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Purpose/Procedure/Recovery/Benefits/RisksVs. carotid endarterectomy/FAQ/Summary/Carotid stenting is a procedure in which a surgeon treats plaque from the carotid arteries and inserts a stent to hold them open. It is a minimally invasive treatment for carotid artery stenosis. The carotid arteries are major arteries that run up either side of the neck, providing blood to the brain. Their vital role as the brain's blood supply means that severe narrowing of the arteries also known as stenosis increases a person's risk of stroke. Stents are hollow mesh tubes that hold open an artery to allow blood to flow through. This article explains the purpose of carotid stenting and what the procedure involves. It also looks at recovery, benefits, risks, and more. Share on Pinterestvixap/Getty ImagesStenosis can occur when plaque hardens and narrows the arteries. Plaque is a buildup of cholesterol, fats, and other substances on the artery wall. This makes blood flow more difficult. Treatments such as carotid stenting can reopen the arteries, allowing blood to move through more freely. Even if a person does not have any symptoms of carotid artery stenosis, they can still be at an increased risk of stroke, so stenting may be necessary.Doctors usually recommend carotid stenting if an individual has 50% to 69% stenosis with symptoms, or 70% to 90% stenosis with no symptoms. Most people with carotid artery stenosis never have symptoms, according to a 2022 article.Learn more about when a person may require carotid artery surgery. Carotid stenting involves inserting a stent. Before the procedure, a person will receive a local anesthetic. Their doctor will also advise on what an individual can safely do before the procedure. This can include when to stop eating, drinking, and smoking, and when they may continue to take their usual medications. The doctor inserts a catheter into a thin tube, through an artery, that goes into the groin. Using an X-ray, they guide the catheter into a tiny blood vessel at the end of the artery, called the carotid. They will then insert a stent to hold it open. They end the procedure by deflating and withdrawing the balloon. The stent remains in place to keep the artery open and promote better blood flow around it. They immediately alter the procedure, a person will need to lie down to prevent bleeding from the artery. People usually need to stay in the hospital for a single night after a carotid stenting procedure. This helps the medical team ensure that blood pressure and heart rate remain stable and that no signs of stroke or bleeding develop.After leaving the hospital, a person may need to take blood-thinning medications such as clopidogrel or aspirin to reduce the risk of the stent developing a blockage.Carotid stenting provides a way to reduce carotid artery stenosis and its stroke risk for those with previous neck injuries or people for whom carotid endarterectomy would carry too much risk.A 2019 study monitoring individuals for 10 years after stenting found that the stroke risk was 0.6%. Like any procedure, there are some risks with carotid stenting. It may not be suitable for every individual with carotid stenosis.During the procedure, plaque may break off, increasing a person's risk of stroke. However, surgeons can minimize this by inserting a small filter basket to catch pieces of broken plaque.A 2020 study suggested that strokes after carotid stenting were most likely in people older than 70 years. The study authors said most carotid-stenting-related strokes did not cause significant disability.However, a doctor may suggest stenting instead if the following apply:An individual has received radiation treatment or surgery on the neck.The plaque is in a location that is difficult to reach.A person has severe lung, heart, or blood vessel issues.Stenting is less invasive, as it does not involve a cut in the neck.A 2023 article on the two procedures found that carotid stenting compares with CEA in the following ways:The cuts are smaller during stenting.An individual usually experiences less pain after stenting.Stenting has a lower risk of complications with the wound after the operation.Stenting requires a shorter stay in the hospital.According to meta-analysis of 22 trials with data from 9,755 people, carotid stenting may result in a higher risk of stroke than CEA. However, the overall risk of stroke is minimal. Stenting is minimally invasive. However, doctors still recommend a night of recovery in the hospital so they can monitor vital signs and catch any complications early.No research data on the recommended recovery time after carotid stenting is available. People should