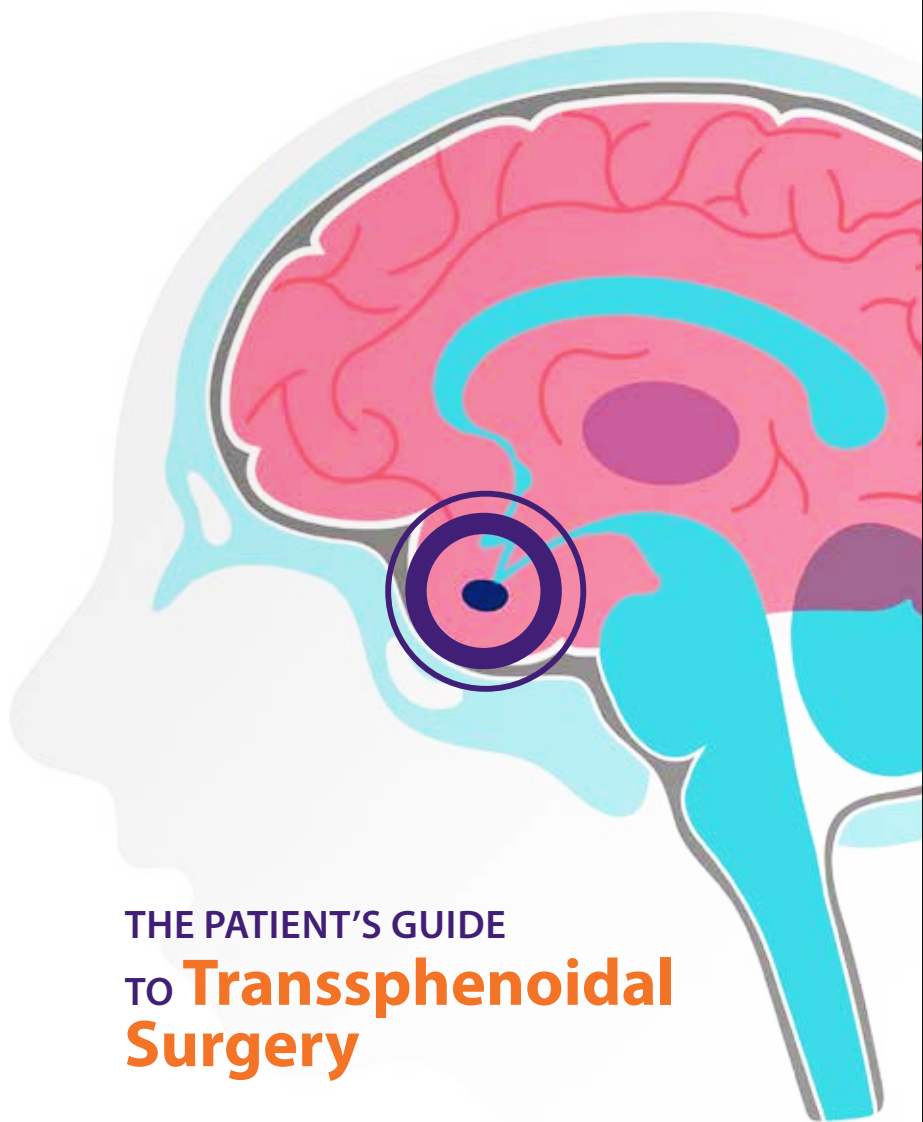




Institut-Hôpital
neurologique de Montréal



THE PATIENT'S GUIDE
TO **Transsphenoidal
Surgery**



McGill

Centre universitaire
de santé McGill



McGill University
Health Centre



Your health care team recommends that you have transsphenoidal surgery.

This booklet will help explain:

- Pituitary adenomas (a common reason to have this type of surgery),
- the surgery,
- how to prepare for it, and
- your recovery .

If you have any questions, please speak with a member of your health care team.

Table of Contents

What is the Pituitary Gland	1
What is a pituitary tumour?	2
What is Transsphenoidal Surgery?	3
Your Health Care Team	5



Neurosurgeon and neurosurgery residents	5
Ear nose and throat (ENT) surgeon and ENT residents	6
Endocrinologist	6
Nursing team	6
Before the Surgery	7
Preparing for your surgery	7
<i>Stop smoking and vapping</i>	<i>7</i>
<i>Cut down on drinking alcohol</i>	<i>7</i>
<i>Cannabis use</i>	<i>7</i>
<i>Insurance forms</i>	<i>7</i>
<i>Arrange transportation</i>	<i>8</i>
<i>Tests you may need</i>	<i>8</i>
Pre-operative visit	9
Phone call from Admitting	9
Cancelling your surgery	10
Washing	11
<i>The night before your surgery</i>	<i>11</i>
<i>The morning of your surgery</i>	<i>11</i>

