Making Next-Generation Treatments Possible

Atlantic NeuroSurgical Specialists
Brain, Spine and Neurovascular Surgery
Atlantic NeuroSurgical Specialists is a group of specialized board certified neurosurgeons and medical professionals, known for their commitment to highly personalized care. We work as a team to offer comprehensive solutions coupled with innovative surgical techniques. Our professional medical staff is dedicated to serving you throughout your treatment process. The entire ANS team is committed to making your experience with us as simple and straightforward as possible. We are ready to answer any questions that you may have at any step along the way, and we are here with you from initial consultation through recovery.

Your nervous system is a delicate and complex command, control, and communication network, made up of the brain, peripheral nerves, spine, and neurovascular system. Conditions that affect the nervous system can impair or disable your ability to move, feel, think, and function.

The brain is your body’s command center: it controls thought, speech, memory, the movement of limbs, and the function of organs. The peripheral nerves communicate information back and forth between the brain and your body’s organs, muscles, limbs, and skin. The spine protects the spinal cord – the body’s main nerve “highway” – and provides support for the body. The neurovascular system comprises those blood vessels that “feed” the brain, keeping your command center healthy and functioning. Neurosurgery is the medical specialty dedicated to the diagnosis and treatment of disorders affecting your nervous system.

Nonsurgical Care Whenever Possible

Most people think of neurosurgeons as just surgeons, but in some cases neurosurgeons treat patients with nonsurgical interventions that can be used to effectively manage conditions affecting the nervous system. For instance, noninvasive stereotactic radiation therapy may curtail the growth of certain brain tumors and acoustic neuromas (benign cranial nerve tumors), and convulsive neurological disorders such as trigeminal neuralgia and Parkinson’s disease often respond to medication. In addition, advancing endovascular techniques have allowed neurosurgeons to treat aneurysm patients without the invasive craniotomy and clipping that was standard years ago. Additionally, in many cases a person does not need surgery at the time of the initial visit, and through our network of physicians, patients may be referred to other nonsurgical specialists for treatment.
WHEN SURGERY IS NEEDED

Our patients take comfort in knowing that surgery is recommended only when it is strongly supported by radiographic and clinical data. Patients also appreciate knowing that ANS neurosurgeons have successfully performed thousands of surgeries to treat each area of the nervous system and are masters of the latest advancements in neurosurgical treatment.

A TEAM APPROACH

As qualified as each individual surgeon at ANS is, collaboration among our specialists helps maximize patient outcomes in many areas. Multidisciplinary neurosurgical teams meet regularly to discuss complex cases including the treatment of brain tumors, vascular lesions, chronic pain, and spasticity.

COMPREHENSIVE CARE AVAILABLE

ANS employs a number of physicians who hold subspecialized certifications across a wide spectrum of medical practices. For example, one of our physicians is a sports medicine, fellowship-trained family physician. Although she specializes in sports medicine, spine, and concussion, she is also available for those patients in need of preoperative clearance.

ANS also has a physiatrist on staff. A physiatrist (fizz ee at’ trist) is a physician specializing in physical medicine and rehabilitation. Physiatrists treat a wide range of problems from back pain to spinal cord injuries. Here at ANS our physiatrist focuses on neurological-related problems and works along with our team of neurosurgeons, ensuring a comprehensive approach to your treatment and recovery. Some specific disorders treated by our specialized team include post-stroke, concussion, and back injury treatments as well as injury prevention and healthy living advice.

ANS is affiliated with New Jersey’s leading health care systems and local hospitals. The hospitals offer nursing staff specifically trained in the care of neurosurgical patients (pre, intra, and postoperative), as well as ancillary staff whose neurological expertise includes, but is not limited to, neuroanesthesiologists, neuroradiologists, neuro-oncologists, neurointerventional radiologists, neuro-otologists, physiatrists, and social services.