speak with their physician about the recommended recovery time for their age, activity level, and overall health.Doctors use local anesthetic during carotid stenting to induce relaxation and numbness, but the person will remain fully conscious during the procedure.Carotid stenting is a procedure to treat carotid artery stenosis and reduce a person's risk of stroke. During the procedure, a doctor inserts a catheter into an artery via the groin, inflates a balloon to widen the carotid artery after threading it through, and inserts a stent to hold the blood vessel open.Doctors more often recommend a carotid endarterectomy (CEA), which is more invasive and involves a cut in the neck. Not everyone is a good candidate for this, so stenting can be an equally effective alternative for some people. Stenting requires less time in the hospital, involves shorter recovery time, and causes less pain than a CEA.However, carotid stenting risks pieces of plaque breaking off and increasing stroke risk. A doctor can fully advise an individual on the benefits and possible risks of the procedure so that they can make an informed decision about their treatment plan. Cerebrovascular Is: The Whooshing Sound in Your Ear Dangerous? Hearing a rhythmic whooshing or heartbeat sound in your ear can be unsettling, especially when it's persistent. Known as pulsatile tinnitus, this condition often creates anxiety and confusion as individuals Back Pain Regaining Your Mobility: Expert Exercises After Neck Surgery Minimally Invasive Spine Yoga After ACDP Surgery: A Safe Approach to Recovery Minimally Invasive Spine Spinal Decompression vs. Fusion: What Patients Should Know Minimally Invasive Spine Working Out After ACDP Surgery: A Timeline for Safe Return to Exercise Deery SE, Hicks CW. Carotid artery stenting. In: Sidway AN, Perler BA, eds. Rutherford's Vascular Surgery and Endovascular Therapy. 10th ed. Philadelphia, PA: Elsevier; 2023:chap 94.Hassani S, Fisher M. Management of atherosclerotic carotid artery disease: a brief overview and update. Am J Med. 2022;135(4):430-434. PMID: 34732352. pubmed.ncbi.nlm.gov/34732352/ Parkey S, Bhatt DL. Treatment of noncoronary obstructive vascular disease. and Libby P, Bonow RO, Mann DL, Tomaselli GF, Bhatt DL, Solomon SD, eds. 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Carotid sonography: protocol and technical considerations. In: Pellerito SJ, Polak JF, eds. Introduction to Vascular Ultrasonography. 7th ed. Philadelphia, PA: Elsevier; 2020:chap 5.Page 5Cerebral angiography is done in the hospital or radiology center. You lie on an x-ray table.Your head is held still using a strap, tape, or sandbags, so you do not move it during the test.Your doctor will use a catheter, such as the one used to help you relax.An electrocardiogram (ECG) monitor will be placed on your arm to check your heart rate during the test.A small filter basket will be placed on your arm to catch any pieces of broken plaque.An area of your body, usually your groin, will be cleaned and numbed with medicine (local anesthetic). A thin, hollow tube called a catheter is placed through an artery. The catheter is carefully moved up through the main blood vessels into an artery in the neck. X-rays help your health care provider (usually a specially trained radiologist) guide the catheter to the correct position.Once the catheter is in place, dye is sent through the catheter. X-ray images are taken to see how the dye moves through the artery and blood vessels of the brain. The dye helps highlight any blockages in blood flow.Sometimes, a computer removes the bones and tissues on the images being viewed, so that only the blood vessels filled with the dye are seen. This is called digital subtraction angiography (DSA).After the x-rays are taken, the catheter is withdrawn. Pressure is applied on the leg or wrist at the site of insertion for 10 to 15 minutes to stop the bleeding or a device is used to close the tiny hole. A tight bandage is then applied. Your leg should be kept straight for 2 to 6 hours after the procedure. Watch the area for bleeding for at least the next 12 hours.Angiography with a catheter is used less often now. This is because magnetic resonance angiography (MRA) and CT angiography give clearer images and do not require placing a catheter. Page 6Barras CD, Bhattacharya JJ. Current status of imaging of the brain and anatomical features. In: Adam A, Dixon AK, Gillard JH, Schaefer-Prokop CM, eds. Grainger & Allison's Diagnostic Radiology. 7th ed. Philadelphia, PA: Elsevier; 2021:chap 53.Kalinina AU, Probst RW, Kim TA. Computed tomography and magnetic resonance imaging of the brain. In: Winn HR, eds. Youmans and Winn Neurological Surgery. 