Eating and drinking before your surgery	12
<i>The day before surgery</i>	12
<i>The morning of surgery</i>	13

Things to bring to the hospital	14
---------------------------------------	----



The Day of Your Surgery 15

Arriving at the hospital	15
In the pre-operative area	15
In the Operating Room	15
Waiting room	16

After Your Surgery 17

In the Neuro recovery room	17
Pain control	18
Nausea control	19
Drains, lines and blood tests	19
Taking care of your nose	20

<i>While you are recovering</i>	21
---------------------------------------	----

Incisions and bandages	21
------------------------------	----

Exercises	22
-----------------	----

<i>Leg Exercises</i>	22
----------------------------	----

<i>Deep breathing</i>	23
-----------------------------	----

<i>Walking and other activities</i>	23
---	----

Diet	24
------------	----

Symptoms to report to your nurse	25
--	----

Infection preventions	25
-----------------------------	----


At Home 27

Taking care of your nose at home	27
--	----

Medication	27
------------------	----

Incision and bandages	27
-----------------------------	----

Getting back to your regular activities	28
---	----

 What signs and symptoms should you monitor?	29
---	----

Call your neurosurgeon if you	30
-------------------------------------	----

Follow up appointments	30
------------------------------	----

Who to Call for Appointments and Questions 31

Hospital Services 33

Wi-Fi	33
-------------	----

Neuro-Patient Resource Centre	33
-------------------------------------	----

Waiting Room/Family Room	34
--------------------------------	----

Healing Gardens	34
-----------------------	----

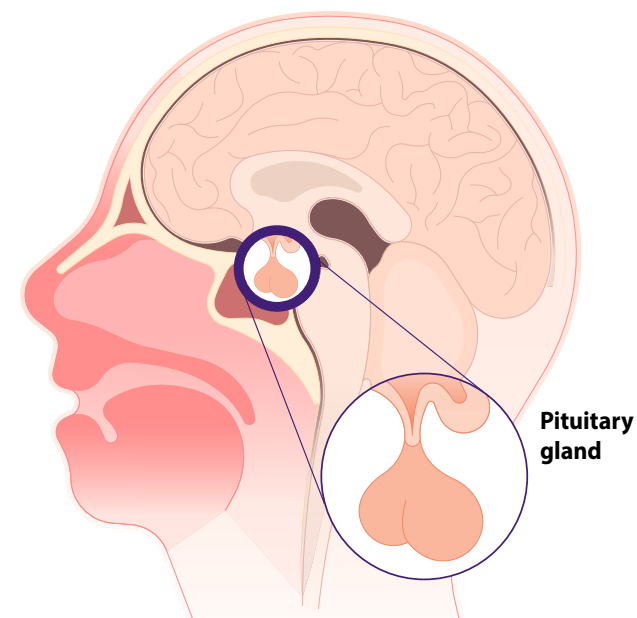
Other services	34
----------------------	----

Web Sites 35

Acknowledgements 37

Map 39

What is the Pituitary Gland?



Before we explain transsphenoidal surgery, we will describe the pituitary gland and what happens when a tumour develops there.

The pituitary gland is small, pea sized gland found at the base of your brain, just above the back of your nose. Glands make and release substances, called hormones that send signals to other parts of your body.

These hormones control different things, for example:

- how your body grows
- menstruation
- how the body regulates food (metabolism) and water (fluid balance)

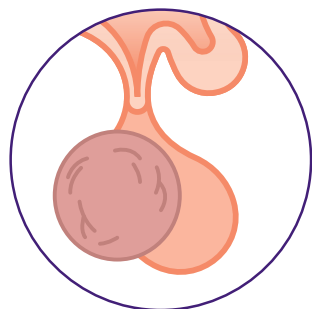
What is a pituitary tumour?

A tumour is a group of abnormal cells that form a lump.

