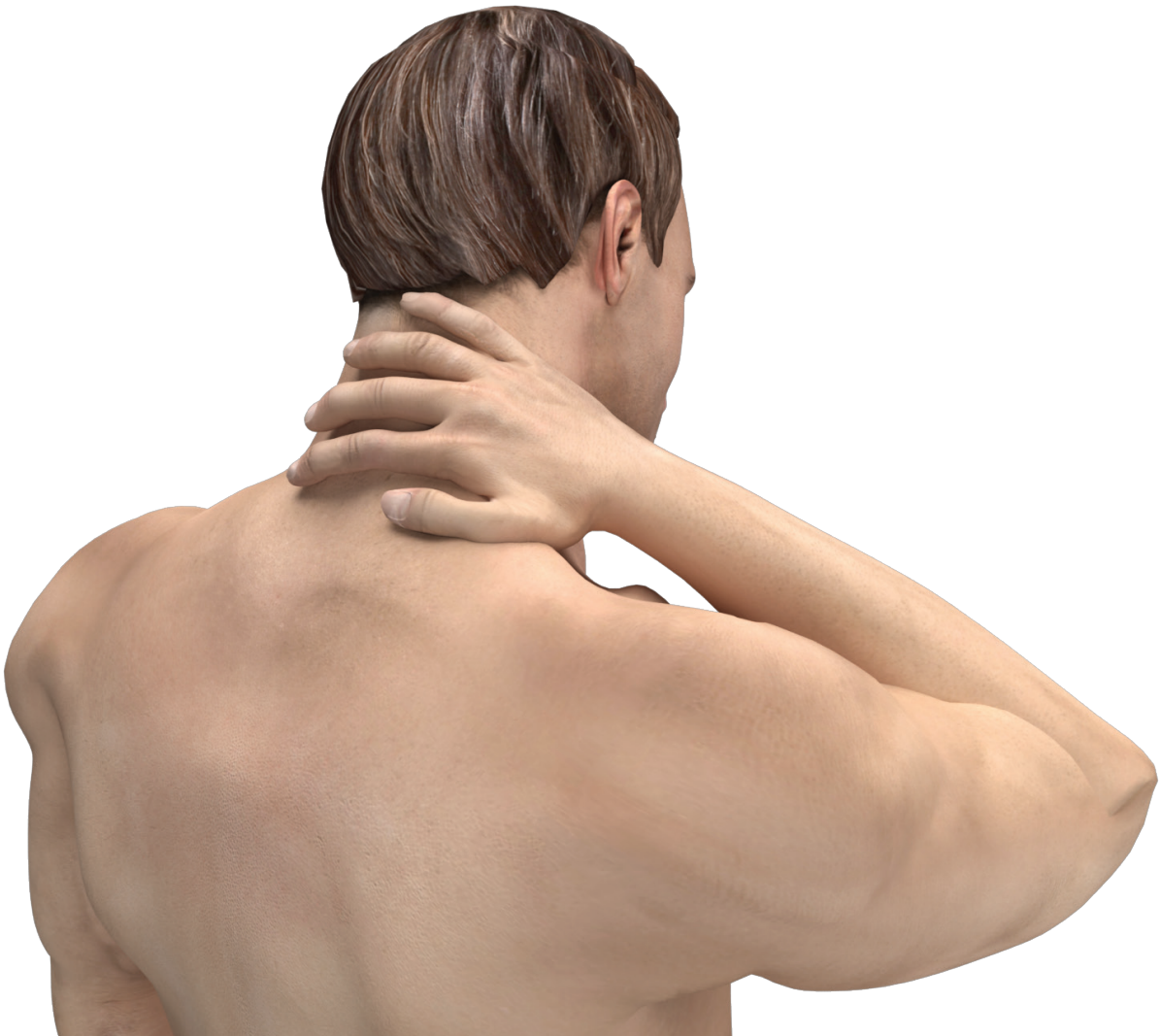
Stephen P. Courtney, MD
Fellowship-Trained Orthopedic Spine Surgeon
Plano Orthopedic Sports Medicine and Spine Center

Plano Orthopedic Sports Medicine and Spine Center
5228 W. Plano Pkwy, Plano, TX 75093
972.250.5700
www.POSMC.com

Cervical Disk Surgery

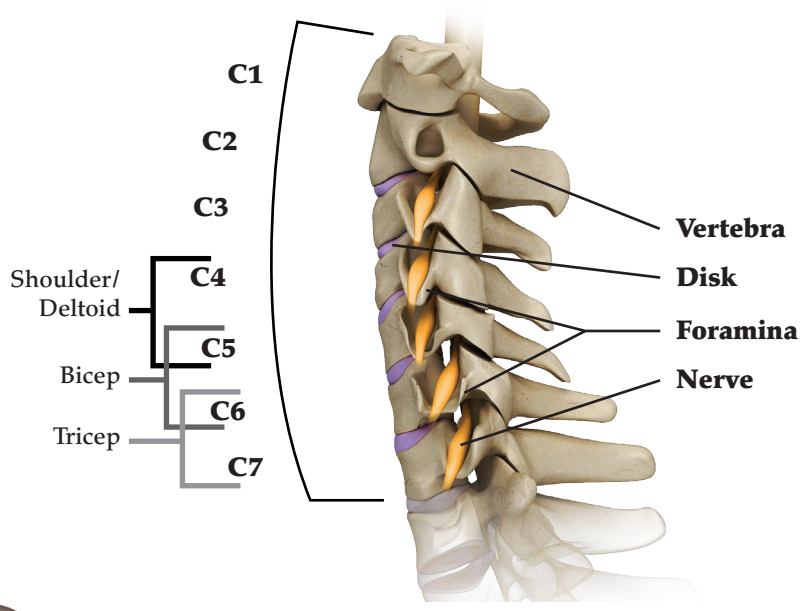
Treating Pain and Weakness in the Neck and Arm



