

**THE AMERICAN
SOCIETY
FOR
RECONSTRUCTIVE
MICROSURGERY**

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**RECONSTRUCTIVE
MICROSURGERY**

The mission of the American Society for Reconstructive Microsurgery is to promote, encourage, foster and advance the art and science of reconstructive micro-neurovascular surgery; and to establish a forum for teaching, research and free discussion of reconstructive microsurgical methods and principles among members.

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RECONSTRUCTIVE MICROSURGERY

Warm Reception Expected for Attendees of the 27th Annual Meeting

Sun, sand and surf are only a few of the featured elements that will draw members to the 1997 American Society for Reconstructive Microsurgery Meeting in Boca Raton, Florida. In addition to the Residents and Fellows' Pre-Conference Symposium, the Scientific Sessions, special Panels, Poster and Paper presentations, this year's lectures feature two very exciting speakers hailing from very different parts of the world. Exhibitors from every aspect of the medical community will be on hand to give members a preview of the latest technology. And finally, the opportunity to learn the secrets of the experts in the Instructional Courses and access the wide selection of video tapes available at the

Audiovisual Theater make this meeting a must for all members.

Founders Lecture

James Urbaniak, MD, Virginia Flowers Baker Professor and Chief of Orthopaedic Surgery at Duke University Medical Center, will present this year's Founders Lecture.

Dr. Urbaniak received his MD degree in 1962 from Duke University School of Medicine. He performed his surgical internship at Duke before entering the U.S. Navy for two years, ultimately being

(continued on page 5)



Catamaran Cruise

On Monday January 13, a unique opportunity to take in the sights of Florida's Intercoastal Waterway is offered to members. ASRM is sponsoring a special two hour cruise aboard a fifty-five foot state-of-the-art catamaran, the largest and fastest sailing vessel in South Florida. For only half the cost of the usual cruise fee, members will get a chance to sail the waterway at a special discounted rate of \$25.00/person. Light snacks, soft drinks, beer and wine will be provided.



The view from the resort's signature citadel and tower is spectacular.

Translational Research: Our Pathway into the 21st Century

As the 20th Century moves inexorably toward its conclusion, I reflect upon the road medical science has followed these past ninety-six years. I am filled with a sense of awe when viewing the incredible accomplishments this century has witnessed, in every aspect of the medical domain. Further, a very compelling feeling of "pride of membership" overtakes me when I meet with colleagues and share information, especially in the fields of science and research.

During the second half of this century, medicine has experienced a change tantamount to metamorphosis. The advancement of research served as the engine which drove this transformation. Research not only benefits those whom we serve but, I believe, will sustain our survival into the next century and beyond. Our Reconstructive Microsurgery Society should be evolving toward an approach which strengthens our commitment to research and directs its members toward new avenues of exploration. Current microsurgery research, including microcirculation, ischemia and reperfusion, pharmacological flap manipulation, neuroregeneration, and biotechnology, to mention but a few, has availed clinicians and scientists increased opportunities for interaction and collaboration. This spirit of collaboration reflects very positively upon

our Society and its members while spurring progress in directions never before imaginable.

EDITOR'S MESSAGE



Saleh M. Shenaq, MD

Current microsurgery research... has availed clinicians and scientists increased opportunities for interaction and collaboration.

Our Society must lay the groundwork for paths that lead in new directions of inspiration, communication and collaboration. It is incumbent upon educators and leaders of the Society to stimulate, guide and encourage the members of the Society, especially the younger members, our trainees, residents and students in the field, to direct their efforts along this path. The tremendous negative impact and the limitations realized by the new trends in health care should, by no means, be a deterrent in our pursuits. Research efforts in the coming decades should, I believe, encompass molecular biology, tissue generation, gene therapy and clinical outcome. As clinicians and scientists, we have an unprecedented opportunity to shepherd the development of a proper infrastructure to establish what I refer to as Translational Research Programs. Through these programs, clinician-researchers, researchers in basic sciences, and bio-engineers would have access to one another and the funding to facilitate collaboration within their institutions. This will ultimately translate to the well-being of our patients and the betterment of education.

In closing, I wish to reiterate my firm conviction that bio-medical, translational research is the foundation upon which generations of medical practitioners will build the future of medicine. Given the ongoing changes in Government funding, it is becoming increasingly difficult to visualize a vital and comprehensive research effort without dramatic intervention. To ensure that research in the 21st Century continues to advance, I propose that our Society assume responsibility and undertake creative fund-raising projects to support young members and the brightest researchers in this field. Funds must be sought from every source: grants, public-sector sponsorship, establishment of endowments, and programs which provide incentives for young, aspiring scholars and scientists.