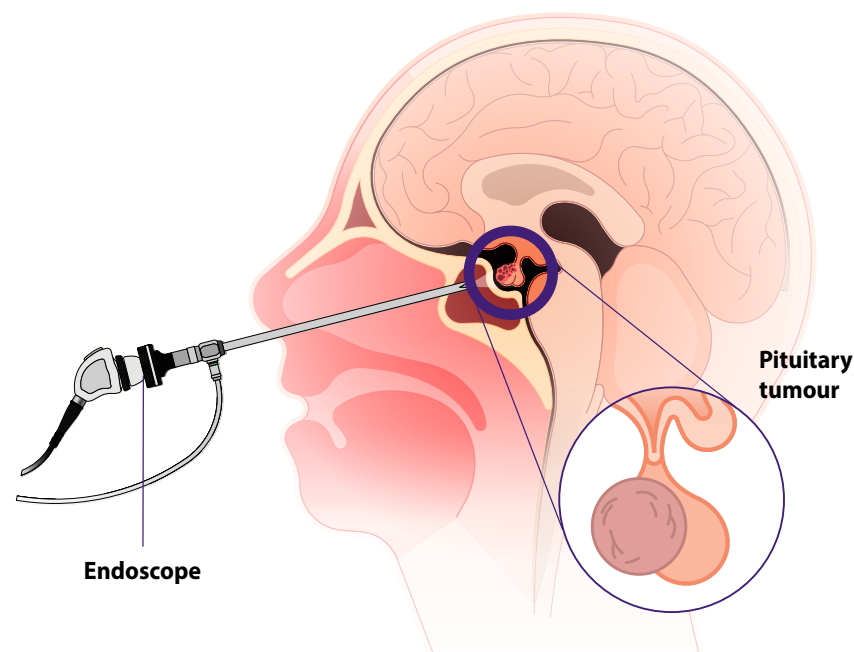
Tumours in the pituitary gland are usually benign. This means they do not cause cancer. But a pituitary tumour can cause other problems.

The tumour may:

- cause the pituitary gland to make too many or too few hormones.
- push on parts of the brain, nerves, or blood vessels. This pressure can cause problems such as headaches and changes in vision.



What is Transsphenoidal Surgery?



Transsphenoidal surgery is surgery to remove tumours in or near the pituitary gland.

This is what happens during the surgery:

- You will get medications so that you are asleep and pain free.
- Your surgeon will make a small hole between your nose and your brain. An endoscope (a thin telescope) is passed through your nose to reach the pituitary gland.
- The tumour is removed through the endoscope.
- The hole will be patched using a small piece of tissue from your thigh.

Having the surgery done through your nose is the most direct way to reach the tumour. This kind of surgery does not leave a scar.

■ Your Health Care Team



→ *Neurosurgeon and neurosurgery residents*

Neurosurgeons specialize in surgery of the brain, spine, and nerves. The neurosurgeon will perform your surgery along with an ear nose and throat (ENT) surgeon. Neurosurgery residents also assist during the surgery and follow your recovery after the surgery. Surgery residents are medical doctors getting specialized training in surgery.

→ **Ear, Nose and Throat (ENT) Surgeon and ENT Residents**

ENT surgeons specialize in surgery of the ears, nose, and throat. They help the neurosurgeon safely reach the tumor, remove the tumour, and close the area where the tumor was located. They will also follow you closely after the surgery to make sure your nasal cavity heals properly.

→ **Endocrinologist**

You may also have an endocrinologist. Endocrinologists specialize in diseases that affect your glands and hormones. The endocrinologist will give you tests or treatments to make sure that your hormone levels are in balance.

→ **Nursing Team**

The nurses at the Neuro have a lot of experience caring for people with pituitary tumours. They provide medical treatment and care as you recover from your surgery. They can also answer your questions. The nursing team includes nurses, nursing assistants and patient attendants.

Before the Surgery

Preparing for your surgery



Stop smoking and vaping

You should quit smoking 4 weeks before your surgery and stop vaping 3 days before. Quitting can help you recover faster.

See page 39 to learn more.



Cut down on drinking alcohol

Avoid alcohol, as much as possible, for 4 weeks before your surgery. It is very important that you do not have any alcohol 24 hours before your surgery.

Cannabis use

Tell us if you use cannabis. Usually, you should stop using it 4 weeks before your surgery. If cannabis has been prescribed by a doctor, do not stop. Tell us during your pre-operative visit.

Insurance forms

If you have insurance forms to be filled out (e.g., salary insurance) bring them to your surgeon's office.

Arrange transportation

You will not be able to drive for about 6 weeks after your surgery, or until your surgeon says it is ok.

For that reason, you should arrange for someone to drive you home when you leave the hospital. Your hospital stay will usually be 3 days.

Tests you may need

Your surgeon will ask you to do some tests before your surgery, such as:

- an MRI (magnetic resonance imagery) or a CT scan (computerized axial tomography). These tests will help your doctors know exactly where the tumour is located.
- eye tests to see if your vision is affected by the tumour.
- blood and urine tests to check your hormone levels.



Pre-operative visit

The reason for this visit is to check your health, plan your care, and make sure you are ready for surgery.

During your pre-op visit, you will:

- meet with a nurse
- have blood tests
- learn how to prepare for your surgery
- learn what to expect after your surgery

You may also:

- meet with a doctor
- have an electrocardiogram (ECG)

If you have any questions, you may contact the nurses of the pre-admission clinic at 514-398-1529, Monday to Friday, from 8 a.m. to 3 p.m.