Cervical Disk Surgery

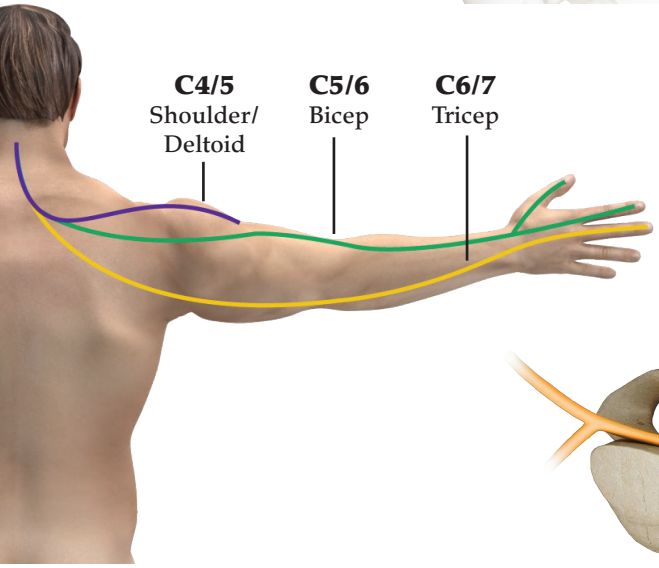
Understanding your Cervical Spine

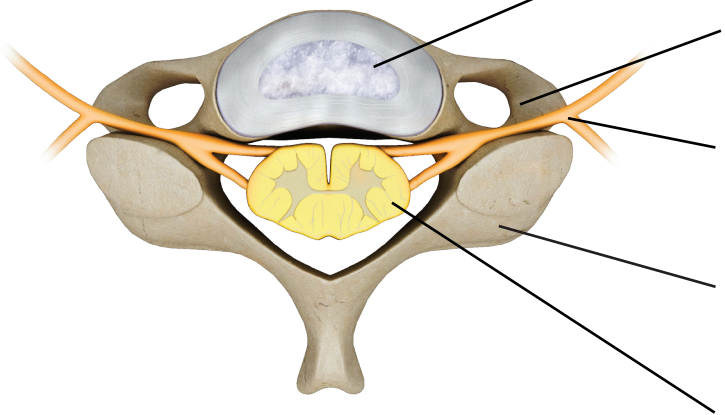
Your neck needs to be strong to hold up your head, which may weigh 10 pounds or more. But injury, poor posture, wear and tear, and diseases such as arthritis can damage the structures of your cervical spine. Or you may have a family tendency to develop disk problems. Pain and weakness in your neck and arms may result along with numbness and tingling.



A Healthy Cervical Spine

The upper spine is a flexible column made up of the cervical vertebrae. These seven bones are separated by spongy, shock-absorbing disks. The spinal cord runs through a large central opening (spinal canal) formed by the vertebrae. Nerves branching from the spinal cord travel to your arms and other parts of your body through small openings (foramina) between the vertebrae. As you grow older, it's normal for your disks to wear out and harden. As a result, your neck may not be as flexible as it once was.





Top view of a cervical vertebra and disk

The disk consists of a spongy center (nucleus) surrounding by a tougher outer ring (annulus).

Foramina are openings between vertebrae.

Nerves exit on both sides of the vertebra through the foramina.

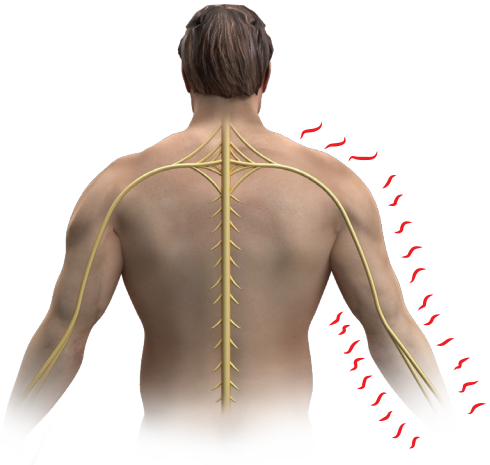
The lamina is the outer bony wall of the spinal canal.

The spinal cord travels through the spinal canal.

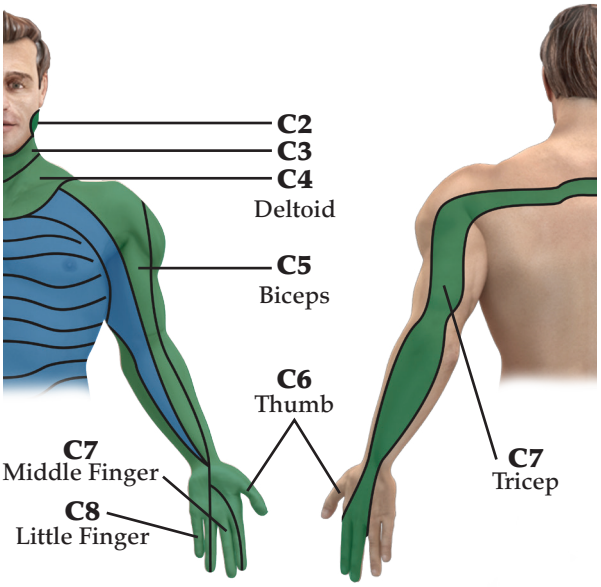
Cervical Disk Surgery

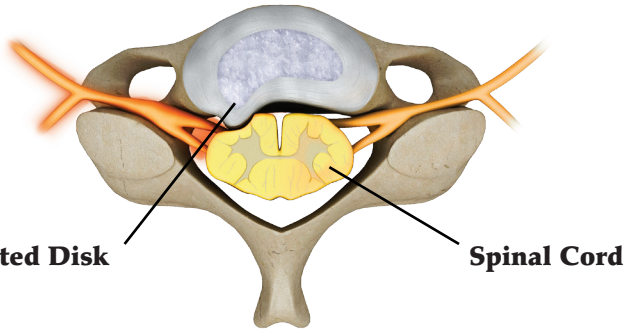
Your Problem Spine

One of the most common cervical spine problems is a damaged disk. A disk may be injured and bulge outward (herniation). The bulge may press on a nerve. Or it may wear out gradually (degeneration). A worn-out disk may become so flat that the vertebrae above and below it slip back and forth or almost touch. As disks wear out, abnormal bone growths (bone spurs) can form on the vertebrae and in the foramina, causing narrowing (stenosis).

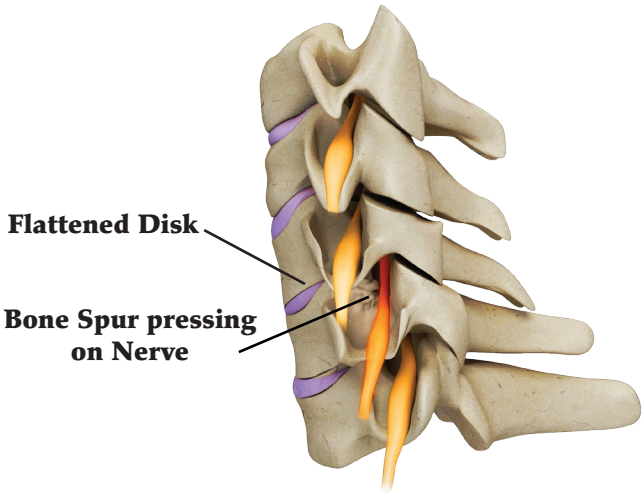


Arm pain, numbness, tingling, and weakness may be caused by pressure on the nerves traveling from the cervical spine down the arm.

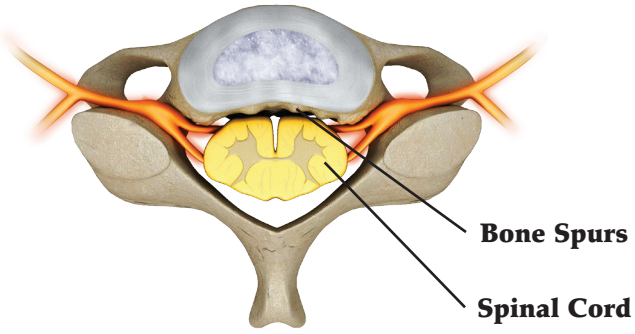




1. With a herniated disk, the annulus tears or the nucleus pushes through the annulus. The herniated portion of the disk may press on the nearby nerve. This may cause neck and arm pain, or weakness in the arm.