While our practice is based at the following hospital listings, we treat patients referred from all hospitals and physicians in the tri-state, metropolitan area. Our goal is to ensure a comprehensive, neurologically specific patient care approach. We understand that our patients come from all over the tri-state area and are happy to admit these patients into the hospitals in which we practice. If you are a transfer patient from an outside hospital, ANS can facilitate this transfer on your behalf.
HOSPITAL AFFILIATIONS

Atlantic Health System
Morristown Medical Center
Morristown, NJ
Newton Medical Center
Sparta, NJ
Overlook Medical Center
Summit, NJ

Meridian Health System
Bayshore Hospital
Holmdel, NJ
Jersey Shore University Medical Center
Neptune, NJ
Ocean Medical Center
Brick, NJ
Riverview Medical Center
Red Bank, NJ
Southern Ocean County Hospital
Manahawkin, NJ

St. Barnabas Health System
Clara Maass Medical Center
Belleville, NJ
Community Hospital
Toms River, NJ
Kimball Medical Center
Lakewood, NJ
Monmouth Medical Center
Long Branch, NJ
Saint Barnabas Medical Center
Livingston, NJ

Additional Affiliations
Englewood Hospital and Medical Center
Englewood, NJ
Saint Clare’s Hospital
Denville, NJ
Hackettstown Hospital
Hackettstown, NJ
Jersey City Medical Center
Jersey City, NJ
Somerset Medical Center
Somerville, NJ

CENTERS OF EXCELLENCE

Main Office Locations
ANS has offices throughout the tri-state area, providing convenient office visits for patients throughout New Jersey and New York. In addition to our convenient locations, ANS also runs the ANS Spine Center, the ANS Neurovascular Center, the ANS Brain Tumor Center, the ANS Sports Concussion Center, and the ANS Skull Base Surgery Center.

ANS Spine Center
The ANS Spine Center is a division of ANS that specializes in the evaluation and treatment of spine disorders. The center can evaluate patients from the onset of back pain and provide initial nonsurgical treatments through our network of specialists. Our group of fellowship trained neuro-spine specialists makes this a unique premier center for our patients. We provide treatment for a broad range of spinal disorders, including minimally invasive and complex spine surgeries for problems associated with failed back surgery, idiopathic disorders, growth disorders, neuromuscular disease, degenerative conditions of the spine, and traumatic deformity as well as adult scoliosis treatment. Our network of nonsurgical specialists can provide physical therapy and pain management as well as chiropractic treatments when surgery is not warranted. ANS has always been the respected leaders in neurosurgery in New Jersey and are now leading the way in spine treatments and surgery through the ANS Spine Center.

ANS Neurovascular / Aneurysm Center
The ANS Neurovascular Center is a primary referral center for the treatment of stroke, aneurysm, and other neurovascular conditions. The center allows us to provide a complete spectrum of care, bringing together other neuro-trained specialists to ensure the best care and treatment plans are developed for the most complex neurological disorders. Our physicians work closely with referring physicians and provide a rapid and thorough evaluation of patients. ANS remains the leader in stroke care and neurovascular surgery.

ANS Brain Tumor Center
The ANS Brain Tumor Center delivers a patient-centered approach to brain tumor treatment, with the patient and the patient’s family at the center of all treatment-related decisions and care. We diagnose and compassionately treat each brain tumor patient with the multidisciplinary specialists who provide highly individualized expert care that is unique to each patient and patient family.
The ANS Brain Tumor Center’s multidisciplinary team consists of dedicated brain tumor surgeons, neuro-oncologists, radiation oncologists, neuroradiologists, and neuropathologists. They are experts in diagnosing and treating a wide variety of benign and malignant brain and skull base tumors including gliomas, acoustic neuromas/schwannomas, meningiomas, colloid cysts, pituitary tumors, pineal tumors, and skull base tumors. Each patient is discussed at our neuro-oncology tumor board, where an individualized plan is formulated incorporating state-of-the-art treatments such as stereotactic tumor resection, neuroendoscopy, awake and electrophysiological functional brain mapping, stereotactic radiosurgery (CyberKnife® and LINAC), and enrollment in national clinical trials. Our center makes the impossible, possible.

