

PRESIDENTIAL ADDRESS

From the Midwestern Vascular Surgical Society

Vascular and endovascular surgeon: The vascular specialist for the 21st century and beyond

Peter Gloviczki, MD, Rochester, Minn

I would like to thank the society for the honor and privilege of being your 28th president. Nothing is more humbling than recognition by one's peers, so I am most grateful for the distinction and proud to serve this distinguished organization.

THE MIDWESTERN VASCULAR SURGICAL SOCIETY

This society has a rich tradition in academic vascular surgery, and our annual meetings and postgraduate courses have always defined the latest standards in surgical and, more recently, in endovascular treatment of vascular disease. As one of the most distinguished regional vascular surgery societies, we provide a forum for scientific and social interchange between our members located in 12 states of a large and prominent geographic region of the United States, which includes 32 medical schools and 24 approved vascular surgery fellowships (Fig 1).

The list of our past presidents includes giants of our profession (Table I), and I am delighted to have here so many previous presidents, including the founding president of the Midwestern Vascular Surgery Society, first editor of the *Journal of Vascular Surgery*, the 95-years-young D. Emerick Szilagyi, from Detroit, Michigan.

Our society, founded in 1976 by our first three presidents, among others, has a great history. And no society has a better archivist than Jack Pfeiffer. For each annual meeting, he magically delivers a new edition of a special program book of the Midwestern Vascular Surgical Society. Our society is likely the only one which presents to every member such a beautifully printed hard-cover history book¹ of the organization, coauthored by Pfeiffer and past president

John W. Hallett, together with a book on the two prominent vascular surgery pioneer researchers, Nobel Prize-winner Alexis Carrel and Charles Guthrie.² I also would like to give credit to another surgeon, who has worked for our society for countless years and has produced the best Web site any regional society has ever had—Dr Joe Schneider.

I am pleased to report to you that under the leadership of an experienced and committed executive council, our society has grown tremendously during the past year. With the addition of a candidate group and an associate member group to our membership categories, tomorrow at the business meeting our members will vote on the approval of 57 new members, thereby increasing our society membership for the first time to more than 500 members (Fig 1).

As you witnessed this morning, this year for the first time, in addition to the Guthrie Award that is given for the best paper in basic research, we established the D. Emerick Szilagyi Award for the best paper in clinical research to honor our first president.

Abstract submissions this year increased by 40%, and our program committee, headed by Secretary Walter McCarthy, selected an excellent program from 58 submitted abstracts. To increase attendance at our endovascular course, this year the course was incorporated into our regular meeting. Treasurer Brian Rubin, from St. Louis, invited an outstanding faculty for the course. For the organization of a first-rate annual meeting and for helping our society during the entire year, our gratitude should go to Terri Rojas and her organization, BostonBased, for a great performance. Finally, no meeting today is possible without the support of our colleagues in the medical industry, and we are pleased to acknowledge the educational grants offered to our society by so many companies.

PERSONAL REFLECTIONS

A presidential address is a unique opportunity to honor those who have contributed most to our professional development. I owe the most to my parents—my father Zoltan and my mother Eva. My father was a great role model to me, both as a family man and as a physician. It is interesting that he graduated from the same medical school in the city of Debrecen, Hungary, where my other role

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Competition of interest: none.

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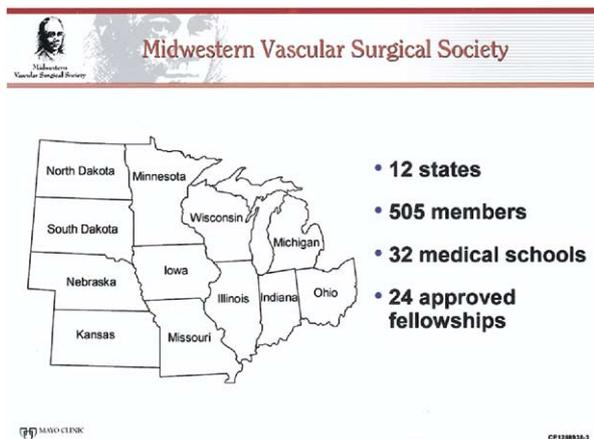


Fig 1. Data of the Midwestern Vascular Surgery Society with map of participating states.

Table I. Past presidents of the Midwestern Vascular Surgery Society (1977-2004)

D. Emerick Szilagyi	Malcolm B. Herring
John J. Bergan	Richard F. Kempczinski
James C. Stanley	William R. Flinn
John J. Cranley, Jr	Bruce L. Gewertz
David S. Sumner	John W. Hallett, Jr
William E. Evans	Howard P. Greisler
William H. Baker	William D. Turnipseed
Donald Silver	Gregario A. Sicard
James S. T. Yao	Walter M. Whitehouse,
Norman R. Hertzner	Patrick J. O'Hara
Larry H. Hollier	Gerald B. Zelenock
John Glover	B. Timothy Baxter
Jonathan B. Towne	John D. Corson
Fred Littooy	

model, Dr. Emerick Szilagyi, studied just before he emigrated to the United States in 1931.

I would also like to acknowledge here the support of my own family, especially my children, Julia and Peter. I never thought I would learn from them, but I did. From Julia, a junior at the University of Vermont, Burlington, who is a talented and avid equestrian, I learned courage and persistence and that hurdles in our way are merely challenges. From my son, Peter, who is majoring in political science at St. Olaf College, and who at age 21 already has his first book listed on Amazon.com and is executive editor of the college newspaper, the *Manitou Messenger*, I learned, among other things, the wisdom of how to write this presidential address. His advice was to the point, "Dad, it is easy. What you have to do is sit down and start writing."

