



# DEPARTMENT OF NEUROSURGERY

## *A Guide for Your Spine Surgery*



**Lifespan**

*Delivering health with care.®*







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# Preparing for Surgery

## PRE-OPERATIVE

Please schedule the required Primary Care Provider appointment within 30 days of your surgery. Your preadmission testing (PAT) appointment at Lifespan may include the following:

- A complete health history
- EKG
- Chest X-ray
- Review of current medications
- Blood work

PAT is located at: 208 Collyer St, Providence, RI 02904. In some instances this appointment may be conducted by phone.

To prevent constipation the use of natural or over-the-counter laxative remedies such as prune juice, etc. in the week prior to surgery as post-operative constipation is common.

## MEDICATIONS TO AVOID

Your provider should discuss with you how to alter your medication routine. Generally, blood thinning medications should usually be stopped 10 days before surgery (before stopping, please discuss with your prescribing physician). This includes prescription and non-prescription drugs such as:

### NSAIDS (Non-Steroidal Anti-Inflammatory Drug)

- Advil
- Aleve
- Diclofenac
- Ibuprofen
- Meloxicam
- Motrin
- Naprosyn

### Anticoagulants

- Aspirin
- Coumadin/  
Warfarin
- Eliquis
- Plavix/Clopidogrel
- Pradaxa
- Xarelto

\*Consult with surgeon and/or prescribing provider for further instructions.

### Herbal Stimulants

- Fish Oil
- Green Tea
- Megavitamins
- Omega 3 Fatty Acid

ACETAMINOPHEN (TYLENOL) MAY BE CONTINUED.



## SMOKING CESSATION

Smoking nicotine will significantly impair healing after surgery and/or inhibit fusion taking place (if applicable).

It is important that you stop all nicotine products, including cigarettes, for at least 6 weeks prior to surgery and for at least 3 months following surgery. If you are unable to stop smoking completely, speak to your primary care provider about medications that aid in smoking cessation. Any aid used must not contain nicotine. If you need help quitting, call **1-800-QUITNOW** or [www.betobaccofree.gov](http://www.betobaccofree.gov).

## NUTRITION

A balanced diet promotes healing and prevents infection—it is important during pre- and post-surgical care.

An iron supplement may be recommended before surgery if you donate blood. Discuss the need for other vitamin or mineral supplements with your provider.

## GIVING INFORMATION ABOUT YOUR CARE

Due to HIPAA (Health Insurance Portability and Accountability Act), which is a federal regulation designed to protect patient privacy, we will give information only to one person. Under most circumstances, the patient designates a family member to receive his or her information. That designee should then update all other family members about your condition.

## NIGHT BEFORE SURGERY

You will receive a call 1-2 business days prior to surgery to provide you with your surgery time.

On the night before your surgery, do not eat or drink anything after midnight. If you have been instructed to take any medication, do so only with small sips of water.

## DAY OF SURGERY

What to bring with you on the day of surgery:

- An updated list of current medications and dosage
- 2 forms of identification
  - Photo identification
  - Insurance cards

# Preparing for Surgery

- CPAP/BiPAP Mask and machine
- Wear loose fitting clothing
- Wear slip resistant shoes (rubber sole) for discharge, no open back shoes

Please leave all jewelry and valuables at home, including wedding rings.

## **Upon arrival at the hospital:**

Report to the Adult Surgical Admitting Area on the second floor of the Davol Building 1-2 hours before the time of your scheduled surgery. You may enter via Hasbro valet.

You will register and be asked to verify all of your information. Please have your insurance card with you.

You will be asked to change into a hospital gown, then a nurse will check your blood pressure, pulse, temperature and start your intravenous (IV) infusion.

When it is time for your surgery to begin you will be wheeled by stretcher to the operating room.

## **ANESTHESIA**

General or Local anesthesia will be used.

**General anesthesia** allows you to be completely unconscious during surgery. You will be given medications through your IV and asked to breathe in sedating gases.