**ANS Sports Concussion Center**

The ANS Sports Concussion Center was developed primarily for athletes. Patients who show signs or symptoms of a concussion can now easily get the care they need. Because of this center’s combined expertise, we have the ability to evaluate, diagnose, and manage any level of trauma to an athlete’s brain or spine. We are the region’s premier team for evaluating head and spine injuries and providing the right treatments to keep athletes safe and healthy. ANS offers concussion testing for athletes. In cases of a suspected or known concussion, a baseline study is given to evaluate each athlete before they return to the sport.

**ANS Skull Base Surgery Center**

The ANS Skull Base Surgery Center is composed of expert neurosurgeons specializing in the multidisciplinary treatment of tumors involving the highly delicate skull base anatomy. Our physicians are experts in both open and minimally invasive approaches to acoustic neuromas, pituitary tumors, craniopharyngiomas, skull base meningiomas, and metastases. We also specialize in cranial base approaches for treatment of trigeminal neuralgia, hemifacial spasm, encephaloceles, tegmen defects, and aneurysms. Our collaborative team of neurosurgeons, radiation oncologists, neuro-ophthalmologists, otolaryngologists, and neurologists ensures a modern and comprehensive approach to this most complex area of the human anatomy. Our team of skull base neurosurgeons utilizes the most advanced techniques involving microsurgery, radiosurgery, and minimally invasive approaches to provide the most effective and safe care. We strive to provide the best outcomes and quality of life for our patients with skull base tumors.

This innovative multidisciplinary team focuses on patient-centered care and aims to translate the most current scientific research into the best patient care.

**SUPPORT GROUPS**

**Partnership of Hope**

Partnership of Hope is dedicated to providing emotional and logistical support to those diagnosed with a brain tumor. Our goal is to help align patients and their loved ones face to face with doctors, nurses, and other health care professionals to become more informed medical consumers and feel more comfortable facing the illness with strength, dignity, and peace. Our constantly growing group meets monthly, exchanging personal stories, sharing individual journeys, and enjoying special guest speakers. If you or someone you love is living with the diagnosis of a brain tumor, know that there is hope.

**Partnership of Strength**

Partnership of Strength is dedicated to those patients who have suffered from a stroke. Whether the patient has had an ischemic or hemorrhagic stroke, we provide support to them and their families through education and group meetings. Putting together people who face the same challenges and stories truly helps in recovery.

**SPINE**

**Back and Spine Pain**

Back pain is a pervasive medical problem in modern society, affecting approximately 9 out of every 10 Americans during their lifetime. In most cases, back pain will resolve in a short period of time. Others, however, may be troubled with periodic episodes of back pain throughout their lives. The causes of back pain are varied. Some back pain is the result of bone and joint disorders such as arthritis, spondylolisthesis, or scoliosis. In other cases, physical activity and lifestyle habits can trigger an episode of back pain. An inflamed or ruptured intervertebral disc can put pressure on the spinal cord or the spinal nerves, causing pain. Age can also be a contributing factor. No matter what the cause, ANS will evaluate and treat your condition with the most minimally invasive techniques to ensure quicker recovery times and the best possible outcome.
Neck Pain

Neck pain is a common complaint. Most causes of neck pain aren’t serious. Neck muscles can be strained from poor posture – whether it’s leaning into your computer at work or hunching over your workbench doing hobbies at home. This wear-and-tear can lead to arthritis, also a common cause of neck pain. In other cases, neck pain can signify something more serious, requiring treatment. Some of the symptoms of a more serious condition can include shooting pain into your shoulder or down your arm, numbness or loss of strength in your arms or hands, change in bladder or bowel habits, and inability to touch your chin to your chest. ANS specializes in the most advanced procedures and treatments to diagnose and care for these disorders.

