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Dear Reader:

The Center for Vascular Awareness, Inc. is a 501(c)(3) not-for-profit organization dedicated to fostering mainstream consumer and clinical consciousness of vascular health standards, disease, prevention, and treatment. Maintaining and improving vascular health is a critically important issue. Patients and clinicians can benefit from learning about the impact of everyday lifestyle choices, risk factor modification, current ongoing vascular research, as well as medical, minimally invasive endovascular, and surgical treatment options for vascular disease.

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Benita Zahn, MS, WNYT, Albany, NY
THE VASCULAR WORKFORCE

In introducing this issue of V-Aware, which focuses on the vascular workforce, it behooved me to consult with the director of human resources for the largest vascular surgery practice in the United States. Christopher Quinn manages the human resource department for the Vascular Group in Albany, a workforce of 140 professionals collaborating on prevention, diagnosis, and treatment of today’s vascular healthcare issues. Quinn described the situation to me from his perspective.

“The vascular workforce in the 21st century is all about building vascular professionals’ engagement in managing critical vascular issues in the age of technological, financial, and demographic change,” he said. “We have to look at vascular healthcare delivery more in concert with evolving technological advancements. In the vascular world, we have the advantage of working in a field with stable demand and the ability to take pride in an altruistic endeavor, while at the same time being exposed to new techniques, technologies, and global pioneers in the field.”

The vascular workforce has an effect on the market and vice versa. According to Quinn, “Our ability to meet the demands of managing complex vascular issues and providing state-of-the-art vascular healthcare delivery will add value to the emerging vascular market and, in the end, may serve as a pipeline for new vascular professionals. Furthermore, ongoing education in preparing and exposing our staff to this technology will keep them engaged, appeal to a younger generation’s adeptness at technology, and better prepare them for future advances.”

If you look at any sport, the champion at the end of the season is not the team that has the best single player, but rather the one with the greatest depth of athletes, coaches, and trainers. This scenario is similar to what is seen every day in the vascular workforce, as teams work collectively to manage the complexities of the vascular patient from diagnosis and treatment to recovery. To introduce the entire vascular workforce would be beyond the scope of this journal, so, in this issue, it is my pleasure to introduce some of the player on our vascular team. You’ll learn about the roles of vascular physician assistants, nurse practitioners, nurses, invasive and noninvasive laboratory technologists, and research coordinators, and, as always, read an inspiring story of a patient’s journey to recovery.

I hope you enjoy this issue of V-Aware, and we look forward to your suggestions. Feel free to write us at info@vaware.org.

Warmest regards,

Manish Mehta, MD, MPH
President and CEO of the Center for Vascular Awareness, Inc., in Albany, NY
The physician-led team approach to patient-centered care is a model for navigating today’s challenging healthcare environment.

In particular, the synergy in the physician-physician assistant (PA) partnership is an effective example of how to deliver quality and affordable healthcare. As an integral part of the vascular workforce, PAs and advanced registered nurse practitioners play a unique role as educators, liaisons, and clinicians.

PA TRAINING
PAs are well suited to the unique challenges of vascular medicine and surgery, despite the fact that the PA role was not originally intended for the surgical subspecialties. According to the American Academy of Physician Assistants, in 1965, Dr. Eugene Stead of Duke University Medical Center responded to the shortage of primary care physicians by creating the first class of PA students. The group was made up of Navy corpsmen who had received medical training during their military service. The curriculum of the PA program was based on Dr. Stead’s knowledge of the accelerated physician training necessary during World War II. On October 6, 1967, the first students who went on to practice as PAs graduated from the Duke University PA program.

THE VASCULAR PA
According to the American Academy of Physician Assistants’ 2010 census, there are more than 81,000 PAs in the country and over 84% are in clinical practice. More than 22,000 are surgical or subspecialty surgical PAs, but less than 700 claim vascular surgery as their primary practice. These numbers show that there remains a great opportunity for future PAs in vascular medicine and surgery. As our population ages and more than 76 million baby boomers reach retirement age, it will be imperative to have a vascular healthcare workforce that is prepared and trained to diagnose and treat the challenges that face the typical vascular patient. For example, treating peripheral vascular disease in a vascular surgery practice means dealing with peripheral arterial disease (PAD), venous disease caused by venous thromboembolism or valvular incompetence, and aneurysms.

The PA is involved in all aspects of caring for the vascular surgery patient from the office, to the hospital, to the operating room. The hallmark of PA training focuses on obtaining an accurate history and performing a comprehensive physical examination of the patient. The PA also serves as the liaison between the patient, vascular specialist, the nursing staff, vascular technologists, and referring physicians.
TREATING THE VASCULAR PATIENT
Managing vascular health is all about addressing risk factors that unfortunately become more prevalent as we age. Conditions such as diabetes mellitus, hypertension, hyperlipidemia, heart disease, and obesity can have a significant impact on vascular disease. Early diagnosis and treatment of these risk factors could be a starting point for optimizing vascular health. A systematic approach to treating the vascular patient allows for efficient and comprehensive visits. Patients rely on their healthcare team to make a diagnosis and recommend a treatment plan that takes into account preventive measures, conservative management, best medical practices, and ongoing surveillance, and turns to intervention only when necessary and appropriate.

PREVENTING PROBLEMS
Good diabetic control is key to preventing vascular complications. We know that people with diabetes are more likely to develop PAD and have the highest risk for symptomatic PAD. Individuals who maintain good control over their diabetes can dramatically reduce their risk for amputation.

Blood pressure control is another worthy goal. Maintaining blood pressure within current guidelines, ideally less than 130/80 mm Hg, will reduce the risk of vascular events. Medications known as ACE inhibitors or ARBs can reduce risk of heart attack, stroke, and death by as much as 25%.

Aggressive cholesterol management with a statin drug reduces risk of stroke, myocardial infarction, need for surgery, and death by at least 20%. In addition to the beneficial effects of statins on lowering harmful LDL and raising beneficial HDL cholesterol, these drugs also seem to stabilize plaque and improve endothelial function. Reviewing the National Cholesterol Education Panel guidelines and rationales for lipid management and statin use in PAD is important.

Antiplatelet therapy reduces the risk of vascular-related deaths. A baby aspirin a day or clopidogrel can reduce the risk of vascular death by up to 25%. For PAD patients with intermittent claudication, cilostazol along with exercise can improve walking tolerance and is safe given in addition to statins and antiplatelet drugs. Cilostazol is contraindicated in patients with congestive heart failure.

Upwards of 90% of patients with symptomatic PAD have a history of smoking. Stopping smoking decreases an individual’s chance of dying by close to 40% and can also decrease the risk of amputation, heart attack, and stroke. If patients are still smoking when they present for treatment, they must be counseled on the need for smoking cessation and given literature on the resources available to help them quit.