Research is the pathway into the 21st Century. We must marshal our forces and move toward the next great epoch knowing that the future is truly ours to make.

RM

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We're proud to serve as exclusive sponsors of the ASRM newsletter. We see it as one more opportunity to deliver on our promise to make your work easier.

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Taking Stock

Traveling across the country as your President this year, I have attended numerous medical meetings and conventions, and I am always struck by the fact that the conversation and the area of greatest discussion eventually evolves into a reflection on how bad things are for American physicians. Most of us seem to be overwhelmed by managed care organizations either attempting to control our practice patterns by network referrals, or our patient flow by capitation, and most importantly our professional fees. Medicare, with its diminishing reimbursement and increased work through the documentation of the medical record and especially the new teaching physician rules, has made our lives more difficult. Lastly, the overall attitude of patients towards their physicians has changed, especially when these patients are frequently assigned and there is no established rapport or a patient/doctor relationship.

Most physicians yearn for the golden days in which we had our patients' love and respect; we billed fee for service; and patient flow was controlled by the quality of our results and our own personal affability and traits. Many times I have seen dissatisfaction lead to physicians seeking early retirement, and sometimes these are young, energetic surgeons who would have many years of caring service left, but they are too discouraged. Others are relocating to geographic areas within the United States where the pressures are not so great and the managed care has not penetrated that sector. Occasionally, this transition has been good since qualified physicians are now coming to undeserved areas, but these moves create mid-life crisis for the physician and have not always been beneficial. Nearly always our dissatisfaction with work results in the physician simply coming home at night in a depressed mood which reflects on his family and social life. This results in changes in our complex interpersonal relationships and these soon begin to suffer as well.

Well, there is nothing like a hurricane to change one's perspective. My family awoke at 1:00 am on the morning of September 6th when Hurricane Fran

PRESIDENT'S LETTER



James A. Nunley, MD

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knocked the first tree down upon our house and we were subsequently hit by trees four more times; next the basement began to flood and we eventually had extensive damage throughout the house. Fortunately, no one was injured in our home, and in fact, miraculously, only three people in the state of North Carolina died as a result of this disaster on the day of the hurricane. Nevertheless, the material damage to homes and lives was extensive. Trees were down everywhere, you couldn't drive to work or the grocery store; power was off in our home for 5 days, so food was scarce. The only place with power was the hospital and people were pouring in for a hot meal at the staff cafeteria.

This disaster provided an ample opportunity for me to reflect on my life and certainly on the well being of my friends and neighbors. It didn't take me long to realize that "the glass was not half empty but was half full." Our community came together with a tremendous effort to rescue personal belongings for others, but more importantly, an extensive cleanup was undertaken in which neighbors helped neighbors and other workers from out of state poured in to help our community. Even though there was tremendous inconvenience and material damage done, I believe that our community will be stronger in the long-term because of this unified effort of all concerned to alleviate the suffering.

I believe this situation also exists for our profession. We are experiencing trying times, certainly no one can deny this, but there are very few individuals other than physicians whom I personally know that enjoy going to work every day. We physicians still have the personal satisfaction of knowing a large number of patients that we have helped with techniques and procedures that just weren't available 5 or 10 years ago. How many of you still get a thrill each time you see the blood flow across your microvascular anastomosis? I know that I do, and I have been involved in microsurgery for 20 years. I believe that we, as a medical community, and as the American Society for Reconstructive Microsurgery will come through this as a stronger, better medical community. There will always be setbacks and disappointments in life, but without these, it is impossible to know true joy.

I am reminded of the famous basketball coach and humorist, Jim Valvano, who said that the only way to experience life is to cry everyday and to laugh everyday and this will keep you human. I believe that if we remember this and reflect on how truly fortunate we are to have our education, patients to serve, and a free country to live in, we will all see that in the long run we will turn out fine and we will believe that life is truly good.

RM



**ASRM 12th Annual Meeting
Boca Raton, Florida
January 12-15, 1996**

Program at a Glance

Sunday, January 12, 1997

9:00 am - 6:30 pm	Registration
8:00 am - 1:00 pm	Golf and Tennis Tournament with Exhibitors
11:00 am - 3:00 pm	Residents and Fellows' Symposium
1:00 pm - 5:00 pm	Poster Set-Up
3:00 pm - 3:15 pm	Opening Ceremony and Announcements
3:15 pm - 5:00 pm	Scientific Session I
5:00 pm - 6:00 pm	Panel - Microsurgery: Your Worst Nightmare
6:30 pm - 8:30 pm	Poster Sessions
6:30 pm - 8:00 pm	Welcome Reception with Exhibitors

