THE AMERICAN SOCIETY FOR RECONSTRUCTIVE MICROSURGERY

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RECONSTRUCTIVE MICROSURGERY

What's New in Reconstructive Microsurgery: Review of the ASRM Meeting

San Diego, CA
January 13-16, 2001

Members enjoying one of the scientific sessions.

The first American Society for Reconstructive Microsurgery meeting for the new millennium was recently held in San Diego and by all accounts was a hugely successful meeting. It was attended by almost 300 microsurgeons, 80 of which were international from 22 countries, all eager to share experience and newly acquired knowledge to further the cause of microsurgery. The meeting was historic because for the first time, sister organizations with common and overlapping memberships, namely the ASRM, AAHS and ASPN all met together. By all accounts, this program structure had the approval of the members as there was a fairly smooth transition from one area of interest to the next. A record number of outstanding abstracts was received and, of these, 113 were selected for presentation. To facilitate additional papers, concurrent paper sessions were used during part of the meeting and three-minute "bullet-type" presentations were introduced. In response to requests from the membership, the number of panels was increased and the topics selected reflected current concerns and innovations in reconstructive microsurgery. Although it may have been due in part to inclement weather, there was excellent attendance at all the sessions throughout the entire meeting, including the early morning instructional courses.

Godina lecturer Dr. Roger Khouri accepting the plaque honoring the lecture from Dr. Sal Shenaq.

The microsurgical part of the meeting began as part of a combined meeting of all three societies on Saturday morning with a panel on "Functional Free Tissue Transfers For Extremity Reconstruction." Ron Zuker described the management of Volkmans contracture in children, Kaz Doi from Japan presented his experience with double free functional muscle transfers in brachial plexus injuries, Milan Stevanovic discussed pedicled and free muscle transfers in the upper extremity, and Fu-Chan Wei, from Taiwan, discussed the functional reconstruction of the bilateral metacarpal hand.

Dr. Michael Wood, the Presidents' Invited Lecturer for the combined meeting, gave us his insights into "The Major Drivers of the Changing Healthcare Environment As We Enter The New Millennium." He stressed the importance of receptivity to change, the fact

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It's 2001...

It's 2001 – "...I've wondered whether you might be having second thoughts about the mission."

–HAL 9000 computer to Dave Bowman, astronaut, in "2001- A Space Odyssey"

April 2, 1968. Stanley Kubrick's film masterpiece "2001-A Space Odyssey" is released. Wow, as a junior in high school I thought that year was so far away that I'd surely never see it. Add to that the seeming plausibility of travel to Mars 33 years later (we wouldn't land on the moon until July 20, 1969—nearly a year and a half later), and the perspective from here becomes more interesting. Kubrick got a lot of things right 33 years ago about 2001, but missed the mark on about as many. A space shuttle with "regular" service to an orbiting space station is happening even as we speak (who'd have thought in 1968 that Pan Am would go belly up), but not of the scope he imagined. There were TV chairs in the space station, but I guess Kubrick couldn't see this amazing technology in cheesy bus stations and airports. Also, although I'm not much of a fashion maven, I think we should consider ourselves fortunate that his fashion predictions didn't come true (whoa, talk about ugly suits!) I don't know about the shuttle astronauts, but I also haven't missed getting to try out a Zero-gravity toilet. Probably the most interesting comparison is between the HAL 9000 computer and our computers today. Compared to HAL, my Pentium III PC looks pretty stupid. HAL watches everything, he talks, and he completely controls the functions of the giant spaceship (to the point of his crew's destruction). Perhaps we really owe Bill Gates a debt of gratitude, however, as Windows provides much better graphics than a HAL 9000. We're probably also fortunate that our computers don't watch us all the time and talk in that annoying voice.

EDITOR'S MESSAGE

William C. Pederson, MD

There weren't really any predictions back then as to what would be happening, but where are we now?

So, what does all this have to do with us? Well, I was thinking about it, and took a look back at where we were in 1968. The American Society for Reconstructive Microsurgery didn't have its first meeting until 1985, so my comments will really relate to our specialty. Cobbett performed the first toe transfer in a human in April of 1968 (great timing, but I don't think he planned it to coincide with the movie release!). Replantation was a newborn, as the first report of a successful thumb replantation was made in 1968. The first clinical free flap wouldn't be done for another 3 years, though, and this procedure was not really proven to be viable until multiple later reports of success (the negative editorial comment in *PRS* about Buncke's free omental transfer in 1972 is a great read, in retrospect). Things really didn't take off in any of these areas in the United States until five years later (1973).