I learned vascular surgery from Professor Lajos Soltesz at Semmelweis Medical School in Budapest, Hungary. He taught me that vascular surgeons should provide both medical and surgical care to their patients and that vascular diseases include not only arterial but also venous and lymphatic diseases, so we should deal with them all.

During a fellowship year that I spent in Paris in the mid 70s, I worked with Professors M. Servelle and J.M. Cormier and also with Dr Pierre Lagneau. The French school, based on the work of giants like Fontaine, Leriche, Dubost, Oudot, and Thevenet, made tremendous contributions to vascular surgery and is largely responsible for the development of vascular surgery as a surgical specialty. I was also impressed by the work of Professor Natalie and noticed the work of a talented young surgeon in his department whose name was Eduard Kieffer.

It was 25 winters ago that I moved to Rochester, Minnesota, where I learned right away that those cold, long winters in Budapest were actually not cold and not long at all. My first mentor in Rochester was Larry Hollier, an outstanding vascular surgeon and the 11th president of this society. I was Larry's first research fellow in Rochester, and later he helped me when I joined the staff of Mayo Clinic. He left Rochester soon after that, but we kept in contact and remained friends. I saw him recently on national television during the tragic events caused by Hurricane Katrina; as dean of LSU Medical School, he reported on the tremendous losses to their research facilities in New Orleans.

During the past 25 years, I have had the privilege to work with several other outstanding surgeons at Mayo Clinic. Many of them were my mentors who became colleagues and then close friends—Drs Pairolero, Cherry, Hallett, and Bower (Fig 2, A). I cherish very much the friendship with my current partners, Tom Bower, Manju Kalra, Geza Mozes, Audra Noel, and Tim Sullivan (Fig 2, B). I owe much of my experience to them.

Being surrounded by young people—our residents and fellows, eager to learn vascular surgery—gives me great satisfaction. I know exactly why Dr William J. Mayo once said, "Each day as I go through the hospitals surrounded by younger men, they give me of their dreams and I give them of my experience, and I get the better of the exchange." I am most thankful to the 58 vascular surgery fellows (Table II) I have had a chance to train during the past 18 years, and I am pleased that many of them are here today. Without their hard work and their dreams to one day become the best vascular surgeon ever, I would not stand at this podium today.

THE FUTURE OF VASCULAR SURGERY

The topic I selected for this presidential address deals with our specialty and with us: vascular and endovascular surgeons. Many things I will mention today have been said before in presidential addresses, editorials, and newsletters. Still, for the sake of the future of our specialty, they have to be said again and again. We have to know—our colleagues, our patients, and the American public have to know—who are the vascular surgeons and where are they going? As Oscar Wilde once said, "The past is of no importance. The present is of no importance. It is with the future that we have to deal."



Fig 2. A, Members of the Division of Vascular Surgery, Mayo Clinic, (standing) and fellows (sitting) in 1989. B, Division of Vascular Surgery, Mayo Clinic, 2005.

I would like to review with you briefly the changes the endovascular revolution has made to our specialty and recent developments in the training of vascular and endovascular surgeons. I also would like to discuss with you the role of the vascular centers and bring up the important issue of the inter-relationship and future of all vascular specialists.

THE CHANGING FACE OF VASCULAR SURGERY

Members of this society know it better than anyone else: vascular surgery is rapidly changing. The endovascular revolution transformed both arterial and venous surgery for both acute and chronic disease. The list of options we offer as treatment to our patients start with catheters, balloons, and stents, followed by short incisions and stent-grafts, and only later do we talk to them about open surgical repair. Endovascular surgery is becoming the first line of treatment of vascular disease and vascular injuries in almost every part of the body. Endovenous procedures, laser, or radiofrequency treatment of the saphenous vein, to a large extent replaced classic operations such as high ligation and saphenous stripping. Acute iliofemoral deep vein thrombosis is preferentially treated by catheter-directed thrombolysis and percutaneous mechanical thrombectomy but not open surgical thrombectomy. Finally, stents are preferred for iliac

vein or inferior vena cava occlusions over surgical bypass, which is reserved today for those who are not candidates for stents or who failed endovascular management.

I have always considered myself a traditional Mayo Clinic vascular surgeon, and I don't mind if some of my colleagues call me conservative. I always place the patient's interest ahead of experimenting with new technology; however, I give the patient a chance to make the final decision on his or her treatment. Patients today are knowledgeable and well informed. They have access to the Internet, MEDLINE, surgical or interventional journals, and to the latest data on new technology. Patients have the right and the freedom to select less-proven but minimally invasive, cutting-edge technology, with fewer immediate risks, even if conventional open surgery is more established and obviously more durable. The need for repeat interventions because of early failure appears to be less of a problem for many patients than previously thought, as long as the procedure poses minimal risk.

Although I find much joy and great satisfaction in open vascular surgery, I took seriously what Frank Veith told us just about a decade ago: "Become endocompetent or become extinct."³ My association with two vascular surgery publications rapidly resulted in changing the names of both. Approval by the visionary editorial boards was immediate. These two journals, *Perspectives in Vascular Surgery and Endovascular Therapy* and *Vascular and Endovascular Surgery*, reflect the changing face of our profession; they also serve the practitioners of our specialty, the vascular and endovascular surgeons. The name may sound redundant to some, but you heard what Dr Szilagyi mentioned this morning: endovascular surgery is not what he would call vascular surgery.