Tuesday, January 14, 1997

7:00 am - 5:00 pm	Audio Visual Theater
11:15 am - 11:45 am	Poster Session and Snack with Exhibitors
11:30 am - 5:00 pm	Registration
11:45 am - 1:15 pm	Scientific Session IV
1:15 pm - 1:45 pm	Godina Lecture: Zoran M. Arnez, MD, PhD
1:45 pm - 2:00 pm	Break
2:00 pm - 3:45 pm	Scientific Session V
3:45 pm - 4:45 pm	Panel - Endoscopy and Microsurgery
4:45 pm - 5:45 pm	Annual Business Meeting
6:30 pm - 10:00 pm	Reception/Dinner

Monday, January 13, 1997

6:30 am - 1:00 pm	Registration
7:00 am - 7:45 am	Instructional Courses (#100-105)
7:00 am - 5:00 pm	Audio Visual Theater
6:45 am - 8:00 am	Breakfast
8:15 am - 9:45 am	Scientific Session II
9:45 am - 10:45 am	Panel - Microsurgery: The Upper Extremity
10:45 am - 11:00 am	Coffee Break
11:00 am - 11:30 am	Founders Lecture - James Urbaniak, MD
11:30 am - 1:00 pm	Scientific Session III
2:00 pm - 4:00 pm	Group Sailing Tour

Wednesday, January 15, 1997

6:30 am - 9:00 am	Registration
7:00 am - 7:45 am	Instructional Courses (#106-110)
7:45 am - 8:30 am	Breakfast
8:30 am - 9:30 am	Panel - Coding and Billing
9:30 am - 1:30 pm	Scientific Session VI
11:15 am - 11:30 am	Break
Meeting Adjourned	

Annual Meeting Highlights

continued from page 1

assigned Attending Physician to the U.S. Senate and House of Representatives in Washington, D.C. He was honorably discharged from the U.S. Naval Reserve with the rank of Lieutenant Commander. After completion of this tour of duty, Dr. Urbaniak returned to Duke Orthopaedics for the remainder of his orthopaedic training after which, he was appointed to the faculty in 1969 as an Assistant Professor of Orthopaedic Surgery. He rose to Professor in 1977, was appointed Chief of the Division in 1985, received his name professorship in 1991, and was appointed Vice Chairman of the Department of Surgery in 1994.

Dr. Urbaniak has edited nine books and authored 45 book chapters as well as nearly 200 articles published in the medical literature. He has received many honors and awards including the Distinguished Alumni Award of the University of Kentucky, the North Carolina Physician of the Year, and the Ann Donner Vaughn Kappa Delta Award for Research from the AAOS. Dr. Urbaniak has been President of the Eastern Orthopaedic Association, the American Society for Reconstructive Microsurgery, the American Society for Surgery of the Hand, the American Board of Orthopaedic Surgery, and the American Orthopaedic Association. He is presently Secretary General-Elect of the International Federation of Societies for Surgery of the Hand and is the recipient of the Southern Orthopaedic Association 1996 Distinguished Southern Orthopaedist Award.

Fourth Annual Godina Lecture

Zoran M. Arnež, MD, PhD, Professor and Chair, Department of Plastic Surgery and Burns at the University Medical Center in Ljubljana, Republic of Slovenia will deliver the Fourth Annual Godina Lecture.

Dr. Arnež succeeded Marko Godina. He is an internationally recognized microsurgeon who has carried the department admirably since the untimely death of Marko Godina.

Audiovisual Theater

A large selection of tapes covering basic science, microsurgical techniques and the clinical aspects of microsurgery will be available for viewing in the audiovisual theater.

Viewing Hours:

Monday, January 13
7:00 am-5:00 pm

Tuesday, January 14
7:00 am-5:00 pm

Scientific Posters

Posters will be presented on current clinical and research advances in microsurgery. Awards will be presented to the three best posters.

Commercial Exhibits

A number of manufactures and suppliers of microsurgical equipment and other products and services of interest will be on-hand in the exhibit hall. The Welcome Reception, breakfasts and breaks will be held in the exhibit area. **RM**

ASRM Positions Available

The following positions will be open for the 1997 year:
Secretary, Vice President and Council Member at Large.
Anyone wishing to submit nominations should contact Ralph T. Manktelow, MD at:

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399 Bathurst Street
West Wing, 5th Floor
Room 835
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CANADA M5T 2S8
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or:

Laura M. Downes at:
ASRM Central Office
444 E. Algonquin Road
Arlington Heights, IL 60005
Phone: (847) 228-9717
Fax: (847) 228-6509

First Annual Day at the Links

Come join your friends and colleagues at the First Annual Day at the Links. A challenging 18 hole course awaits. Rain or shine, we'll be teeing off at 8:00 am sharp on Sunday, January 12th. This tournament is available to the first seventy-two (72) people who register. Don't get left in the rough, sign up for the links today. See the Annual Meeting registration brochure for the greens fees information. (Indicate on registration form number of players and handicap.)

