term basis if the patient had a stroke. Antiplatelet agents can also be used for certain coronary events (angina, heart attack).

PRECAUTION

- Always tell your doctor or dentist if you are taking an antiplatelet agent—especially if you need surgery—because this class of drug can cause prolonged bleeding.

**Important!**

*If you are prescribed an antiplatelet agent after a stent is installed, be sure to contact your cardiologist if you are asked to stop taking the agent prior to surgery or a procedure with a high risk of bleeding.*

16.8 Lipid-lowering agents

(Atorvastatin, pravastatin, rosuvastatin, simvastatin, fenofibrate, ezetimibe, etc.)

These drugs are used to lower blood cholesterol and triglyceride levels. They prevent plaque from forming on artery walls (atherosclerosis). This plaque can reduce blood flow to the heart. Lipid-lowering agents do not replace dietary changes and must be used as a complement to a low-fat diet.

PRECAUTIONS

- To maximize their effect, some of these agents must be taken at night (with supper or before bedtime) since cholesterol production increases at night. Your pharmacist can tell you the best time to take your medication.

- Lipid-lowering agents can cause muscle pain. If this occurs, tell your doctor so your treatment can be adjusted.
16.9 **ACE inhibitors (angiotensin-converting enzyme inhibitors)**

(Lisinopril, perindopril, enalapril, ramipril, fosinopril, etc.)

These drugs can help your heart beat harder and work better. They also help your heart recover after a heart attack.

**PRECAUTION**

- ACE inhibitors can cause a mild dry cough or hoarseness, neither of which is usually serious. However, if symptoms become unbearable, talk to your doctor so your treatment can be adjusted. The dry cough occasionally caused by ACE inhibitors does not respond to any over-the-counter cough syrup.

17. **SEXUAL HEALTH AND HEART DISEASE**

Resuming sexual relations after a heart procedure is often stressful for you and your partner. This is totally normal!

A number of physical and psychological factors can influence how quickly you resume sexual relations. New medications can affect erectile function or reduce your sex drive. You or your partner may also worry that sexual intercourse will cause your heart symptoms to reoccur. Most people get over their fears quickly and sexual relations resume naturally.

**HERE’S SOME IMPORTANT INFORMATION YOU NEED TO KNOW.**

17.1 **Resuming sexual relations**

If you had a heart attack, your doctor may recommend that you wait a few weeks before any sexual activity. Your risk of another heart attack drops after a few weeks if you have resumed your normal physical activities and are taking your medication.

If you are able to climb 20 stairs, you are ready to resume sexual relations.
MEN

Heart disease and erectile dysfunction often go hand in hand. A healthy diet, physical activity and a healthy weight can help lower your risk of erectile dysfunction.

Some drugs prescribed for heart disease can also cause this problem. If it occurs, talk to your doctor.

17.2 Erectile dysfunction medication

It can be dangerous to take erectile dysfunction medication with nitroglycerin or another heart disease drug.

It is formally contraindicated and not recommended to take erectile dysfunction medication when also taking nitroglycerin.

If you combine the two drugs anyway, you are very likely to experience drops in blood pressure or angina. If you took sildenafil or vardenafil in the past 24 hours or tadalafil in the last 48 hours and you are experiencing angina, do not take nitroglycerin.

Call 911 to be taken to the emergency room nearest you.

Ask your doctor about the best time to resume taking erectile dysfunction medication.

WOMEN

If you are on hormonal replacement therapy (HRT) for the symptoms of menopause, you should talk to your doctor. Some studies have shown that HRT can increase the risk of stroke and blood clots in women predisposed to them.
18. HEART DISEASE RISK FACTORS

Angioplasty with or without stent does not cure your heart disease but does repair the damage it has done to your heart. There are a number of heart disease risk factors. Some are not modifiable, such as age, sex and family history, but others are. This chapter discusses the ways you can change certain life habits that are harmful to your health. Numerous resources are available to help you change these habits. See the information at the end of this guide.

18.1 High blood pressure (hypertension)

Blood pressure is the pressure necessary to pump blood throughout your body. The only way to know your blood pressure is to measure it regularly. You are hypertensive if your blood pressure is over 135/85 mmHg (or 130/80 mmHg if you are diabetic). One in five people has high blood pressure, which is a sneaky disease that can cause numerous complications involving your heart, brain or kidneys. Thankfully, it is a modifiable risk factor.

STRATEGIES

- Maintain a healthy weight. If you are overweight, aim to lose weight.
- Consume less salt.
- Exercise regularly.
- Take your medications regularly, as prescribed.
- Drink alcohol in moderation and limit your consumption to:
  - Women: 1 to 2 drinks/day to a maximum of 9 drinks/week.
  - Men: 2 drinks/day to a maximum of 14 drinks/week.
  - Do not drink alcohol every day.
  - If you do not drink alcohol, keep it up!