There weren't really any predictions back then as to what would be happening, but where are we now? Techniques have been standardized and success rates of both replantation and free tissue transfer have reached a high plateau. Free tissue transfer is considered the first choice for some areas of reconstruction in many centers (mandible reconstruction, breast reconstruction, and digital reconstruction, to name a few.) There are some problems, as in clinical microneural surgery where limitations in the rate of nerve regeneration have slowed further improvements in such areas as brachial plexus surgery. But while we may have a few problems, look at what happened to the space program. We got bored with the moon

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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(surprisingly quickly), and are nowhere near making interplanetary space travel a reality any time in the foreseeable future.

For microsurgery, however, things have not stagnated. We may never realistically achieve that elusive 100% success rate, but we have made great strides with more to come. Basic science has given us the background for the clinical application of transplantation of nerves from non-identical donors and even a few hands. Further work in the immunologic aspects of this problem may lead to nearly unlimited availability of parts for reconstruction of bodily defects. The problem of "slow" nerve regeneration is under steady attack on a number of fronts, and there's a growing light at the end of this tunnel. The application of genetics to the problem of tissue generation and regeneration promises to lead us into new galaxies altogether.

We are living in exciting times as reconstructive surgeons and need to be careful and not get bored and complacent. I'm sorry to say that I hear too many young, well-trained microsurgeons complain about a lack of cases, a lack of help, and a lack of compensation in terms of microsurgery. While we can do little to stem the tide of managed care, our members should encourage and assist our younger colleagues to continue their interest. Basic research needs to be supported so that microsurgery can flourish, and bright young surgeons should be encouraged that ours is a dynamic and exciting specialty. This Society can and should remain in the forefront of both basic science and clinical application in microsurgery, but cannot do so if we allow, in the immortal words of HAL, "...second thoughts about the mission." RM

[Apologies to those who are not movie buffs and miss some of the meaning. Rent "2001" and watch it–it's a great flick. –CP]

Glory Days

PRESIDENT'S LETTER

Randy Sherman, MD

A look back at our early programs gave little indication that we would be debating hand transplantation, tissue engineering and genetic therapy.

The king is dead. Long live the king! The rumors of the eventual demise of the American Society of Reconstructive Microsurgery are significantly premature and definitely overrated. More precisely, they are dead wrong. For some years now I have heard those among us pine over the glory days of the organization. Those halcyon times were long since buried, when every month seemed to witness a new operation, a significant breakthrough or an entirely fresh approach to a previously unsolved problem. Despite our best intentions, we had run out of new things to create and for a highly creative lot that should have eventually spelled disaster, or so it seemed. Can you imagine if the framers of our U.S. Constitution and those that followed were so similarly possessed? Our country continues to grow, change and adapt as new challenges and problems arise. With a clear vision based on the guiding principles laid down by the framers, we have built a nation, which has far surpassed the wildest dreams of its founders.

So it is and must be with our Society. Witness our annual meeting this last January in San Diego masterfully directed by Julian Pribaz and presided over by Sal Shenaq. A record attendance from an unprecedented number of participating countries listened to the largest number of presentations and panels to date. Not only in quantity but also in quality and diversity have we grown. A look back at our early programs gave little indication that we would be debating hand transplantation, tissue engineering and genetic therapy. Few of us would have predicted the utility of venous flaps, the inevitable logic of dispensing with the muscle in myocutaneous flaps, the use of coupling devices or the economic pressures leading to a discussion of the pros and cons of outpatient reconstructive microsurgery. Between our Immediate Past President and our most recent Godina Lecturer, compelling arguments have been made to rename our organization either The American Society of Reconstructive Microsurgery and Molecular Surgery or The American Society of Reconstructive Surgery. Both are bold, both are expansive and both well reasoned and thought out from two respected leaders of our Society. I am proud to say that among our ranks are undoubtedly some of the most creative and resourceful physicians and surgeons around. We have

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President's Message

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room to grow and have just begun to fly.