Don't get left in the rough, sign up for the links today.



Vascularized Joint Transfer: A Perspective

By David T. Netscher, MD

Vascularized joint transfer is a technically demanding microsurgical procedure; perhaps more important than technique is choice of correct indications. A thorough knowledge of the limitations and advantages of the available procedures for the joint under consideration and of morbidity at the site of joint harvest is mandatory. Justification of the long-term functional benefit of vascularized joint transfer from a toe to the PIP joint of a finger versus a brief, outpatient joint arthrodesis which restores stability, relieves pain, and rarely requires revision, albeit with loss of movement, may be difficult.

Poorly functioning joints are found in patients with rheumatoid or osteoarthritis, with congenital abnormalities, or as a result or sequela of trauma. Besides pain,

joint instability, and loss of motion, patient age, strength, general health, occupation, the presence of other similarly affected joints, the condition of overlying skin and soft tissues, and patency of the physes must be considered.

Joints benefiting from vascularized transfer are those whose mobility is crucial to hand and forearm function, e.g., the MP and PIP joints of the fingers, CMC joint of the thumb, and wrist joint. Arthrodesis at the thumb MP joint is quite effective if good range of motion exists at the thumb base. Interposition arthroplasty, with or without total trapezium excision, provides a durable result at the base of the thumb both for acute injury and degenerative arthritis. Arthrodesis for isolated post-traumatic arthritis at the thumb's CMC joint is an excellent procedure in a healthy laborer with mobile MP and IP joints. Vascularized joint transfer to the thumb's CMC joint seems of little utility.

Wrist fusion is the accepted ultimate salvage procedure, sacrificing motion to recovery of stability and strength and freedom from pain. The search for the best wrist prosthesis continues. I have transferred the vascularized fibular head to the wrist on occasion, once in a skeletally immature patient who has remained painfree and achieved some extremity growth. Another patient underwent a similar transfer following giant cell tumor excision from the distal radius (figure 1). The inclination of the fibular head may be so acute in some patients as to be unsuitable for providing an articulating surface for the carpus; radiographs of the proximal

tibia-fibular junction screen for this problem. Long-term outcome remains to be evaluated.

Significant functional deficits result from loss of motion at the finger MP and PIP joints. The MP joint contributes 77% of the total arc of finger flexion. The contribution of the PIP joints. The MP joint contributes 77% of the total arc of finger flexion. The contribution of the PIP joint to motion is less but is important to overall hand function. PIP joint arthrodesis decreases profundus flexor excursion to all other fingers and weakens grip strength. Every effort should be made to preserve MP joint motion; arthrodesis of this joint results in a more dysfunctional hand than PIP arthrodesis.

Options for dysfunctional MP or PIP joints include segmental/ray amputation; arthrodesis; resection, perichondrial, or implant arthroplasty; nonvascularized allo- or auto-reconstruction; and vascularized autograft reconstruction. Implant arthroplasty is probably the best choice for patients with multiple MP joint involvement. For the middle-aged patient with isolated, painful degenerative arthritis at index and middle MP joints, implant arthroplasty is very satisfactory. A 35 year old patient with post-traumatic MP joint stiffness, pain, and arthritis of the little finger underwent perichondrial arthroplasty, which requires satisfactory bonestock yielding excellent postoperative motion and freedom from pain (figure 2). Vascularized joint transfer would remain a future option should the perichondrial arthroplasty fall.

A candidate for vascularized joint transfer at the MP joint is a young, robust patient, especially if physes are open, in an acute trauma setting with bonestock loss and fracture comminution or with extensive soft tissue scarring or loss. Nonvascularized bone grafting to maintain joint integrity does poorly over time with subchondral bone collapse and loss of joint congruity.

A young, healthy patient with an isolated PIP joint problem is a candidate for vascularized joint transfer versus arthrode-

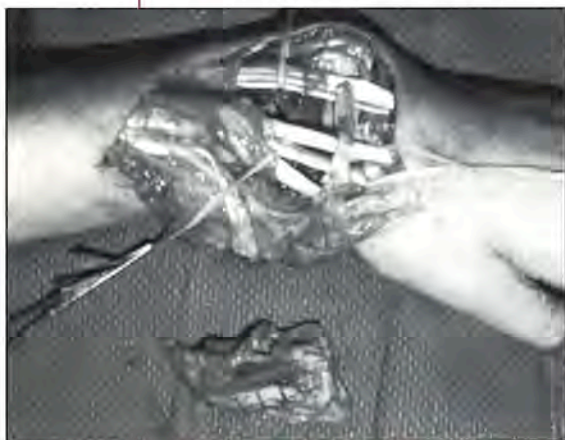


Figure 1a: Giant cell tumor excision from distal radius.