**Local anesthesia** involves injecting local anesthetics directly around the operative area. Most people who receive local anesthesia will receive additional medications for sedation during the procedure.

## **DETAILS ABOUT YOUR HOSPITAL STAY**

While in the hospital nothing is more important than your care and safety.

## **Your Health Care Team is here for you. The Team may include:**

- Surgeon
- Resident
- Nurse Practitioner
- Physician Assistant
- Clinical Manager
- Assistant Clinical Manager
- Case Manager
- Social Worker
- Registered Nurse
- Certified Nursing Assistant
- Unit Assistant
- Unit Secretary
- Housekeeping
- Dietary Host
- Physical Therapy
- Occupational Therapy

The Nurse Practitioner and Physician Assistant will be responsible for your day-to-day management with oversight from your surgeon while you're in the hospital.

Your neurological exam and vital signs will be checked routinely including overnight.

The floor you will be staying on includes both semi-private and private rooms, however a private room cannot be guaranteed. For your safety, you will be kept on “fall precautions” immediately after surgery, this may include the use of a bed or chair alarm. You will need to call for assistance before getting out of bed, until our therapists have established that you can mobilize safely.

Please note that if your admission is during flu season, our staff will conduct a verbal screening for flu like symptoms for all visitors.

### **PATIENT SAFETY\***

During your stay, we will do the following to ensure your safety:

- Ask you to verify your name and birth date before giving you any medications or performing any procedures,
- Explain what will be done clearly and completely
- Check often about allergies and reactions to medications
- Ask if you have pain and if so, we will help manage it.



# What to Expect

You are the most important member of your Care Team. We encourage you to “Speak Up” if you have a question, concern, or something that does not appear as expected.

## WHAT TO EXPECT POST SURGERY

Immediately after surgery, you will be cared for in the post anesthesia care unit (PACU) or recovery room for at least one hour. You will receive medications to manage your pain.

You may experience a sore throat, raspy voice or difficulty swallowing after surgery. These minor irritations will subside. Using lozenges and eating soft foods will minimize throat irritation.

For the first day or two after surgery, you may receive medications through your IV. As tolerated, your diet will be transitioned from liquid to soft foods, to a regular diet.

The nursing staff will assist you as needed. You will be encouraged to spend time out of bed. In order to be discharged **home**, you must be able to get out of bed, use the bathroom and resume your normal mobility.

If you need to wear a brace, it will be applied the day after surgery. Wear the back or neck brace at all times unless otherwise instructed by your provider.

**Do not expect to be pain free.** The goal of post-operative pain management is to make you comfortable enough to breathe and walk. While rest is an important part of recovery, activity will help speed the healing process.

## PAIN MANAGEMENT

After surgery you will experience some stiffness and pain around the incision. Discomfort gradually decreases over time. Numbness and tingling will be the symptoms that take the longest time to improve and may not completely go away.

Neck stiffness and limited range of motion, specifically the ability to turn, are common. Pain medicine will be prescribed for the first few weeks after surgery.

Take the pain medicine as needed to keep pain at a manageable level. Gradually begin taking non-prescription medications post surgery after speaking with your provider.

Narcotic pain medications\* are ordered as needed. If able to safely swallow, oral pain medication will be offered first. IV pain meds are reserved for severe breakthrough pain in between oral doses.

Pain medication used post-operatively in addition to narcotics may include Tylenol, muscle relaxants, and/or a short term course of Celebrex.

If you have a reaction or become nauseated, contact your provider for a different medication.

If you have had a fusion, non-steroidal anti-inflammatory drugs (NSAIDs) must be avoided for the first few months after surgery. Non-steroidal anti-inflammatory drugs includes, but are not limited to:

- Advil
- Aleve
- Diclofenac
- Diflunisal
- Etodolac
- Ibuprofen
- Indomethacin
- Ketorlac
- Meloxicam
- Motrin
- Naprosyn
- Osxaprozin
- Sulindac
- Tolmetin

\*RI law limits the amount of pain medication that can be prescribed to an “opiate naive” patient. Initial opioid prescriptions are limited to a quantity of 20 doses, no more than 30 morphine milligram equivalents (MME) per day. The updated regulations on acute pain management define an initial prescription as the first prescription given to an individual who is new to the prescription of opioids, and has not taken opioids in the last 30 days.

