

RISKS OF POSTERIOR CERVICAL SURGERY
FRANK N. GRISAFI, M.D.

Medicine (and surgery) can be an inexact science. Although we plan and carry out our surgery as carefully as we can, the results can vary. With that in mind, you should have a clear understanding of possible risks of posterior cervical surgery including, but not limited to:

INFECTION

Anytime the skin is cut with a knife there is risk of infection. The risk of infection for posterior cervical surgery is very rare; less than 1 percent. Patients will get antibiotics before the incision is made and for 24 hours after the operation. If the patient gets an infection he or she may need multiple surgeries to clear the infection.

BLEEDING

There are major vascular structures that run through the spine and are in danger. Bleeding may occur from the vertebral arteries. If one or both of these structures is damaged the patient is at risk of having a stroke. If there is extensive blood loss this also puts stress on the heart and the patient is at risk of having a heart attack. If these structures are damaged during the operation we often consult a vascular surgeon to repair the bleeding.

NEUROLOGIC INJURY

Anytime one operates near the spinal cord there is always the risk of damaging the spinal cord. This complication is exceptionally rare. Once the patient is intubated we monitor the function of the spinal cord. If we do something that irritates or alters the spinal cord we can pick it up almost immediately with the monitoring and make corrections. The risk of damaging the spinal cord during cervical surgery is less than 1 percent.

NO FUNCTIONAL IMPROVEMENT

Though 95 percent of people who undergo posterior cervical surgery see some resolution of their symptoms and functional recovery, a small percentage of patients do not see any difference after surgery. Surgery is only predictable for stopping the progression of what is going on. Sometimes numbness, tingling and weakness can transiently become worse after surgery as the neurologic structures repair and heal themselves. Patients can see benefit and improvement in function and symptoms up to 18 months after posterior cervical surgery.

FAILURE OF FUSION

There is always a possibility that the fusion will not heal. However, fusion rates for instrumented lateral mass fusions is near 100 percent. Final healing of the fusion is not determined until several months after the operation. If the fusion does not heal and the patient is not happy with his or her symptoms the patient may choose to undergo further surgery. If the fusion does not heal but the patient can tolerate his or her symptoms then there is an option to follow things with serial X-rays.

OTHER

Risk of anesthesia: medical complications including stroke, heart attack or even death.

I HAVE READ AND UNDERSTAND THE ABOVE MATERIAL AND WISH TO PROCEED WITH THE OPERATION OFFERED BY FRANK N. GRISAFI, M.D.

Signature of Patient

Date

Signature of Surgeon/Medical Staff

Date

RISKS OF ANTERIOR CERVICAL SURGERY

FRANK N. GRISAFI, M.D.

Medicine (and surgery) can be an inexact science. Although we plan and carry out our surgery as carefully as we can, the results can vary. With that in mind, you should have a clear understanding of possible risks of anterior cervical surgery including, but not limited to:

INFECTION

Anytime the skin is cut with a knife there is a risk of infection. The risk of infection for anterior cervical surgery is very rare; less than 1 percent. Patients will get antibiotics before the incision is made and for 24 hours after the operation. If the patient gets an infection he or she may need at least one additional surgery and 6 weeks of IV antibiotics. The patient could possibly need multiple surgeries to clear the infection.

RECURRENT OR SUPERIOR LARYNGEAL NERVE INJURY

These nerves control swallowing and vocal cords and are at risk during surgical dissection down to the spine. The published risk to these structures is anywhere from less than 1 to 7 percent. In our experience this is extremely rare. If these nerves are injured the patient may have difficulty swallowing and he or she may have a change in voice character. If this complication does occur, we often need the help of otolaryngologists (ear, nose and throat surgeons - ENT) to evaluate the patient and often other procedures can be done to improve the condition. Mild temporary difficulty swallowing/sore throat immediately after surgery from retraction of the esophagus and tracheal intubation is common, but fortunately often resolves quickly.

