

Transcarotid Artery Revascularization Therapy Awareness PR Toolkit

Silk Road Medical, Inc. is pleased to share this public relations kit with you, which provides customizable materials to help increase patient awareness of the TransCarotid Artery Revascularization (TCAR) procedure. Please note that the use of these materials is strictly voluntary, and you are not obligated to purchase Silk Medical, Inc.'s products. The kit includes:

- **Press Release Template**

This customizable [press release](#) template is 90 percent pre-written for you to use once you begin performing the procedure at your practice or hospital. Within the release, there are placeholder sections for you to add your information. Please also feel free to update the physician quote as desired and send it to your local media outlets.

- **Newsletter Content**

We have provided pre-written content for your [community newsletter](#) or blog. The content can also be repurposed as a bylined article and sent to a local newspaper or magazine without the resources to write an original piece. If possible, the article would be richer if you are able to insert one of your patient's stories in the designated sections (with the patient's consent). We recommend sharing successful patient stories after patients have had a bit of time to heal.

- **Bylined Article Authored by Physician**

The [article](#) can be customized and sent from your practice or hospital to local newspapers and magazines without the bandwidth to write an original piece.

- **Web Copy**

This document contains consumer-friendly [web copy](#) that you can add to your website about the TCAR procedure. You may also consider adding our animation video to your site along with the copy, which can be found at <https://youtu.be/O32nDoovMPY>.

- **Sample Social Media Posts**

These [customizable posts](#) for your Facebook and/or Twitter accounts can help people discover your practice or hospital and drive traffic to your website. If you do not have existing copy on your website, draft copy is available in our standard public relations toolkit.

- **Network Physician Letter/Email**

This [letter](#) can be customized and sent to your physician network.

- **Carotid Artery Disease Backgrounder**

This [backgrounder](#) provides an overview of carotid artery disease and available treatments to leverage when developing stories.

If you have any questions, please contact your Therapy Awareness Manager.

*Caution: Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.
Please refer to the package insert for indications, contraindications, warnings, precautions, and instructions for use.*

**[Hospital] [Among/The] First in [City/State] to Offer Innovative TCAR Procedure to Treat Carotid Artery Disease
Minimally Invasive Procedure Prevents Stroke**

[CITY, State] – [Date] – [Hospital Name] is [among/the] first in [city/state] to treat carotid artery disease and prevent future strokes using an innovative procedure called TransCarotid Artery Revascularization (TCAR). TCAR (tee-kahr) is a clinically proven and minimally invasive approach for high surgical risk patients who need carotid artery treatment.

Every 40 seconds, someone in the United States has a stroke.¹ Worldwide, nearly 5 million people die from a stroke, and another 5 million are left permanently disabled every year.² Carotid artery disease is a form of atherosclerosis, or a build-up of plaque, in the two main arteries in the neck that supply oxygen-rich blood to the brain. If left untreated, carotid artery disease can often lead to stroke. With up to a third of strokes caused by carotid artery disease³, [Hospital Name] offers patients minimally invasive options such as TransCarotid Artery Revascularization (TCAR) to prevent future strokes with a faster recovery time and an increased chance of being discharged to home.⁴

SAMPLE QUOTE: “TCAR is an important option in the fight against stroke and is particularly suited for the large portion of patients we see who are at higher risk of complications from carotid surgery due to age, anatomy, or other medical conditions,” said Dr. [Name, title]. “Because of its low stroke risk and faster patient recovery, I believe TCAR represents the future of carotid repair.”

TCAR is unique in that blood flow is temporarily reversed during the procedure so that any small bits of plaque that may break off are diverted away from the brain, preventing a stroke from happening. A stent is then placed inside the artery to stabilize the plaque, minimizing the risk of a future stroke.

PATIENT QUOTE (if available): “It seemed so easy compared to the other surgeries I’ve had, and the recovery was much faster,” said [Patient Name], who was considered too risky for traditional surgery. “I was out of the hospital the day after the procedure with a much smaller scar than I expected. I feel great and am looking forward to getting the other side done very soon.”