8th ed. Philadelphia, PA: Elsevier; 2023:chap 10.Khan M, Schulte J, Zinreich SJ, Aygun N. Overview of diagnostic imaging of the head and neck. In: Flynn P, Francis JW, Haughey BH, et al, eds. Cummings Otolaryngology: Head and Neck Surgery. 7th ed. Philadelphia, PA: Elsevier; 2021:chap 6. Page 7Updated by: Linda J. Vorvick, MD, Clinical Professor, Department of Family Medicine, UW Medicine, School of Medicine, University of Washington, Seattle, WA. Also reviewed by David C. Dugdale, MD, Medical Director, Brand Chicago, Editorial Director, and the A.D.A.M. Editorial team. Stent placement is a procedure that places a small, wire mesh stent inside a blood vessel or passageway in the body in order to keep it open. Stents can allow people to breathe more easily or allow blood and other fluids to continue flowing freely through the body. People may require a stent placement due to a heart attack, lung cancer, or other condition that affects passageways in the body. Other stents may open the bile ducts, ureters, urethra, or esophagus. A stent may be metal, mesh, silicone, fabric, or a combination of different materials. In this article, we look at the different types of stents, what stent placement involves, possible risks, recovery, and outlook.Share on PinterestNicholas Eveleigh/Getty ImagesThere are many different types of stents, all depending on the condition that requires treatment and what passageway is obstructed. Types of stents include:coronary stentscarotid artery stentsperipheral vascular stentsureteral stentsprostatic stentsesophageal stentiliary stentsairway stents, or heart, stents help keep the arteries leading to the heart muscle open. If people have a buildup of plaque in the arteries, it can reduce blood flow to the heart. This can result in a blood clot, which can block blood flow to the heart and cause a heart attack.Symptoms of heart disease or heart attack include:chest painshortness of breatheleg dizzinessnauseaextreme fatigueindigestionupper body painpalpitationswelling in the legs, feet, abdomen, or neck veinsCoronary stents may be metal mesh. The most common type of coronary stent is a drug-eluting stent, which gradually releases medication into the artery to prevent it from narrowing again. A carotid artery stent can help treat carotid artery disease by opening up the carotid arteries. The carotid arteries are in the neck and allow blood flow to the brain. If plaque builds up in these arteries, it can increase the risk of stroke.People may have no symptoms of carotid artery disease. The first sign of carotid artery disease may be a transient ischemic attack (TIA) or stroke, which may cause the following symptoms:weakness or paralysis in one side of the bodyloss of coordinationvision changesmemory changes or loss of visionslurred speechcarotid artery stents may be metal mesh, or drug-eluting to release drugs steadily into the arteries to help keep them open. The peripheral arteries are present in the legs or arms. A buildup of plaque in these arteries can narrow the carotid arteries. 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The first sign of carotid

up to the carotid artery. The procedure involves inflating a small balloon at the catheter's tip to widen the narrowed artery and inserting a stent to maintain its opening.What are the risks of carotid artery stenting?Risks of carotid artery stenting include stroke, heart attack, bleeding at the catheter insertion site, and allergic reactions to the contrast dye used during the procedure. It is important to discuss the potential risks and benefits with a healthcare provider.What is the recovery process after carotid artery stenting?Patients typically undergo monitoring for a few hours after the procedure and may need to stay overnight in the hospital. Most patients can resume normal activities within a few days, but it is important to follow the healthcare provider's instructions for recovery and follow-up care.By addressing these common questions and concerns, patients can gain a better understanding of the carotid artery stenting procedure and feel more informed and empowered to make the best decision for their healthcare needs.People who have carotid artery stenting instead of a carotid endarterectomy have these benefits:A less invasive approachSmaller incisions or no incisionLess risk of nerve damage in the neckLess pain after their procedureHow successful is this procedure?For most people, carotid artery stents increase blood flow to their brains and decrease their risk of a stroke.Researchers have compared the results of the carotid stenting procedure with that of the carotid endarterectomy surgery. Studies have found that there were no significant differences in major