Education is always a focus of every patient encounter and gives us an opportunity to review lifestyle modifications including dietary and exercise goals. For example, following a Mediterranean diet low in saturated fats and high in fiber, combined with exercising regularly, can play a vital role in combating truncal obesity, hypertension, low HDL, and insulin resistance.

HISTORY GIVES THE PICTURE
The history of the present illness will establish whether one is dealing with a chronic, subacute, or acute complaint, so it is important to listen to the patient’s story. Typically, in the office, we are dealing with patients who have chronic stable PAD, and so we are usually confirming an improvement or at least no change in walking tolerance, functional status, transient ischemic attack symptoms, and the status of any aortic or peripheral aneurysm.
A REVIEW OF SYSTEMS

Vital signs: Blood pressure in arms, pulse, respiration, weight, height, and calculated body mass index

General appearance: Well developed, well nourished, or chronically ill

Head and neck: Facial asymmetry, xanthelasmas, conjunctiva; documenting any carotid or supra-infraclavicular bruits; carotid upstroke, pulse; thyroid examination

Chest and lung: Symmetrical on inspiration, auscultation; documenting any surgical scars, permanent pacemaker, automated implantable cardioverter-defibrillator, dialysis catheters, etc.

Heart: Rate, rhythm, murmurs, rubs, gallops, perioperative myocardial infarction, jugular venous distention

Abdomen: Soft, nontender, truncal obesity; liver, kidney, spleen; any aneurysms or masses; aortic, renal, or iliac bruits

Extremities: Skin, nails, hair growth, cyanosis, rubor/pallor, atrophy, capillary filling; surgical scars; status of previous bypass, dialysis access, etc.; edema, hyperpigmentation, dermatitis, dermatosclerosis/fibrosis, venous, arterial, or neuropathic ulcerations

Pulse examination: Femoral, popliteal, dorsalis pedis, posterior tibial; if not palpable, document with Doppler examination—monophasic, biphasic, triphasic.

Venous: Varicose veins, chronic venous insufficiency, perforators, greater and lesser saphenous veins, spider veins, and reticulars

Neurologic: Mental status, cranial nerves, focal deficits, gait, reflexes; sensory

The PA is responsible for assessing the patient for local or systemic manifestations of arterial or venous insufficiency or aneurysms. This assessment is done in part by reviewing the appropriate vascular laboratory data and confirming proper surveillance of previous interventions. Carotid and vertebral disease, upper extremity and lower extremity arterial disease, renal artery disease, mesenteric disease, and aneurysms are all considered when reviewing a patient’s history and performing a physical examination. Diagnosis is generally obtained through simple noninvasive testing; invasive testing is generally reserved for patients that might require more invasive procedures.

THE PHYSICAL EXAMINATION

Patients with PAD typically visit the vascular office once or twice a year for a peripheral vascular review or follow-up of a previous surgical intervention. It is imperative to take the time to perform a complete physical with a focus on the vascular examination. A review of systems can also be discussed during the examination.

REVIEWS NONINVASIVE STUDIES

Having a certified vascular laboratory onsite and registered vascular technologists on staff are invaluable. Being confident in your vascular laboratory results is crucial to a successful vascular practice. Being familiar with all noninvasive venous and arterial studies is a must for the vascular surgery PA.

Reviewing results in a clear and concise manner with patients at every visit helps them understand the importance of proper follow-up and surveillance. The ability to use the vascular laboratory as a resource for referring physicians and our community at large is also a great asset.

A UNIQUE OPPORTUNITY

Vascular surgery provides a unique opportunity for PAs in that this specialty uses all of their training and instincts. It requires the use of medical and surgical knowledge and experience to provide quality healthcare. PAs must be as comfortable in the operating room as they are explaining and treating acute and chronic problems in the office and hospital settings. As educators, liaisons, and clinicians, the midlevel practitioners, including PAs and advanced registered nurse practitioners are perfectly suited for this role in vascular surgery. The importance of practicing vascular medicine and the experience of treating the patient as a whole is very gratifying. The team approach makes the vascular workforce a model for the treatment of the peripheral vascular patient. 

Ask Your Doctor

- How can I be evaluated for peripheral arterial disease if I have risk factors?
- Are varicose veins dangerous?
- My legs always hurt at night, is this a circulation problem?
When most people think of an ultrasound, they picture an expectant mother getting a first glimpse of her unborn child. Ultrasound, also known as sonogram, is a diagnostic tool used for much more than monitoring pregnancy.

In the noninvasive vascular laboratory, ultrasound is the medical imaging method used for diagnosing vascular disease. Duplex ultrasound tests can be performed to detect vascular disease in a variety of areas: the carotid artery, abdominal aorta, and upper and lower extremity veins, and also for arterial bypass graft surveillance. The registered vascular technologists (RVTs) who work in the laboratory provide physicians with vital information regarding their patients’ vascular health. Duplex ultrasound is usually a quick and easy method for determining the size of an abdominal aortic aneurysm, the percentage of blockage in a carotid artery, or the location of a deep venous thrombosis. Following strict protocols, the RVT records images and documents findings in a typed report. Critical findings are immediately reported to the referring physician. The vascular surgeons often base their decision whether or not to operate on the results of the ultrasound.

If there is any question about the results, other diagnostic tests, such as computed tomography scan or angiography, are ordered to confirm critical information.

**ASSESSING CIRCULATION**

Another noninvasive diagnostic test frequently performed in the vascular laboratory is a blood circulation test called pulse volume recording. This test is done to assess the peripheral arterial circulation in the extremities. Patients who present with symptoms such as leg pain or nonhealing ulcers of the feet will have a pulse volume recording performed. The results of this test may indicate an artery blockage requiring revascularization by stent or surgery to restore blood flow. If surgery is needed, the RVT will perform an ultrasound to assess the vein (a procedure called vein mapping) that will be used to create the bypass.

Postoperatively, the patient will undergo routine pulse volume recording and ultrasound in the vascular laboratory to evaluate blood flow in the bypass or stent. Regularly scheduled follow-up ultrasounds are essential for bypass surveillance.

Ultrasounds are also important for diagnosing and monitoring the growth of abdominal aortic aneurysms. These serious aneurysms are often asymptomatic and difficult to detect through physical examination alone.

A noninvasive ultrasound can easily detect an abdominal aortic aneurysm, which can be routinely evaluated by ultrasound every 6 months for growth. This tracking helps vascular surgeons plan the timing of repair, should it be necessary.
Carotid duplex ultrasounds allow technologists to visualize the common carotid artery (CCA), internal carotid artery (ICA), and the external carotid artery (ECA). This ultrasound shows the presence of stenosis if any by measuring the velocity of the blood flow.

Vein mapping utilizes high frequency sound waves to determine the quality and size of veins. The image above shows the left greater saphenous vein (GSV) to aid the physician in planning an upcoming vein bypass procedure.