Prior to TCAR, the main treatment option for severe carotid artery disease was an open surgical procedure called carotid endarterectomy (CEA). CEA removes plaque from inside the carotid artery to restore normal blood flow to the brain, but the large incision leaves a visible scar the length of the neck and carries risks of surgical complications, including bleeding, infection, heart attack and cranial nerve injuries that can cause issues with swallowing, speaking and sensation in the face.

The TCAR procedure was developed by Sunnyvale, California-based Silk Road Medical, Inc. and includes the ENROUTE® Transcarotid Neuroprotection (N.P.S.) and Stent System – the first devices designed and FDA-approved specifically for TCAR. Over 35,000 TCAR procedures have been performed worldwide through clinical trial and commercial use. TCAR has been studied extensively, and the clinical data have been excellent. Additional information about TCAR is available at <http://silkroadmed.com/disease-and-treatment-options/>.

**About [Hospital]
[Insert Boilerplate]**

¹<https://www.cdc.gov/stroke/facts.htm>

²<http://www.emro.who.int/health-topics/stroke-cerebrovascular-accident/index.html>

³<https://vascular.org/patient-resources/vascular-conditions/carotid-artery-disease>

Press Release Template

Game-Changing Technology for Carotid Artery Disease: *Less Invasive Procedure Helps Prevent Stroke*

SAMPLE PATIENT STORY: [Name, age], was enjoying a day house-hunting with her son and his family when her left leg began to buckle under her, and she couldn't make anyone understand what she was saying. Her family rushed her to the hospital, where doctors gave her a drug designed to prevent brain damage from a stroke.

While [Name, hometown], came through fine, the underlying problem remained – carotid artery disease, which occurs when plaque builds up in one or two of the main arteries that come directly from the heart and provides blood to the brain. If left untreated, this build-up can slow blood flow or dislodge and travel through the artery to the brain, causing a potentially disabling stroke. Carotid artery disease is estimated to be the source of stroke in up to a third of cases.

SAMPLE PHYSICIAN QUOTE: “Some individuals can manage carotid artery disease with medications and lifestyle changes,” said Dr. [Name, title]. “However, more severe cases may require surgery to repair the blockage in the artery. Traditional treatment options such as carotid endarterectomy (CEA, an open surgery) or carotid artery stenting have been shown to treat the blockage effectively. However, both options have limitations and carry a risk of stroke during the procedures themselves.”

[Hospital Name] is among the first hospitals in the [City, Region, Locale] to now offer an innovative technology called TransCarotid Artery Revascularization (TCAR) to treat patients with carotid artery disease who are at risk for traditional open surgery. Like CEA., the TCAR procedure involves direct access to the carotid artery, but through a much smaller incision just above the clavicle instead of a longer incision along the entire neck – creating just enough room to place a stent directly into the carotid artery to stabilize the blockage and help prevent future strokes.

SAMPLE PHYSICIAN QUOTE: “While CEA is recognized as a safe, effective surgery, it's still a fairly major surgery that typically takes a couple of hours and usually requires general anesthesia,” said [Dr. Name]. “TCAR is an important option in the fight against stroke, and is particularly suited for the large portion of patients like [Patient name], who are at higher risk of complications from carotid surgery due to age, other medical conditions or anatomic issues.”

To protect patients from a stroke during the TCAR procedure, a tube inserted into the carotid artery is connected to a system that temporarily directs blood flow away from the brain – ensuring any dangerous debris that dislodges from the artery won't reach the brain during the procedure. Any material is captured in a filter outside the body, and surgeons filter the blood before returning it to a vein in the groin. The stent is placed in the artery while the brain is protected during this temporary flow reversal. The entire procedure is performed in less than half the time of CEA – limiting the stress on the heart and reducing the risk of the patient having a stroke or heart attack. And since it's less invasive, patients who undergo the TCAR procedure recover quickly and almost always go home the next day with less pain and smaller scars.

