Dear Patient,

Your decision to have a spinal injection is a very important step in your treatment. We appreciate you choosing the Spine Center at Beth Israel Deaconess Medical Center (BIDMC) to perform your procedure. Our team is committed to relieving your pain and other symptoms while providing you with the best possible experience in a compassionate environment.

Please read the following information which will help you prepare and know what to expect before your injection, the day of your injection, and after your injection. You’ll receive additional information on the actual day of the procedure.

In addition, please read through the appointment sheet in the front pocket. Your specialist has provided information that is personalized for you next to the boxes that are checked. Please carefully follow these instructions, or we may need to reschedule your injection.

It’s also critical that you let us know as soon as possible about any health-related changes that have taken place since your last visit and before your procedure. Unfortunately, some changes may result in your injection being rescheduled, too. Warning: Reasons to Reschedule Your Injection (page 4) further explains these situations.

For more information about spinal injections, visit bidmc.org/spinalinjection. To register or login to your account and manage your healthcare online go to patientsite.org.

Thank you again for entrusting us with your care. We hope our comprehensive patient education materials help you feel well-prepared for your procedure and wish you the best of good health. If you have any questions or concerns at all, please contact your specialist at the number on the business card to the left or email spinecenter@bidmc.harvard.edu.

Sincerely,

Christopher Gilligan, MD, MBA
Chief, Division of Pain Medicine
Co-Director, Spine Center
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Before Your Spinal Injection

Please read the following to help ensure the best possible experience and outcome for your procedure. Contact your spine specialist with any questions.

**Medications**

**Routine Medications**

Read your personalized appointment sheet, in the front pocket, for any instructions about changes in your medicines that may be needed before your injection. Unless you have been told otherwise, continue to take all your medicines as usual.

**Supplements**

If you are taking supplements including Vitamin E, ginkgo, garlic, ginseng, fish oil, or omega-3, let us know. You may be asked to stop taking them before your procedure.

Please keep in mind it is very important that the specialist who will perform your injection knows about every medicine you’re taking, or plan to take, up until the day of your procedure. Even when we have this information in your record, speaking with us to confirm everything you are taking is important for your safety. This includes (but is not limited to) prescription medicines, nonprescription medicines, vitamins, herbs, and supplements.

**Diabetic Patients**

If you take any medicine for diabetes and you will not be eating and drinking normally on the day of your procedure, talk with the physician who manages your diabetes about whether you need to adjust your insulin or other diabetes medicine the night before and/or the morning of your procedure. Note: If you have diabetes and your procedure includes a steroid injection, you will need to monitor your blood sugar more carefully in the two weeks following your procedure.

**Secure a Ride Home**

You may need someone to take you home after your injection, depending on what you are having done. Your appointment sheet (in the front pocket) has information about whether or not you may go home on your own. Please note that if you are going to have sedation, you will need someone to wait on-site while you have the procedure, and then take you home – you cannot arrange to be picked up.
**Warning: REASONS TO RESCHEDULE YOUR INJECTION**

It’s very important that you let us know right away if any of the following happens after your appointment with your spine specialist and before your upcoming injection. Your procedure may need to be rescheduled.

- In the days leading up to your injection, you have an immunization, begin taking antibiotics, or get a fever, cold, flu, or other infection.
- You become pregnant.
- You have had a change in your medical condition that requires you to start taking a new medicine (prescription or nonprescription).
- You take any kind of steroid (injection or by mouth).
- You have had recent surgery or have an upcoming surgery scheduled.

If your injection is postponed and you’ve already stopped taking your medicine as directed, contact your specialist with any questions about restarting. To change or cancel your appointment, please call at least 48 hours in advance of your scheduled appointment. Please contact us if you have any questions or concerns. Our contact information is located on the front inside pocket.

**Will It Be Painful?**

Some patients might be concerned about pain the actual injection may cause. Most injections are performed without sedation. For injections without sedation, a topical anesthetic will be applied to the site where the injection will occur. This will numb the area, and patients should not experience pain during the procedure. You might feel slightly uncomfortable depending on your position on the procedure table.

**Steroids Used In Injections**

If your procedure will involve steroids, you may find it helpful to know we use “anti-inflammatory” steroids that are synthetic versions of what your body makes naturally, only more potent. Some typical brand names are Depo-Medrol, Kenalog, and Decadron.
The Day of Your Spinal Injection

We appreciate your on-time arrival. Traffic congestion and parking can make your trip longer than expected. Please allow plenty of travel time. If you arrive late for your appointment, we might need to reschedule it to accommodate other patients that day.

**Eating and Drinking**
Your personalized appointment sheet (in the front pocket) will have information on whether you need to fast before your procedure. For some procedures, you may be asked not to eat or drink for a number of hours before your procedure. For others, you may eat and drink normally.