There is no doubt that some open procedures are performed much less frequently today than they were even 2 years ago. Open aortoiliac or aortofemoral bypasses have become rarities, and at the same time the number of implanted iliac artery stents has increased rapidly (Fig 3, A and B).

Open renal artery reconstructions won't be done often enough anymore in most training programs to teach it to young vascular surgeons, who may at any rate prefer placing renal artery stents over performing high-risk endarterectomies or renal artery bypasses. Consequently, the number of renal artery stent placements has rapidly increased in recent years at our institution, as well as in others (Fig 4, A and B).

Although we are just starting with placement of carotid stents, their numbers will double this year compared with last year, and without doubt, many of the carotid procedures will soon be placement of carotid stents. The percentage of endovascular abdominal aortic aneurysm (AAA) repair procedures has increased at our institution, and in 2004, 44% of AAAs were repaired with endografts (Fig 5.)

Although endovascular surgery is here to stay and it will be practiced more frequently than open surgery, there is ample evidence to suggest that we should not just throw our knives away. Open vascular surgeons are still needed in almost all areas of traditional surgery, even in the most rapidly transforming field of AAAs. This is supported by

Table II. Vascular Surgery Fellows, Mayo Clinic, 1987-2005

C. Daniel Procter	Robert A. Cambria	Corey J. Jost,
James L. McCullough	Yvonne Baerga-Varela	Todd E. Rasmussen,
Martha M. Reigel	Jean M. Panneton	Manju Kalra,
David Calcagno	Robert Y. Rhee	W. Michael Park,
Thomas C. Bower	John P. Loftus	John C. Hansen,
Joseph T. Crepps	John R. Mullins	David A. Winand,
Seth W. Wolk	William D. Whitley	Stephane Elkouri,
Russell G. Bourchier	Christopher B. Davies	Victor M. Phillips,
Steven A. Hutchinson	Steven A. Kagan	Jeromy S. Brink,
John P. Pigott	Sunil S. Menawat	Charles E. Fields,
James R. Elmore	John A. Pietropaoli	Ryan D. Nachreiner,
Steven W. Merrell	Matthew M. Melin	Charles A. West,
Christopher F. Roland	Jae-Sung Cho	Geza I. Mozes,
R. Thomas Bergman	P. Michael Davis	Gustavo Oderich,
Matthew J. Dougherty	Kevin L. Greason	Maraya Altuwajri,
Erich S. Berens	Jeffrey M. Rhodes	Alessandra Puggioni,
Robert C. Lowell	David C. Han	Gautam Agarwal,
C. Phifer Nicholson	Audra A. Noel	Purandath Lall,
Christian M. DeVirgilio	Jeffrey D. Manord	Joseph J. Ricotta,
	Amy B. Reed	

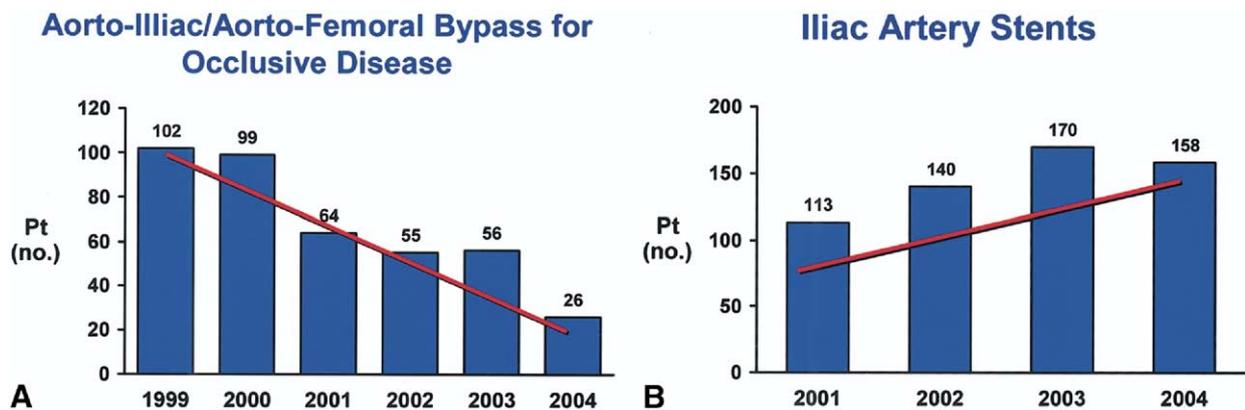


Fig 3. **A**, Annual numbers of aortoiliac and aortofemoral surgical bypass procedures performed at Mayo Clinic for occlusive disease between 1999 and 2004. **B**, Annual numbers of iliac artery stents implanted at Mayo Clinic between 2001 and 2004.

level 1 evidence provided by recently published prospective randomized multicenter studies. The British clinical trial EVAR 1 found no survival difference at 4 years between open and endovascular repair of AAAs.⁴ The EVAR 2 trial found no advantage of stent-grafts over observation in high-risk patients who underwent endovascular aneurysm repair,⁵ and the smaller Dutch DREAM trial also failed to find survival difference at 2 years between those who underwent endovascular treatment and those who had open surgical repair.⁶ In addition, it will be another 4 years, when the PIVOTAL study is completed, until we find out whether endovascular repair is justified in patients with small AAAs.