SAMPLE PATIENT QUOTE: “[xx months] after my procedure, I'm so happy to be back to reading, cooking, caring for my family and playing with my 8-year-old grandson without having to worry about a potential stroke,” said [Name]. “I'm so thankful [Hospital Name] offered the TCAR procedure to reduce my risk of stroke and provide me with peace of mind.”

For more information about TransCarotid Artery Revascularization or determine if the procedure is right for you, visit [website] or call [number].

Newsletter Template

Innovative Treatment Now Offered at [Hospital] for Carotid Artery Disease

Less Invasive Procedure Reduces Risk for Stroke

We are now offering an innovative procedure at [Hospital] to treat patients with carotid artery disease. TransCarotid Artery Revascularization (TCAR) is a clinically proven treatment that utilizes temporary blood flow reversal during direct, transcarotid stent placement for best-in-class neuroprotection in a more efficient and less invasive approach compared to traditional carotid endarterectomy.

The availability of TCAR at a hospital was associated with a **10% reduction in the likelihood of major adverse cardiovascular events (MACE)**, a composite of in-hospital stroke, myocardial infarction, or death at 30 days after carotid revascularization, whether TCAR or CEA.¹

TCAR has been studied extensively and is an FDA-cleared procedure. Over 35,000 procedures have been performed worldwide, and the clinical data have been excellent. Based on published clinical trials, the procedure offers several advantages:

- **Better outcomes.** TCAR results in a low periprocedural stroke rate of 1.4% in high surgical risk patients.² This compares favorably to a 2.3% stroke rate of carotid endarterectomy and a 4.1% stroke rate of carotid artery stenting from a trans-femoral approach in standard risk patients.³ TCAR's low stroke rate is the lowest reported to date for any prospective, multi-center trial of carotid stenting.
- **Less invasive.** The TCAR approach has very low cranial nerve injury and myocardial infarction rates due to a minimal incision near the clavicle and the transcarotid approach.
- **Patient-friendly.** Local anesthesia is favored, and hospital stays are typically overnight for observation. TCAR patients recover quickly and almost always go home the next day to return to full and productive lives with less pain and smaller scars.

SAMPLE PHYSICIAN QUOTE: "TCAR gives me the excellent neuroprotection I expect from carotid endarterectomy, but the procedure is far less invasive, which has real benefit to the patient," said Dr. [Name, title]. "They recover quickly with less pain, and the risks of both minor and major complications are significantly decreased. TCAR represents the modernization of carotid repair."

TCAR procedures for symptomatic and asymptomatic patients at high risk for surgery are eligible for Medicare reimbursement through the Society of Vascular Surgery-sponsored TCAR Surveillance Project. This program is part of the Vascular Quality Initiative, an open registry that tracks long-term clinical outcomes to promote best practices and evidence-based medicine.

To refer a patient for consultation, contact Dr. [Name] at [Phone].

¹Columbo JA, Martinez-Camblor P, O'Malley AJ, et al. Association of Adoption of Transcarotid Artery Revascularization With Center-Level Perioperative Outcomes. *J.A.M.A. Netw Open.* 2021;4(2):e2037885. doi:10.1001/jamanetworkopen.2020.37885; ²J Vasc Surgery 2015;62:1227-35; ³N Engl J Med 2010;363:11-23

ByLined Article Template

TransCarotid Artery Revascularization (TCAR)

[Hospital] is now offering a breakthrough technology called TransCarotid Artery Revascularization (TCAR) to treat patients with carotid artery disease who are at risk for open surgery. While any repair of the carotid artery carries some risk of causing a stroke because of the repair itself, TCAR was designed to help minimize that risk by keeping potential stroke-causing fragments away from the brain.

Like the open surgery, carotid endarterectomy (CEA), this innovative procedure involves direct access to the carotid artery but through a much smaller incision at the neckline just above the clavicle instead of a longer incision on the neck. During the TCAR procedure, a tube inserted into the carotid artery is connected to a system that temporarily directs blood flow away from the brain to protect against dangerous debris from reaching the brain during the procedure. Surgeons then filter the blood before returning it to a vein in the groin, and a stent is implanted directly into the carotid artery to stabilize the plaque and prevent future strokes. The entire procedure is performed in less than half the time of CEA – limiting the stress on the heart and significantly cutting the risk of the patient having a stroke or heart attack during the procedure.