(Continued from previous page)

IMPORTANCE OF PROTOCOLS
Imaging protocols and testing guidelines for accredited vascular laboratories are put in place by the Intersocietal Commission for the Accreditation of Vascular Labs (ICAVL). Accredited laboratories must comply with ICAVL’s standards for every type of ultrasound that is performed. It is through these protocols and standards that diagnostic criteria are based. Vascular laboratories go through the reaccreditation process every 3 years. During this time, ICAVL requires laboratories to submit examples of studies performed, correlative studies, and continuing education credits obtained by the laboratory staff. These are the “checks and balances” that ICAVL uses to ensure that laboratories stay in compliance with protocols that have been established.

EDUCATION
Patients often ask, “How long do you have to study to do this?” Becoming an RVT requires post-secondary education. Throughout the country, there are many ultrasound training programs offered at the college level. These programs, ranging from 1 to 4 years, consist of didactic learning as well as clinical internships. In the classroom setting, students learn about the physics of ultrasound, as well as the fundamentals of scanning. It is during the internship that students get the hands-on experience necessary for honing scanning techniques. Under the supervision of experienced RVTs, students work on actual patients with varying degrees of vascular disease. Successful completion of a two-part registry examination is the final step in becoming an RVT.

REWARDING WORK
The RVT’s job is very important to the vascular workforce. The information we provide to the physicians through noninvasive testing is vital to patient care. Working in a vascular laboratory has been quite the educational experience for me. Over the past 12 years, I’ve learned about many different vascular conditions and methods of treating them. Whether used to diagnose carotid disease or to measure a vein, vascular ultrasound is a valuable imaging tool. In order to produce quality work, it is crucial that scanning protocols and guidelines are followed. At the end of the day, it is rewarding to know that your work plays a major part in the detection and subsequent treatment of serious medical conditions.

Ask Your Doctor
1. Will ultrasound give me a reliable diagnosis?
2. Should I have any follow-up ultrasounds?
3. Is the laboratory you use ICAVL accredited?
THE INPATIENT: It Really Does Take A Village

Whether your admission to the hospital is planned or unplanned, many patients find the round-the-clock rhythms of the inpatient setting disconcerting.

Although care is individualized for each patient, it may not seem that way to the person sitting in bed, who is feeling like he or she has landed on a new planet where the culture and language are unfamiliar.

As a nurse manager, one of the most frequently asked questions that I receive from patients usually begins with, “Who was that person who (fill in the blank)…?” The sheer number of care providers that patients encounter during a hospital stay may leave them wishing for a scorecard to keep track of who is doing what, when, and how. Although the hospital experience at times may feel like a very solitary one, each patient lies in the center of a circle of professionals who are working together to provide not just good care, but the best care for every person in their charge. This article is a guide to the individuals you will meet in the “inpatient village.”

THE FAMILY OF PHYSICIANS

In an academic hospital setting, such as a medical school, physicians employ a team approach to directing patient care, and you may meet several doctors or teams of doctors during the course of your stay. As a vascular patient, your care will be overseen by the primary vascular team. On the unit level, resident physicians are medical school graduates in the first years of their surgical training. Residents monitor the day-to-day care of the patients on the hospital floor and implement the treatment plans made by the primary team. Residents are overseen by a group of vascular fellows who have completed 5 years of general surgical training and are in their final 2 years of specialization in vascular surgery. Due to their proximity to patients, residents and fellows are easily accessible to address patient needs and concerns. These doctors serve under the umbrella of highly trained and experienced vascular attending physicians, who, with patient and family involvement, are the ultimate decision makers in determining an individual’s course of care. In addition, some patients may have conditions that warrant reaching out to other specialists such as cardiologists, endocrinologists, or renal physicians to fully address their individual needs.

A VARIETY OF NURSES

Nurses are the members of the care team that you will meet most frequently during your stay. They collaborate with physicians to closely monitor patient status, carry out orders for care, administer medications, assist in discharge planning, facilitate movement throughout the facility as needed, and communicate patient and family needs to all members of the care team.

(Article continues on next page)
Nurses are licensed professionals who have passed the National Council Licensure Examination following either a 2-year associate or 4-year baccalaureate course of study and who may also possess varied certifications and training in a clinical subspecialty. The nurses you will meet in the vascular setting have also successfully completed a preceptorship in vascular nursing and a year-long nurse residency program. Clinical support nurses are highly experienced RNs who assist other nurses at the bedside to successfully perform advanced interventions and establish lines and access in individuals where this may have proven difficult in the past.

You may also encounter advanced practice nurses who have additional degrees. These include nurse practitioners, who, like resident physicians, have prescribing capabilities and are responsible for implementing the plan of the primary team. Nurse practitioners often serve a specialized patient population such as vascular or endocrinology.

A clinical nurse specialist is a clinical expert in a given setting who functions as a unit-based educational asset and is heavily involved in carrying out quality initiatives and performing nursing research. Another advanced clinical specialty in nursing that is important to vascular patients is the enterostomal therapy nurse. These nurses are wound care and ostomy experts who evaluate and make recommendations to the medical team regarding the treatment and healing of all wound types.

Additionally, nurse managers and their assistant nurse managers function as the administrative arm of the nursing team and are responsible for troubleshooting, organizing staff, directing patient flow, and channeling facility resources in the provision of inpatient care.

**UNSUNG ASSISTANTS**

Patient care associates are the unsung heroes of your hospital stay, attending to many patients’ personal care needs. Patient care associates complete an extended hospital training program and frequently use the direct patient care experience as a springboard into other healthcare-related careers. Patient care associates collect the data upon which many medical decisions are made and collaborate extensively with the nursing staff in delivering unit-based care. Phlebotomists are experts at drawing blood samples, a skill that those with a fear of needles greatly appreciate. There are many other assistive positions requiring varying periods of training including the many technicians that you may encounter that administer diagnostic tests such as ultrasounds, x-rays, preprocedure vein mapping, and postprocedure pulse volume recordings.

**SPECIAL-CARE PROVIDERS**

In addition to nurses, there are other licensed professionals whom may be encountered, depending on the unique needs of each patient. Respiratory therapists are university trained and function under the guidance of pulmonologists to treat and monitor the conditions of patients with new or chronic lung problems.

Due to the healing challenges faced by many vascular patients, dieticians are frequently called in to assess and optimize an individual’s diet in an effort to meet his or her nutritional requirements for recovery.

Physical therapists are frequently consulted to evaluate the abilities of vascular patients after surgery and to develop an activity plan to maximize each patient’s physical capacity. Occupational therapists are rehabilitative professionals that focus on restoring the abilities important to patients in performing activities of daily living. Physical therapists, occupational therapists, and dieticians are prepared on a master’s degree level and are integral to bringing patients back to a preoperative level of functioning.