Phone call from Admitting

The Admitting Department will phone you in the evening of the day before your surgery. They will give you the final confirmation. They will also tell you what time to go to the hospital.

If the day before is a regular business day, you should get the call before 4 p.m.

If the day before your surgery is a Sunday or a holiday you will get the call on the Friday or the day before the holiday — before 3 p.m.

If you do not get a call, please call 514-398-1900 for a confirmation at 4 p.m.

Date of surgery: _____

Time of arrival at the hospital:

Room: _____ 346, 3rd floor _____

The time given is for the arrival to the hospital. The actual surgery start time may vary.

Cancelling your surgery

If you are sick (including symptoms of a cold, indigestion, covid or other), pregnant, or for any reason cannot come to the hospital for your surgery, call your surgeon's office as soon as possible.

If you cannot reach your surgeon, call the Admitting Department at 514-398-1900.

Please keep in mind that your surgery might need to be delayed or cancelled because of an emergency. If this happens, your surgeon will reschedule your surgery as soon as possible.

Washing

The night before your surgery:



Have a bottle of Dexidin 4% (*available at your pharmacy*).

1. Use regular soap and shampoo for your face and hair.
2. Using $\frac{1}{2}$ of the bottle of Dexidin 4%, wash your body from your head to your toes, including your hair. Make sure to wash your belly button and genital area.
3. Do not shave your face.
4. Wear clean clothes to bed.

The morning of your surgery:


1. Take a shower or bath using the rest of the Dexidin 4%.
2. Do not put on lotion, perfume, makeup, or nail polish.
3. Do not wear jewelry or piercings.
4. Do not shave your face.
5. If you wear contact lenses, wear your glasses instead.
6. Put on clean and comfortable clothes.
7. For women, if you are menstruating on the day of the surgery use a pad. Tampons and menstrual cups are not allowed.

Eating and drinking before your surgery

Most people can follow the instructions below. Your nurse will confirm if these instructions apply to you.

The day before surgery

- Do not have any alcohol that day.
- Eat and drink normally until midnight.
- After midnight, do not have any food, dairy products or juice with pulp. Only clear liquids are allowed.

	Examples of clear liquids	
Water	coffee or tea without milk	
Clear juice with no pulp (juice you can see through)	Jello or popsicle	


The morning of surgery

- Do not have any food, dairy products or juice with pulp.
- Drink about 400 ml of clear juice (juice without pulp, that you can see through).

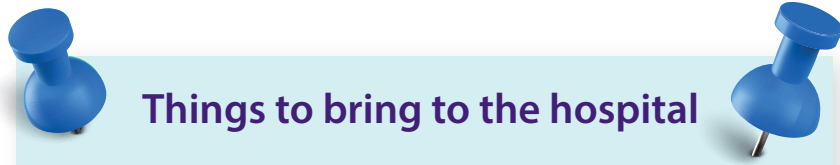
Finish drinking the juice 30 minutes before you arrive at the hospital. For example, if you are asked to arrive at the hospital for 6 a.m., you should finish the juice at 5:30 a.m.

- Clear liquids are allowed up until 30 minutes before the time you are asked to arrive at the hospital.
- Bring an extra bottle of juice with you to the hospital, but do not drink it.

If your surgery happens later in the day, the nurse may tell you to drink more juice.

	Examples of clear juice	
Apple juice	Cranberry cocktail	
Commercial iced tea	Lemonade without pulp	

- A small number of people should not drink at all on the day of surgery (except for sips with medication). Your nurse will tell you if you are part of this group and need to stop eating and drinking at midnight.



Things to bring to the hospital

- ☐ Medicare and hospital cards
- ☐ Toiletries, underwear, and socks
- ☐ This booklet
- ☐ The list of all the medication you take. Ask your pharmacist to give you a list.

If needed

- ☐ Your CPAP machine (if you use one for your sleep apnea)
IMPORTANT: *If you use a CPAP with a nasal pillow, you will not be able to use your CPAP. You need to wait until your nose has healed and your doctor says its ok.*
- ☐ Your glasses, contact lenses, hearing aids, dentures, and their storage containers labeled with your name
- ☐ Your cane, crutches, walker, labeled with your name
- ☐ Someone to translate for you if you do not speak French or English



Bring these items in a small bag with your name on it. There is very little storage space.

Do not bring anything of value. Do not bring credit cards or jewelry. The hospital is not responsible for lost or stolen items.