Minimally Invasive Spine Surgery

ANS performs more minimally invasive spine surgery cases than any other practice in New Jersey. Minimally invasive spine surgery uses thin, telescopic-like tubes through which small instruments are passed through one or more incisions. Following the procedure, patients experience less pain and speedier recovery times than conventional “open” approaches.

Decompression

The most common type of spinal surgery is a simple decompression without fusion. This type of surgery works only when there is nerve impingement. Materials that compress on the nerve structures are removed surgically.

Procedures such as laminectomy (removal of the vertebral arc in the back), discectomy (partial removal of herniated disc), foraminotomy (widening of the opening where the nerve root exits), and partial facetectomy (removal of overgrown joints from the back) are very commonly performed surgeries in this category. These procedures decompress the nerve structure without a fusion and are less time-consuming. Because there is no spinal fusion involved, the decompression should be limited so that any possible instability of the spine does not occur. If a more extended decompression is required, an additional fusion procedure should be mandatory to prevent subluxation of the adjacent vertebrae.

Artificial Disc Replacement

When the space between your vertebrae has become too narrow and part of your vertebrae or your disc is pressing on your spinal cord or spinal nerves, it can cause you pain, numbness, or weakness. When these symptoms do not respond to nonsurgical types of treatment, disc replacement surgery may be recommended. During this procedure, the damaged disc is removed and replaced with an artificial disc, held in place with bone screws. The artificial disc is made of stainless steel and plastic, allowing for replication of normal motion. The hospital stay for this procedure is approximately 1 to 2 days and allows patients to maintain a normal range of motion.

Complex Spine Surgery

Complex spine surgery usually consists of a wide decompression and fusion. The decompression is overall the same as simple spinal surgery, but there is a fundamental advantage of a complex spine surgery. Since the neurosurgeon will perform a spinal fusion as the second part of the procedure, the doctor does not have to worry about the limitation of the decompression. For this reason, the decompression is usually more extensive and more effective. Patients suffering from degenerative disc disease may be candidates for complex spine surgery.

Kyphoplasties

Painful vertebral collapses can occur as a result of osteoporosis or tumor infiltration. Kyphoplasty is a minimally invasive procedure that can improve pain and correct bony malalignment that accompanies these fractures. Patients are treated with mild sedation and are frequently sent home the same day.

ENDOVASCULAR

Endovascular Neurosurgery

Endovascular neurosurgery is the minimally invasive treatment of neurovascular diseases affecting the brain and spinal cord. This is a rapidly growing and evolving field that utilizes cutting-edge medical technology. Among the treated diseases are cerebral aneurysms, carotid artery stenosis, stroke, and arteriovenous malformations of the brain and spine. Some brain tumors may also be treated.
with a combination of endovascular surgery and open neurosurgical procedures. Endovascular techniques may be a viable alternative for patients who cannot undergo open surgical procedures due to their medical condition, overall health, or age.

**Aneurysm / Neurovascular**

An aneurysm is a localized, blood-filled dilation (balloon-like bulge) of a blood vessel caused by disease or weakening of the vessel wall. These can grow and push on a nerve or the surrounding brain. More seriously, these blood vessels can rupture and cause devastating results. A ruptured aneurysm should be treated as soon as possible.

An aneurysm can be treated using a number of different methods. The first is coil embolization, where small platinum coils are placed into the bulge of the aneurysm to seal it off while preserving the normal blood flow of the artery. This method does not require an open surgery. The second is a surgical approach where the aneurysm is clipped to prevent further filling of the blood-filled rupture.

**Stroke**

It is crucial that physicians determine whether stroke is ischemic (caused by a blocked brain artery and the resulting insufficient supply of blood to part of the brain) or hemorrhagic (caused by the rupture of a brain artery and bleeding into or around the brain) before appropriate treatment can begin. Other possible causes of symptoms that mimic stroke, such as a tumor, seizure, or infection, must also be ruled out. Working with many diagnostic tools, experienced endovascular neurosurgeons at ANS can determine the precise location of stroke, its cause, and how much damage resulted from the stroke to make essential treatment decisions quickly. We currently treat stroke at 3 major comprehensive stroke centers in New Jersey and utilize the latest technologies and techniques available.