**HELP TO GO HOME**

Another popular question that patients ask is, “When do I get to go home?” Case managers and social workers can help determine the answer. Case managers are often nurses with additional certification and training who serve as liaisons between the hospital and the patient’s insurance company. They act as patient advocates in securing the necessary resources to ensure a correct discharge. Master’s degree prepared social workers address the psychosocial needs of the patient and their family members and assist in connecting patients with the
services they will need after being discharged. Case managers and social workers collaborate closely with patients, their families, the medical team, physical therapists, occupational therapists, and outside agencies in assessing patient needs and creating a safe and individualized discharge plan.

**QUALITY CARE**

There is a lot of talk these days about quality in healthcare. So, how do we know if we are delivering quality? Healthcare professionals take a look at how we provide care and how our patients fare as the “outcomes” of that care. We gather information and compare how our patients do in relation to those at other comparable facilities in a process referred to as *benchmarking*. This endeavor requires the work of many individuals.

On the unit level, quality of care is tracked in several ways. There is a unit-assigned quality specialist who collects information on government and industry indicators to make sure we are utilizing the most up-to-date, evidence-based practices in the treatment of our patients. These specialists ensure that we stay compliant with all rules and regulations governing health care. We also regularly confer with members of the department of epidemiology to implement interventions aimed at eliminating the spread of nosocomial infections and the conditions that may contribute to the development of surgical site complications. Additionally, the vascular group employs several statisticians to follow patients and uncover patterns that can be used to optimize care.

**CARE FOR THE SOUL**

Outside of childbirth, inpatients will seldom reflect on the positive experience they had in the hospital. Hospitalization is stressful for patients and their families both physically and emotionally. Pastoral care professionals offer nonjudgmental spiritual support to patients and their loved ones in an effort to reduce the anxiety that often accompanies inpatient hospitalization.

These team members come from a variety of religious and spiritual traditions and will offer patients comfort in daily visits. For patients and families faced with difficult or divisive medical decisions, bioethicist consults are also available to help sort through the choices at hand. Volunteers can lend a helping hand to patients by making friendly visits to anyone seeking company and by bringing entertainment in the forms of books, tapes, and games to those who would like them.

**SUPPORT STAFF**

There is a large contingent of ancillary staff that may make less visible but no less valuable contributions to patient care. These include the patient support associates that keep rooms clean, stocked, and organized and deliver individually tailored meals to patients. Administrative support associates are the first smiling faces you meet on the floor and act as “air traffic control” in directing calls, call bells, and supporting unit customer service and communication. Material coordinators ensure that all equipment is in working order and supplies for care are available at all times. Maintenance crews work hard each day in keeping the facility in complete working order. Transporters make sure that patients arrive on time and safely for treatments and diagnostics, and information technologists keep the electronic information superhighway running at top speed, while meticulously maintaining patient privacy.

This is not an exhaustive list of all of the members of the inpatient care team, but it illustrates the breadth and depth of the resources at your disposal as a patient in the acute care setting. Please know that all of us in this milieu take pride in the professional and holistic care we bring to our patients each day. ✨

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**Ask Your Doctor**

1. What is my plan for the day?
2. What does a good outcome look like for me?
3. What do I need to do to be safely discharged?
4. To whom should I address any additional questions?
Step into an angiography suite, and you will see healthcare workers dressed in protective lead aprons and glasses, wearing surgical hats and masks, and covered in sterile gowns and gloves.

Other than hospital staff members, not many people get a glimpse inside these procedure rooms, which are sterile, cold in temperature, and filled with all sorts of complicated equipment. If a person does get to look inside, he or she is usually the patient, receiving both treatment and medication, and so tend to forget the experience behind the closed door.

THE VASCULAR TEAM
Angiography suites are populated by a roster of licensed professionals who collaborate to improve patient care. The physician is the team leader, and he or she directs an interdisciplinary team of allied health professionals in what is sometimes called the “angio suite,” also known as the “cath lab.”

The registered cardiovascular invasive specialist is credentialed through Cardiovascular Credentialing International. The registered cardiovascular invasive specialist field is a growing one, employing almost 50,000 people according to 2008 data from the Bureau of Labor. The scope of practice for this group of professionals includes preparing patients for their examinations, evaluating images, performing noninterpretive fluoroscopic procedures, setting technical exposure factors, and ensuring that radiation safety principles are followed.

The vascular interventional radiographer (VIR) is a radiographer who then trains on the job in an invasive vascular suite to become proficient in catheter-based, minimally invasive examinations. After meeting specific requirements, a registered radiologic technologist can apply to take postprimary boards through the American Registry of Radiologic Technologists and become certified as a VIR. This is a relatively new licensure; postprimary boards for this role were administered for the first time in 2003. Vascular interventional radiology is an emerging allied health specialty. Of registered radiology technicians, only 0.5% have gone on to become VIRs.

EVOLUTION OF RADIOLOGY
Although the licensure of VIRs is fairly new, angiograms are not. An angiogram is the study of a patient’s blood vessel using x-rays to capture an image of the vessel after filling it with a radiopaque or radiolucent material. The first cerebral angiogram was pioneered in 1927 by Portuguese neurologist, Dr. Egas Moniz.
Dr. Raynaldo Cid dos Santos performed the first aortogram in 1929. The next innovation occurred in 1953, when Swedish radiologist Dr. Sven-Ivan Seldinger invented the technique of using a sharp hollow trocar to puncture a vessel or cavity to safely gain access. Because of the Seldinger technique, the development and use of chest tubes, nephrostomy tubes, and angiograms began to take off.

Interventional radiology got its start in 1964 thanks in part to a stubborn 82-year-old woman who refused amputation of her leg to treat her gangrenous left foot. Dr. Charles Dotter, an American vascular radiologist, is credited as the father of interventional radiology. Dr. Dotter used a guidewire and sequentially larger coaxial catheters to open up a flow channel through the woman’s occluded superficial femoral artery. The woman was discharged from the hospital without any further intervention or surgery and with both of her feet.

FROM PICTURE TAKER TO PROFESSIONAL

With the creation of a new specialty, many medical advances were made using image-guided, minimally invasive techniques, and the need for specially trained staff became evident. Since that time, the VIR has moved up through the ranks from “picture taker” to highly trained professional responsible for choosing technical exposure factors and helping to decide the best projection to show the area of interest. VIRs are also responsible for maintaining protection from radiation for themselves, and their patients, as well as other staff; the technologist is expected to educate others on proper radiation safety principles. The VIR also verifies informed consent, assumes responsibility for patient needs during procedures, and participates in the time out, a safety requirement in which all work stops and all members of the operative/procedural team verbally confirm the correct patient, the correct procedure, the correct site and side, medications on the sterile field, and the availability of needed equipment anticipated for the procedure to begin.

The VIR has extensive knowledge of anatomy, scrubs in as first assistant to the physician, must know and maintain sterile technique, and keeps informed about infection control practices. The technologist manipulates the image by using his or her knowledge of the fluoroscopic equipment to obtain the best image possible. The VIR is able to gain and maintain arterial access, and at the close of the examination can obtain hemostasis by manual or mechanical means including placing a closure device and applying proper operative site dressings.