# What to Expect

The physical and occupational therapists will teach you the best techniques to move in bed and how to position yourself comfortably, based on your provider's restrictions, after surgery.

- You will be started on a preventative anticoagulation (either lovenox or heparin injection) 24 hours after surgery to help prevent a blood clot.
- If you are diabetic, you may be given insulin to maintain tight glucose control after surgery.
- Typically, Metformin is held for the first few days after surgery.
- If you take insulin at home, we may have to decrease or increase the dose based on your oral intake and your glucose levels.

After surgery, you will wear “compression boots” to avoid the potential for blood clot formation.

During your stay you will learn how to:

- Use an incentive spirometer to prevent risk for pneumonia
- Mobilize with the care and assistance of the nursing staff and/or physical therapist
- Turn and reposition in bed using the appropriate back precautions.

After your surgery, your medical team may consult **Physical Therapy (PT)** and **Occupational therapy (OT)** to help with your mobility. Unless your provider requires that you remain on bedrest after surgery (24-72 hours); you will mobilize with PT/OT as early as the day of surgery, if not the next day.

PT/OT will work on activities like: getting in/out of bed, walking to the bathroom and down hallways, getting on/off the toilet, and practicing stairs. Therapy will continue to work with you throughout your stay, however, you are encouraged to get out of bed/mobilize with the nursing staff.



Your level of mobility with the therapists will help determine your discharge plans.

If prescribed a brace by your provider, PT/OT will teach you how to use it.

Your discharge plan will include one of the following:

- Acute or Sub-Acute Rehabilitation
- Discharge home with home therapy or outpatient physical therapy
- Discharge home without further PT/OT

Education from PT/OT may include:

- Log roll technique
- Lifting restriction (5-10 lbs)
- No bending or twisting at the spine
- Incision care
- Family education
- Equipment (walker/cane, etc)

A speech language pathologist will evaluate your swallowing, if it is a problem after surgery.

## HOSPITAL DISCHARGE

Discharge planning begins upon admission. Your care management team will help you with your needs. **Typical discharge from the hospital will be scheduled for 0 to 3 days after surgery**, depending on your progress and type of surgery.

## POST-DISCHARGE GOALS:

- Return home from the hospital or to prior living arrangements
- Set up home care services as indicated
- Understand the barriers to safety at home
- Provide resources for support services / DME
- Or a stay at a Skilled Nursing Facility or Rehab center

# What to Expect

Your post-discharge needs and options will be based on your hospital progression and insurance coverage.

## TRANSPORTATION:

- If going home, arrange with family to be **discharged at 11AM** on the scheduled day. Early discharge promotes the benefit of settling in early and preventing night time travel when you may be tired.
- If going to a rehabilitation setting, the process will be arranged by the hospital.

**The discharge process starts early in your hospital stay to ensure the best possible transition to your next stage of recovery.** Your team suggests that you play an active role in the decision of where your care may continue. You may be asked to identify a minimum of 3 skilled nursing facilities, and a city or town preference area to help with a search. We ask for as many options as possible, as facilities may not have an available bed, nor may not be able to meet your health care needs when you are ready for discharge. Your team can provide you with resources based on your insurance coverage.

If you return home with services, the team will provide you with the appropriate list of home care and equipment agencies that are applicable to your care needs.

The Care Manager will include your preference in preparing your discharge plan and communicate the options that are available to you. Prior to discharge, the nurse will ensure that your pain is controlled, and pain medication will be given to you. Your provider, therapist and nurse will make sure you can walk independently, eat soft foods, and have control of pain, nausea and vomiting before you return home.