Even enthusiastic proponents of endovascular therapy admit that 6 years from now there will still be plenty of open vascular surgery (Table III).⁷ These predictions correspond with findings of independent national research organizations that predict that in 2009, 30% of the peripheral vascular procedures will still be done by open vascular

surgery.⁸ This appears believable, with the increasing age of the population and the findings that many endovascular procedures performed for infrainguinal occlusive disease likely delay but do not eliminate the need for open surgical bypasses.

TRAINING OF VASCULAR AND ENDOVASCULAR SURGEONS

Vascular surgery training must be changed with the idea that the specialist we train will be both a vascular and an endovascular surgeon. When we attract medical students and general surgery residents, we should think of both open surgical and endovascular training. Retraining open vascular surgeons by offering them endovascular training must be the priority of every regional and national society. We should welcome and participate in postgraduate courses offered by the Society for Vascular Surgery or any other regional or national society and also by the medical industry.

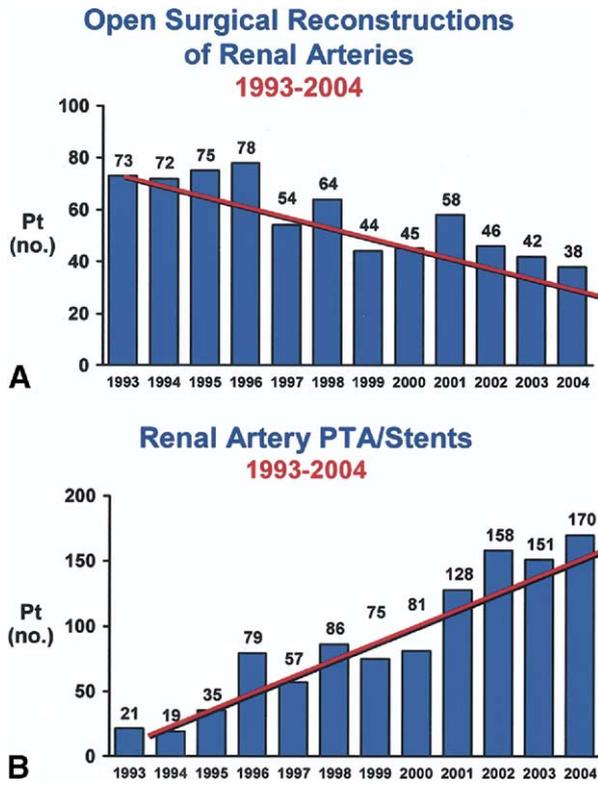


Fig 4. A, Annual numbers of open surgical reconstructions of renal arteries performed at Mayo Clinic between 1983 and 2004. B, Annual numbers of percutaneous transluminal renal angioplasties and renal artery stent placements performed between 1993 and 2004.

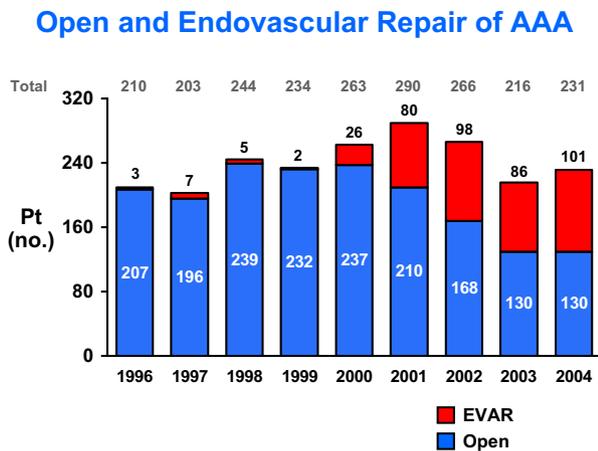


Fig 5. Annual numbers of open and endovascular repair of abdominal aortic aneurysms (EVAR). Values indicate EVAR as a percentage of all repairs.

There is no doubt that training in vascular surgery in the past decade was tremendously advanced by the existence of the American Board of Vascular Surgery and its efforts to establish an independent board for vascular sur-

Table III. Proportions of vascular lesions that will be treated by open surgery in the United States in 2009*

Vascular lesions	%
AAA	20-35
Ruptured AAA	20-35
Carotid bifurcation stenosis	35-55
Aortoiliac occlusive disease	10-20
Supraaortic trunks	10-20
Thoracic aneurysms	25-40
Renal artery stenosis	10-20
Visceral disease	30-40
Infrainguinal disease	30-50
Trauma	30-40

AAA, Abdominal aortic aneurysm

*From: Veith FJ. Metamorphosis of vascular surgeons to endovascular specialists: must vascular surgery have an independent board and can we get there? *Vascular* 2005;13:197-201 (with permission).

Table IV. Potential benefits of multidisciplinary vascular centers

- Patient and disease centered (the needs of the patient come first)
- Includes all specialties who deal with non-cardiac vascular disease
- Highest level of care independent of entry
- Benefits of expertise of other vascular specialties
- Avoids duplication of resources (space, equipment, staff)
- Integrated clinical practice based on common credentialing and re-credentialing guidelines, and common quality control
- Integrated training of endovascular specialists, integrated vascular conferences
- Integrated research, common database
- Integrated hospital service

geons. There is ample evidence in Europe that vascular surgery is a surgical specialty, separate from general surgery. I received my first vascular surgery board certificate in Budapest, Hungary, in 1980 from the Hungarian Board of Vascular Surgery.