In addition to their patient care duties, VIRs are also expected to keep abreast of new products in order to help decide if such devices will be useful in the interventional laboratory. Medical devices have expiration dates and are very expensive; hospitals and doctors need someone to keep track of the dates, a duty that usually falls to the VIR. The VIR is responsible for keeping the imaging equipment clean and maintained according to state regulations. Should an equipment problem arise, the VIR is the first person the doctor will look to for a solution. The VIR also keeps records of patient examinations, permanently archiving them with the appropriate identifying markers. As should be obvious from this description, the VIR is an integral member of the vascular workforce that almost always stands at the right hand of the physician.
Nurses are truly icons of health and healing. We even see nurses portrayed on prime time television shows.

Anita Suchdev, BS, BSN, RN
The Vascular Group
Albany, NY

The image most people have of a nurse is typically the emergency room nurse where the excitement of trauma, drama, and mystery all come into play. Have you ever noticed that the nurses depicted on television are “super nurses” who assist the doctor in every area, from the intensive care unit to the operating room? In reality, however, the patient sees a variety of nurses who specialize in different areas. All nurses are not the same.

AN ART AND A SCIENCE
The English word nursing is derived from the Latin nutrire meaning to nourish. According to Wikipedia, nursing is “a healthcare profession that focuses on the care of individuals, families, and communities so that they attain, maintain, or recover optimal health and quality of life from conception to death.” In other words, nursing not only involves caring for the sick, injured, and handicapped but also helps promote healthy living.

With recent advances in healthcare technology, nursing has become both an art and a science. Although there are many different settings in which nurses can practice, the most common area for them to work has traditionally been the hospital. We have been seeing the establishment of more outpatient procedural and surgical centers, however, which have become safe alternatives to having procedures done in a hospital. Outpatient centers address the need for personalized care combined with cost effectiveness in today’s healthcare delivery.

Nursing care in an outpatient setting differs from inpatient nursing because the same quality care is delivered in a shorter period of time. Regardless of the setting, nursing care is of paramount importance because it ensures the patient’s comfort and safety before, during, and after a procedure. Read on for a nurse’s perspective of vascular healthcare delivery at an outpatient angiography suite.
MR. SMITH’S CASE
Mr. Smith is an 80-year-old man who has been evaluated for pain in his right leg. He has a medical history of congestive heart failure, high blood pressure, high cholesterol, chronic obstructive pulmonary disease, coronary artery bypass surgery, and renal insufficiency. Noninvasive testing indicated an arterial blockage in his right leg, so Mr. Smith was referred for an angiogram at the outpatient vascular healthcare center.

Mr. Smith arrived for his appointment accompanied by his wife. Like many people in his situation, he was extremely anxious about his procedure and was concerned with how it would be done and what might be found. Mr. Smith and his vascular surgeon were expecting to find a blockage that could be fixed with angioplasty and stenting or that might require a leg bypass surgery.

PAVING THE WAY
In a case like this, it is up to the nurse to provide a relaxed and comfortable atmosphere for the patient by engaging in conversation and addressing any fears. The nurse also interviews the patient and completes a physical assessment by listening to the lungs, heart, and abdomen, noting neurological status and assessing pulses, especially in the feet. It is very important for the nurse to be familiar with a patient’s past medical history in order to address all possible risk factors. The nurse must also gather all the relevant preprocedure testing that has been done and review what the patient and family will experience before, during, and after the procedure, including recovery and aftercare. Questions from the patient and family members are encouraged and answered at this time. The nurse has now paved the way for the doctor to have a more in-depth conversation with Mr. Smith and his wife before the procedure.

THE PROCEDURE
Next, an intravenous line is placed in order to administer sedating drugs as well as fluids and other medication necessary to get Mr. Smith through the procedure comfortably and safely. The nurse collaborates with the physician as well as the radiology technologist to ensure that Mr. Smith’s procedure runs smoothly and with limited risk.

Mr. Smith is then taken to the procedure room where the intervention is to be done. Everyone in this room plays an integral part in the patient’s care. The nurse monitors Mr. Smith’s vital signs, which include blood pressure, heart rate and rhythm, and respiration rate and administers the sedation ordered by the physician. The physician and the interventional technologist perform the procedure, which can last from 15 minutes to 1 or 2 hours. The nurse monitors the patient throughout the procedure. When the intervention is complete, the nurse and the technologist bring the patient to the recovery area.

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A complete report must be given to the recovery nurse so that the appropriate care can be given, including constant monitoring. Nurses who work in an outpatient area must be knowledgeable in emergency situations; managing any patient in this setting leaves little room for mistakes. The recovery nurse also informs the patient’s family, in this case, Mr. Smith’s wife, of his status and helps facilitate doctor-patient-family communication. In an outpatient facility, patients do not stay overnight, so it is up to the nurse to make sure that the patient is ready for discharge and capable of returning home safely. The nurse will educate the patient and family members on what to look for and what to do if a problem arises at home. Education is the key to a safe recovery.

PLAYING THE PATIENT’S ADVOCATE

Aside from providing good patient care, nurses also have the important responsibility to act as a patient advocate. The nurse tends to be the liaison between the patient and the doctor. Patients often share more information with the nurse regarding their social or medical problems but hesitate or forget to tell these things to the doctor. For example, Mr. Smith told the nurse about how he needed to watch his grandchildren that night and had an important function at church the next day requiring him to lift several heavy boxes. The nurse was able to relay this information to the physician.

Both Mr. and Mrs. Smith were educated on the importance of him not lifting anything heavy during the next week and about the effects of sedation for the first 24 hours postprocedure.

At discharge, both Mr. and Mrs. Smith verbalized their understanding, and Mr. Smith also had noticeable improvement in his right leg. Everyone involved with Mr. Smith’s care was happy with his outcome and hoped that he would remain pain free.

The outpatient nurse acts as the “air traffic controller,” ensuring that the continuity of care is carried out. The nurse monitors the patient, advocates for the patient, ensures patient and family education, and assists the physician. Although nursing is an important role in an outpatient setting, there are many other people who also maintain safe, high-quality patient care. Without the work of the whole team, which includes the receptionist, scheduler, technologists, assistants, physicians, nurses, and billers, quality care could never be achieved. Remember what TEAM stands for: together everyone achieves more.
Vascular Workforce: VASCULAR REHABILITATION

When it comes to good medicine for the circulatory system, exercise tops the list.

People who exercise regularly live longer than individuals who are sedentary. Regular physical activity preserves the good health of those who are well and is an important part of the treatment of most diseases. The United States Department of Health and Human Services recommends one half-hour of exercise 5 to 7 days per week.