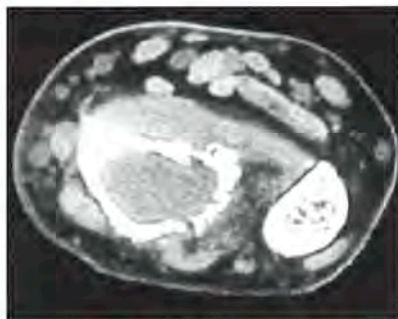


Figure 1b: Skeletal reconstruction of distal radius.



Figure 1c: Completed composite free tissue transfer.



Figure 2a: Post-traumatic MPJ degenerative arthritis.



Figure 2b: Joint resurfacing with rib perichondrial graft.



Figure 2c: Pain-free range of motion has been achieved without resorting to vascularized joint transfer.

sis. Since less motion is required at the index finger PIP joint, arthrodesis is frequently favored over joint transfer except in special circumstances. Arthrodesis is not a consideration in the skeletally mature patient. Specific occupational demands may require preservation of movement. A young, lefthanded male underwent a vascularized transfer to the left index PIP joint following trauma; his occupation involved handling firearms and demanded stable range of motion in this joint (figure 3).

Donor sites for vascularized transfer to the MP or PIP joint include the MP joint of the second or third toe, the PIP joint of these toes, or PIP or DIP joint transfer from an otherwise discarded finger. The arc of motion of the metatarsophalangeal joint is predominately in hyperextension, requiring the Smith-Jones modification

which places the joint upside down in transfer so that the hyperextension arc translates to flexion. I prefer the PIP joint, although the bone is smaller, for reconstruction of MP and PIP finger joints. Preservation of some second toe length maintains full metatarsal foot span and perhaps reduces the potential for hallux valgus deformity and attendant difficulties. I follow Tsai's recommendation at the PIP joint level, retaining the extensor insertion into the base of the finger's middle phalanx by step-cut osteotomy.

Choice of operation, in summary, is dependent on the specific problem. Vascularized joint transfer is not always the best procedure in a given patient although it may offer the greatest



Figure 3a: PIPJ destruction



Figure 3c: Radiograph of finger reconstruction.

potential for a long-term solution to a difficult reconstructive problem with the possibility for growth in the presence of patent physes. All the motion-preserving techniques represent compromises. A full arc of motion, however, is not essential to satisfactory function of the MP or PIP joint. A PIP joint with an arc of motion ranging from 45 to 90 may be quite functional. In a reported series of vascularized joint transfers, the average arc of active motion at the PIP joint was 30 and at the MP joint 65. Free vascularized joint transfer, first described by Foucher in 1980, provides an exciting option in selected patients. **RM**

David T. Netscher, MD is a member of the Plastic Surgery Department at Baylor College in Houston, TX.



Figure 3b: Vascularized second toe PIPJ elevated on dorsalis pedis artery with its first dorsal metatarsal artery continuation.

Experimental Surgery in Italy Focuses on the Paraplegic

Microsurgical Transfer of Ulnar Nerve to Muscles of the Hip in Paraplegics (Preliminary Report)

By Giorgio Brunelli, MD

In the last 5 years in the Microsurgical Lab of the University of Brescia, Medical School, located in Brescia, with the group of association researchers for the research on spinal cord lesion, I have been experimenting with transferring the ulnar nerve from the upper to the lower limb, first in animals and then in fully informed volunteer human beings with the aim to make paraplegics walk.

The idea came to me from a similar operation we have been performing for years in brachial plexus avulsion. In these cases we successfully use the transfer of the 11th cranial nerve (the accessory spinal nerve) to the musculo-cutaneous nerve to obtain elbow flexion through biceps and brachialis anterior contraction. Similarly, I thought to use a healthy nerve to make the muscles of the lower limb contract. The chosen nerve was the ulnar nerve, since damage at the donor site could easily be compensated by contemporary classical reconstructive surgery (transfer of F.D.S.) of the 3rd finger to the adductor pollicis and of that of the 2nd finger to interossei (Bunnel's operation).