risks of the two treatments through 10 years.However, people who get a stent in their carotid artery may be more likely to have a minor stroke. But they also dont have the risks of nerve damage.Both treatments have similar rates of restenosis (an artery getting narrow again). This can happen in the first two years due to scar tissue or later from the process of atherosclerosis or hardening of the arteries. Both treatments have a likelihood of being a lifetime repair in over 95% of cases.What you can do to improve your prognosisAlthough the carotid stenting procedure opens up a blocked carotid artery, it doesnt cure carotid artery disease. Youll still need to focus on reducing your risk factors and making certain lifestyle changes to prevent atherosclerosis from developing or getting worse.For the best results, follow these recommendations:Avoid all tobacco products, including vaping.Take medications as prescribed.Stay at a weight thats healthy for you.Get regular physical activity.Follow a heart-healthy meal plan.Manage blood pressure (under 130), cholesterol (LDL under 70) and diabetes (HgbA1c below 7).Go to follow-up visits as your provider recommends.Have follow-up imaging of your repair and the opposite carotid artery with ultrasounds.What are the risks or complications of carotid artery stenting?Some of the possible carotid artery stenting risks include:HypotensionHypertensionBradycardiaBleeding at the catheter insertion siteBleeding at your neck incision site for TCARDamage to your leg artery, arm artery or carotid arteryBlood clotsStrokeBrain bleedingDeathThere may be other possible carotid artery stenting complications. When you meet with your healthcare provider, ask questions to make sure you understand the potential risks and benefits of the procedure. Certain risk factors may make you ineligible for carotid artery stenting.Carotid artery stenting risks vary depending on:The severity of your disease.The location of the blockage.Whether youve had a previous stroke.The presence of other medical conditions.Carotid stent surgery is one of two procedures that can be used to treat carotid artery stenosis. This procedure is considered a less invasive option with a faster recovery time. However, it does have risks.Carotid stent surgery is a minimally invasive procedure used to treat carotid artery stenosis, a condition thats characterized by plaque buildup in the carotid arteries. The carotid arteries are major blood vessels located on either side of your neck that supply blood to your brain. During carotid stent surgery, a stent (metal tube) is placed inside the carotid artery to keep it open so that blood can flow more easily without any obstruction. Although carotid stenting is less commonly used to treat carotid artery stenosis than carotid endarterectomy, its still considered an effective and relatively low risk procedure. Carotid endarterectomy is a procedure that involves the surgical removal of plaque thats built up inside the carotid artery.Learn more about why this procedure may be recommended, whos a good candidate for it, and what the procedure involves.Carotid stenting is used to treat a condition called carotid artery stenosis, which is when plaque builds up on the inside of your carotid arteries, which are located on either side of your neck. Plaque is made up of cholesterol, fat, and calcium. When it builds up to unhealthy levels, a condition called atherosclerosis develops, which means the arteries have become a lot narrower. This makes it more difficult for blood to flow properly through these blood vessels to get to your brain. Carotid artery stenosis increases your risk of stroke.Some factors that can raise your risk of developing carotid artery stenosis include:having high cholesterolhaving diabeteshaving high blood pressure (hypertension)smokingadvanced ageAccording to a 2020 article, carotid stenting is usually recommended for people who have 50% stenosis along with symptoms, or people who have 70% stenosis but no symptoms. Additionally, carotid stenting is usually recommended for people who need to avoid more invasive surgeries. This may include people who have:congestive heart failureserious pulmonary disease, such as COPDexperienced a recent heart attacka history of previous neck radiationCarotid stenting and carotid endarterectomy are the two main procedures used to treat carotid artery stenosis. Most of the time, carotid endarterectomy is considered the preferred procedure to manage carotid artery stenosis. One of the reasons its often favored over carotid stenting is because stenting carries a higher risk of stroke immediately after the procedure. With carotid endarterectomy, a small incision is made in the