**Brain Arteriovenous Malformations (AVM)**

An AVM is a tangle of abnormal and poorly formed blood vessels (arteries and veins). They have a higher rate of bleeding than normal vessels and can occur anywhere in the body. Brain AVMs are of special concern because of the damage they cause when they bleed. Treatment options include CyberKnife®, glue embolization, surgical excision, or a combination of the three.

**Clot Retrieval Devices (Trevo® Pro Retrieval System, Solitaire ™ FR Device, and Penumbra System ℠)**

Clot retrieval devices are minimally invasive catheter-based systems designed to retrieve and remove clots in patients experiencing acute ischemic stroke. They offer
physicians an interventional option beyond standard lytic therapy for acute ischemic stroke patients. When a clot is blocking an artery, these systems allow for soft clots to be retrieved utilizing a suction catheter, thereby restoring blood flow to our patients who have suffered a stroke.

**Embolization Device**
The Pipeline™ Embolization Device (PED) is a braided, platinum and nickel-cobalt chromium alloy, wire mesh cylindrical device. This device is implanted within an artery in the brain to treat aneurysms. When placed across the opening (the “neck”) to the brain aneurysm, the PED is intended to redirect blood flow away from the aneurysm, causing the remaining blood in the aneurysm to form a blood clot. This clot prevents rupture of the aneurysm and may also cause the aneurysm to shrink in size over time.

**TUMORS AND NEURO-ONCOLOGY**

**Brain and Spine Tumors**
ANS’s team of expert neurosurgeons can safely and effectively operate on even the most challenging brain and spine tumors. ANS has an expert team specialized in treating all types of brain tumors, which assures patients of a neurosurgeon highly specialized in treating their particular condition. Using advanced surgical and radiation delivery technology in combination with a progressive, multidisciplinary team approach, ANS is able to deliver patient care that is second to none. Our brain tumor neurosurgeons perform many procedures utilizing the most cutting-edge technology and the most advanced, safe, and minimally invasive neurosurgery techniques. ANS neurosurgeons employ precision image-guided neuronavigation systems, functional brain imaging and mapping, and awake intraoperative functional brain mapping and microsurgery. In addition, our expert brain tumor neurosurgeons employ minimally invasive surgery using endoscopes, radiosurgery, and endoscopic trans-sphenoidal neurosurgery. In fact, our team of experts helped develop and pioneer many of these advanced techniques.

**Minimally Invasive Brain Surgery**
ANS offers a treatment alternative for people with benign and malignant brain tumors, many of which were previously inaccessible or required extensive surgery. Our minimally invasive neurosurgical procedures utilize stereotactic image guidance and endoscopic navigation. The endoscope is used to remove tumors from deep within the brain through small incisions and openings in the skull no larger than the size of a pea. The endoscope is used to navigate through the fluid-filled chambers of the brain. Using this minimally invasive technique, ANS surgeons have been able to reduce the length of hospital stays and dramatically improve patient outcomes.

**Pituitary Tumors**
Many pituitary disorders are now approached using endoscopes and specially designed instruments that are much less invasive than traditional surgery. This less traumatic approach provides excellent visualization of the pituitary gland and surrounding structures, involves less preoperative discomfort, and shortens hospital stays. Treatment options include oral medications, hormone therapy, radiation, and surgery.

**Brain Endoscopy**
Brain endoscopy allows for the safe treatment of deep-seated tumors in the brain using a small camera with a working channel to visualize tumors within the ventricular system of the brain and permit excision or biopsy. A small fiberoptic camera, called an endoscope, is introduced into the brain through a very small skull opening, following which tiny instruments may be placed through the same opening for the purpose of performing endoscopic tumor biopsy, colloid cyst resection, and endoscopic cyst fenestration, as well as to treat hydrocephalus. Operations can last from about 15 minutes to an hour, and patients are typically discharged the next day from the hospital.

