

Patient Instructions: Vertebral Augmentation (Kyphoplasty)

Surgical Technique

Vertebral augmentation (many times called Kyphoplasty) with cement or other bone strengthening devices (titanium cages, etc) is typically performed for osteoporotic compression fractures, painful tumors of the spine, or non-healing compression fractures caused by a fall or other trauma. We usually do not pursue this as an initial course of treatment but offer it to patients who fail non-operative treatments such as bracing and bed rest. The goal of surgery is to stabilize the affected bone so that pain relief is achieved. To do this we usually like for the patient to be asleep, although it can be done under local anesthesia with sedation. Using minimally invasive techniques we usually attach a spinal reference frame to the patient to allow for the use of computer guidance during surgery and then perform intraoperative imaging, which is used to help guide the surgeon into the affected bone. With this computer guidance, we place a large needle into the targeted bone, which then allows us to use other instruments through this initial guide needle. Many times we biopsy the affected bone and then inflate a balloon or other cavity creating device in the bone to allow the application of cement or other material that will harden the bone. After applying the cement (or other bone hardening material), we usually will check the placement with intraoperative x-rays before concluding the procedure. Patients many times will wake up with some relief even in the recovery room.

Before Surgery

- Seven days prior to surgery, please do not take any anti-inflammatory NSAID medications (Celebrex, Ibuprofen, Aleve, Naprosyn, Advil, etc.) as this could prolong your bleeding time during surgery.
- Do not eat or drink anything after midnight the day before surgery. This means nothing to drink the morning of surgery except you may take your normal medication with a sip of water if needed. This includes your blood pressure medicine, which in general should be taken. Consult your surgeon or primary care doctor regarding insulin if you take it.
- Please do not be late to check in on the day of surgery or it may be cancelled.
- Please bring your preoperative folder with you to the surgery and have it when you check in.
- If you have a copy of your MRI or x-rays please bring these with you to the surgery even if your surgeon has seen them already or might even have a copy. Surgery may be cancelled if we do not have your radiographic images.
- Please be aware that smokers are recognized to have a significantly higher risk of postoperative wound healing problems, as well as operative and postoperative bleeding. Smoking disrupts the normal function of basic body systems that contribute to bone formation. Smokers must understand and agree to discontinue smoking for at least two weeks before and after surgery. Although it helps to stop smoking for several weeks before and after surgery, this does not eliminate the increased risk resulting from long-term smoking.

After Surgery Activity Level

- Walking is the best exercise after the surgery. It strengthens muscles, increases endurance, relieves stress and most importantly - helps to keep proper blood flow, the bowels moving and keeps fluid from building up in the lungs. Soon after surgery, a patient is encouraged to get up and walk and gradually increase the distance. The sooner a patient becomes active, the sooner he/she will resume their normal routine.
- Do not lift more than 5-10 pounds for the first few weeks after surgery. This may be increased to approximately 20 pounds after 4-6 weeks. Do not lift anything greater than 20 pounds for the first 3 months.
- Avoid prolonged upright sitting on hard surfaces or long car rides (more than 2 hours) for 2–4 weeks.
- You may drive as soon as it is comfortable to do so, which is usually after about one week following discharge from the hospital. You should not drive while under the influence of pain medications.
- Limited bending or twisting of the cervical or lumbar spine is advised.
- Avoid activities where there is the potential for a fall or physical contact until cleared by your surgeon.

Bandage

- Bandage (if present) may be removed the second day following surgery.
- Steri-strips should be left intact on the incision until returning to clinic or for your postoperative follow-up 7-14 days following surgery.

Brace

- Bracing is used before the surgery in most cases and for many patients they can discontinue the brace after surgery. There will be occasions where the surgeon may want you to continue using the brace after surgery and he/she will make this clear to you.

Bathing

- You may shower on third day following surgery.
- Try to limit showers to no more than 5–7 minutes.
- Do not scrub the wound. Let water run over the incision, then pat dry with clean towel.
- Do not soak in a bathtub, hot tub or pool for at least 2 weeks.

Diet (Narcotic pain medications are very constipating, be proactive with stool softeners and laxatives)

- A high fiber diet is recommended.
- Avoid straining on the toilet. Keep stools soft with a high fiber diet and/or use of prune juice, Metamucil, Fiber One cereal etc.

Pain Medications

- Tylenol can be taken as needed.
- Narcotic pain medications are prescribed if Tylenol is inadequate.
- You should not let pain get out of control before taking medication or it will be less effective.
- We will not refill pain medications over the weekend or after hours. Anticipate the need for medication refills.

Follow-up

- Call Boulder Neurosurgical Associates' (BNA) office (303-938-5700) to schedule your routine post-surgical visit for 7-14 days after surgery. Other follow-ups will be scheduled as needed. When to Call Your Doctor Please call your physician's office immediately with any problems or go to the emergency room if:
 - Drainage and/or pain increases at the incision site
 - Fever greater than 101.5 degrees F
 - Swelling and tenderness develops in your legs
 - New, persistent pain and weakness or numbness in your back/neck and legs/arms
 - Problem controlling your bladder and bowels

Other FAQs

How long does the procedure take? This varies depending on the number of levels to be treated. A single level usually takes about a half hour, with each additional level adding 15-20 minutes to the procedure.

How long will I be in the hospital? This varies depending on the type of surgery performed, but you will likely go home the day of the surgery. Otherwise, you will go home the following day. We have found that patients generally prefer the comforts and support that home offers. The sooner you go home, the lower your risk of complications such as hospital- acquired wound infections, blood clots and urinary tract infections.

How much time off from work? The amount of time needed for recovery prior to returning to work varies depending on the surgery, your job and you, the individual. Typically, 1-2 weeks for jobs that are at a desk or sedentary is sufficient, but patients should ask their surgeon for an individual recommendation. To return to physically demanding jobs will be at the discretion of your surgeon.

When can I resume driving? Driving is acceptable approximately one week after surgery depending on the use of pain medication. We generally recommend that you not drive while taking pain medications following the surgery.

Will I need pain medications? We will prescribe pain medications and other peri-operative medications on the day of surgery or prior to your discharge from the surgery center or hospital.

Will I need Physical Therapy? We usually recommend physical therapy and will refer you to a therapist at your first postoperative visit. Limited bending or twisting of the spine is advised. Refrain from high impact activities such as running, horseback riding, or any radical side-to-side motions. A good rule of thumb is 'If it hurts don't do it'.

What kind of follow-up is required? Patients return to our office for routine follow up appointments at intervals that are determined on a case-by-case basis. We typically see patients back in the office within a couple weeks following surgery and then again a few weeks later. There is not usually a need for long-term follow up with us. Your individual needs will be determined by your surgeon at each follow-up visit.

Do I need antibiotic prophylaxis for dental procedures? We recommend avoiding routine dental procedures for 3 months following spinal and other neurological surgeries. This includes teeth cleaning at your dentist office. You should brush your teeth as you normally do.

If you must have a dental procedure within 3 months, then it would be advisable to use an antibiotic prophylaxis. We generally do not make recommendations about the choice of antibiotic when using it for prophylaxis, but we would be happy to discuss this with your primary care physician.

After 3 months, prophylactic antibiotics are not recommended prior to dental procedures to prevent infections except for specific individuals with extenuating circumstances, where the determination and prescription are made by the patient's primary care physician or dentist.

patient that are at risk for infective endocarditis should use preventative antibiotics before dental procedures after consulting with their cardiologist or primary care physician.