18.2 Dyslipidemia

Cholesterol is a fat that your body produces naturally. Triglycerides are another type of fat that your body needs to function. While cholesterol and triglycerides are essential for your health, they can be harmful if your body has too much of them.
STRATEGIES

- Limit your intake of trans and saturated fats.
- Opt for monounsaturated and polyunsaturated fats (olive oil, canola oil, etc.).
- Eat fish high in omega 3s (salmon, trout, sardines, etc.).
- Lower your sugar intake and alcohol consumption.
- Consume more soluble dietary fibre (oats, barley, legumes, psyllium, fruits and vegetables).
- Exercise regularly.
- Take your medications as prescribed.

18.3 Overweight

Reducing your weight by 5% to 10% can often help you better manage your diabetes, lipid profile and blood pressure.

STRATEGIES

- Set realistic goals and avoid miracle diets.
- Eat slowly and reduce your serving size.
- Make better nutritional choices (for example, cut back on salt, sugar and trans or saturated fats and eat more fibre).
- Lower your alcohol consumption.
- Exercise regularly.
- Follow the recommendations of a dietitian and/or kinesiologist.

18.4 Physical inactivity

Physical inactivity is a lack of regular physical exercise. Inactive people have the same heart disease risk as someone who smokes a pack of cigarettes per day. Exercise is essential to improve your health. The recommendation is 150 minutes of exercise per week to protect your cardiovascular system, control your risk factors and improve your quality of life. Your periods of exercise in a day are cumulative.
STRATEGIES

- Aim for 150 minutes of moderate-intensity exercise per week.
- Walk as often as possible.
- Use a pedometer to count your steps. Aim for at least 5,000 steps per day and progressively increase to around 10,000 steps per day, depending on your tolerance.
- Take the stairs instead of the elevator.
- Follow the recommendations of a kinesiologist.

<table>
<thead>
<tr>
<th>INTENSITY</th>
<th>DAILY LIFE</th>
<th>EXERCISES/ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>• Light household chores (washing the dishes, cooking, making a bed)</td>
<td>• Walking at a slow pace on a flat surface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Stationary bicycle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bowling, pool</td>
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<tr>
<td></td>
<td></td>
<td>• Fishing</td>
</tr>
<tr>
<td>Moderate</td>
<td>• Moderate household chores (scrubbing the floor, washing the windows, gardening)</td>
<td>• Walking at a moderate pace on a flat surface</td>
</tr>
<tr>
<td></td>
<td>• Sexual relations</td>
<td>• Going up and down the stairs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Moderate cross-country skiing, downhill skiing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Aqua fitness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Golfing without a cart</td>
</tr>
<tr>
<td>Vigorous</td>
<td>• Shovelling snow</td>
<td>• Jogging</td>
</tr>
<tr>
<td></td>
<td>• Chopping wood</td>
<td>• Hiking</td>
</tr>
<tr>
<td></td>
<td>• Mowing the lawn (push mower)</td>
<td>• Cross-country skiing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Swimming</td>
</tr>
</tbody>
</table>

18.5 Diabetes

Diabetes is a chronic disorder caused by high blood sugar. It significantly increases your cardiovascular disease risk. Making major changes to your lifestyle can help you better manage your diabetes.

STRATEGIES

- Check your blood glucose (a normal level is 4 to 7 mmol/L when you wake up and 4 hours after meals).
- If you are overweight, reduce your weight by 5% to 10%.
- Limit your consumption of sugar, fat and alcohol.
- Increase your intake of soluble dietary fibre (oats, barley, psyllium, legumes, fruits and vegetables).
- Exercise regularly.
- Take your medications as prescribed.
18.6 Stress

Stress is a reaction to certain negative or positive situations. It varies with each person. Stress is negative if it causes you to lose or lack control and prevents you from leading a balanced life. If stress is repetitive or persists for long periods of time, it can negatively affect your health.

STRATEGIES

- Identify the signs and causes of stress to be aware of them.
- Express your emotions by sharing your needs and fears with someone else.
- Set and respect your priorities.
- Do a variety of activities that you enjoy (physical activities, relaxation techniques, laughing, listening to music, etc.).
- Take part in a stress management workshop.
- Make sure you sleep well.
- Plan to deal with certain situations (get informed, develop strategies, visualize, develop a positive inner voice, etc.).
- Live in the present.