**Medications**
Take routine morning medication as usual, unless you have received special instructions as stated in your appointment sheet. If you will be receiving sedation, take your medication with only a small sip of water.

**What to Wear**
Before the injection, we’ll clean your skin with a special solution that might stain light-colored clothing. Please keep that in mind when selecting what to wear to the procedure.

**What to Bring**
Bring any medical images if done outside BIDMC (X-ray films and CT or MRI scans), or other medical records you have related to your procedure.

**What Not to Bring**
Please arrange to leave cash, jewelry, purse, cell phone, or credit cards at home or with your escort. Please be aware that BIDMC cannot be responsible for valuable items and cannot reimburse you for the cost of lost items.
Where We Perform Injections

We perform spinal injections in two convenient locations. Your procedure will take place at the William Arnold-Carol A. Warfield, MD, Pain Center at Beth Israel Deaconess Medical Center, One Brookline Place, Suite 105, Brookline, or at Beth Israel Deaconess Hospital–Needham, 148 Chestnut Street, Needham. If you have any questions about where your procedure will be performed, please contact your spine specialist’s office.

Contact Information
To schedule injections, follow-up office visits, ask questions, and cancel appointments, please call your spine specialist’s office. The phone number can be found on the business card located on the front pocket.

Parking
There is a self-parking garage at One Brookline Place with a fee for parking.

Public Transportation
One Brookline Place is on the MBTA Green Line (Brookline Village stop).

Checking In
Please check in at the front desk in the Pain Center, Suite 105.

Information for Family and Friends
There is a comfortable waiting room within the suite.

Tips
If you have an escort, he or she can let you out at the entrance and proceed to park in the garage.
Contact Information

• To schedule injections with Dr. Muzin: 617-667-4212
  
  Please call us to schedule the procedure if you do not hear from BIDMC within 24 hours after your appointment with your spine specialist.

• To schedule follow-up office visits and ask questions: 617-754-9000

• For same day cancellations: 781-453-5701

Parking

Parking and valet parking is free in the hospital lots. Enter the main parking lot from Chestnut Street, valet or park your car and enter the hospital through the main entrance.

Checking In

Going in through the main entrance, please check in for your procedure on the ground floor of the hospital, South Building, Lincoln Street side. Once you have checked in, a staff member will escort you to where the spinal injection will take place.

Information for Family and Friends

There is a reception area near the check in location where they can wait for you while you have your procedure. You will be escorted back to this area when the procedure is finished.

Tips

If you need a wheelchair, please ask at the front desk and a volunteer will be happy to assist you.
After Your Spinal Injection

We hope the following information helps you know what to expect after your injection. Please follow the instructions below, and if you have any questions, call your specialist. If you were sedated for your procedure, you will receive additional instructions related to the sedating medicines you received.

How You May Feel

The response to procedures varies by person.

- Patients may feel discomfort or pain at the injection site and/or may experience facial flushing (redness). These side effects should disappear over a few days.

- A small number of patients may temporarily experience an increase in their usual pain or numbness; their symptoms get worse before they get better. Read Pain Control and Medications, below, for suggestions.

- Some patients have a dramatic decrease in pain right after the procedure that is also temporary. It is related to the anesthetic medicines given during the procedure, and lasts for several hours.

- If you were given steroids, it takes at least several days (up to 10 days) for the steroid injection to begin to work. So when your anesthetic wears off, your pain may get worse before the steroid “kicks in” and it gets better.

- Certain procedures may cause a temporary change of sensation, or weakness, in a part of your body for a very brief time. For this reason:
  - Check with the specialist who performed your injection about when you may drive following your procedure. Some patients are asked not to drive for the rest of the day.
  - This temporary side effect can increase your risk of falling for a few hours after the procedure, so make sure you have someone with you to help you stay safe.

Contact your specialist if you have any questions about how you feel. If you are experiencing chest pain or difficulty breathing, or you need immediate attention for any reason, call 911 to be taken to the nearest emergency room.

Pain Control and Medications

- Unless your specialist has told you otherwise, continue taking all your regular medications. If you were instructed to stop taking some of your regular medications before your procedure, be sure you understand when you should go back to taking them. If you have any questions, please call your specialist.

- If needed, you may take your pain medicine(s) after your procedure. If you have questions about your pain medicine, talk with your pain management specialist.

- You may find it helpful to use ice packs over the area of your injection for 20 minutes at a time, four times a day, especially during the first two days.
• If you have a new type of pain, a sudden increase in pain, or if your pain is very severe, please call the specialist who performed your injection right away for advice.

**Activity Guidelines**

• Check with the specialist who performed your injection about when it’s safe for you to drive. Some patients are asked not to drive for the rest of the day.