During the past year, the Vascular Surgery Board (VSB) of the American Board of Surgery (ABS) reported a major and successful change in the training of vascular surgery residents. Largely to reflect the need for endovascular training, in March 2005 the American Board of Medical Specialties approved a primary certificate in vascular surgery. Further approval by the Residency Review Committee and the Accreditation Council for Graduate Medical Education can be expected in the next 6 months, and the primary certificate will go into effect in July 2006. Former president of the MVSS, Jonathan Towne, MD, who chairs the VSB-ABS, believes that it is a formal recognition of vascular surgery as a distinct specialty. For the first time, medical students and residents who select vascular surgery as their specialty can undergo 3 years of general surgery and 3 years of vascular and endovascular surgery training without the need to obtain a general surgery board certificate.

VASCULAR SPECIALISTS

Although the primary certificate is progress, the fight for an independent board of vascular surgery is not over yet. The idea of a new American Board of Vascular Specialists was raised recently, accepting the reality that other vascular specialists also treat patients with vascular disease, and that, on at least the endovascular front, we may have more in common with them than with other surgical specialists.⁷ This issue needs much discussion and further scrutiny, and the primary certificate, as proposed by chief peacemaker and past president of the Society for Vascular Surgery,

Gregory Sicard, deserves a good chance, but there is ample proof that collaboration at some levels with these specialties can be mutually beneficial. Examples include the success of the multidisciplinary American Venous Forum, joint credentialing documents, the soon-to-be-published joint guidelines for management of peripheral arterial disease (PAD), the success of public education by a truly multidisciplinary Vascular Disease Foundation,⁹ or the PAD coalition campaign, just recently funded by the National Heart, Lung, and Blood Institute.¹⁰

VASCULAR CENTERS

Vascular specialists work well together in settings such as some form of vascular center. Much has been said about the advantages and disadvantages of such centers,¹¹⁻¹⁵ and more recently, the model in which the vascular center is run exclusively by one specialty has gained more popularity.¹² Different levels of centers, staffed mainly by vascular surgeons, were presented recently in the presidential address of the Society for Clinical Vascular Surgery by Enrico Ascher, who also proposed credentialing of level 1 and 2 vascular centers.¹² Our almost two decades of experience with the Mayo Clinic Gonda Vascular Center suggests that multidisciplinary vascular centers can be beneficial for the patients and the stakeholders alike. Although far from being without turf issues between competing specialists, our success is backed up by the positive experience of our sister Gonda Center at UCLA and by recent European efforts to set up multidisciplinary vascular centers throughout Europe.¹⁶

Although local policies, institutions, and practices are different and many vascular surgery practices at large institutions have been successful without much collaboration with other specialties, the number of joint ventures is visibly

Gonda Vascular Center



- 35 physicians
- 65 allied health staff
- 26 examination and procedure rooms
- 10 ultrasound imaging rooms
- 8 noninvasive vascular lab rooms
- 21 physician offices
- 3 conference rooms

Fig 6. Blueprint and data of the Mayo Clinic Gonda Vascular Center. Examination, diagnostic and procedure rooms are located in the center and surrounded by 21 physician offices.

Mayo Clinic Gonda Vascular Center

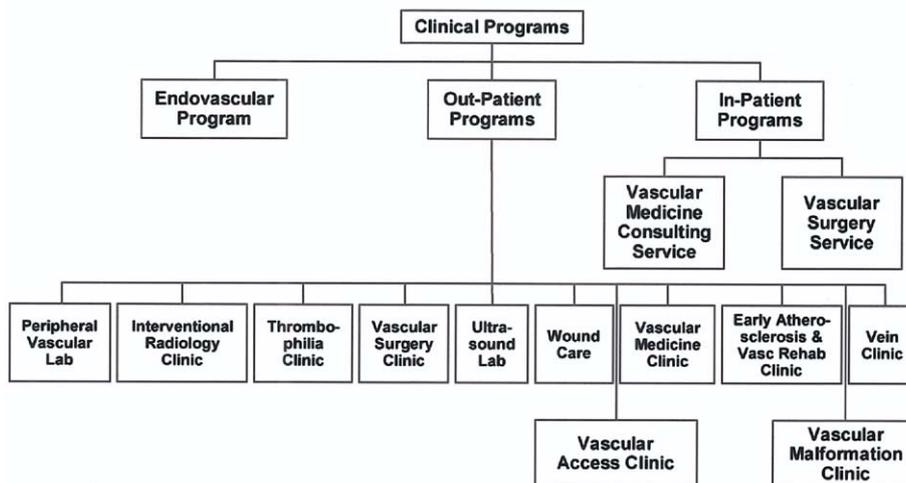


Fig 7. Clinical programs of the Mayo Clinic Gonda Vascular Center.