Patients who undergo the TCAR procedure recover quickly (typically spending just one night in the hospital) and almost always go home the next day to return to full and productive lives with less pain, smaller scars and a reduced risk of future strokes.

Your physician may recommend the TCAR procedure if you've been diagnosed with carotid artery disease and are not a suitable candidate for CEA. This may depend on your age or other existing medical conditions. For more information about TCAR, call us to schedule a consultation with one of our vascular surgeons.

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Website Copy

[If you would like to include an animation video of the procedure, it can be embedded from <https://youtu.be/O32nDoovMPY>]

Facebook

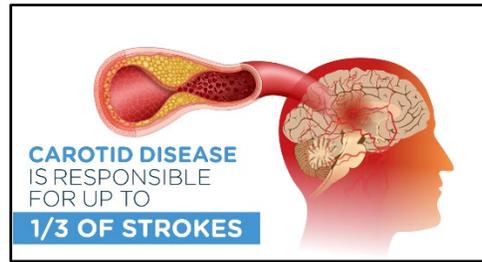
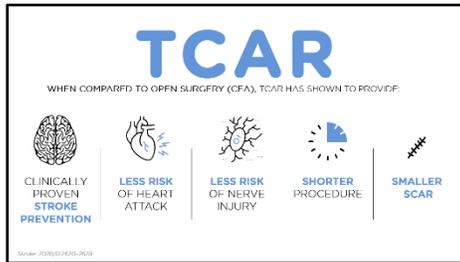
- Every year, 15 million people worldwide suffer a stroke, also known as a brain attack. Nearly 6 million die, and another 5 million are left permanently disabled. Carotid artery disease is the cause of stroke in up to a third of cases, and [Hospital] is using an innovative, less-invasive procedure called TCAR to help treat the disease in high surgical risk patients. [attach photo] [link to hospital website or animation]
- Dr. [Name] is the first in [City or State] to help patients safely reduce their risk of stroke using an innovative technology called TCAR. The clinically proven procedure lowers patients' risk for stroke with faster recovery, less pain and smaller scars. [attach photo] [link to hospital website or animation]
- For patients like [Name], traditional open surgery to treat carotid artery disease can come with some challenges. Dr. [Name] uses an innovative, less-invasive technology called TCAR to treat the disease and help prevent future strokes. [link to newsletter patient story]
- Did you know that the carotid arteries are responsible for up to a third of strokes? Ask your physician if you should be screened. It could possibly save your life. #stopstroke #DontWait #DontWaitForAStroke [add ½ infographic] [link to hospital carotid disease webpage]
- Do you have two or more of these risk factors? If so, you may be at risk for a stroke. Even during the #COVID pandemic, it is important to take charge of your health and get the care you need. Talk to your doctor about getting a carotid artery screening. #stopstroke #DontWait #DontWaitForAStroke [add risk factor infographic] [link to hospital carotid disease webpage]
- During this pandemic, [Hospital] is dedicated to providing a safe environment to ensure you can continue getting the care you deserve. This includes offering minimally invasive treatment options such as # TCAR, which is clinically proven to lower patients' risk for stroke with a faster recovery, less pain, and smaller scars. #stopstroke #wereinthistogether [TCAR infographic - stop strokes before they happen?] [link to hospital TCAR Page or www.youtube.com/watch?v=O32nDoovMPY&t=]