BLEEDING

There are major vascular structures along the dissection and also with the decompression of the cervical spine. Bleeding may occur from the carotid artery or the vertebral artery. If one or both of these structures is damaged the patient is at risk of having a stroke. If there is extensive blood loss this also puts stress on the heart and the patient is at risk of having a heart attack. If these structures are damaged during the operation we often consult a vascular surgeon to repair the bleeding. While 99.7 percent of patients do not experience this problem, it is important that patients know it is a possibility.

NEUROLOGIC INJURY

Anytime one operates near the spinal cord there is always the risk of damaging the spinal cord. This complication is exceptionally rare. If spinal cord compression is the reason for surgery, once the patient is intubated we monitor the function of the spinal cord. If we do something that irritates or alters the spinal cord we can pick it up almost immediately with the monitoring and make corrections. The risk of damaging the spinal cord during anterior cervical surgery is less than 1 percent.

NO FUNCTIONAL IMPROVEMENT

Though approximately 95 percent of people who undergo anterior cervical surgery experience some resolution of their symptoms and functional recovery; a small percentage of patients do not see any difference from before surgery. Surgery is mostly predictable for halting the progression of disease especially in cases of myelopathy. Sometimes numbness, tingling and weakness can temporarily become worse after surgery as the neurologic structures repair and heal themselves. Patients can see benefit and improvement in function and symptoms up to 18 months after anterior cervical surgery.

FAILURE OF FUSION

There is always a possibility that the fusion will not heal. If the patient chooses to use iliac crest bone (autograft) the failure of the fusion is about 5 to 10 percent. If the patient chooses to use cadaver bone (allograft) the failure of fusion is slightly higher at 10 to 15 percent. Final healing of the fusion is not determined until several months after the operation. If the fusion does not heal and the patient continues to have neck pain he or she may require a subsequent posterior cervical fusion procedure to achieve fusion.

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DURAL TEAR/SPINAL FLUID LEAK

Anytime one operates around the spinal cord there is a chance of poking a hole in the dural sac around the spinal cord which contains spinal fluid. If a spinal fluid leak is encountered it will be fixed by either direct suture repair or with the use of a fibrin glue to seal the leak. There is a rare chance the fluid leak could persist requiring an additional surgery to repair the leak. The rate of dural tears for anterior cervical surgery is approximately 3.7 percent. Occasionally a lumbar drain may be required to divert leaking fluid from the cervical spine to allow healing of the dura.

ESOPHAGEAL INJURY

Anterior cervical surgery requires retraction of the esophagus during the exposure of the spine. There is a 0.2 to 0.4 percent risk of perforation of the esophagus from retractors or the use of instruments or a high speed burr around it. If an injury occurs and is identified during surgery, the cardiothoracic or ENT will be consulted to repair the injury during surgery. These injuries are rare and often hard to identify immediately and occasionally it will be picked up after surgery and can present as persistent drainage or infection of the wound. The mortality rate is 20 percent if picked up immediately and up to 50 percent if picked up later.

BONE GRAFT MOVEMENT

If corpectomy (removal of vertebral body) is performed, there is a 6 percent incidence of dislodgement or migration. If it occurs, it usually requires a revision surgery either anteriorly to reposition or replace the graft and/or posterior spinal fusion to lock it in to prevent further migration.

C5 NERVE ROOT PALSY

After anterior cervical surgery, there is the possibility of about 3.2 percent of developing weakness of the deltoid caused by stretch or irritation of the C5 nerve root. Patients who get this may experience the inability to raise the affected shoulder. Fortunately, greater than 90% of these resolve over time without further intervention.

ADJACENT SEGMENT DEGENERATION

Studies have shown that after an anterior cervical fusion, that at 10 years 25 percent of patients may require surgery at a disc level adjacent to the surgical level. This rate is less when more levels are fused at the first surgery. Currently researchers are unsure whether this is from additional stress on adjacent levels due to the fusion or is simply the natural history or progressive nature of cervical disc arthritis.

OTHER

Occasionally after anterior neck surgery, especially multilevel corpectomy surgery (due to airway swelling), patients may have to be kept on the ventilator with a breathing tube overnight. With any surgery there is the risk of anesthesia-related complications or medical related complications such as stroke, heart attack or even death. Fortunately these are rare.

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