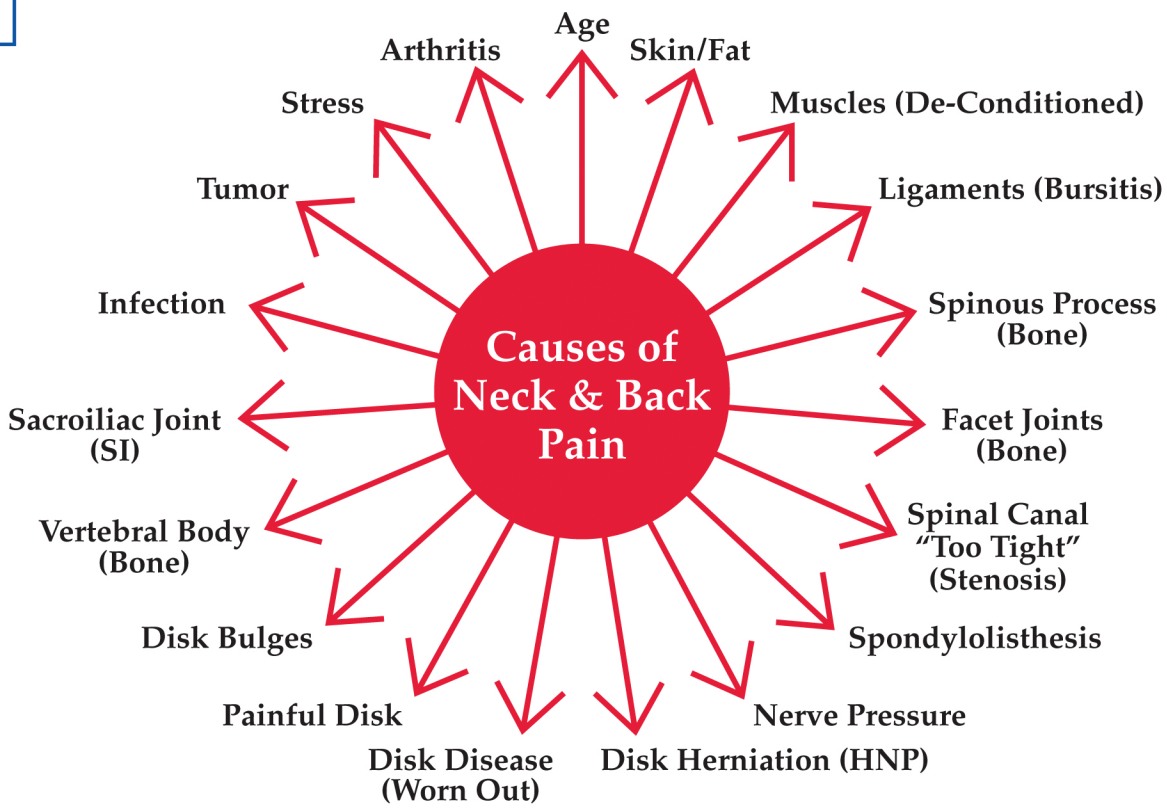
2. In degenerative disk disease, the disks flatten over time. The surrounding vertebrae begin to touch, and the nerves may be pinched. Bone spurs may also form, further irritating the nerves.



3. In stenosis, bone spurs grow into the foramina and spinal canal, narrowing the openings. The nerves and spinal cord may be compressed, resulting in pain, weakness, numbness, and loss of coordination.

By: Stephen P. Courtney, MD
Fellowship-Trained Orthopedic Spine Surgeon

"Circle of Pain"



Surgery:

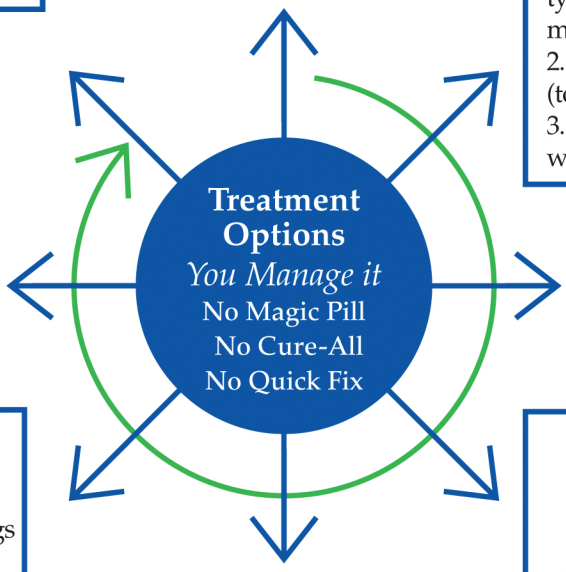
Will depend on what you complain about, results of x-rays, MRI and CT scans. It is **not** a cure for all pain.

Time: 3-4 Weeks

People don't want to hear it, but time helps. Be patient. It may also cause nerve damage if you wait too long.

Medication: The Right Type

1. **9-Day Prednisone: Short Term Only**
The best for inflammation and arthritis. (if the inflammation goes down, the pain will typically go down. It's cheap and works in most patients)
2. **Muscle Relaxer: Flexeril, Zanaflex** (to help reduce spasms)
3. **Pain Medication: Norco** (Dr. Courtney will NOT prescribe long term.)



Steroid Injection:

Up to 3 injections, one month apart x 3 months. Role is to decrease pain. Some patients do well and some do not.

Diagnosis:

Determine diagnosis and possible MRI or CT scan.

Get in Shape:

1. **Upper Body:** Shoulder, Traps and Lats
2. **Lower Body:** Butt, Quads and Hamstrings
3. **Cardio:** Lose weight and get rid of stress (spin classes, bikes, elliptical, walking)
4. **Yoga:** Great for stretching your muscles.
5. **Change your Diet:**
   -Drink a lot of water
   -High protein, low fat

Physical Therapy:

Typically 2-3 x a week for 3-4 weeks, depending on your schedule. Sometimes aggravates arthritis.

Modify your Activity:

1. If it hurts, stop doing it for a while.
2. Be aware of what triggers pain.
3. Twisting and turning.
4. Just bending over.
5. Don't strain.
6. It doesn't take much to trigger or re-aggravate your back.
7. Don't Do: squats or dead lifts
8. No sudden or quick movements

Medication Instructions

If medically necessary, Dr. Courtney typically prescribes new patients these three medications. He will NOT refill any medication for an extended period of time; if excessive refills are needed, he will refer you to a pain management specialist. The **initial** stepped approach is as follows:

1. Prednisone

A corticosteroid used to reduce inflammation. If the inflammation goes down the pain should go down. It's similar to other corticosteroids such as the **Medrol Dose Pack** but at a stronger dose. **"It's like putting water on a fire"** and must be tapered (lowered gradually). Take this medication **by mouth with food** to prevent stomach upset and with at least **2 full glasses of water** (8 ounces). You are prescribed only one dose per day, take it in the morning before 9 a.m. While taking this do not take other anti-inflammatory products (ex. Advil, Aleve, Motrin or Ibuprofen); if needed you could take Tylenol.