# Post-Operative Information

## COLLARS AND BRACES

### Cervical Collar

In some cases, a collar may be used for support and stabilization after cervical surgeries. You will wear the cervical brace for 6 to 12 weeks, depending on health factors such as smoking or bone quality. For example, if you are a smoker or have osteoporosis, you may have to wear the collar for a longer period of time.

### Braces

There are 3 types of braces that you may be required to wear after your surgery to prevent movement of the spine during the recovery period.

- A lumbosacral orthosis (LSO) brace for lower lumbosacral fusions
- A thoraco-lumbosacral (TLSO) brace for upper lumbar fusions
- Warm n' Form lumbar brace to be worn for comfort as needed

If you are required to wear a brace following surgery, you will be fitted prior to surgery or during hospitalization. The fitting usually takes between one and two hours, excluding travel time. Please allow at least 3 to 4 weeks before surgery for your brace to be created and fitted. Most LSO braces extend from just below the rib cage to the bend at the hips. If the sacral area is involved, a thigh cuff will be attached to reduce movement. TLSO braces fit under the arm and around the rib cage, lower back and hips. It is important that you wear your brace as snugly as intended so that it limits turning and bending movements.

## AT HOME AFTER SURGERY

### Activity

- Rest at home for the first few days
- Some patients find sleeping in a recliner to be more comfortable



# Post-Operative Information

- Walk as much as you feel comfortable
- Limit use of stairs and walking on hills for the first one to two weeks
- Do not lift anything greater than five pounds for three months, unless other orders are given by your provider
- Check with your provider to determine when you may drive again
- Increase activity according to PT recommendations and your provider's instruction.

## Showering or Bathing

You may shower 3 days after surgery with mild soap and water. NO swimming or tub baths, incisions should not be immersed in water. If your incision is closed with Derma-bond glue, your surgeon may allow you to shower within 1 day of surgery. When drying incision, please pat dry and do not rub site.

## Wound Care

Staples or non-absorbable sutures will be removed by your provider about 10 to 14 days after surgery.

## Drains

- You may be sent home with a drain to make sure your incision is kept clean and dry of fluid. Do not sleep on the same side as the drain
- Secure the tubing to the drain and bag inside your clothing, this will prevent the tube from being pulled out
- Empty your drain at least every twelve hours and make sure you close the drain
- Write down how much fluid you empty and bring that record to your follow-up appointment

Notify your provider of any signs of infection—pain, swelling, redness, warmth, fluid around the tube, foul smell, or discharge in the drain, nausea, vomiting, night sweats, chills, fever above 101°F or if the tube falls out.

## Dressing Changes

The incision should be kept clean and dry after surgery or as directed by your provider. You may or may not be discharged with a bandage. If you have a bandage, it should be changed as necessary or at least every other day. If you do not have one, leave the incision open to air.

## EMOTIONAL RECOVERY

Feeling tired and discouraged is normal after surgery. In addition, prescription pain medicine can alter sleep patterns, emotional responses and cause constipation. That's why it is important to maintain a positive attitude and be patient with yourself—both are keys to a successful recovery.

Speak with any Health Care Team member about any emotional difficulties you may experience.

## POST-DISCHARGE RECOMMENDATIONS

You will call for a follow-up appointment with your provider. Continued follow-up care is critical for a complete and successful recovery.

At the follow-up appointment they will do an incision check and suture/staple removal if needed. Repeat imaging will be done if indicated. At this point pain medication will be tapered / decreased.

## Recovering

It often takes 3 months to a year to heal completely after back or neck surgery. Your provider will determine when you should begin physical or occupational therapy.

A post-operative rehabilitation program that includes stretching, strengthening and conditioning is an important part of any successful spine surgery outcome. You also should learn a home exercise program that you can perform after your rehabilitation program ends. It will build the strength and balance in your muscles that may help to prevent the need for future surgeries.