neck, and the internal carotid artery is identified. A clamp is then placed on the artery to temporarily halt blood flow while the surgeon makes an incision to open up the artery. Once the artery is open, the surgeon manually removes the plaque that has accumulated inside the blood vessel. The artery is then closed with sutures. The procedure is more invasive than carotid stenting and usually requires general anesthesia.But there are times when carotid stenting may be preferable. This may be due to the following reasons:Less invasive: Carotid stenting is considered a minimally invasive procedure. It rarely involves general anesthesia and doesnt involve a neck incision. Lower risk of myocardial ischemia: Although carotid stenting has a higher risk of stroke, carotid endarterectomy may have an increased risk of myocardial ischemia (reduced blood flow to the heart due to a blockage in the hearts arteries), compared with carotid stenting. Shorter recovery time: Recovery time from carotid stenting is usually shorter than the recovery time for carotid endarterectomy.Carotid stenting usually takes place in a hospital setting. Your healthcare professional will provide you with instructions about what you can and cant do prior to the procedure, including when you should stop eating and drinking. Shortly before the procedure starts, youll be given medication that will make you drowsy and relaxed.Although there may be some variations, you can typically expect the following to happen during carotid stenting:A catheter (thin, flexible tube) will be placed in one of your arteries, typically through a small incision in your groin area.A filter basket will be added to this catheter to catch any plaque that is dislodged during the procedure.Once the catheter reaches your carotid artery, a balloon will be inflated to help open up the clogged area in your artery.Once the artery is inflated, a stent will be placed in the artery. The catheter will then be removed, and the small incision will be closed. Carotid stent surgery typically involves an overnight stay in the hospital. Youll be carefully monitored to ensure you dont show any signs or symptoms of a stroke or bleeding. Once youre cleared to go home, youll be given instructions about the activities you can and cant do while youre recovering and what medications you need to take.There isnt published research on how long it takes to recover from this procedure, but it usually involves a 24- to 48-hour stay in the hospital and about a week of rest at home. Recovery time can vary from one person to another based on factors such as your age, overall health, and whether you have any other chronic health conditions. The biggest risk associated with carotid stent surgery is that of a stroke immediately following the surgery. This can happen if a piece of plaque breaks away from the carotid artery wall during the procedure and travels to the brain. According to a 2020 study, most strokes associated with carotid stenting are minor and not disabling. According to this study, the risk of stroke following the procedure is highest in people who are older than 70.Other possible complications that may arise during carotid stent surgery include:bleeding or infection at the site where the catheter is insertedcarotid artery dissection (tear in the artery)carotid artery embolization (blood clot that becomes stuck in blood vessel)failure of the stent to install correctlyCarotid stent surgery is considered a highly effective way to address carotid artery stenosis and reduce the risk of a stroke. In terms of long-term success rate, its considered equally as successful as carotid endarterectomy.According to a 2019 study, both carotid stent surgery and carotid endarterectomy greatly reduced the risk of a stroke in the decade following these procedures. The authors of the study reported that in the 10 years following these procedures, the risk of a stroke was about 0.6%. Carotid stent surgery is a procedure used to treat carotid artery stenosis, a condition thats caused by the buildup of plaque in the carotid arteries. This condition can greatly increase your risk of a stroke. Carotid stent surgery has a high success rate of reducing your risk of stroke. However, the procedure does have risks. For some people, a more invasive procedure called carotid endarterectomy may be a better option. If you have carotid artery stenosis, talk with your doctor about the risks and benefits of carotid stent surgery and carotid endarterectomy.

Stents put in your neck. Why would you need a stent in your neck. Can you get a stent in your neck. How do they put a stent in your neck. Can you have a stent put in your neck. Having a stent put in your neck.