• Over the next several days, go back to your usual activities as much as you can, based on your level of discomfort. “Usual” activity means the level of activity that you were comfortable with immediately prior to the injection. Gradually, over the next few weeks to a month, as your symptoms improve, you can expect to be able to increase your activity, but you should not engage in vigorous activity too soon.

• Most people can go back to an exercise program or their regular physical therapy within one week of their injection.

• If you have any questions about activity, please ask the specialist who performed your injection.

**Diabetic Patients**

If you have diabetes, and your procedure included a steroid injection, you will need to monitor your blood sugar more carefully in the two weeks following your procedure.

**Contact Information**

**Regular Clinic Hours:** To reach your spine specialist’s office, please refer to the information on the business card inserted on the front pocket.

**After Hours:** Call 617-278-8000, and follow instructions. A spine specialist is on on-call to discuss any concerns you might have.

**Dr. Muzin’s Patients:** Call 617-754-9000, and follow instructions.

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**Warning Signs:**

Contact the spine specialist who performed your injection right away if you note any of the following.

- If you are experiencing chest pain or difficulty breathing, or you need immediate attention for any reason, call 911 to be taken to the nearest emergency room.
  - A new type of headache, such as a headache that goes away if you lie flat, but comes back if you sit or stand
  - Fever, chills, night sweats, or a feeling of being ill
  - Changes in your bowel or bladder (urine) function, including new incontinence or loss of bowel or bladder control
  - Any new weakness, numbness, or tingling in the arm, leg, or groin after the procedure
  - Any new severe pain
  - Weakness that is getting worse instead of better
  - Redness, swelling, or pain around the injection site
  - You develop a new rash
  - Any problem that you are concerned about
Types of Spinal Injections We Perform

On the following pages we’ve included diagrams of spinal injections we perform. Our website is another great resource for spine health information for patients. Please visit us at bidmc.org/spinecenter or go directly to bidmc.org/spinalinjection.

Lumbar Epidural Steroid Injection

Overview
This injection procedure is performed to relieve low back and radiating leg pain. Steroid medicine can reduce the swelling and inflammation caused by spinal conditions.

Fluoroscopic guidance
The patient lies face down. A cushion under the stomach area provides comfort and flexes the back. In this position, the spine opens and allows for easier access to the epidural space. A fluoroscope assists the physician in locating the appropriate lumbar vertebra and nerve root. A local anesthetic is used to numb the skin.

Tissue anesthetized
All the tissue down to the surface of the lamina portion of the lumbar vertebra bone is anesthetized.

Larger needle inserted
The physician slides a thicker needle through the anesthetized track.

Needle guided to epidural space
Using the fluoroscope for guidance, the physician slides the needle toward the epidural space.

Contrast dye injected
A contrast solution is injected. The physician uses the fluoroscope to see the relevant (spine) anatomy and to confirm the correct location of the needle tip.

Medicine(s) injected
A local anesthetic and/or steroid is injected into the epidural space, bathing and soothing the painful nerve root.

End of procedure
The needle is removed, and a small bandage is applied to cover the tiny needle surface wound. In some cases, it may be necessary to repeat the procedure to get the full benefit of the medicine. Many patients get significant relief from only one or two injections.

View the video animations at bidmc.org/spinalinjections. This content adapted from swarminteractive.com. Used with permission. Unauthorized duplication of this material is strictly forbidden.
Cervical Epidural Steroid Injection

Overview
This injection relieves pain in the neck, shoulders, and arms caused by a pinched nerve (or nerves) in the cervical spine. Conditions such as herniated discs, spinal stenosis, or radiculopathy can compress nerves, causing inflammation and pain. The medicine injected helps decrease the swelling of nerves.

The procedure is performed with the patient lying down. A region of skin and tissue of the neck is numbed with a local anesthetic delivered through a small needle.

Needle inserted
Using X-ray guidance (also called fluoroscopy), the physician guides a larger needle to the painful area of the neck. The needle is inserted into the epidural space, which is the region through which spinal nerves travel.

Contrast dye injected
Contrast dye is injected into the space to make sure the needle is properly positioned near the irritated nerve or nerves.

Medicine(s) injected
A local anesthetic and/or steroid is injected into the epidural space. The steroid is an anti-inflammatory medicine that is absorbed by the inflamed nerves to decrease swelling and relieve pressure.

End of procedure
The needle is removed and a small bandage is applied. The patient goes to a recovery room and is given food and drink and discharged with post-treatment instructions. Some patients may need only one injection, but it may take two or three injections.
Lumbar Transforaminal Epidural Steroid Injection

Overview
This injection procedure is performed to relieve low back and radiating leg pain. The steroid medicine can reduce the swelling and inflammation caused by spinal conditions such as spinal stenosis, radiculopathy, sciatica, and herniated discs.