# Post-Operative Information

## URGENT CARE SYMPTOMS

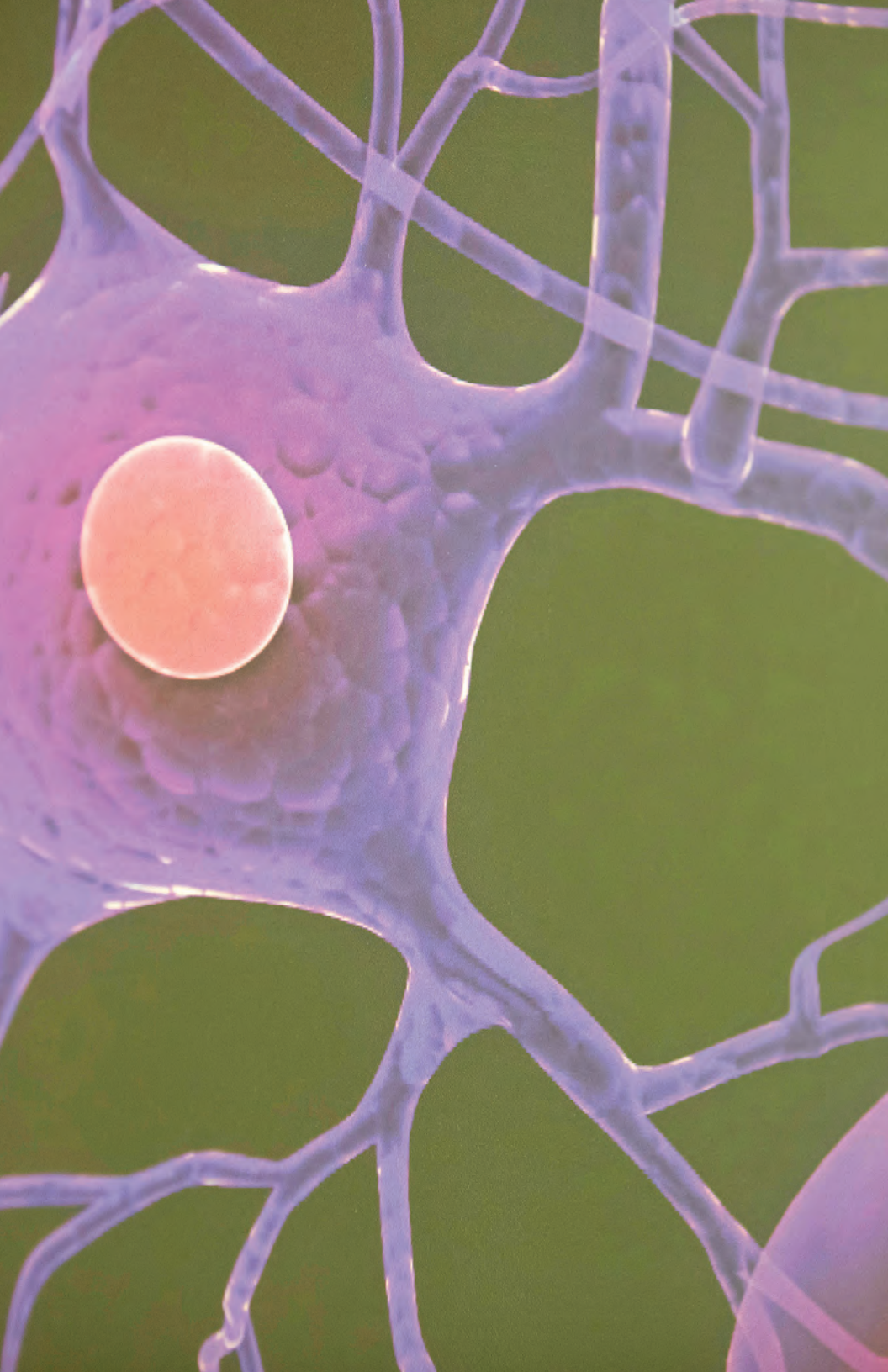
Please call your provider's office for routine questions and medication refills. If you have urgent questions during the nights/weekends when the office is closed, call **401.444.4000** and ask for the Neurosurgery Resident on-call—do not wait until your next clinic visit.