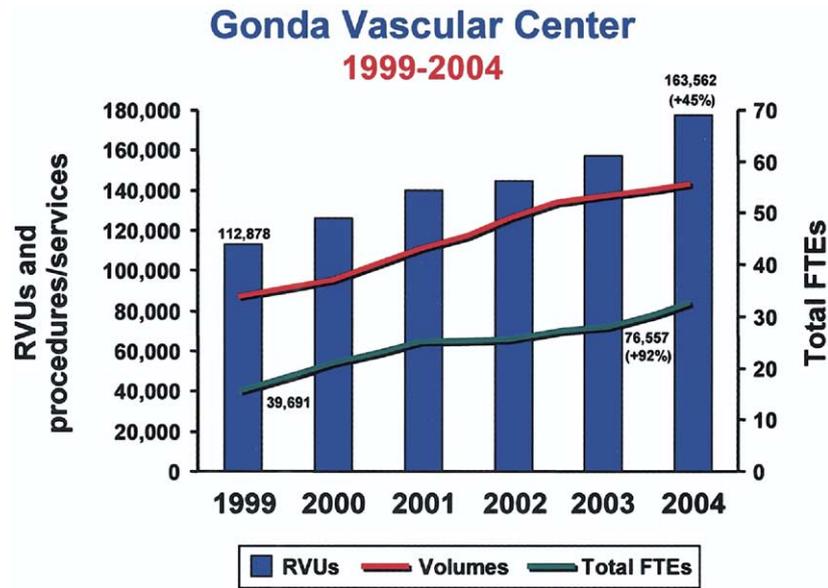


Fig 8. Growth of relative value-units, examinations, and test volumes and total clinical full-time employees at the Gonda Vascular Center between 1999 and 2004.

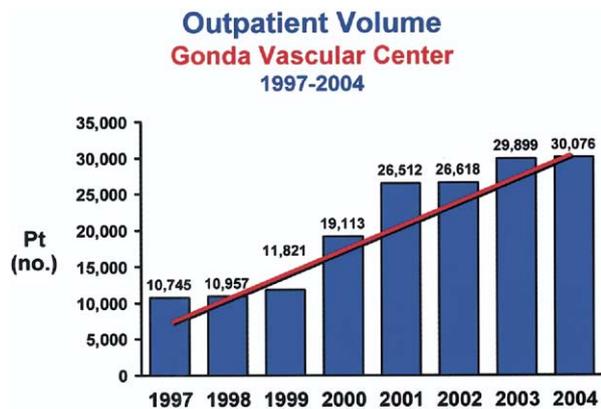


Fig 9. Growth of outpatient volume at Gonda Vascular Center between 1997 and 2004.

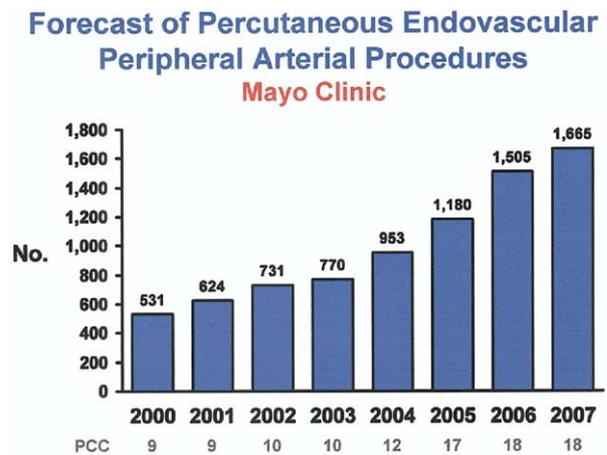


Fig 10. Forecast of percutaneous endovascular peripheral arterial procedures at Mayo Clinic up to 2007. An increase of 74% in the next 3 years is a conservative estimate.

increasing. This was evident in the presentation of the past president of our society, Dr Turnipseed, earlier at this meeting; we heard the Wisconsin model on the benefits of collaboration between vascular surgeons and interventional cardiologists. I truly believe that more of this will follow, for obvious reasons.

Potential benefits of a multidisciplinary vascular center are listed in Table IV. The most significant part of this concept is that it is patient and disease centered, with the goal to provide the highest level of care to each patient, independent of the site of entry into the hospital or clinic system. Integrated training and credentialing and integrated quality control of the endovascular specialists help to maintain the same standard of care, independent of the participating departments. Hospitals welcome collabora-

tions between surgeons and cardiologists or interventional radiologists just to avoid duplication of facilities, expensive equipment, and human resources. Integrated databases and research permit rapid accumulation of a large amount of data on new, cutting-edge endovascular therapy, an apparent advantage in today's rapidly changing technology.

MAYO CLINIC GONDA VASCULAR CENTER

The history, the provided services, and the early organization structure of the multidisciplinary Gonda Vascular Center in Rochester, Minnesota, was discussed by Hallett et al.¹¹ The success of multidisciplinary treatment of patients with venous disease in the center concept was also

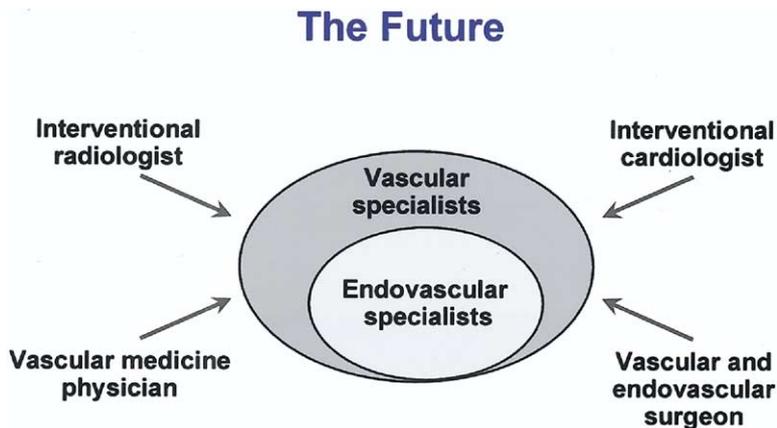


Fig 11. The future of vascular specialists.