18.7 Smoking

Quitting smoking is one of the most important things you can do for your health. No medication will ever work as well!

SMOKING

- Lowers or even negates the effectiveness of many medications.
- Reduces the useful life of a coronary bypass by half.
- Increases your risk of wound infection after surgery.
- Increases your healing and recovery time.
IF YOU STOP SMOKING

- After 8 hours, your body oxygen level improves. Your risk of complications during and after surgery decreases.
- After 48 hours, your heart attack risk starts to drop.
- After 72 hours, your lungs work better and it is easier to breathe.
- After 2 to 12 weeks, blood flow improves and it is easier to walk.
- In less than one year, your smoking-related heart risk is halved.

*It can often take several tries before you quit smoking for good.*

19. **RESUMING PHYSICAL ACTIVITY AFTER YOUR PROCEDURE**

FOLLOW THESE TIPS TO MAXIMIZE THE BENEFITS OF EXERCISE.

- Always do activities you enjoy, and do them how you want.
- Start your activity with a 5- to 10-minute warmup.
- Exercise with others: walk with your partner, a family member or a walking club.
- Do not exercise during extreme temperatures (severe cold, high humidity, heatwave, etc.).
- Wait 30 to 60 minutes after a meal before exercising.
- Be patient: it can take a few weeks before you see any improvement, so go at your own pace. The benefits will happen by themselves, and you will soon feel better.
The PPMC specializes in educating people with or without cardiovascular, pulmonary or metabolic (obesity, diabetes) health problems. The multidisciplinary team composed of nurse clinicians, dietitians and kinesiologists (physical activity specialists) is there to give you advice and monitor your progress.

Cardiac rehabilitation is an important step in your care. It provides an opportunity for you to reflect on your health, take steps to regain your health and meet other people who are going through the same things as you. Our team of health professionals will guide you every step of the way.

Depending on your diagnosis, you may be eligible to take part in a three-month cardiac rehabilitation program with the PPMC's professionals free of charge.

Contact us at 418 656-4594 to see whether you are eligible.

SITE WEB

20.1 Health talks

Because of your health, you will need to change certain life habits and make some adjustments in your life. The PPMC organizes free health talks twice a year that you and your family members can attend. These talks are designed to inform you about:

- cardiovascular disease and risk factors;
- medications;
- physical activity;
- stress and anxiety;
- nutrition.

20.2 Nutrition advice

To help you develop healthy eating habits, we offer nutrition courses on:

- the Mediterranean diet;
- understanding food labels;
- listening to your body;
- eating well to better manage your diabetes;
- using herbs and spices to liven up your food.

20.3 Exercise program

A kinesiologist is a health professional who specializes in physical activity and can help you develop a safe and personalized exercise program that respects your health problems.

WEIGHT MANAGEMENT – AMIGO PROGRAM

This program provides you with regular, ongoing and personalized support to help you better manage your excess weight. It is also designed to help you control cardiovascular disease risk factors, which are closely tied to obesity and physical inactivity. The program is supervised by a multidisciplinary team over 12 months.
21. OTHER RESOURCES

- Fondation des maladies du coeur et de l'AVC du Québec
  1-800-567-8563
  Site web: www.fmcoeur.qc.ca

- Les diabétiques du Québec
  418-656-6241
  Site web: www.lesdiabetiquesdequebec.org

- Association diabète Québec
  1-800-361-3504
  Site web: www.diabete.qc.ca

- La société québécoise d'hypertension artérielle
  Site web: www.hypertension.qc.ca

- J’Arrête
  1-866-527-7383
  Site web: www.jarrete.qc.ca

22. CONCLUSION

This version of Taking your life to heart was updated based on the questions and comments of previous patients of the hemodynamics laboratory. We hope that it has answered all your questions about the procedure.

At the Québec Heart and Lung Institute, our primary concern is to give you the best care possible and ensure we meet every one of your needs. Feel free to share your comments with us!
23. **BIBLIOGRAPHY**


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The IUCPQ Foundation’s role is to promote and support the work of the Institute, whose primary mission is to foster the health of individuals with cardiorespiratory and obesity-related diseases. The Foundation raises and administers funds to support specialized equipment purchases and to fund research and teaching efforts for the benefit of the 2.2 million people living in central and eastern Quebec.

Yes! I wish to donate.

Hemodynamics procedures

Enclosed is my contribution:  $25  $50  $75  $100  Other: $_____

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Last name:____________________________________________________________

Address:________________________________________________________________

City:________________________________________________________Province:_________

Postal code:___________________________________________________________

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Telephone: (____)________________________

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Signature:_________________________________________________________________

Card number:_________________________ Expiration date:____________________}

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