First, I tried this transfer in rats by taking the ulnar nerve from the anterior paw, leaving it in continuity with the brachial plexus and connecting its stump to the femoral nerve. Electrophysiological controls showed good conduction and muscular response. Then I set a protocol for human beings which consists in isolating the ulnar nerve from distal to proximal, and removing the sensory contingent up to its intermingling with the motor fibers at about the proximal third of the forearm. The motor branches for the hypothenar, the interossei and adductor pollicis are identified and marked as well as the motor branches for flexor carpi ulnaris and flexor digitorum profundus for the 5th and

4th fingers. Dissection of the nerve continues above the elbow up to the origins of the ulnar nerve from the plexus. In this portion the satellite vessels are to be preserved together with some soft tissue in order to prevent necrosis. Then the nerve is taken to the hip. The branches of FCR and FDP are connected by means of a sural nerve graft to the fascicles of the femoral nerve destined to the quadriceps.

The other fascicles of the femoral nerve are resected for 2 cm to avoid spasticity. Motor branches for the intrinsic muscles (which are longer) are connected directly to the nerves for the medius and little gluteus and for the greater gluteus throughout a large Iselin's approach which also allows resecting the sciatic nerve, below the nerves for the glutei, again avoiding spasticity.

Walking is possible by flexion-extension and abduction of the hip. The stabilization of the knee is obtained by long fiberglass boots realizing Putti's condition.

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The motor damage at the donor site is immediately repaired by reconstructive surgery as mentioned above. There is no possibilities of restoring sensory function.

It was very difficult to get permission to operate on men from the ethical committee of our health service but, after full explanation about the technique and after several discussions, permission was given. This operation is still experimental and is performed on fully informed paraplegic volunteers. Full information is given by having the paraplegics as in-patient for

several days in which he and his relatives are informed about the operation, the possibilities of partial recovery, and the risks.

We have been able to operate on only 2 cases up to date (4 interventions),

*The first patient we
operated on is now able
to walk with the help
of a walker and
continues to improve
each day.*

because many paraplegics want to know definitely what the results will be before volunteering. At this time case results are still being monitored.

Reinnervated muscles show good contraction both from the electromiographic and a clinical point of view. The first patient we operated on is now able to walk with the help of a walker and continues to improve each day. In the beginning, deambulation is obtained by voluntary commands to the hand muscles which were previously innervated by the ulnar nerve. The patient's brain is soon able to voluntarily contract the newly innervated muscles and consciously think to move them. After several weeks movements become semi-automatic.

This is still a preliminary report. A paper on this topic has been presented at the International Symposium on Experimental Repair of Spinal Cord Lesions and Regeneration in Brescia on October 20-21st, 1996 and has been enthusiastically and unanimously accepted by all the participants. **RM**

Giorgio A. Brunelli, MD is a Professor at the University of Brescia, Medical School, Department of Orthopaedics and Microsurgery, Brescia, Italy.

Limb Symposium Sets Standards for Many Disciplines

The May 1996 Limb Reconstruction Symposium was a unique opportunity for physicians with special interest in orthopaedic traumatology, microsurgery, hand surgery, and pediatric surgery to come together to exchange ideas.

The symposium, under the co-directorship of Scott Levin, MD and Tom Trumble, MD, was an overwhelming success with a total attendance of over 230. The physicians attending were fairly evenly divided between orthopaedic surgeons and plastic surgeons. The Symposium provided an excellent educational resource for physicians in training with 57 residents and fellows attending the meeting. The participants were clearly drawn by the large international faculty in addition to the excellent faculty from Seattle with the physicians based at the University of Washington's Harborview Medical Center.

This meeting served as a forum for the physicians to discuss and clarify classifications of fractures and soft tissue injuries to establish uniform standards across different specialties. The Symposium faculty presented an excellent review of the management

of musculoskeletal reconstruction as well as providing information on the cutting edge of new innovations. The program included the management of fractures, soft tissue injuries, tumor reconstruction, special problems related to the pediatric patient, as well as the hotly debated topics of reconstruction of problems related to dysvascular limbs. In addition to the presentations from the faculty, there were over 60 scientific abstracts presented. The symposium had an extremely interactive format with

the combination of faculty presentations and research papers by the participants.

Seattle was a wonderful host city for the meeting as an ideal gateway to the Pacific Rim. The meeting site received high ratings for the city's hospitality and entertainment opportunities. This Symposium clearly unleashed a tremendous pent up enthusiasm for a multidisciplinary gathering of physicians in order to bring out the ideas that will help us improve our care for patients with limbs that have been crippled or paralyzed by trauma, disease, or tumor. Clearly we have a large debt of gratitude to the local and international faculty as a magnet responsible for drawing in physicians from so many different walks of life.