The Day of Your Surgery

Arriving at the hospital

You will have received a phone call telling you at what time to come to the hospital. When you arrive please go to room 346 on the 3rd floor. You do not need to register. The nurse will come for you.

In the pre-operative area

The nurse will help you get ready for the surgery. The nurse will ask the person accompanying you to keep your belongings with them until your surgery is finished and you have a room on the hospital unit (*if possible*).

In the Operating Room

A patient attendant (orderly) will take you to the Operating Room.

In the Operating Room, you will meet your surgical team and the anesthesiologist. The anesthesiologist is the doctor who will give you medication so that you are asleep and pain-free during your surgery.

The surgery usually takes 4 hours.

Waiting room

Family and friends may wait for you in waiting room 346. The space is small so please limit the number of people you bring. The nurse from the Neuro recovery room will call either the waiting room or the cell phone number of your family member when your surgery ends.

See page 33 for more information on the things available in the waiting room.



Free Wi-Fi
Guest.mcgill.ca

If you are having trouble connecting, call 514-398-5358 or go in person to room 354.

After Your Surgery

In the Neuro recovery room

After your surgery, you will wake up in the Neuro recovery room.

You might have:

- an oxygen mask, giving you oxygen,
- an intravenous (IV), in your arm giving you fluids and medication,
- compression sleeves to help blood circulation and prevent blood clots,
- a urinary catheter to drain your urine,
- packing in your nose to protect the site of the surgery or
- a bandage on your thigh to cover the incision.



The nurse will:

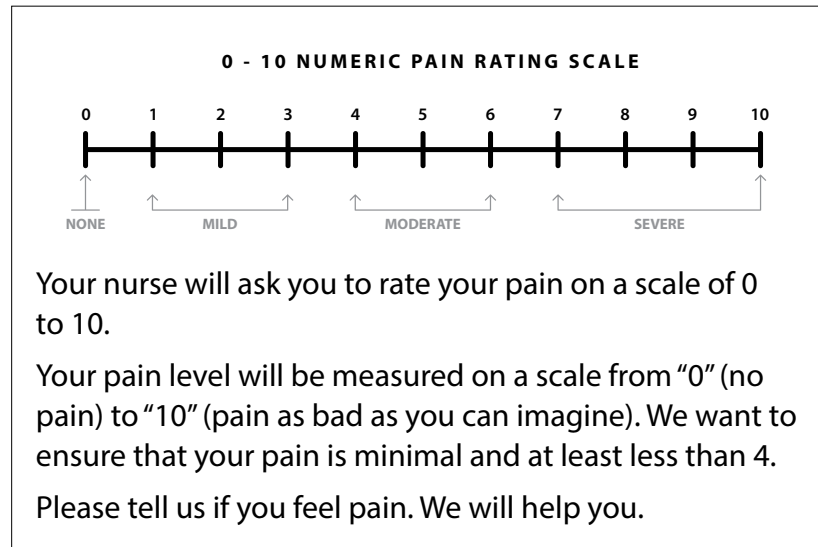
- check your pulse and blood pressure,
- check your bandage,
- ask if you feel pain and
- make sure you are comfortable.

Later, as you recover, we will move you to a care unit. You will stay in the hospital for 3 to 5 days.

Pain control

It is important to control your pain after surgery because it will help you to:

- breathe better,
- move better,
- eat better,
- sleep better, and
- recover faster.



Nausea control

Some patients have nausea after their surgery. We can give you medications to help. If you feel nauseous, start eating and drinking gradually. For example, you may start with clear fluids (soup broths, teas or jello). If this goes well, continue with semi liquid foods (e.g., yogurt, cream soups, smoothies) and gradually return to a regular diet.

Drains, lines and blood tests

As you recover, we will remove some of the drains and lines you needed during surgery.

- Your IV will be removed as soon as you are able to eat and drink normally.
- You will have a urinary catheter for about 24 hours after the surgery. The reason for the catheter is to allow the nurses to measure how much urine your body makes every hour. This will help us make sure that your body is making the right amount of a hormone that controls the water in your body.

You will have a blood test every day while you are in the hospital. This will help to check the hormones in your body and the balance of the elements in your blood.

Taking care of your nose

You will have a light packing in your nose when you wake up from surgery. This will stay in for at least 1 day, but maybe 2 days if you need it. You must breathe through your mouth while your nose is blocked with the packing. Because of this, your mouth may feel dry and uncomfortable.



Here is what can help:	
	Use a mask that releases moist air
	Drink water
	Use lip balm (e.g., Vaseline)

After we remove the packing from your nose, you may have nasal congestion and a weaker sense of smell. You may also have some bloody mucus from your nose. These problems will go away in a few days or weeks.

We will give you a saline nasal spray to use 4 times a day in both nostrils. This will help keep your nasal passages moist and clean.