**IF YOU HAVE AN EMERGENCY PLEASE CALL 911 AND/OR REPORT TO THE NEAREST EMERGENCY ROOM.**

If any of the following symptoms occur, you should contact your provider or return to the hospital Emergency Department:

- Drainage, bleeding, redness or swelling of the wound
- Opening of the incision
- New, persistent or worsening pain or numbness
- Difficulty with urination or bowel movements
- Skin rash or excessive itching
- Signs of infection: redness, tenderness and swelling around wound edges, drainage from the wound, extreme pain or tenderness (more than usual post op discomfort), shaking chills, temperature greater than 101°F







# Frequently Asked Questions

1

## **How much pain will I experience after surgery?**

You may or may not notice an immediate improvement in your pain the first few days following surgery. You may feel discomfort while sleeping. Sitting up to sleep, such as in a recliner, may work best for you. With time, pain should decrease, but call your provider's office if you are concerned. If you experience new onset, persistent or worsening pain of your lower extremities, report it to your provider immediately for evaluation.

2

## **Why is my throat sore? How long will it last?**

Sore throat, hoarseness and difficulty swallowing are common side effects that you may have during the first few days following surgery. There are two reasons for this—most patients are intubated during surgery, meaning that a tube is inserted into the throat to help breathing; and patients who undergo cervical fusion will experience swelling that causes soreness. Hoarseness should improve over time and swallowing will improve as swelling decreases. To avoid difficulty swallowing, eat a diet of soft foods for the first week or two following surgery.

3

## **When will I be allowed to drive?**

You may drive only after your provider approves you to do so. It is important that you test your ability on a side street that is not very busy or in an empty parking lot before you drive on busier roads. Pain and wearing a brace may impair your ability to drive safely. Limit time spent sitting in the car to forty-five minutes.

If a trip is longer than forty-five minutes, take a break to walk and stretch your legs for a few minutes. You will not be released to drive if you are taking narcotic medication or if you have not regained an adequate range of motion in your neck.

4

### **When can I return to work?**

When you return to work depends on your job activities and how fast you heal. You should discuss with your provider the best time for you to return.

5

### **When can I resume normal activities?**

*Exercise*—Physical activity is encouraged while you heal. To perform more strenuous activities, such as lifting weights, check with your provider.

*Any Prior Activity*—Check with your provider before resuming any prior activity. Depending on your type of surgery, most patients are able to resume full activities after six months. Please keep in mind that if you experience pain, you should stop the activity.

6

### **What activities should be avoided?**

Heavy lifting should be avoided while healing from spine surgery. Please speak to your provider about specific weight limitations. Prolonged sitting or standing always should be avoided as this will place pressure on your spine.



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**Neurosurgery**  
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## Contact Information

### Department of Neurosurgery

#### **Rhode Island Hospital**

593 Eddy Street, APC 6  
Providence RI 02903

Chaplain Service	401.444.5108
Information	401.444.4000
Parking	401.444.4013
Patient Relations	401.444.5817
Security	401.444.5221

#### **Newport Hospital**

11 Friendship Street  
Newport RI 02840

Information	401.846.6400
Parking	401.846.6400
Patient and	
Guest Services	401.846.6400
Security	401.846.6400

#### **The Miriam Hospital**

Fain Building, Suite C, 2nd Floor  
164 Summit Avenue, Providence, RI 02906

Information	401.793.2200	Parking	401.793.2700
Security	401.793.2700	Patient Information	401.793.5600



## Important Notes

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Directions to our visitor parking lots can be found on [www.rhodeislandhopsital.org](http://www.rhodeislandhopsital.org) or by calling the main telephone number:

Rhode Island Hospital	401.444.4000
Newport Hospital	401.846.6400
The Miriam Hospital	401-793-2500

Please visit our website [www.browneurosurgey.com/patientgateway](http://www.browneurosurgey.com/patientgateway) for more information about travel, hotels, attractions, and other services.



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