HOW EXERCISE HELPS
The basic mechanism of how exercise helps is that it increases cardiac output and decreases blood pressure. Physical activity reduces the risk of heart attack and stroke. It improves muscles’ ability to extract oxygen from blood and thereby reduces the workload of the heart and the lungs. Exercise lowers the level of damaging low-density lipoproteins and raises the level of healthy high-density lipoproteins. Activity improves the effect of insulin and prevents diabetes. Regular exercise prevents osteoporosis. There are studies suggesting that physical activity may reduce the incidence of breast cancer, pancreatic cancer, and cancer of the gastrointestinal tract. The benefits of exercise are more than just flesh deep: It also improves self-image and reduces anxiety and depression.

Exercise is particularly important for the patient with peripheral vascular disease (PVD), a condition associated with heart attack, stroke, loss of limbs, and reduced life expectancy. The classic symptom of PVD is intermittent claudication, cramping that occurs with walking and is relieved by rest. Claudication occurs when the muscles involved in walking require more oxygen than arteries that are partially blocked by plaque can deliver.

Exercise does not lower the existing burden of plaque in the large vessels, and it does not lead to the formation of collateral circulation. Exercise does, however, trigger several physiologic adaptations that make it possible for people with PVD to improve the time, distance, and speed at which they can walk. Exercise can increase cardiac output by increasing the heart’s power, or stroke volume. Physical activity also leads to a reduction in the viscosity of the blood, making blood flow more easily through narrowed vasculature.

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With regular exercise, the endothelial cells that line the arteries will produce more nitric oxide and prostacyclin, chemicals that lead to opening of the vessels that transport blood to the muscles. Exercise stimulates the enzyme systems of the muscles that extract and utilize oxygen from the blood. This effect reduces the amount of blood that muscle cells need to carry out aerobic metabolism and activity.

**WALKING BEGETS WALKING**

Walking is the best exercise for people who want to improve their stamina. Patients who have problems with their joints or who are morbidly obese can use a stationary bike or participate in aquatic exercise. The goal of the program should be to walk or exercise for 30 minutes every day. Patients with PVD will not be able to be active for this long, at least at the beginning. They should simply walk until they have a moderate amount of discomfort and then rest. This cycle can be repeated until the patient has walked for one half hour.

The rate at which the person walks should put them at a moderate level of exercise. Intensity of exercise can be measured in several ways. Maximum heart rate can be determined by the formula 220 minus age, or, for patients with coronary artery disease, by a symptom-limited stress test. Moderate exercise means working at 50% to 60% of a person’s maximum allowed heart rate.

Two simple ways of measuring intensity of exercise are the Borg scale of perceived exertion and the talk test. The Borg scale allows a patient to rate the intensity of exercise from no exertion at all (6 on the scale) to maximal exertion (20 on the scale). Moderate activity is 13 on the scale or somewhat hard. The talk test indicates that, at a moderate level of exercise, the patient can easily talk, but cannot easily sing.

All patients with PVD should be considered at risk for heart attack. Anyone with PVD should speak with a physician before beginning an exercise program. It is important that, in addition to exercise, all patients should stop smoking and try to achieve a body mass index between 18 and 25. If necessary, people with PVD should take medications to achieve a low-density lipoprotein level of less than 100 mg/dL and a hemoglobin A1c level of less than 7. Patients with PVD who make the effort to reduce all of the risk factors for disease progression by not smoking, controlling high blood pressure and high cholesterol, losing weight, and exercising may improve their quality of life and protect themselves from heart attack, stroke, and loss of limbs.
A PATIENT'S STORY: Nicole

When you look at Nicole, you see a vivacious, talented woman who is full of life. What you don’t see is the arduous health-challenging journey she has been on, including pain, sorrow, and loss, as well as triumph.

Nicole was born with an arteriovenous malformation (AVM) in her left foot, which is an abnormal connection between the artery and veins. This congenital defect was discovered by her observant mother who, when caring for her as an infant, noticed that one foot was much warmer than the other. As Nicole grew, so did her left foot, but at much faster rate than the right one. Over time, Nicole’s left foot grew to two and one-half sizes larger than the right. It was visibly swollen and stained by a hemangioma, an abnormal buildup of blood vessels under the skin that causes a red-purple discoloration.

A pediatrician and a general surgeon monitored Nicole throughout her childhood. The doctors had little knowledge of these types of malformations, and because there were no visible signs of deterioration or disability, her physicians had every indication to believe that she would live a normal, healthy life.

By the time Nicole reached high school, however, things began to change. The skin on her big toe began to break down. She was diagnosed with plantar warts and an infected toenail, and she was treated accordingly. Fortunately, Nicole’s family physician (she was no longer under the care of a pediatrician due to her age) suggested that she follow up with a surgeon and possibly undergo an angiogram. The angiogram revealed the malformation, but the surgeon advised that there was nothing that could be done for her and that it was best to “let sleeping dogs lie.” What wasn’t being taken into consideration were the issues Nicole was experiencing with her toe and her skin breaking down.

UNDERSTANDING AVM

An AVM is an abnormal collection of blood vessels thought to be an inherited health problem. Oxygenated blood is normally pumped from the heart to areas around the body through arteries. From the arteries capillaries bring oxygen-rich blood directly to the tissues to nourish them. After being deoxygenated, blood is directed back to the heart through veins. Without capillaries, oxygenated blood cannot reach the tissues. In an AVM, a shunt makes a connection between the arteries and veins, sending blood back to the heart without first delivering its oxygen to the area. The increased flow of blood caused by the shunt weakens the blood vessels. These weakened blood vessels can rupture and cause a bleed.

A SURPRISING PROGNOSIS

Fast forward a few years to Nicole’s junior year of college when fate stepped in. Nicole’s mother was at a picnic and overheard a conversation in which another guest was talking about how physicians at Columbia Presbyterian Hospital corrected an AVM in her daughter’s neck and essentially saved her life.

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Less than 6 months later, Nicole and her parents traveled to Columbia in New York City to meet with the vascular radiology team hoping they could offer a plan to correct Nicole’s malformation. “I had high hopes that they would deliver good news, and I could have a normal foot and the freedom to buy as many shoes as I wanted,” recalls Nicole, “so I wasn’t ready for the news I was about to hear.”

The vascular radiology team at the hospital explained to Nicole that her foot required 10 times the normal blood flow, creating an extremely dangerous situation. They went on to explain that if left untreated, three things could happen: If her foot were to become punctured, she would bleed to death before anyone could react; her heart could not sustain the level of blood the foot was drawing, placing her at risk for a heart attack; and, third, if neither of the other emergencies happened, over time, the tissue in her foot would die and she would likely die from hemorrhage.

A RAY OF HOPE

Fortunately, the doctors did offer a glimmer of hope. Nicole said, “It is the people you meet by chance that make a lasting difference and impression in your life.” The vascular radiologist suggested that a series of embolizations followed by reconstructive surgery could help save her foot and her life and suggested that she meet with Dr. David Chiu, the chief of plastic surgery at the time, who had been working in tandem with vascular radiology on similar cases.