For Example: Take a 9-day Rx written for Qty #21 Prednisone 10mg tablets

Take: 40mg	**Take: 20mg**	**Take: 10mg**
Day 1 - 4 ea. of 10mg	Day 4 - 2 ea. of 10mg	Day 7 - 1 ea. of 10mg
Day 2 - 4 ea. of 10mg	Day 5 - 2 ea. of 10mg	Day 8 - 1 ea. of 10mg
Day 3 - 4 ea. of 10mg	Day 6 - 2 ea. of 10mg	Day 9 - 1 ea. of 10mg

2. Flexeril or Zanaflex

A muscle relaxant used with rest, physical therapy and other measures to relax muscles and relieve pain and discomfort caused by strains, sprains and other muscle injuries. Take it as needed (prn) for spasms.

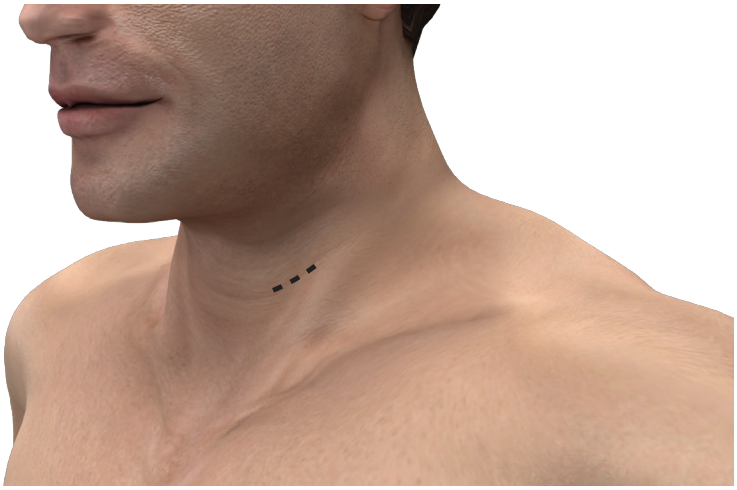
3. Norco

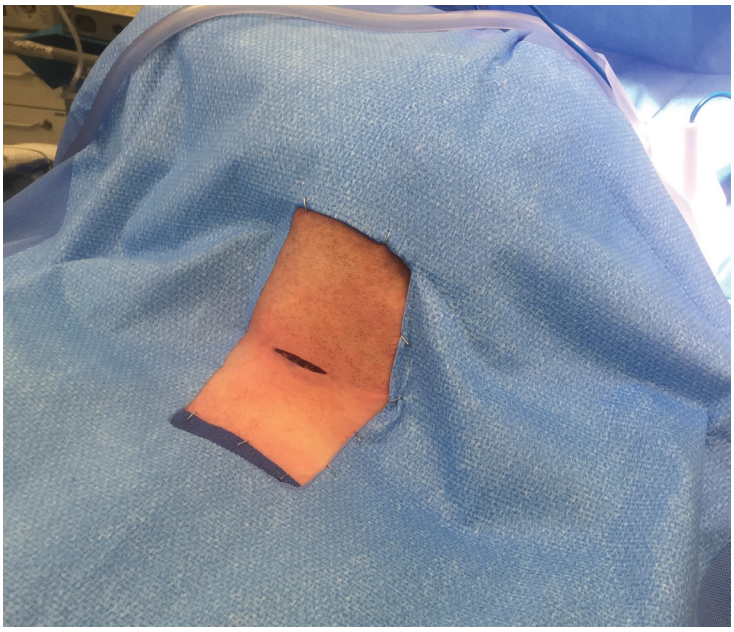
A narcotic for the relief of moderate to moderately severe pain. Other common names are Vicodin or Lorcet, but all are hydrocodone-acetaminophen and tolerance to these can develop with continued use. Dr. Courtney will **NOT** prescribe these medications for long-term use. Take **one (1) tablet every four to six hours** as needed (prn) for pain. The **total daily dose should NOT exceed 6 tablets.** Dr. Courtney will refer you to a physician that specializes in pain management. He specializes in spine surgery, **NOT** pain management.

Cervical Disk Surgery

Understanding your Surgery Through the Front: Anterior Approach

Dr. Courtney will make a transverse incision (about 1 to 2 inches long) on the left side of your neck. To reach the disk, soft tissue is moved aside. All or part of the disk that is irritating the nerve is then removed. Dr. Courtney may remove bone spurs. The vertebrae may then be prepared for a fusion.





The incision site

Cervical Disk Surgery

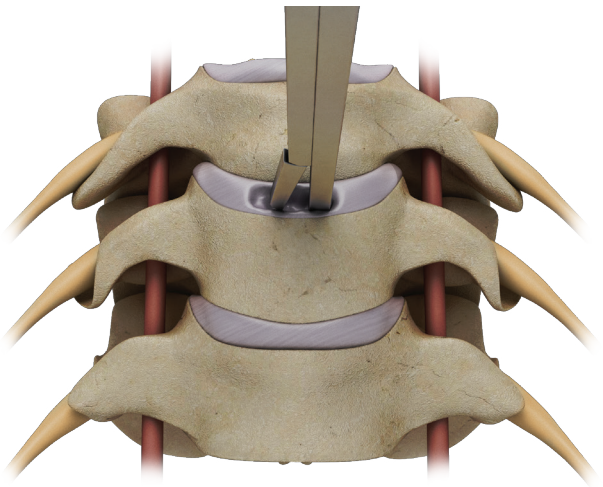
Three-Step Process:

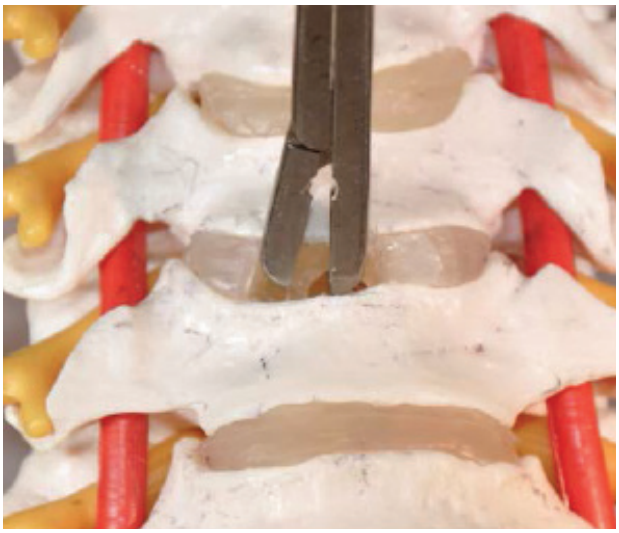
1. Take the bad disk out.

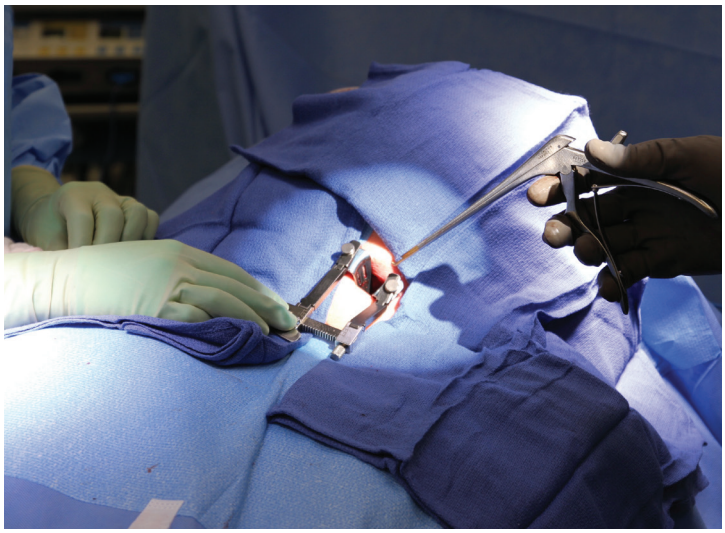
2. Insert a Copperhead® cage.