Clearly, the engine of that growth will continue to be our membership. Not so surprisingly, new membership is up. Our organization has drawn enthusiastic participation not only from individuals in the United States and Canada but over twenty other countries, with several of our overseas colleagues contributing enormously to the advancement of the art and science of reconstructive microsurgery. Dynamic young surgeons such as Phillip Blondeel and Jose Carlos Ferreira are redefining our limits. We need to welcome all of these remarkable young men and women into our ranks to assure our continued vitality. With participants representing 22 countries at our 2001 Annual Scientific Meeting, and somewhere in the range of 168 member countries in the United Nations, you can clearly see that we have a long way to go. Talent and desire are universal. Next year, we will be working with our partner societies, the American Association for Hand Surgery and the American Society for Peripheral Nerve to reach out to our colleagues worldwide. Taking place in beautiful Cancun, Mexico, our collective program will be entitled, "Bridging the Hemispheres" and should bring a heightened sense of the international nature of our pursuits and accomplishments.

New challenges lie not only in the derivation of novel procedures or creative tissue engineering but just as importantly in the dissemination of our skills to benefit those individuals and countries who, for whatever reason have not been able to take advantage of our remarkable advancements. While attendance at international scientific meetings helps to standardize our knowledge base, direct participation in hands on education and patient care provides an unsurpassed opportunity for lifelong change and growth. I have had the great privilege over the last 12 years of working alongside many of our members including Bob Russell, Jim Grotting, Craig Merrell, Julian Pribaz and Marcos Castro Ferreira, to name a few in Vietnam, Russia, Brazil, Morocco and Colombia. There we found inspired surgeons eager to advance the discipline of reconstructive microsurgery no matter how meager their resources and how difficult their circumstances. Through organizations like Interplast, Operation Smile and others, we have the chance to actualize our passions for building a global village of practicing surgeon educators. These wonderful charities have grown into unique delivery vehicles, overcoming extraordinary odds and oftentimes unjust condemnation to positively change so many thousands of lives. Just like the Space Shuttle and more recently, the International Space Station, these missions can only be accomplished by recruiting the finest and most inspired pilots and payload specialists, those with the right stuff. The American Society for Reconstructive Microsurgery should be a leader in providing uniquely qualified individuals to fill these roles. While many of us have experienced the thrill of joining in, expanded opportunities must be sought out and made available to all our members. The need is over-

Reflections on Success... and Its Personal Cost

Bob Acland, MD

Bob Acland, MD, a founding member of ASRM, writes:

Recent tragic events remind us that we and our families may pay a heavy price for our pursuit of professional success. Few of us learn when we are young how important it is to balance our professional and family lives. As we enter a demanding and fiercely competitive profession, forces that seem irresistible push us into overdrive for years on end. Our families suffer and fall apart, and so do we. I touched on this painful theme with reference to my own career in microsurgery when I gave the ASRM Founders Lecture in 1987. Since then, many colleagues have told me that what I said made a difference to them. Using the same slides, and with the same message, I remade the lecture in the form of a videotape. If you would like to receive a copy of it, please write to me. I hope that the message may still make a difference to you, or to someone you know. My e-mail address is bob.acland@louisville.edu. RM

whelming and the rewards are unforgettable. Onsite missions in developing countries, visiting overseas professorships, and short-term observational fellowships to our members' medical centers are all ways that we can participate. Internet technology has opened the door for enormous opportunities in telemedicine to each and every one of us. I will do my utmost to help build and provide expanded programs in this regard. Collaboration with the above groups as well as the Plastic Surgical Educational Foundation and Doctors Without Borders should help develop strategic alliances to further this cause. I truly believe that there is no other organization as motivated, talented and dedicated as ours, and that we can put these attributes to work to fundamentally change the world in a most positive way. RM

Godina Traveling Fellow

Marko Godina was a visionary reconstructive microsurgeon, an insightful and enthusiastic teacher, and a remarkable man. Despite his abbreviated career, tragically cut short at the age of 43, he led the way for a generation of microsurgeons in understanding the care and treatment of complex extremity injuries through early reconstructive microsurgery. The American Society for Reconstructive Microsurgery knows no better way to honor the memory of Marko than through an ongoing investment into promising, upcoming, committed surgeons, who will, through study and investigation, continue to expand the horizons of our field. In this regard, the Godina Traveling Fellow has been established to allow a deserving individual, chosen by the ASRM to travel among numerous microsurgical centers, including Ljubljana, Marko's home.

The Godina Traveling Fellow will:

- Receive a maximum of $5,000 towards travel expenses, room and board.
- The Godina Traveling Fellow must include Ljubljana, Slovenia, Marko's home institution, in their travels.
- It is strongly suggested that non-North American fellows visit American institutions in addition to the required visit to Ljubljana.
- The Godina Traveling Fellow will be chosen prior to the ASRM Annual Meeting at which he/she is appointed, and opens their traveling year.
- The Godina Traveling Fellowship will begin at an ASRM Annual Meeting and will conclude at the subsequent annual meeting, at which time, the fellow will deliver the annual Godina Lecture.