“I was completely devastated and scared,” Nicole explains. “My parents and I had to wait a few hours before getting in to see Dr. Chiu, and I kept going into the ladies’ room to cry in private. I didn’t want my parents to see me cry. I felt I had to be brave for them.”

Dr. Chiu had been characterized by his colleagues as a stoic, austere physician, but Nicole found him to be a direct, caring, and reassuring man. “I went into Dr. Chiu’s office, and it looked so academic it only added to my anxiety. We were seated around his desk—my parents directly in front of it and me to the side—waiting for him to enter. When he walked in, he did something so powerful. He took his chair from behind the desk and placed it in front of me. He sat down, looked me in the eye and talked directly to me. He knew it was my cross to bear and treated me with respect. I trusted him immediately.” For Nicole, that one moment, that single act of connection and understanding, has set the bar for what she now expects in patient–physician relationships.

BRAVING SURGERY

The road to surgery was long and arduous. Nicole was forced by her insurance company to get a second and third opinion, none of which offered her the same degree of hope. Finally, after months of fighting
denials, the insurance company conceded, and she was given the green light to go to New York for treatment.

The plan for Nicole, who was about to begin her senior year of college, was to have a series of embolizations to slow the blood flow in her foot, followed by reconstructive surgery that would remove the irregular mass of veins and arteries. All told, she was hospitalized for nearly 6 weeks and underwent five embolizations and two major surgeries. Dr. Chiu amputated her first two toes (which were unsalvageable) and made a skin flap. Nicole was sent home in October 1994 with crutches, an orthopedic boot, and instructions for daily dressing changes to help heal the open wound left from the amputated toes.

Months passed, and the wound was still not healing. In May 1995, just 3 days before her college graduation, Nicole noticed an odor coming from the wound and knew something was wrong. She went to see Dr. Chiu right away, and he confirmed an infection, advising that debridement and a skin graft were necessary. Unfortunately, the insurance company wouldn’t let him do the procedures because he was out of her provider network, and so Nicole was referred to a plastic surgeon closer to home.

Keep in mind that Nicole was young and had just graduated from college. Energetic by nature, she had dreams to fulfill, including a planned trip to Italy. Simply put, Nicole was not going to be deterred by her health. By July of that year, just 2 months after the skin graft, she got clearance from her doctor and boarded a plane to spend 7 weeks traveling abroad.

Unfortunately, constant walking during the trip took its toll and ruined the graft. Nicole went in for another graft shortly after returning home in August. By October, she was still using crutches, and the graft was slow in taking. She pleaded with her surgeon to grant her a 1-day reprieve from the crutches so she could walk down the aisle at her sister’s wedding, and he reluctantly approved. Consequently, she lost the second graft. After a third procedure, the surgeon chose a different tactic—debridement and then stitching the area closed rather than replacing the graft. Again, it didn’t work.

Feeling her foot was amputated in December 1995. But as with every ending, there was a new beginning. She spent the next several years working hard to literally “get back on her feet.” She underwent two more voluntary reconstructive surgeries to streamline her stump with the goal of utilizing better prosthetics. Nicole moved to Boston and back, and she has seen her fair share of healthcare providers in the last 15 years in her quest to return to feeling normal.

FEELING BLESSED
Steadfast through it all, was Nicole’s unwavering determination to take control of her destiny—from choosing the physicians and healthcare providers with whom she felt a connection, to participating in activities that she was told she would never be able to do as an amputee. Among her personal accomplishments have been completing a handful of 5K races, two Warrior Dashes, an extreme adventure ropes course, and a zip line tour in Costa Rica.

“There was so much unpleasantness that I had to endure, but when I reflect on that time, I don’t just remember the bad. I also recall the people I encountered along the way: those who took care of me when I was too helpless to care for myself, those who showed me compassion and assured me that I could do whatever I set my mind to. I remember the people who made me feel that I wasn’t alone—doctors, nurses, technicians, secretaries, therapists, and fellow patients. I knew I had the love of my parents and family. But what astounded me was the level of care and compassion I received along the way from complete strangers—these wonderful and selfless healthcare providers who made a tough situation just a little bit easier to bear.”

Nicole admitted, “I don’t know who I’d be today without all that I have been through, and I’m not sure I’d want to. It was a powerful time in my life, and, in a strange way, I feel blessed.”

- by Sharon Cillis, RN
Advancements in medicine are made through research. Study practices have come a long way from the days of performing tests on nonconsensual subjects, such as the Tuskegee syphilis experiment conducted between 1932 and 1972, which led to federal laws and regulations protecting human subjects.

The safety of participants throughout a study is the priority of researchers and is maintained by governing agencies including the United States Food and Drug Administration, hospital- or academic-based institutional review boards, and the United States Department of Health and Human Services. The vascular research team works directly with these agencies to ensure that study procedures and protocols are in place to protect the subjects and guarantee ethical practice within our own department.

THE SHIFT TO ENDOVASCULAR
The Albany Vascular Group’s research department is adept in many areas, but our primary focus is device studies. These devices may be grafts used in leg bypasses, stents used to open blocked carotid arteries or other vessels, or endografts used to repair aneurysms. Advancements in endovascular techniques have required new grafts to be developed and existing grafts to be improved upon.

In our long history of medical care, endovascular treatments are a recent addition. Dr. Werner Forssmann was instrumental in pioneering vascular surgery when, in 1929, he used new x-ray techniques to guide a catheter into his own heart. Dr. Charles Dotter first described angioplasty in 1964. Dr. Dotter invented the angioplasty and catheter-delivered stent systems, which were first used to treat peripheral arterial disease. Open abdominal aortic aneurysm repair was the main intervention used from the 1950s until the 1990s, when endovascular repair became practical. In the last 10 years, we have seen the shift to minimally invasive endovascular treatment as a first option. These procedures are less invasive to the patient and generally require a shorter length of stay in the hospital. For example, patients who have endovascular abdominal aortic aneurysm repairs stay in the hospital overnight, whereas those with open surgery for an abdominal aortic aneurysm stay 3 to 5 days.
RESEARCH SUBJECTS
Advancements in technology aid in achieving the now-common goal of patients to be treated as outpatients or to have brief hospital stays. Companies who develop endografts sponsor clinical trials to get the new devices approved for use that can allow for outpatient treatment.

Every individual participating in a clinical trial is approached by the attending physician and our research coordinators. A research coordinator reviews the informed consent paperwork with the patient and encourages and answers all questions. Once consent is signed, our job as the research team truly begins. The patient is now considered a study subject, and the process of enrollment is started. Each subject must meet study-specific inclusion and exclusion criteria. The research team collects the necessary data from qualifying testing—blood work, ultrasounds, computed tomography scans, and angiograms—to ensure the subject can participate in the study.

THE RESEARCH TEAM
Our vascular research team is made up of talented professionals with diverse backgrounds. Each of us brings a unique perspective to the table. The team comprises nurses and teachers as well as medical, business, and financial professionals. Our backgrounds help to drive our success; for example, organizational skills learned in the business world aid in the collection of data, and nursing assessments alert our team to any potential roadblocks that could be alleviated before becoming problems.