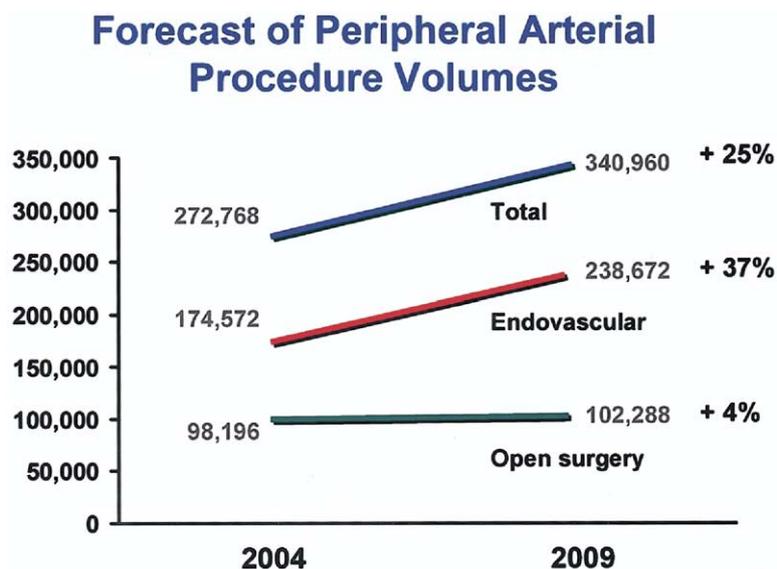


Fig 12. National forecast of peripheral arterial procedure volumes between 2004 and 2009. (From: Future of Vascular Services. Strategic Forecast and Investment Blueprint. The Advisory Board Company, Washington D.C. 2004. p. 92, with permission).

presented in a previous publication.¹⁷ Success in endovascular therapy and the emergence of the three separate specialties—vascular surgery, vascular medicine, and interventional cardiology—in addition to interventional radiology, which expressed desire and legitimate need to participate in an integrated endovascular program, resulted both in changes in the leadership structure (interventional cardiology was included in the executive committee) and in substantial institutional support to develop an integrated endovascular strategic plan. These changes are well in line with the mission of Mayo Clinic, which long has followed the belief that “The best interest of the patient is the only interest to be considered.” Many parts of the strategic plan that is currently finalized by all stakeholders are already in effect and used in the endovascular care of our patients.

Much of the success of the center is attributed to the excellent physical facility that brings together, in a clinic space of 32,000 square feet, 35 vascular specialists and 65 allied health staff (Fig 6). The proximity of 26 examination rooms to 18 vascular laboratory rooms makes possible the efficient evaluation of a large number of patients in the shortest time. Still, one of the most important aspects is the proximity of physicians’ offices, and surgeons have immediate access to diagnostic or interventional radiologists or have a chance to discuss patient management with nine vascular medicine physicians. Integrated weekly vascular center grand rounds have been in place for more than two decades.

Since 2002, the Gonda Vascular Center has functioned as a campus-wide independent multidisciplinary program.

Vascular Specialists

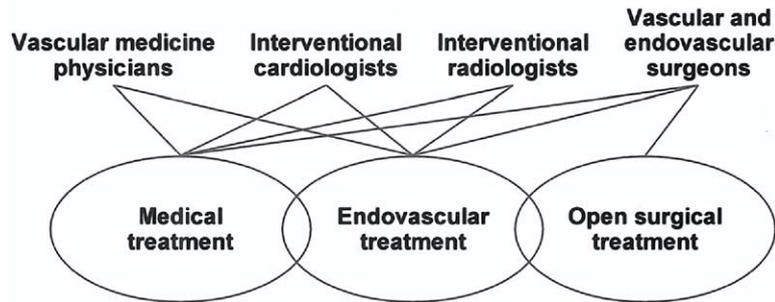


Fig 13. Participation of vascular specialists in medical, endovascular, and surgical treatment of vascular disease.

It was a major step forward from an outpatient evaluation center with the primary goals of coordinated, comprehensive, and multidisciplinary evaluation. Similar in aims and structure to the transplant center, the vascular center has a leadership, budget, staff, and strategic plan that is independent of the parent departments. Run currently by a surgeon director and an executive committee that includes leaders of the main participating specialties (vascular medicine, diagnostic and interventional radiology, interventional cardiology, and vascular surgery), the center also includes physicians from general internal medicine, dermatology, podiatry, physical medicine and rehabilitation, cardiology, hypertension, hematology, orthopedic surgery, and plastic surgery. With 12 different outpatient vascular programs, in addition to the endovascular program and in-patient hospital services (Fig 7), the vascular surgery group alone could not possibly provide the expertise needed in a level 1 vascular center. It is the multispecialty collaboration that permitted us to increase our activities substantially in recent years (Fig 8) and triple the number of outpatient visits from somewhat more than 10,700 visits in 1997 to more than 30,000 patients in 2004 (Fig 9).