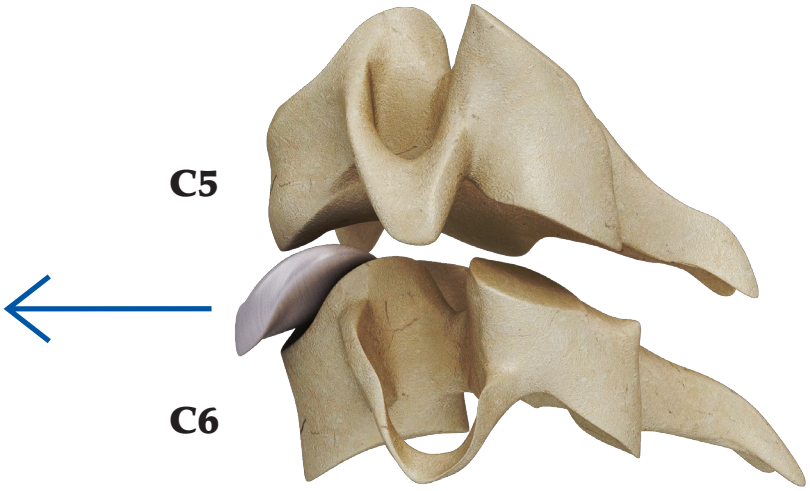
3. Apply a King Cobra® plate.

The disk is old and worn out and has no function. It's like the foundation of your house, it cracks and collapses and this causes pressure on your nerve roots and spinal cord.









Take the bad disk out.
Diskectomy

Cervical Disk Surgery

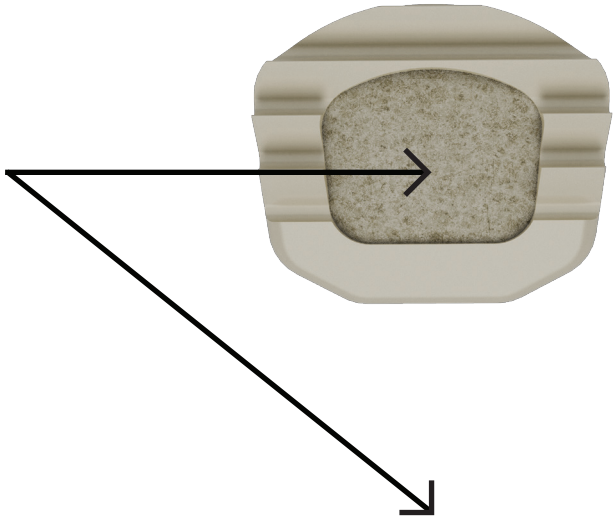
Three-Step Process:

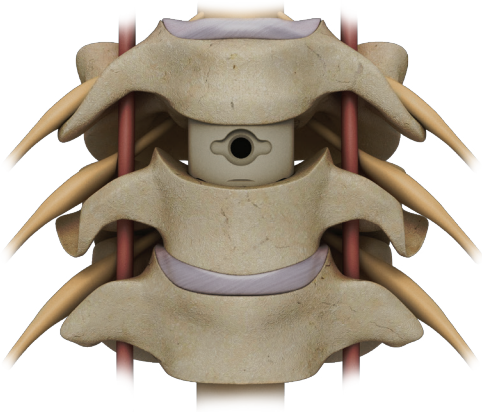
1. Take the bad disk out.
2. *Insert a Copperhead® cage.*
3. Apply a King Cobra® plate.

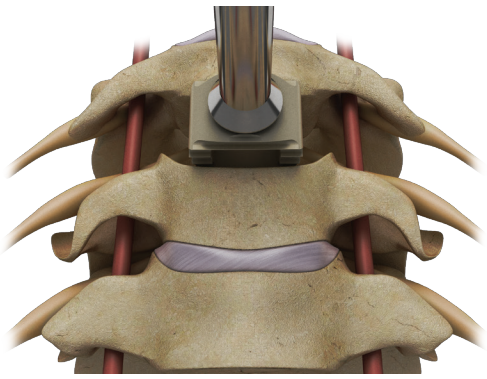
Fill the chamber of the cage with medical, processed bone putty that we obtain from the bone bank in the OR. (Not from your iliac crest)

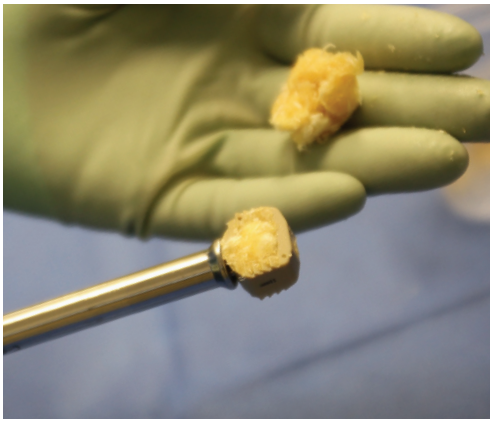
Copperhead® Cage.

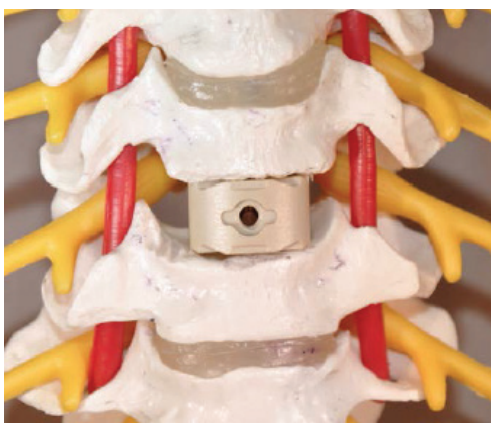
Replaces the disk and keeps it jacked up. The cage does not wear out.

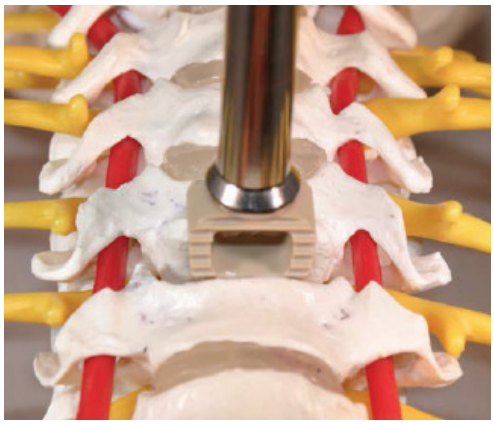


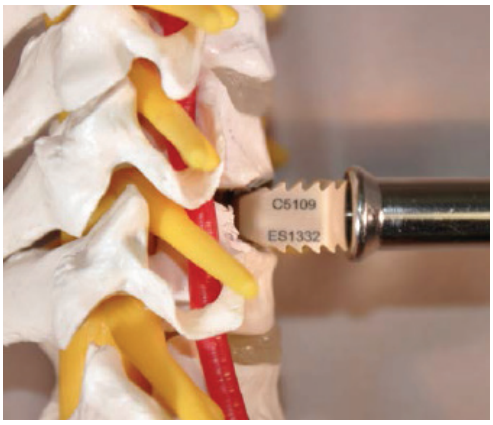












Insert cage.