Twitter

- Innovative approach to surgery for #carotidarterydisease at [@Hospital] is helping reduce patients' risk for stroke #carotidartery # TCAR #strokeprevention [link to hospital website]
- Dr. [@Name] is helping patients safely reduce their risk of stroke using an innovative technology called # TCAR [link to animation]
- [@Hospital] now offers an innovative, less-invasive procedure that offers quick recovery time, less pain and smaller scars for high-risk patients with #carotidarterydisease #carotidartery # TCAR #strokeprevention [link to hospital website]
- Patient [Name] is one of the first in the area to be treated with an innovative, less-invasive technology called # TCAR to treat #carotidarterydisease #carotidartery # TCAR #strokeprevention [link to newsletter patient story]
- Do you have two or more of these risk factors? If so, you may be at risk for a stroke. Even during the #COVID pandemic, it is important to take charge of your health and get the care you need. Talk to your doctor about getting a carotid artery screening. #stopstroke #DontWait #DontWaitForAStroke [add risk factor infographic] [link to hospital carotid disease webpage]
- [@Hospital] is dedicated to providing a safe environment to ensure you get the care you deserve. This includes offering minimally invasive treatment options such as # TCAR - clinically proven to lower the risk for stroke with

faster recovery. #stopstroke #wereinthistogether [TCAR infographic - stop strokes before they happen?] [link to hospital TCAR Page or www.youtube.com/watch?v=O32nDoovMPY&t=]

Sample Graphics to leverage w/posts:



[If you would like to include an animation video of the procedure, it can be linked from <https://youtu.be/O32nDoovMPY>]

Sample Social Media Posts

Dear Dr. [Name],

Nationwide, hospitals have experienced a decline in the number of patients who received evaluations for acute stroke. Even during the COVID-19 pandemic, stroke patients need to get care as soon as possible to improve their chance of survival. According to the Center for Disease Control, 80 percent of strokes are preventable¹ – and a large percentage of the ones that happen are treatable with the proper care right away. With carotid artery disease estimated to be the source of stroke in up to a third of cases², I wanted to let you know about an innovative procedure now being offered at [Hospital] to treat high-risk patients with carotid artery disease.

TCAR has been studied extensively and is an FDA-cleared procedure. Over 35,000 procedures have been performed worldwide, and the clinical data has been excellent. Based on published clinical trials, the procedure offers several advantages:

Better outcomes

- TCAR results in a **low periprocedural stroke rate** of 1.4% in high surgical risk patients.³ This compares favorably to a 2.3% stroke rate of carotid endarterectomy (CEA) and a 4.1% stroke rate of carotid artery stenting from a trans-femoral approach (tf-CAS) in standard-risk patients.⁴ This is the lowest reported stroke rate to date for any prospective, multi-center trial of carotid stenting.
- In a comparative study between TCAR and tf-CAS published in J.A.M.A., TCAR demonstrated an **almost 50% reduction in the relative risk for in-hospital stroke & death** (1.6% vs. 3.1%) and 1-year stroke & death (5.1% vs. 9.6%).⁵
- The availability of TCAR at a hospital was associated with a **10% reduction in the likelihood of major adverse cardiovascular events (MACE)**, a composite of in-hospital stroke, myocardial infarction, or death at 30 days after carotid revascularization, whether TCAR or CEA.⁶

Studies show the below significantly favor TCAR when compared to CEA. This is important for your patients when less time in the hospital is necessary.^{7,8,9,10}

- Less Risk of Myocardial Infarction
- Less Risk of Cranial Nerve Injury
- Less Time in OR
- Less Time in the Hospital > 1 Day
- Less Clamp Time
- Ability to Perform Procedure with Local Anesthesia vs. General

TCAR procedures for symptomatic and asymptomatic patients at high risk for surgery are eligible for Medicare reimbursement through the Society of Vascular Surgery sponsored TCAR Surveillance Project. This program is part of the Vascular Quality Initiative, an open registry tracking long-term clinical outcomes to promote best practices and evidence-based medicine.

If you have patients with high-grade carotid stenosis, we would be happy to see and evaluate them for a carotid intervention, such as TCAR. Please contact our office, [Name] at [phone]. We have implemented multiple protocols to ensure the safety of your patients during this pandemic, including:

- [list COVID-19 safety protocols]

Please contact our office, [name] at [phone]. We look forward to working with you.