While you are recovering

Try not to sniff, cough, or sneeze through your nose. If you need to sneeze, open your mouth

Do not:	
	Blow your nose
	Pinch your nose while sneezing

Incisions and bandages

The cut on your thigh will be covered with a bandage for the first 2 days after surgery. Your stiches or staples will be removed after you go home.

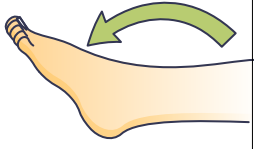
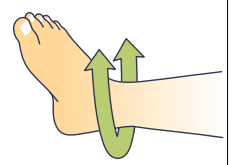
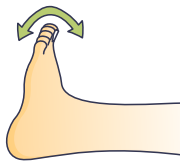


Exercises

You must move around after your surgery. This will help prevent blood clots, muscle weakness, and lung problems like pneumonia.

Leg Exercises

These exercises help the blood flow in your legs.

		
→ Stretch your legs out straight.	→ Circle your feet to the right and left.	→ Wiggle your toes and bend your feet up and down.

Repeat each exercise 4 to 5 times every 30 minutes while you are awake.

Deep breathing

We may give you an inspirometer. An inspirometer is a machine that helps you breathe deeply. It helps prevent pneumonia.



Inspirometre

To use your inspirometer:

- Put your lips around the mouthpiece.
- Breathe in deeply. Try to hold the yellow ball where you see the happy face.
- Remove the mouthpiece and breathe out.
- Repeat 10 times every hour.
- Rest for a few seconds.

Walking and other activities

Walking is a great exercise that can help you recover faster.

On the evening of your surgery, try to sit in a chair to have your dinner. Starting the day after your surgery, we encourage you to get up and walk at least 3 times a day.

You may wish to visit the healing garden on the first floor! (See the map on page 33.)

Every day that you are in the hospital, continue to do your:

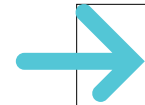
- leg exercises,
- breathing exercises, and
- walks.

Diet

Usually there are no restrictions to your diet. Eating a healthy, well balanced diet can help you recover faster.

Some pain medications can cause constipation. To help your bowels stay regular:

- Drink more liquids (most people should drink between 6-8 cups of liquids every day).
- Eat foods with fiber (fruits, vegetables, whole grains).
- Take the Lax-a-day, if this was prescribed.
- Walk often (physical activity and exercise can help keep your bowels regular).



Symptoms to report to your nurse

- Salty liquid dripping in the back of your throat
- Liquid coming from your nose
- Headache, dizziness or ringing in your ears when you stand up
- A change in your vision
- Any other symptom that worries you

Infection preventions

- Wash your hands when entering and leaving the patient room.
- Do not touch the catheter, wounds or IV lines.
- Do not share food utensils.
- Only patients should use the bathroom in the patient rooms.
- Visitors should not sit on the bed.
- Visitors should hang coats and bags up on hooks.



At Home

Taking care of your nose at home

Continue to use saline spray in each nostril 4 to 8 times a day until your ENT (ear nose and throat) surgeon tells you to stop. Do not blow your nose until your ENT surgeon tells you that your nose has healed.



Medication

Before you leave the hospital, we will explain any new medications you need to take. Keep taking your medications unless your doctor tells you to stop.

Incision and bandages

The bandage on your thigh may be removed before you go home.



You can shower after we remove the bandage. Dry the incision well by patting it with a towel. Do not use creams and lotions while the incision is healing, unless recommended by your doctor.

A nurse from the CLSC will remove the staples or stitches on your thigh 14 days after your surgery. If you do not get a phone call to schedule your staple removal, call your CLSC.

Getting back to your regular activities

After the surgery, you may feel weak and tired. This is normal and will last for a couple of weeks. If you feel tired, rest.

In the six weeks after your surgery, you can gradually resume your regular activities.

	Activities you can do after your surgery
<ul style="list-style-type: none">Do gentle exercise, such as walking (this will help you recover)Shower and wash your hairTravel by airplaneHave sex	
	Activities you cannot do until your surgeon approves
<ul style="list-style-type: none">Return to workBend, strain or lift heavy objectsBlow your noseSo intense aerobic exerciseSwimDrive, especially if you are on painkillers or have problems seeing	

What signs and symptoms should you monitor?

Problems rarely happen after leaving the hospital, but you should be aware of the signs and symptoms listed below.