Cervical Disk Surgery

Three-Step Process:

1. Take the bad disk out.
2. Insert a Copperhead® cage.
3. *Apply a King Cobra® plate.*

King Cobra® Plate.

Placed on the front of the spine in order to provide stabilization.

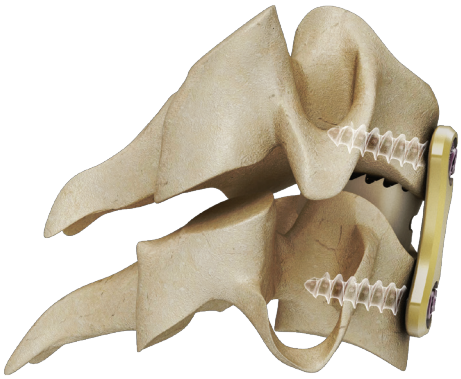
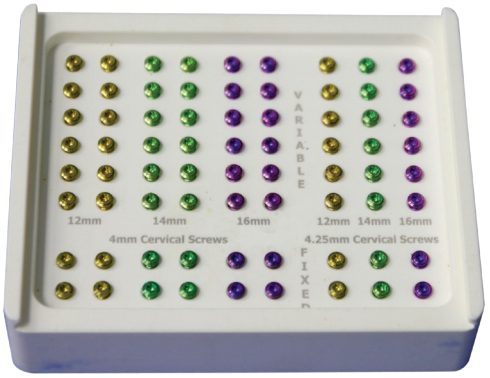
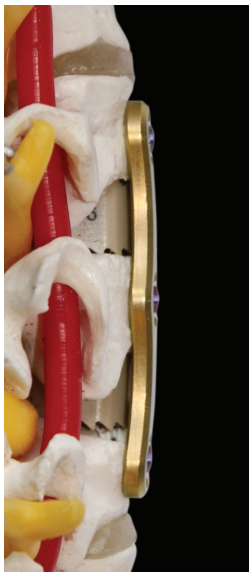
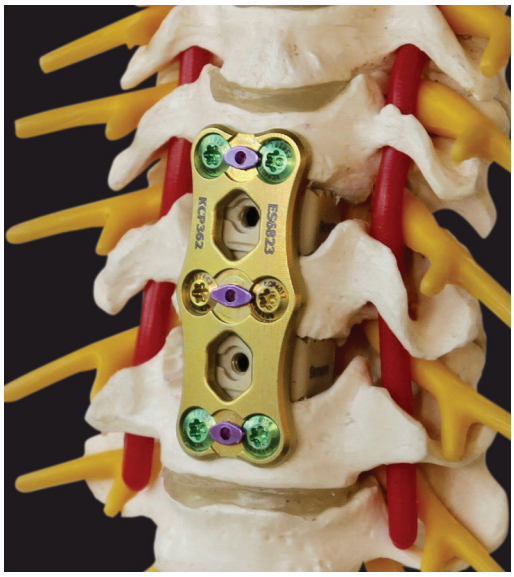


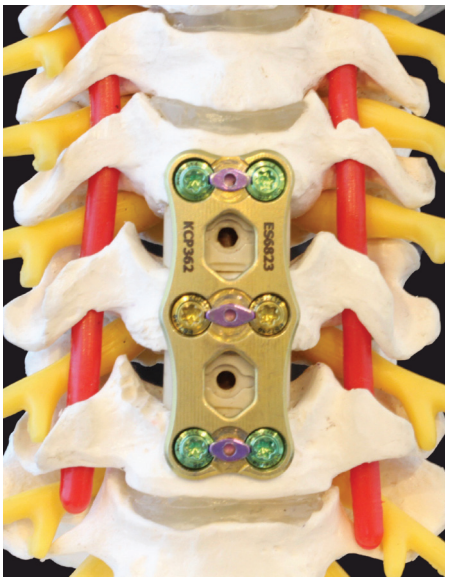
Plate Caddy



Screw Caddy







Apply plate.

What to Expect about a Cervical Fusion

"Start to Finish"

Decide to have surgery and understand the surgical process

Pre-Op Instructions

- **Medical clearance may be required.**
  If you need clearance our office will refer you accordingly.
- Dr. Courtney's Medical Secretary, Claire, will schedule the surgery time & dates.
- Return to POSMC for a detailed pre-surgery appointment.
  -Write down a list of any questions you may have. Bring it with you to be answered.
- **Prescriptions:** Rx will be given to you to take home and fill.
- **At the hospital pre-surgery appointment, you will check in for your procedure and have your pre-op labs performed.**
- You'll schedule a 2 week post-op follow-up visit.

Commonly Asked Questions

Patients want to know:

- How long does surgery take?
  - **1 to 3 hours** (based on number of levels to be performed)
- How long will I be in the hospital?
  - **Overnight stay** (depending on how you feel, typically home the next day)
- When can I return to work?
  - **Approximately 2 to 6 weeks after surgery** (depending on your occupation and possibly part time to begin with.)

The Day of Surgery

Bring with you:

- Cervical collar
- All routine medications and/or inhalers (in the original bottles), CPAP Machine
- Check in to registration area at hospital (you'll be taken to a surgical holding area)
- The **Anesthesiologist** will discuss surgery with you before you are taken to the operating room.
- **After the Surgery:** Dr. Courtney visits family members **in waiting area.** Patient monitored in recovery room for 1 hour.
- **Please** tell your family they are **NOT** allowed in the recovery room; they can join you after you're transferred to a hospital room.

Hospital Stay

Family members:

- Dr. Courtney will have given you **instructions to review** while the surgery is underway
- Discharge plan depends on:
  -How the patient feels after surgery.
  -Nurse or PA will remove neck drain and inspect incision.
- Most patients are able to go home near lunchtime.

Surgery of the Neck and Back
Heather Gehrke, PA-C
Claire Galloway, Medical Secretary ext: 5719

What to Expect about a Cervical Fusion

Instructions for Recovery

Be determined! Keep your follow-up appointments at 2 and 6 weeks, and 3, 6, and 12 months

The Morning After and Initial Days Post Surgery:

1. Dr. Courtney and/or his PA and nurses will: examine you, draw labs, remove a drain from your neck and inspect your incision.
2. You will awaken wearing your cervical collar. It **MUST** be worn when you get out of bed, a physical therapist will assist you.