Sincerely,

[Doctor name]

¹ <https://www.cdc.gov/stroke/facts.htm>; ² <https://vascular.org/patient-resources/vascular-conditions/carotid-artery-disease>; ³ J Vasc Surgery 2015; 62:1227-35; ⁴ N Engl J Med 2010;363-11-23; ⁵ JAMA 2019; 322(23): 2313-2322; ⁶ Colombo JA, Martinez-Cambor P, O'Malley AJ, et al. Association of Adoption of Transcarotid Artery Revascularization With Center-Level Perioperative Outcomes. *JAMA Netw Open*. 2021;4(2):e2037885. doi:10.1001/jamanetworkopen.2020.37885; ⁷ ROADSTER: J Vasc Surg. 2015 Nov;62(5):1227-34; ⁸ Marc Schermerhorn, MD; VEITH Symposium Presentation, November 2018; ⁹ M. Malas, MD; VAM Presentation 2019; ¹⁰ CREST Trial: N Engl J Med 2010;363:11-23

Carotid Artery Disease Diagnosis & Treatment, Stroke, and COVID-19 Backgrounder

Every year, 15 million people worldwide suffer a stroke. Nearly 6 million die, and another 5 million are left permanently disabled.¹ While it is widely known that stroke is caused by high blood pressure, high cholesterol, smoking, obesity, and diabetes, there is a lesser-known condition screened for in the fight against stroke: carotid artery disease (CAD).

COVID-19 and Preventing Stroke

Every 40 seconds, someone in the United States has a stroke. Even during the COVID-19 pandemic, it is important to know the symptoms (**F.A.S.T.**: Face, Arm, Speech, and Time)² and to get care as soon as possible to improve your chance of survival and avoid permanent disability. While there are many different causes of stroke, there are simple things one can do to prevent stroke or at least significantly reduce the likelihood of a stroke leading to permanent disability or death, including:

1. **Live a healthy lifestyle.** Achieving a healthy lifestyle can greatly reduce the risk of heart attacks and stroke. This includes quitting smoking, eating a healthy diet, and exercising regularly to maintain a healthy weight. Other good habits include sleeping regularly and limiting alcohol consumption.
2. **Don't ignore mini-strokes.** Transient ischemic attacks (T.I.A.s), sometimes called "mini-strokes," can cause temporary vision loss, slurred speech, or weakness. Though they resolve within 24 hours, they may signal a problem that can lead to a full-blown stroke. About 1 in 3 people who have a T.I.A. go on to have a stroke, often within a year, so be sure to seek medical care if you've suffered from these temporary symptoms or believe you've had a T.I.A.
3. **Treat diabetes.** Diabetes can cause blood clots to form if not properly managed. For people with diabetes, high blood sugar damages blood vessels over time, increasing the likelihood that clots will form inside them. These clots can then travel to the brain, causing a stroke. People with diabetes are 2-4 times more likely to have a stroke.
4. **Manage blood pressure and cholesterol.** High blood pressure and high cholesterol can cause plaque build-up in your arteries, leading to a heart attack or stroke. Of people having a stroke for the first time, three-quarters have hypertension or high blood pressure. If lifestyle modifications aren't enough to keep these conditions managed, your doctor may recommend medication to control them.
5. **Get screened for carotid artery disease.** A clogged carotid artery in the neck caused by plaque build-up is estimated to cause one-third of strokes. If you have been diagnosed with heart disease or peripheral artery disease, you are at an increased risk for carotid artery disease, too. Other risk factors include being over age 65, smoking, and a family history of stroke. Early diagnosis and treatment of a narrowed carotid artery can decrease stroke risk. Your doctor can listen to the arteries in your neck with a stethoscope or refer you for a carotid ultrasound.

Carotid Artery Disease (CAD)

Carotid artery disease is estimated to be the source of stroke in up to a third of stroke cases.³ Carotid artery disease is a form of atherosclerosis or a plaque build-up in one or both of the neck's main arteries. The carotid arteries are vital as they feed oxygen-rich blood to the brain. When plaque builds up in the carotid arteries, they begin to narrow and slow down blood flow, potentially causing a stroke if blood flow stops or plaque fragments travel to the brain.