Call your neurosurgeon if you:

- start bleeding from your nose.
Don't worry about a little bit of blood-stained mucus, or old dark blood clots. This can happen with the saline sprays.
- have changes in your vision (e.g., if you see double, if light bothers you, or if you can't see normally).
- have neck pain.
- have fever — a temperature higher than 38°Celsius or 100° Fahrenheit, chills, shivering and muscle aches.
- have a headache that won't go away or is getting worse.
- are always thirsty and have to go to the bathroom more than you did before your surgery.
- feel dizzy or lightheaded.
- faint.
- have pus, foul odour, or pain from your wound. If your wound is red, warm to touch or the wound is opening, contact your doctor.

These are signs of infection.



If you cannot reach your neurosurgeon for any of the above problems, go to the closest Emergency Department.

Go to the Emergency Department right away if you:

- feel water dripping from your nose that won't stop.
- have dripping of salty liquid in the back of your throat.
- are very drowsy or hard to wake up.
- feel confused.
- feel restless or agitated, for no obvious reason.
- have nausea or if you are vomiting.
- have sudden vision changes.

Follow up appointments

- Endocrinologist in 6 to 8 week *(needed for most patients)*
- MRI
- Visual field (Eye) test
- ophthalmologist *(if needed)*
- Neurosurgeon about 3 months after surgery
- ENT surgeon about 2-3 weeks after surgery, then again at 4 months after surgery

The administrative agent(s) will call you with a time for your appointment(s). If you do not get a call after the first week, or you have any concerns, call the clinic.

Who to Call for Appointments and Questions

→ Neurosurgeon

- **Dr. Sirhan**
 - Tel.: 514-398-5146 *(for appointments only)*
Tel.: 514-398-1933 *(for questions or concerns)*
 - Montreal Neurological Hospital
3801 University Street
Room 109

→ Endocrinologist

- **Dr. Rivera**
 - Tel.: 514-934-8224
 - Glen Site – Royal Victoria Hospital
1001 Décarie Blvd.
Room D 02.5110

→ ENT surgeon

- **Dr. Tewfik
Dr. Zeitouni**
 - Tel.: 514-934-1934, ext. 34978
 - Glen Site – Royal Victoria Hospital
1001 Décarie Blvd.
Room D S1.3437

Hospital Services

Wi-Fi

Use guest.mcgill.ca to connect to the free Wi-Fi.
If you are having trouble connecting, call 514-398-5358
or go in person to room 354..

Patient Resource Centre



Room 354	514-398-5358	infoeuro@muhc.mcgill.ca
----------	--------------	--

The Centre is available to help you and your family find more information about your surgery, community resources and other health topics. You may also use the computers, printers, fax and photocopy machines.

→ Waiting Room/Family Room

Families are welcome to visit room 346.

Available in the waiting room:

- Computer with internet
- Books/magazines
- Microwave
- Fridge
- TV

→ Healing Gardens

You can visit the healing garden on the 1st floor in room 105.



→ Other services

www.mcgill.ca/neuro/patients-visitors/services-patients-visitors

Visit the Montreal Neurological Hospital we page to learn more about the other services available for patients and visitors (e.g., parking, the cafeteria, support and spiritual services, and amenities).

Or scan the QR code



Sites Web

If you would like more information on pituitary adenoma or other types of brain tumours, visit:

→ www.mcgill.ca/infoneuro

→ www.braintumour.ca

Resources to help you quit smoking



-1-866-527-7383

-www.iqitnow.qc.ca



The Quebec Lung Association

-1-888-768-6669

-www.poumonquebec.ca/en

Quit smoking centres (Ask your CLSC for information)

Smoking cessation clinic at the MUHC

(This requires a referral from your doctor.

Send the request by fax to 514-934-8488.)



Remember: It is possible to quit smoking, even if you have smoked for a long time. Your family doctor or local pharmacist can help as well, by prescribing medication.

Acknowledgements

Authors:

- **Heather Perkins**, Advanced Practice Nurse
- **Elisabeth Heroux**, Nurse Clinician