Vertebra and nerve root located
The patient lies face down. A cushion is placed under the stomach area to provide comfort and flex the back. This position causes the spine to open, allowing for easier access to the epidural space. The physician uses a fluoroscope to locate the appropriate lumbar vertebra and nerve root, and a local anesthetic numbs the skin.

Tissue anesthetized
All the tissue down to the surface of the vertebral transverse process is anesthetized.

Needle inserted
The physician slides a thin, bent needle with a slightly curved point through the anesthetized track. With the aid of the fluoroscope, the physician carefully guides the needle into the foraminal space near the nerve root.

Contrast dye injected
The physician injects a contrast solution and uses the fluoroscope to see the relevant (spine) anatomy and confirm the correct location of the needle tip.

Medicine(s) injected
A local anesthetic and/or steroid is injected into the foraminal epidural space, bathing and soothing the painful nerve root.

End of procedure
The needle is removed, and a small bandage is used to cover the tiny needle surface wound. In some cases it may be necessary to repeat the procedure more than once.

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Facet Joint Injection/Medial Branch Block

Overview
Each vertebra in the spine is connected to the vertebra above and below it by facet joints, which are located on both sides of the rear of the spine. A facet joint block can be both diagnostic and therapeutic for back or neck pain. A facet joint block injection can confirm whether the facet joints are indeed the source of pain and can help relieve the pain and inflammation.

Sometimes, a medial branch nerve block is performed instead of a facet joint injection, using local anesthetic. This is done to temporarily interrupt the pain signal from the facet joints that is carried by the small medial branch nerves. If pain is reduced with this intervention, a procedure called radiofrequency neurotomy may be performed later (see page 14).

Skin numbed
A small area of skin is numbed with a local anesthetic injection.

Medicine(s) injected
A local anesthetic and/or steroid is delivered to the joint through a thin needle. Depending on the location of pain, one or more injections may be administered. If the pain subsides after the injection, this suggests that the facet joint (or joints) injected were the cause of pain.

End of procedure
Back or neck pain may disappear immediately after a successful block. However, once the numbing effect of the anesthetic wears off, pain may return. It usually takes several days for the steroid medicine to reduce inflammation and alleviate pain. Effects may last several days or several weeks.

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Kyphoplasty

**Overview**
This minimally-invasive procedure treats spine fractures caused by osteoporosis. It is designed to provide rapid back pain relief and help straighten the spine.

**Instruments Inserted**
Through a half-inch incision, small instruments are placed into the fractured vertebral body to create a working channel.

**IBT Inserted**
The KyphX® Inflatable Bone Tamp (IBT) is then placed into the fracture.

**Cavity Created**
The device is carefully inflated, creating a cavity inside the vertebral body.

**Balloon Deflated**
The balloon is deflated, leaving a cavity in the vertebral body.

**Fracture Stabilized**
The cavity is filled with bone cement to stabilize the fracture. Once filled, the incision is closed.

**End of Procedure**
With the process completed, an “internal cast” is now in place. This stabilizes the vertebral body and provides rapid mobility and pain relief. It also restores vertebral body height, reducing spinal deformity.
Radiofrequency Neurotomy

Overview
This minimally invasive procedure uses a radiofrequency probe to reduce or eliminate pain signals from nerves in the facet joints.

Preparation
The patient is positioned and local anesthetic is injected. A needle-like tube called a cannula is inserted and guided by fluoroscopic imaging to the irritated medial branch nerves of the painful facet joint.

Positioning the electrode
A radiofrequency electrode is inserted through the cannula. The physician tests and verifies the electrode’s position by administering an electrical pulse.

Nerve treated
Heat from the electrode cauterizes the irritated nerve. This disrupts its ability to communicate with the brain, blocking the pain signals. The physician may treat multiple nerves if needed.

End of procedure
After the procedure, the electrode and cannula are removed. The site is bandaged and the patient will be able to go home the same day as the procedure.

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Sacroiliac Joint Injection

Overview
This injection procedure is performed to relieve pain caused by arthritis in the sacroiliac joint where the spine and pelvis bone meet. The steroid medicine can reduce swelling and inflammation in the joint.

Sacroiliac joint located
The patient lies face down. A cushion is placed under the stomach for comfort and to arch the back. The physician uses fluoroscopic guidance to find the sacroiliac joint.

Anesthetic injected
A local anesthetic numbs the skin and all the tissue down to the surface of the sacroiliac joint.

Needle inserted
The physician advances a needle through the anesthetized track and into the sacroiliac joint.

Medicine(s) injected
A local anesthetic and/or steroid is injected into the sacroiliac joint.

End of procedure
The needle is removed and a small bandage is used to cover the tiny surface wound.

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