CAD Diagnosis

Carotid artery disease is typically silent and does not present with symptoms. Physicians can screen patients based on risk factors like high blood pressure, diabetes, obesity, and smoking. Sometimes, patients are screened for carotid artery disease if the doctor knows the patient has vascular disease elsewhere in the body. Blockages can also be found when a physician hears a sound through a stethoscope placed on the neck. The sound is caused by blood flowing past the blockage.

If someone is having stroke-like symptoms (weakness/numbness on one side, loss of eyesight/speech, garbled speech, dizziness, or fainting), they should seek immediate medical attention and be evaluated for carotid artery disease.

The following tests may be performed if carotid artery disease is suspected:

- **Carotid artery ultrasound:** This test uses sound waves to produce an image of the carotid arteries on a T.V. screen and help identify narrowing in the carotid arteries. This test is painless and does not require the use of needles, dye, or X-rays.
- **Angiography:** An angiogram uses X-rays to take a picture of the carotid artery. For the X-ray to “see” the arteries, a dye is injected through a small tube (catheter) inserted into an artery in the groin or arm. This procedure will determine exactly where the narrowing is located and will help to guide further treatments.

If carotid disease is diagnosed during one of these tests, a doctor will discuss treatment options.

Traditional Treatment Options for CAD

Treatment options for carotid artery disease depend upon the severity of the overall patient condition and symptoms. Moderate disease may not require an interventional procedure, as some individuals can manage the disease with medications and lifestyle changes. More severe blockages may require surgery. Today, there are three primary interventions:

- **Carotid Endarterectomy (CEA):** This open surgical procedure removes plaque from inside the carotid artery to restore normal blood flow to the brain. The surgeon makes an incision on the neck to access the affected artery, opens the artery and removes the plaque. The surgeon will then close the artery and the incision in the neck using stitches.
- **Transfemoral Carotid Artery Stenting:** In this minimally invasive alternative procedure, the physician works through a tube inserted into the artery in the upper thigh. First, a small umbrella-like filter is placed beyond the diseased area of the carotid artery to help limit fragments of plaque from traveling toward the brain during the procedure. The physician then inserts a slender, metal-mesh tube, called a stent, which expands inside the carotid artery to increase blood flow to the brain and stabilize the plaque.
- **Innovative Treatment Approach: TransCarotid Artery Revascularization (TCAR):** TransCarotid Artery Revascularization (TCAR) is an innovative technology developed to treat patients with carotid artery disease who are at risk for open surgery.
 - The entire TCAR procedure is performed through a smaller incision in the neck and in less than half the time of a carotid endarterectomy – limiting the stress on the heart and significantly cutting the risk of the patient having a stroke or heart attack during the procedure.
 - During the TCAR procedure, a tube inserted into the carotid artery is connected to a system temporarily directing blood flow away from the brain to protect against dangerous debris from reaching the brain and causing a stroke during the procedure. Surgeons filter the blood before returning it to a vein in the groin, and a stent is implanted to the carotid artery to stabilize plaque and prevent strokes.
 - Patients who undergo the TCAR procedure recover quickly and almost always go home the next day to return to full and productive lives with less pain and smaller scars than traditional treatments and a reduced risk of future strokes.
 - Over 35,000 procedures have been performed worldwide through clinical trials and commercial use. TCAR has been studied extensively, and the clinical data have been excellent.

¹<http://www.emro.who.int/health-topics/stroke-cerebrovascular-accident/index.html#:~:text=Annually%2C%2015%20million%20people%20worldwide,cause%20is%20high%20blood%20pressure.>

²https://www.cdc.gov/stroke/signs_symptoms.htm

³<https://vascular.org/patient-resources/vascular-conditions/carotid-artery-disease>

Sources:

<https://vascular.org/patient-resources/vascular-conditions/carotid-artery-disease>

<https://www.cdc.gov/stroke/facts.htm>

<https://www.world-stroke.org/world-stroke-day-campaign/why-stroke-matters/learn-about-stroke>

Carotid Artery Disease Backgrounder