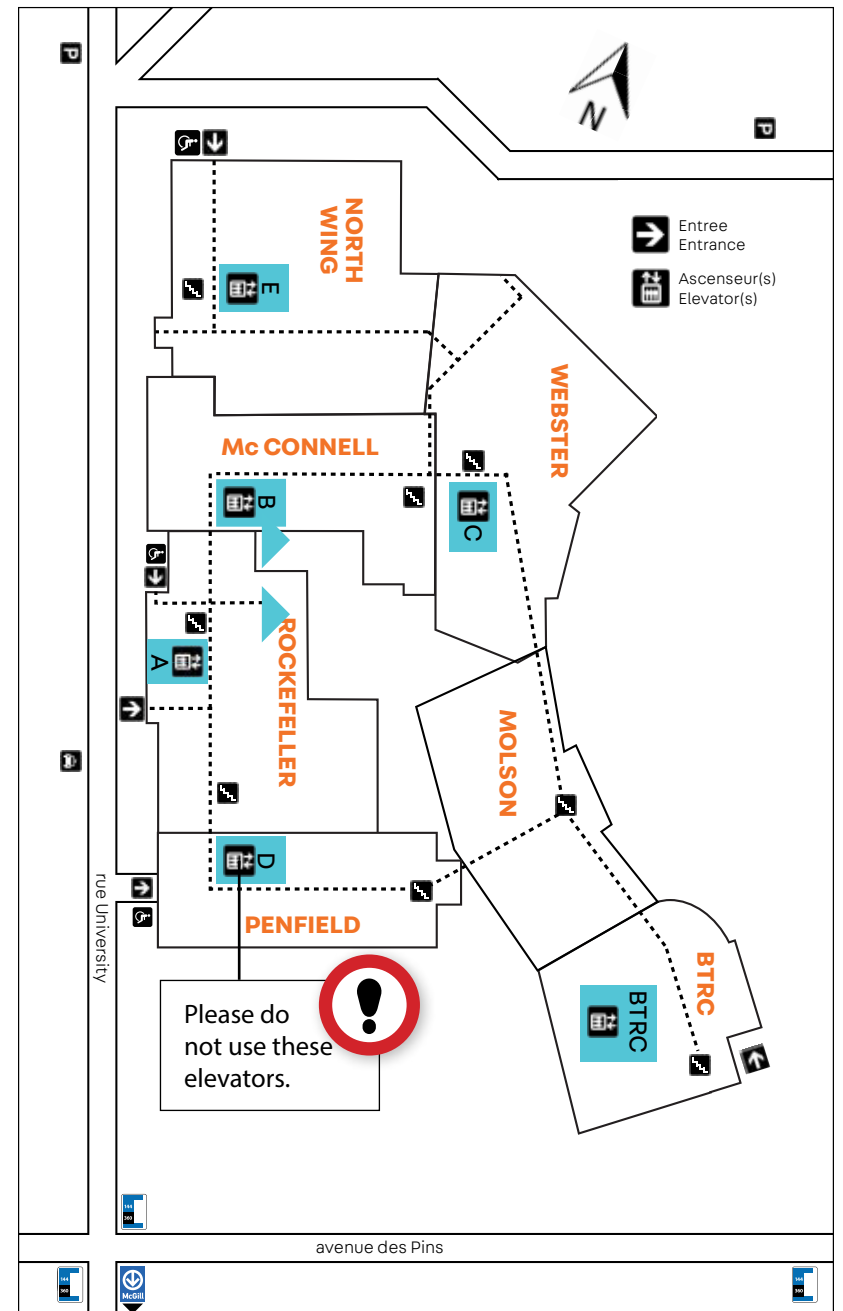
Collaborators:

- **Dr. Denis Sirhan**, Neurosurgeon
- **Dr. M.A. Tewfik**, ENT Surgeon
- **Sawsan Ibrahim**, Nurse Clinician
- **Gabriel Domocos**, Advanced Practice Nurse
- **Marie Grace Ocampo**, Nurse
- **Eileen Beany Peterson**, Librarian
- **Sabrina Burr**, Librarian

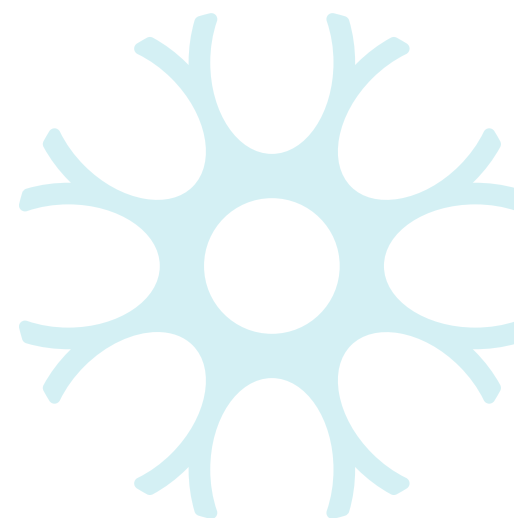
Graphic design:

- **Emmanuel Flores** — MUHC Medical Multimedia Services

Map



[illegible]



Montreal Neurological Institute-Hospital
3801 University St., Montreal QC H3A 2B4
514-398-1921
www.mcgill.ca/neuro

Important: Information provided by this booklet is for educational purposes only. It is not intended to replace the advice or instruction of a professional healthcare practitioner, or to substitute medical care. Contact a qualified healthcare practitioner if you have any questions concerning your care.

This document is also available on the MUHC Patient Education Office's website: www.muhcpatienteducation.ca