**Minimally Invasive Endoscopic Pituitary and Anterior Skull Base Surgery**
ANS brain tumor surgeons can now remove unimaginably large tumors through the nostrils, using the natural openings of the face instead of through incisions, using tiny endoscopes to navigate to the lesions. Endoscopic surgery is a rapidly evolving field that uses a miniature camera, only 4 mm in diameter, to remove tumors primarily in the skull base. These procedures involve very small or no incisions, resulting in fewer complications, improved cosmetic outcomes, reduced blood loss, and shorter recovery times for patients.

Most commonly an approach through the nose (an endonasal corridor) is used and involves the combined efforts of an otolaryngologist and a neurosurgeon. By approaching some of these tumors from below the skull and through the nose, there is less pain, no incisions, and no brain retraction, which leads to better neurological outcomes after surgery. The endoscope allows surgeons to look around corners and work around critical structures without manipulating them.
Minimally invasive endoscopic skull base surgery is often an option for pituitary tumors, meningiomas, craniopharyngiomas, and other tumors. However, some patients may still require traditional open approaches and optimal care is achieved by proper patient selection. Our skull base surgeons offer the full range of open and endoscopic surgical options for tumor resection and work with a multidisciplinary team for comprehensive patient care including experts in skull base otolaryngology, neuroradiology, radiation oncology, oncology, neuroendocrinology, endovascular neurosurgery, and neuro-ophthalmology.

**Stereotactic Radiosurgery (CyberKnife®)**

With stereotactic radiosurgery, ANS surgeons can deliver highly focused radiation beams that noninvasively target specific lesions within the head and spine with minimal damage to normal tissue. The precisely focused radiation beams can noninvasively destroy a targeted tumor without the need for any open surgery. These highly precise treatment vehicles deliver customized radiation doses to treat a variety of brain disorders with surgical precision — but without the surgery. Stereotactic radiosurgery procedures are performed by a team that includes a neurosurgeon, a radiation oncologist, and a physicist. Although conventional neurosurgery is still common, stereotactic radiosurgery can now be used with great success to treat certain types of tumors, AVMs, and trigeminal neuralgia.

Many people think of radiosurgery as surgery without a knife. Radiosurgery operates by directing highly focused beams of ionizing radiation with high precision. There are many nervous system diseases for which conventional surgical treatment is difficult or inadvisable due to deleterious consequences for the patient, such as damage to nearby arteries, nerves, and other vital structures. Radiosurgery is often a safer option than traditional neurosurgery because no incisions are involved.

**FUNCTIONAL NEUROSURGERY**

This area includes neurosurgical care for illnesses that might be listed under individual topics. Functional neurosurgery is concerned with the treatment of conditions where central nervous system (brain and spinal cord) function is abnormal, although the structure or anatomy is normal. Examples of conditions treated by functional neurosurgery are epilepsy, spasticity, movement disorders (Parkinson’s disease and tremor), and pain. Examples of treatments include radiofrequency, augmentative therapy, and implantation devices utilizing stereotactic technology. Stereotactic procedures permit surgeons to isolate target areas within the brain. The Stereotactic Radiosurgery Program was the first of its kind established in New Jersey and offers state-of-the-art focused radiation to treat brain tumors and vascular malformations as well as pain and movement disorders.

**Spasticity**

Spasticity is the involuntary movement (jerking) of muscles. It is common after spinal cord injuries and occurs from messages traveling from parts of your body to the spinal cord, causing reflex activity (muscle movement). Treatment options include medical management, implantation of a baclofen pump, and dorsal rhizotomies.

**Peripheral Nerve Disorders**

The treatments for peripheral nerve disorders are usually surgical. The goal of the surgery is to decompress the nerve at its site of compression. The surgery is usually considered minor surgery and is done as an outpatient procedure.