0-2 weeks after surgery

Cervical Collar: Wear it at **ALL** times (including while sleeping and driving)

- If skin becomes irritated you may remove your collar in a **SAFE & QUIET** environment (e.g., watching TV).
  - **NO** children or dogs jumping on you.
- Limit your driving
  - **Drive only if you have to.**
- Sore Throat
  - Initially your throat may feel sore. Drink decaffeinated liquids. (This helps the swelling subside.) Elevate your head while sleeping/resting. Throat spray or lozenges may also help.
  - May need steroid if swallowing continues to be difficult.
- Showering
  - You can take your 1st shower 2 days after surgery.
  - The super glue on your incision is waterproof.
- **USE** shower guards given to you by the hospital; keep incision as **DRY** as possible.
- **DO NOT** apply any ointments to the incision. (If it becomes wet, blot dry with a towel.)
- If any swelling develops around the incision notify our office immediately.
- **NO** lifting! Nothing heavier than a gallon of milk.
- Limit twisting and bending. Take it easy!
- You may have spasms in the back of your neck.
- Avoid quick and sudden movements.

2-6 weeks after surgery

At your first follow-up appointment in clinic:

- Post-op x-rays will be taken and reviewed.
- Cervical collar assessed: Typically it will be discontinued after 2 weeks (Dr. Courtney may extend use if necessary).
- Driving ok if/when you feel capable.
- Expect to feel a little weak or tired but you should be getting stronger every day.
- Range of motion exercises will help.
- Physical therapy will be needed.
- You may have some pain, numbness or tingling in your neck and arms. With ongoing neck care you will be able to resume most, if not all, of the activities you enjoy.
- **It takes time to heal...**
  - Don't be foolish and try to overdo it!
- **Work**
  - You may return to work depending on your occupation **approximately 2-6 weeks after surgery** and possibly part time to begin with.

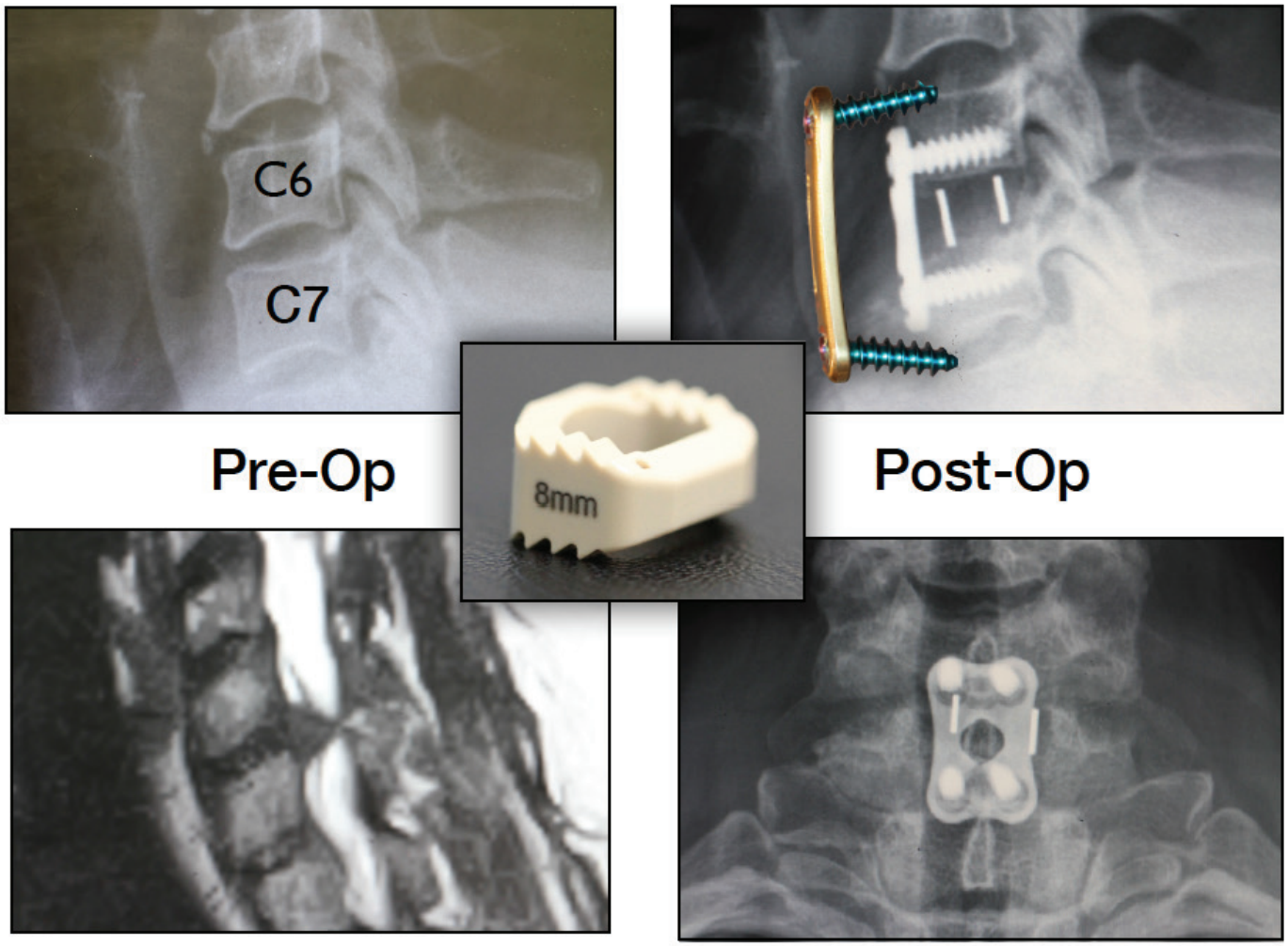
3 months after surgery

Remaining follow up visit(s):

- Post-op x-rays will be taken, reviewed and repeated at 3, 6, and 12 month follow-up visits.
- **Most post-op patients may** resume sports activities (golf, etc).
  - **ALWAYS** be aware of what aggravates your neck. Don't be stupid, **USE COMMON SENSE!** It does not take much to aggravate your neck, with or without surgery.