A memorable moment for me was the faculty dinner at the Union Grill high above the streets of Seattle, watching the sunset in Puget Sound and sharing a toast with Symposium faculty who have dedicated so much of their career to developing the special tools that have allowed us to help our patients in a way that was not possible a generation ago. **RM**

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from Seattle.*



Annual Reception and Dinner

**Tuesday, January 14
6:30 pm - 10:00 pm**

A festive evening is planned for all attendees. Join your friends and colleagues for a Havana Beach Party! Includes a delicious buffet dinner, cocktails and beach games. One ticket is included with your registration fee. Additional tickets may be purchased on the registration form or may also be purchased on-site.

Nerve Expansion: Is It Really Necessary?

By A. Lee Dellon, MD, FACS

It is hard to imagine the clinical situation in which expansion of a nerve for the purpose of reconstruction of that nerve would ever be necessary. Since no series of patients reported with results from nerve expansion currently exists, it is difficult to compare the results achievable with this technique to other techniques. However, theoretical objections to nerve reconstruction by nerve expansion can be postulated.

The very concept of tissue expansion implies at least two operations and multiple office visits for the expansion process: this time consuming and expensive process cannot be justified if there is any other way to achieve the same results from nerve reconstruction. And, of course, there are other ways. For nerve gaps, reconstruction is done with autogenous nerve grafts. This requires just one operation, and its only drawback is the donor site defect, which is almost always acceptable to the patient. For

the short nerve gap, three cm or less, results not quite comparable to nerve grafting are possible with an autogenous vein, which leaves an acceptable donor site defect. Better results are possible with a bioabsorbable tube, such as the polyglycolic acid (PGA) tube, which requires no harvesting and no donor site defect. For longer nerve gaps, there is almost always sufficient autogenous nerve available for grafting. In the extreme situation, a person with sciatic nerve loss, where the opposite leg may not be elected as a nerve graft donor site, it is conceivable that nerve expansion may have a role. However, for this situation, nerve allografting is now also available, and has been demonstrated to be feasible clinically.

Then there is the pain, which the patient will experience with expansion of the proximal nerve stump.

There is also the question as to whether the elongation that occurs in the distal stump produces any of the macromolecules that nerve sprouts need for satisfactory regeneration, i.e. does elongation of

the distal stump produce new basement membrane? If not, then the length gained distally will not be any more valuable for the regenerating sprouts than any other conduit. And if the increase in length of the distal stump occurs by collagen deposition, then the distal stump actually may impede neural regeneration. **RM**

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operations and multiple
office visits for the
expansion process....*

An Invitation to Participate

The Council of ASRM is soliciting interest from its membership to serve on its committees for the 1997-98 year. The various activities of our organization depend upon broad membership participation. This is your opportunity to become involved. The following committees are open for assignment:

The Program Committee - This committee is responsible for the organization of the annual meeting scientific program. This requires a review and rating of over two hundred abstracts submitted for the annual meeting.

The Audiovisual Subcommittee - This subcommittee is responsible for seeking submission for the audiovisual theater to be held at the annual meeting and to prepare short reviews of video-

tapes to be published in each issue of the newsletter.

The Bylaws Committee - This committee is responsible for reviewing and recommending changes in the bylaws. All bylaws changes recommended by Council or members of the Society are reviewed by this committee.

The Technical Exhibits Committee - This committee is responsible for arranging for technical exhibitors for the annual meeting which provides important financial support to our annual income.

The Education Committee - This committee is responsible for establishing educational goals and developing the society's involvement in CME activities.

The Clinical Guidelines and Outcomes Committee - This committee develops standardized format including

a computer database to be used in preparing guidelines for microsurgical procedures. This committee determines ways to seek funding to pursue outcome studies in microsurgery.

The Coding and Reimbursement Committee - This committee is responsible for reviewing CPT codes which apply to microsurgery and to rationalize the appropriate design additions to those codes.

Please contact me directly if you are interested in serving on any of these committees.

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RM

Nerve Expansion: An Innovative Alternative for the Short Nerve Gap

By Thomas G. Skoulis, MD and
Julia K. Terzis, MD, PhD

Treatment of the short nerve gap remains a challenge for the reconstructive surgeon but it is a clinical problem that can be addressed by nerve expansion.

In many cases the gap is so small that it does not seem justifiable to sacrifice another peripheral nerve to use as bridging conduits. The concept of nerve expansion and forced elongation is intriguing as it may provide the optimal answer to this problem.

When expansion was applied experimentally long term on a normal sciatic nerve or on a transected nerve at either the proximal or the distal segments, permanent 30% elongation could be achieved.¹ A short term intraoperative expansion produced only a 10% nerve lengthening. The recovered function from the expanded nerve stumps was compared to such classical methods of nerve reconstruction as nerve graft, coaptation under moderate tension, and tensionless repair. The results compared favorably between the expanded groups and the time honored methods of nerve repair. The best results were achieved, though, from the expansion of the proximal nerve stump.