**Essential Tremor / Parkinson’s**

Surgery becomes a treatment option for people who have Parkinson’s disease or essential tremor when their symptoms are no longer adequately controlled by medication. Deep brain stimulation is often used for people suffering from medically refractory Parkinson’s disease or essential tremor. Electrodes are implanted on one or both sides of the brain and most often provide significant improvement in symptom control and allow for a welcomed reduction in medication (see also Brain Stimulators).
Brain Mapping
Neurosurgeons use brain mapping to plan safer surgeries. One treatment for epilepsy, for example, removes the affected part of the brain. Using functional magnetic resonance imaging (MRI) and electroencephalogram (EEG), surgeons can locate the seizure center in a patient’s brain down to the millimeter. They can also locate areas that are active during speaking and moving. Together with minimally invasive techniques, awake brain mapping, and advanced stereotactic image guidance that incorporates multiple functional datasets, ANS brain tumor surgeons can often remove complex tumors in eloquent brain regions with minimal to no neurological deficits. These techniques involve a team approach including neuroanesthesiologists, neuroradiologists, neuropsychologists, and the epilepsy team of neurologists who work together in the operating room with our brain tumor surgeons to make such surgeries possible.

Brain Stimulators
Deep brain stimulation is a neurosurgical treatment which stimulates the brain with mild electrical signals. These signals reorganize the brain’s electrical impulses, causing improvements in symptoms in a number of conditions affecting the brain, including tremors.

Implantable Stimulation Systems
ANS uses a number of stimulation systems that help treat conditions within the central nervous system. Some examples include deep brain stimulation for Parkinson’s disease and movement disorders, the treatment of epilepsy with vagal nerve stimulation, and the treatment of pain through the implantation of spinal cord stimulation and peripheral nerve stimulators.

Seizure Surgery
Surgery is an alternative for some people whose seizures cannot be controlled by medications. This type of surgery can be especially beneficial to patients who have seizures associated with structural brain abnormalities, such as benign brain tumors, malformations of blood vessels, and strokes.

Facial Pain / Trigeminal Neuralgia
Trigeminal neuralgia, also known as tic douloureux, is a facial pain condition that affects the trigeminal nerve, which gives sensation to the face. The pain often manifests as short jolts of stabbing electric-shock-like pain typically involving the lower face and jaw. This pain is usually caused by irritation of the trigeminal nerve from contact with a tortuous blood vessel loop. Common treatment options include stereotactic radiosurgery (CyberKnife®), percutaneous glycerol rhizotomy, and microvascular surgical decompression. ANS neurosurgeons work closely with a team of neurologists and radiation oncologists to deliver patient-tailored treatment including both noninvasive and minimally invasive procedures.

ADDITIONAL CONDITIONS AND TREATMENTS

Carpal Tunnel
 Patients who fail conservative therapy and those with severe symptoms may be candidates for surgical decompression. This surgery is typically performed under local anesthesia with intravenous sedation. A 1-inch incision is made in the palm over the carpal ligament. The soft tissue is dissected to the level of the ligament and it is cut to relieve the pressure on the median nerve. This surgery is a short outpatient procedure with a very high success rate.

Hydrocephalus
Hydrocephalus is a condition in which excess cerebrospinal fluid (CSF) builds up within the ventricles (fluid-containing cavities) of the brain and may increase pressure within the head. One treatment option includes diversion of CSF to the abdominal cavity by implantation of a shunt device. Some patients are candidates for a more novel approach, called an endoscopic third ventriculostomy, which uses a camera to place a small hole in the floor of the third ventricle to allow CSF to circumvent an obstruction within the brain. This minimally invasive procedure is all performed through a small dime-size opening.
DOCTOR DIRECTORY

Jonathan J. Baskin, MD, FACS
Dr. Baskin is fellowship trained in spine surgery and specializes in minimally invasive and complex spine surgery, tumors of the spine, image-guided neurosurgery for brain tumors, spinal stabilization, CyberKnife® surgery, and kyphoplasties.