Attention to detail is vital to the success of our team. Without taking care of the seemingly little things, we would be unable to achieve big triumphs.

The team is driven by a physician as our president, who is supported by the director of research. The director is responsible for all things research-related, manages our hectic schedule, is our resource for questions, oversees the logistics of the office, and is the “face” of research. The remaining team members must work together to ensure our success.

Research coordinators are responsible for the management and implementation of a particular research project. They must collect, analyze, interpret, and submit data. Documentation of all data points is essential to maintain records for review by the study sponsor and any governing agency. The research coordinator interacts directly with subjects, physicians, sponsors, monitors, and all ancillary staff to ensure study protocols are followed with precision.

Research assistants make up the hub of the team. People in this position help to track subjects in follow-up, gather data for the research coordinators to review, and maintain the day-to-day flow of the office.

Our registry office is vital to the collection of data for study-needed information. All operative reports, discharge summaries, consults, and tests come through the registry to be entered into our system. The data we collect are only as good as the team who collects it. We strive to be the best at what we do and are constantly improving on the research “machine” that we have created.

Our research team is with the subject each step of the way. Whether making a phone call to confirm an appointment or being a familiar face during a study procedure, researchers support subjects because we are in this together. The fast-paced environment we work in can mean being constantly pulled in different directions to aid a physician’s review of patients, see a subject in follow-up, field a question from a subject, provide data to a sponsor, submit regulatory documents, or gather information. We are successful at all of these important tasks because the research team is more than just the sum of our parts.

If you would like more information about the clinical studies that are available for vascular emergencies visit:

www.clinicaltrials.gov
Tales of survival are often like fish stories—they tend to get bigger and more dire with each telling. But the story of survival I’m going to share needs no embellishment.

In fact, my friend tried to minimize the predicament he faced. That he is alive to tell his story is a testament to the quality of vascular care in the Capital Region.

“I had 24 to 48 hours left to live,” said Chester (“Chet”), matter of factly. Had his wife not told me the same thing a few days earlier, I would have busted him for exaggeration. During our phone conversation, he went on: “It was the middle of July, and I hadn’t been feeling well for a while—stomach troubles, nothing specific, just not right.” The discomfort hadn’t slowed him down, but it had become a source of aggravation.

DO NOT PASS “GO”

At 74 years of age, Chet, who stands 6 feet, 5 inches and has the shoulders to match, is a gentle giant. He runs a sawmill and builds sheds and pole barns. He’s an active member of the fire department in his town, a borderline rural community in Albany County. Chet also hunts and, in the winter, if he is invited to dinner at your home, he will offer to bring venison from a deer he’s shot. That’s not all he’s up to. Chet and his wife Sharon run a road race business, organizing and timing many of the 5k and 10k races in the Capital Region. In short, Chet doesn’t sit still much so, for him to call the doctor, something had to be amiss.

“The doctor did some blood work. When it came back that my red [blood cell] count was low, he suspected a bleeding ulcer and sent me for a scan,” Chet explained in that “what, me worry?” tone he has. But worry would creep in, in short order. “That technician kept going out of the room as the scan was taking place,” he told me, and Sharon confirmed his recollection in the background during our phone call. “They should never have let you leave the office,” she chimed in. Sharon has experience in the healthcare industry and is probably right about this. Thankfully, nothing bad happened despite a little elapsed time—time that Chet was quickly running out of.
“So we leave and drive to the next doctor appointment up at Latham Medical,” he told me. “By the time we get there, the hospital had already called, and my doctor said I had to go to Albany Medical Center, ASAP.”

This was one of those “do not pass go, do not collect $200” moments. Something in the tone of the conversation got Sharon’s attention and must have started to rattle Chet because he has no recollection of hearing why he had to get to the medical center, pronto. Sharon told me that was when she heard the diagnosis: abdominal aortic aneurysm—the “triple A.” How big and how bad was the aneurysm? She suspected it was larger than 5.5 cm based on the speed with which things were happening and being told there was no time to spare.

By the time they drove from Latham to Albany Medical Center, a trip that took about 20 minutes, a vascular surgical team had already been notified. Dr. Dhiraj Shah greeted them and told Chet about the aneurysm. This time Chet was listening, and his response to the doctor is unprintable here. Hey, what would you say upon learning you had a time bomb in your abdomen?

Now, everything began moving both too fast and too slow. Chet was told to be still and that he would be placed on a gurney for a series of exams before he could have surgery. Back in 1986, he had undergone a coronary bypass, so a cardiologist had to be consulted, as did a urologist because, at 74, like so many men of his age, Chet has benign prostatic hyperplasia. Within an hour, he was checked over and cleared for surgery first thing the next morning.

CELEBRATING A CLOSE CALL

So how big was the aneurysm? It was a scary 7.4 cm. Chet suffered the stomach distress and low red blood cell count because the aneurysm had been leaking for a few days. Those symptoms saved his life.

Chet’s surgical team included doctors Shah, Philip Paty, and Manish Mehta. It took them only an hour to repair the aneurysm. They were able to use a minimally invasive endovascular technique to insert a stent graft into an artery through a small incision in his groin. Chet jokes that he can’t wear a thong bathing suit anymore.

More than a dozen medical professionals helped with the delicate procedure, beside the surgeons and the specialized anesthesiologist who would save his life. This team ensured that Sharon got her husband back and that their five children and seven grandchildren would be able to celebrate the close call.

I asked Chet about the care he received on the vascular floor at AMC. “They were great,” he told me. “The attention was great. They didn’t miss a thing.” This praise came after spending 24 hours in the recovery room because there wasn’t a free bed for him on the vascular floor. It may be the hospital staff finally found Chet a bed because he was playing dominoes with one of his best friends, and the other patients were annoyed by the noise of the falling game tiles. “We put a towel on the table to dampen the sound,” he told me, and you could hear the laughter in his voice.

It took an army of caring, dedicated people to get Chet back on his feet. None of them could have done the job alone. Sharon agrees the care was incredible and that Chet was never without an expert eye on him. Because Chet and Sharon can’t thank each of their heroes personally, try as they did while he was in their care, they hope that if you are reading this article you will please accept their heartfelt thanks. 

It took an army of caring dedicated people to get Chet back on his feet.
The Vascular Group was founded to establish a comprehensive vascular care center consisting of board-certified vascular specialists trained in endovascular, angiographic, and surgical techniques. Our physicians distinctively combine expertise in both traditional open surgery and cutting-edge, minimally invasive catheterization techniques to manage peripheral vascular disease. We are committed to promoting vascular health and delivering the highest-quality care to our patients and our community.

The Vascular Group, PLLC  
43 New Scotland Ave  
Mail Code 157  
Albany, New York 12208

Tel 518-262-5640  
Toll Free 1.877.VASCULAR (1-877-827-2852)