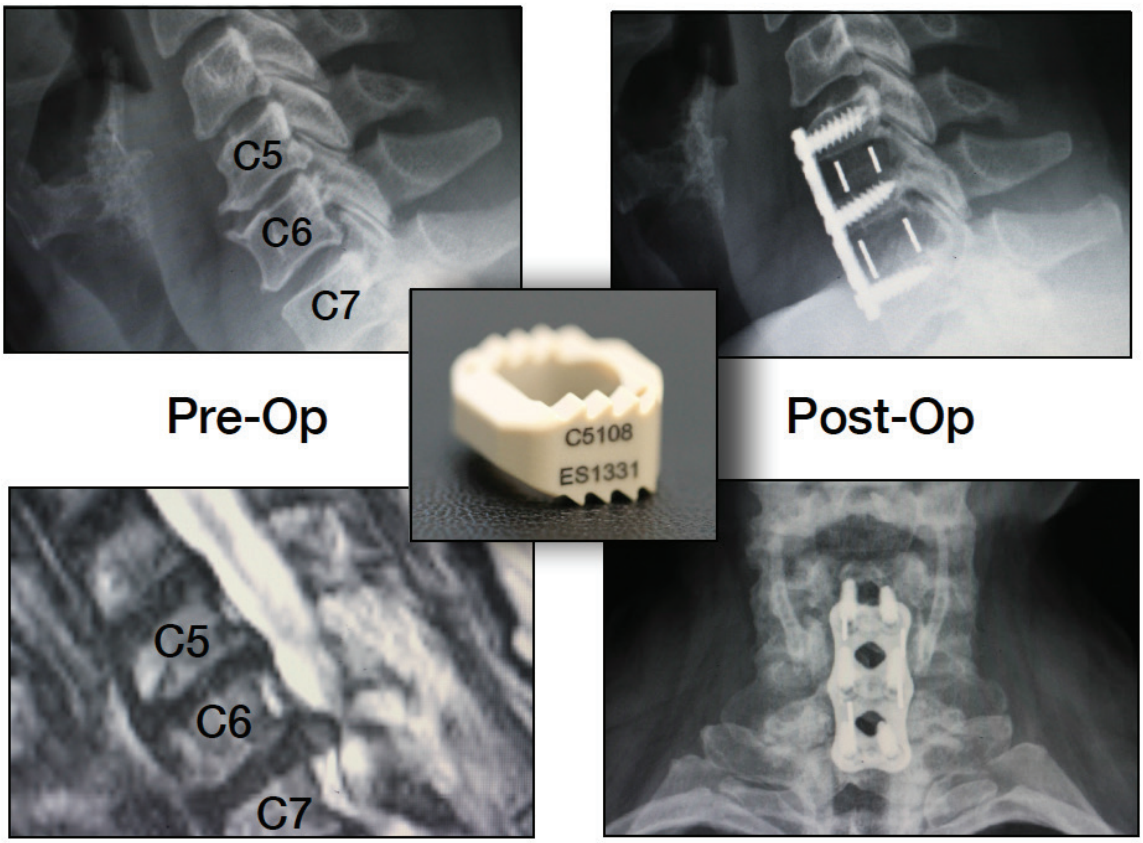
Case Studies

1 Level: C6/7
King Cobra® & Copperhead® Cage
49 y/o WF with Radiculopathy & Triceps Weakness



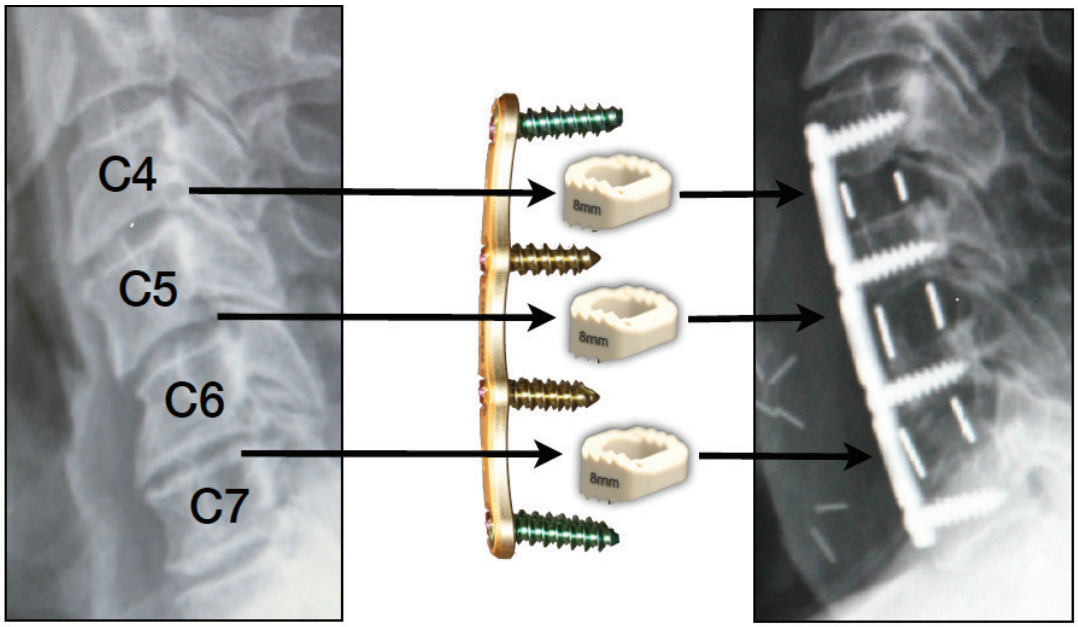
2 Level: C5/6 & C6/7
King Cobra® & Copperhead® Cage

50 y/o WF with Severe Left Arm Radiculopathy & Triceps Weakness



3 Level: C4/5, C5/6 & C6/7
King Cobra® & Copperhead® Cage

45 y/o HNP & Stenosis C4-7



Meet Dr. Courtney

Stephen P. Courtney, MD
Fellowship-Trained Orthopedic Spine Surgeon
Plano Orthopedic Sports Medicine and Spine Center

Dr. Courtney Bio

I'm Stephen Courtney, a board-certified orthopedic spine surgeon here in Plano, Texas. A Louisiana native, I attended Louisiana State University for medical school, and completed my residency at Texas A & M followed by a fellowship at the Florida Neck and Back Institute.

I returned to the great state of Texas to put down roots and apply my clinical expertise and my passion for patient care in the Lone Star State. I've been proud of my accomplishments over the last 20 years, including:

- Founding the spine division at Plano Orthopedic Sports Medicine and Spine Center
- Being named one of D magazine's "Best of Dallas" doctors
- Membership in several professional spine associations
- Founding Eminent Spine, a medical device company that manufactures spinal implants right here in Texas

I believe in treating each of my patients with honesty, dignity, and respect. My patients come away from our shared interactions feeling confident, assured that they are truly in the best hands. When I'm not in the clinical setting, you can find me enjoying time with my wife and five children, perfecting my Cajun cooking, or hitting the trails on my mountain bike. Throughout my career, I have remained laser-focused on providing world-class care and innovation to the patients I treat on a daily basis. I look forward to getting to know you!

Surgery Check List

Patient Name: _____ **Date**: _____

Diagnosis: _____

Procedure to be performed: _____

⇣⇣TO BE COMPLETED BY PATIENT⇣⇣

Date symptoms began: _____

6 weeks _____ 3 months _____ 6 months _____ 12 months _____ other: _____

_____Unremitting Pain _____Weakness
_____Numbness/Tingling _____Decreased sensation
_____Significant impairment (e.g., inability to perform household chores or prolonged standing, interference with essential job functions)

-Anti-inflammatory / muscle relaxers / pain medications:

Date(s)	Medication	Dosage	Duration

-Activity/Lifestyle modification
_____ Limited bed rest with gradual return to normal activities _____Heat/Cold modalities for home use
_____ Avoidance of activities that aggravate pain _____Chiropractic manipulation
_____Addiction issues _____Smoking

-Daily exercise, including core stabilization exercises
_____Low-impact exercise as tolerated (e.g., stationary bike, swimming, walking)

-Physical Therapy Supervised (including active and passive modalities).

Dates: _____

Physical Therapy facility: _____

Frequency & duration: _____

-Injection(s)
Date(s): _____

Type (Facet injection, Epidural injection, etc.): _____

_____

Who performed it: _____

Stephen P. Courtney, MD
Fellowship-Trained Orthopedic Spine Surgeon
Plano Orthopedic Sports Medicine and Spine Center
www.CourtneyMD.com www.EminentSpine.com

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Plano Orthopedic Sports Medicine and Spine Center
5228 W. Plano Pkwy, Plano, TX 75093
972.250.5700
www.POSMC.com