Ronald P. Benitez, MD
Dr. Benitez is a fellowship trained vascular neurosurgeon specializing in minimally invasive techniques. His specialties include the treatment of cerebrovascular diseases such as stroke, aneurysm, and AVMs using new and innovative techniques. Additionally he specializes in tumors of the skull base.

Brian D. Beyerl, MD, FACS
Dr. Beyerl specializes in stereotactic neurosurgery and radiosurgery for brain tumors and AVMs. He also practices general neurosurgery as well as spinal and carpal tunnel surgery.

Kyle T. Chapple, MD
Dr. Chapple is fellowship trained and specializes in neurovascular skull base surgery and endovascular neurosurgery as well as minimally invasive and complex spine surgery. His specialties include the treatment of cerebrovascular diseases such as stroke, aneurysms, and AVMs using new and innovative technologies.

Jay Y. Chun, MD, PhD
Dr. Chun is fellowship trained in spine surgery and specializes in complex and minimally invasive spine surgery. In addition he specializes in general neurosurgery.

John J. Knightly, MD
Dr. Knightly is a fellowship trained spine surgeon who specializes in complex and minimally invasive spine surgery. His other specialties include trauma, CyberKnife® stereotactic neurosurgery, and concussion treatment.

Scott Meyer, MD
Dr. Meyer is a fellowship trained spine surgeon. His areas of clinical expertise include complex cervical spine surgery, minimally invasive spine surgery, degenerative spine disease, adult spinal deformity (kyphosis and scoliosis), spinal tumors, and spinal trauma. Dr. Meyer also maintains a strong interest in neurotrauma and general neurosurgery.

Yaron Moshe1, MD, PhD
Dr. Moshe1 is board certified, fellowship trained, and specializes in neuro-oncology, stereotactic, and skull base surgery. His specialties also include functional brain mapping, management of brain and spine tumors, epilepsy surgery, stereotactic radiosurgery, and complex spine surgery.

Joelle Stabile Rehberg, DO
Dr. Rehberg is board certified by the American College of Osteopathic Family Physicians and her areas of interest include sports medicine and the treatment of concussion. Currently, she is the medical director and a clinical instructor for the Athletic Training Education Program at William Paterson University in Wayne, NJ.

Joseph Rempson, MD
Dr. Rempson specializes in the field of physiatry, which helps patients who suffer injuries to the muscles, bones, tissues, and nervous system. Dr. Rempson concentrates not only on musculoskeletal injuries, but on the rehabilitation of neurological disorders such as stroke and brain tumors.
Charles Blair Stillerman, MD, FACS
Dr. Stillerman’s clinical interest is in thoracic and lumbar trauma. Named frequently as one of the Best Doctors in America in Castle Connolly’s Top Doctors, Dr. Stillerman has written and lectured extensively on spinal disorders, spinal injuries, and specifically on thoracic and lumbar stabilization.

Paul S. Saphier, MD
Dr. Saphier is fellowship trained and specializes in endovascular neurosurgery. His specialties include the treatment of cerebrovascular diseases such as stroke, aneurysms, and AVMs using new and innovative technologies.

Igor Ugorec, MD
Dr. Ugorec is one of the most highly regarded neurointensivists in the country. His expertise is invaluable to ANS and our patients.

David Wells-Roth, MD
Dr. Wells-Roth has specialized fellowship training in endovascular neurosurgery, cerebrovascular surgery, skull base surgery, and complex and minimally invasive spine surgery. His specialties include the treatment of cerebrovascular diseases such as stroke, aneurysms, and AVMs using new and innovative technologies as well as the latest spine surgery treatments.

Edward J. Zampella, MD, FAANS, FACS
Dr. Zampella’s specialties include surgical management of brain and spinal tumors, endoscopic surgery, pediatric neurosurgery, spinal cord stimulation, intraspinal drug infusion, neurosurgical treatment of movement disorders, epilepsy, stereotactic radiosurgery, and CyberKnife® surgery. Dr. Zampella also has extensive experience in pediatric neurosurgery.

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