THE FUTURE OF VASCULAR SPECIALISTS

Endovascular technology will progress by leaps and bounds, and we estimate the number of percutaneous endovascular procedures in our center to double in the next 4 years (Fig 10). We also have to realize, as we were reminded by Richard Green in his presidential address,¹⁸ that we are not the sole participants in this endovascular revolution. National forecasts for vascular operators in 2009 predict a share of 40% by interventional radiologists, the same by vascular surgeons, and 20% by cardiologists.⁸ If I have to predict, I will count four groups because vascular medicine soon will be a factor in vascular interventions. As said by past president of this society Larry Hollier 12 years ago, "Our policy cannot be one to attempt to block or in any way inhibit the desire of other specialties to manage vascular patients."¹⁹ Time spent for training, high-quality

performance, healthy competition, and access to patients will determine who eventually will succeed. Clearly, four groups will form the new breed of vascular specialists. A core group of these, but not all, will be endovascular specialists (Fig 11).

National forecasts of peripheral arterial procedures also indicate that because of earlier treatment of PAD and the advancing age of the population, the number of peripheral arterial procedures will increase in 5 years by 25% (Fig 12). Most of it, a 40% increase, will be due to percutaneous vascular procedures. Still, 4% growth is forecasted for open procedures.⁸ Thus, there will always be a need for vascular surgeons who perform open vascular procedures.

Vascular specialists deal with medical, endovascular, and surgical treatment of vascular disease (Fig 13). Although vascular medicine physicians will largely focus on medical therapy, they will also participate in endovascular interventions. Interventional cardiologists will attempt to embrace both medical and endovascular treatment, and interventional (vascular) radiology will focus more on endovascular therapy, but to stay alive and be competitive, they must be present at the outpatient clinic and run a hospital service as well. They must turn into clinicians and must gain access to patients to survive as a specialty. The only specialty, however, that can and will embrace all three areas—medical, endovascular, and surgical therapy—is vascular and endovascular surgery. Vascular and endovascular surgeons will maintain leadership in the field of vascular diseases. They are the vascular specialists of the 21st century and beyond. I am grateful to the society for the distinct privilege of the presidency, and I thank you again for the opportunity to serve this great society.

REFERENCES

1. Pfeiffer JR, Hallett JW, editors. The evolution of modern vascular surgery: the historical perspectives of the Midwestern Vascular Surgery Society, 1977-2001. Boston, MA: Midwestern Vascular Surgery Society; 2001.

2. Stephenson HE, Klimpton RS, editors. America's first Nobel Prize in medicine and physiology. The story of Guthrie and Carrell. Boston, MA: Midwestern Vascular Surgery Society; 2000.
3. Veith FJ. Presidential address: Charles Darwin and vascular surgery. *J Vasc Surg* 1997;25:8-18.
4. EVAR Trial Participants. Endovascular aneurysm repair versus open repair in patients with abdominal aortic aneurysm (EVAR trial 1): randomised controlled trial. *Lancet* 2005;365:2179-86.
5. EVAR trial participants. Endovascular aneurysm repair and outcome in patients unfit for open repair of abdominal aortic aneurysm (EVAR trial 2): randomised controlled trial. *Lancet* 2005;365:2187-92.
6. Blankensteijn JD, de Jong SE, Prinssen M, van der Ham AC, Buth J, van Sterkenburg SM, et al. Dutch Randomized Endovascular Aneurysm Management (DREAM) Trial Group. Two-year outcomes after conventional or endovascular repair of abdominal aortic aneurysms. *N Engl J Med* 2005;352:2398-405.
7. Veith FJ. Metamorphosis of vascular surgeons to endovascular specialists: must vascular surgery have an independent board and can we get there? *Vascular* 2005;13:197-201.
8. Future of Vascular Services. Strategic Forecast and Investment Blueprint. The Advisory Board Company, Washington, DC. 2004:92.
9. Gloviczki P. Vascular disease-initiatives and education from the Vascular Disease Foundation. *Endovascular Today* January 2005:33-37.
10. Hirsch AT, Gloviczki P, Drooz A, Lovell M, Creager MA. The mandate for creation of a national peripheral arterial disease public awareness program: an opportunity to improve cardiovascular health. *J Vasc Surg* 2003;39:474-81.
11. Hallett JW, Rooke TW, Koch M. The Mayo Vascular Center experience. *Cardiovasc Surg* 1998;6:333-6.
12. Ascher E. Presidential address: the modern vascular specialist-surgeon, clinician, and interventionist. *J Vasc Surg* 2003;38:633-8.
13. Green RM, Waldman D. Five-year results of a merger between vascular surgeons and interventional radiologists in a university medical center. *J Vasc Surg* 2003;38:1213-7.
14. Karamlou T, Landry G, Sexton G, Chan B, Moneta G, Taylor L. Creating a useful vascular center: a statewide survey of what primary care physicians really want. *J Vasc Surg* 2004;39:763-70.
15. Becker GJ, Katzen BT. The vascular center: a model for multidisciplinary delivery of vascular care for the future. *J Vasc Surg* 1996;23:907-12.
16. Duprez D, Allegra C, Bauersachs R, Belch J, Boccalon H, Hoffmann U, et al. Vascular centers in Europe. Results of a panel discussion at the 14th Meeting of the European Chapter of the International Union of Angiology (Cologne, Germany, May 25, 2001). *Int Angiol* 2002; 21:96-8.
17. Gloviczki P. Presidential address: venous surgery-from stepchild to equal partner. *J Vasc Surg* 2004;38:871-8.
18. Green RM. A live dog is better than a dead lion. *J Vasc Surg* 2004;40: 583-8.
19. Hollier LH. Presidential address: Influence of nonsurgical intervention on vascular surgical practice. *J Vasc Surg* 1989;9:627-9.

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