Nerve repairs under tension invite connective tissue proliferation, and inward displacement of foreign material (sutures) thus producing severe obstacles for the regenerating axons, and electrophysiological proof of poor conductivity in tension nerve repairs implicates poor functional carry-through. The placement of an interposition nerve graft for bridging small defects has the advantage of tension free coaptation, however, it superimposes 2 suture lines with double the chances for axonal loss as well as scarring the patient in two separate areas. Additionally, a sensory deficit remains in the area supplied by the donor nerve. The use of other bridging material in the form of tubes (vein or bioabsorbable) can produce misalignment of the regenerating axons, that impedes nor-

mal function and can be very serious in mixed nerve repairs. Furthermore, the use of a vein necessitates another scar. Allografts besides the two coaptation sites have the added disadvantage of long term use of immunosuppression medication.

The pain associated with the nerve expansion is not severe and can be controlled easily by reducing the rate of inflation of the expander or using mild pain medication.

The method has been used clinically by another center (A. Van Beek) for reconstruction of peripheral nerves such as the

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components of the brachial plexus and major nerves in the upper and lower extremity and the follow-up results are in accordance with the experience accumulated from the experimental data. Those results were presented for the first time in the American Society for the Peripheral Nerve meeting in Montreal last year. **RM**

1. Skoulis, T. G., Lovice, D., von Fricken, K., Terzis, J. K.: "NerveExpansion: The Optimal Answer to the Short Nerve Gap. Behavioral Analysis". Clin Orthop Relat Research, 314:84-94, 1995.



ASRM Microsurgery Calendar

January 8-11, 1997
AAHS 27th Annual Meeting
Boca Raton, FL
Contact: AAHS
(847) 228-9758

January 12-15, 1997
**ASRM 12th
Annual Meeting**
Boca Raton, FL
Contact: ASRM
(847) 228-9717

February 13-17, 1997
AAOS Annual Meeting
San Francisco, CA
Contact: AAOS
(847) 823-7186

June 6-8, 1997
**New England Society of
Plastic and Reconstructive
Surgeons**
Woodstock, VT
Contact: Charlotte Constantian
(603) 880-4385

July 24-27, 1997
**Conjoint Symposium on
Nasal Reconstruction**
Boston, MA
Contact: AA-HNSF
(703) 519-1542

Video Review



Video Atlas of Microsurgical Composite Tissue Transplantation

Tape Seven: Section 3
Fascial/Fasciocutaneous Flaps
(Temporal & Scapular)

Tape Eleven: Section 4
Endosteal Osseous Flaps (Rib, Iliac
Crest, Fibula)

Tape Twelve: Section 4
Endosteal Osseous Flaps (Great
Toe, Second Toe, Second and Third
Toe)

Tape Fifteen: Section 6
Vascularized Nerve (Radial, Ulnar,
Saphenous, Sural)

Author: Donald Serafin, MD

Intended Audience: Microsurgeons,
residents in training

Length: Various

Rating: 4 fingers

Summary: The video atlas of microsurgical composite tissue transplantation produced by the Division of Plastic, Reconstructive, Surgery of Duke

University in a video tape series that illustrates the dissection of nearly all potential microvascular tissue transfers. Each individual tape presents a series of dissections that illustrate the various component flaps of a specific anatomical area (i.e. toe transfers) or a specific purpose (i.e. vascularized nerve grafts). The tapes include a detailed listing of the indications, advantages and disadvantages of each flap. The design and elevation of the flaps are then demonstrated utilizing live models, line drawings and fresh cadaver dissections. The tape series includes a corresponding printed atlas which is not included in this review.

The cadaver dissections demonstrate only the highlights of each lap and do not tax the viewer with long tedious dissections. As with all videos, the cadaver dissections suffer from the poor contrast and distracting glare that are associated with filming cadaver or clinical dissections. The tapes so not include any demonstration of actual clinical cases.

Each demonstration is followed by a listing of the perils and pitfall associated with each particular flap. The tapes can serve as an excellent reference for experienced microsurgeons who are familiar with the anatomy, but are looking for

greater detail regarding individual flap dissection.

A deficiency of the series is the absence of any demonstrations detailing the inseting of certain flaps such as the corrective osteotomy needed during the second toe transfer or osteotomy of the fibula during mandible reconstruction. However, overall, this is an excellent reference and is recommended to all training programs. **RM**

Video Rating Scale



5 Finger Replant
Excellent



4 Finger Replant
Good



3 Finger Replant
Fair



1 Finger Replant
Poor

RECONSTRUCTIVE MICROSURGERY

444 East Algonquin Road
Arlington Heights, Illinois 60005

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