Qualifications

- The applicant must submit at least three letters of recommendation from members of the ASRM or the World Microsurgical Society who can attest to the candidate's character and achievements.
- American and Canadian applicants must be members of the ASRM.
- Successful completion of a surgical residency and/or fellowship leading to the acquisition of competency in reconstructive microsurgery (i.e. plastic surgery, orthopedic surgery, general surgery, otolaryngology, hand and/or microsurgical fellowship.)
- The fellow must be the age of 43 or under at the time of appointment.

Please contact the Central Office for an application. These are due by August 24, 2001. RM

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Physicians and Surgeons

Annual Meeting

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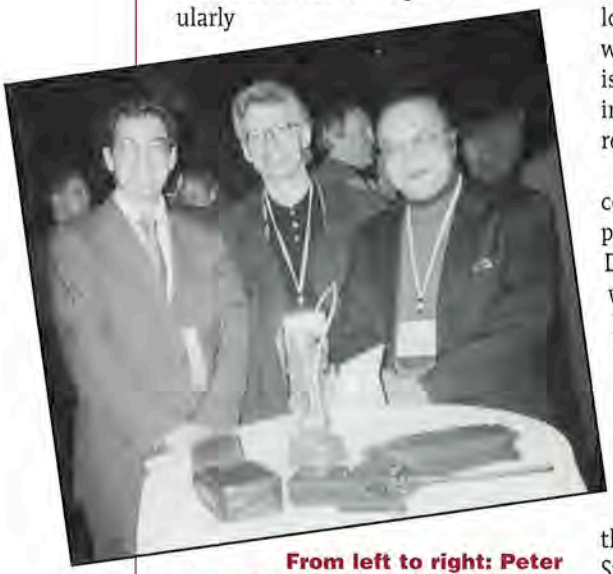
that we have to anticipate change and adapt accordingly, and he also discussed the major drivers of change that will affect healthcare in the coming years. Following this, the Joint Outstanding Nerve Paper presentations from the three societies were presented. All these were very interesting papers highlighting new advances in this field particularly



From left to right: Peter Amadio, MD, Dan Nagle, MD and David Chiu, MD

with end-to-side neurorraphy and experience with nerve transfers in the upper extremities.

On Sunday, the meeting began with a very timely panel on "Limb Salvage: Interface Between New Techniques And Free Tissue Transfer." This panel, consisting of Scott Levin, Chris Attinger, Randy Sherman and Kent Tracy, discussed the impact of new technologies such as the Illizarov distraction lengthening, the vac device, and newer prostheses as well as advances in local wound care and local flaps in lower extremity reconstruction. The panel noted that there was still a need and a place for free tissue transfers for the larger defects and also in selected smaller defects where small well tailored flaps produce excellent functional and aesthetic results. Patient selection and individualization of the use of these different modalities was emphasized in this panel. Papers dealing with limb replantation, partial toe transfers, functional muscle transfers and additional nerve papers were then presented in a free paper session. The Presidential Address by Sal Shenaq followed. He gave his vision of where microsurgery research is heading in the new millennium - into the molecular and nanosphere realm.

The meeting on Sunday morning concluded with a very interesting panel on "Reflex Sympathetic Dystrophy" moderated by Andy Lee with panelists Susan McKinnon, Peter Amadio and Wyndell Merritt. This proved to be an extremely interesting panel providing an excellent update on this very difficult topic to a full auditorium despite the fact that it was past lunchtime. On Sunday afternoon, the Residents and Fellows Symposium on Microsurgery was given. This was also attended by microsurgeons who have long-since finished their residencies, especially international microsurgeons, who found this concise course covering the vast realm of microsurgery very informative.

On Monday and Tuesday mornings, the days began with instructional courses covering various aspects of reconstructive microsurgery which again were very well attended. Following this on Monday morning, there was a panel on "Gene Therapy and Tissue Engineering for the 21st Century" moderated by our president, Sal Shenaq, with panelists Gregory Evans, Michael Longaker, Eser Yuksel, Michael Miller, and Marc Hedrick. This brought us up-to-date with where we stand in this field. Many of the panelists emphasized that the microsurgeons should remain at the heart of this type of

Dr. Wayne Morrison accepting the plaque for his 2001 President's Invited Lecture.

research as they have an understanding of the types of problems that need to be solved and are mastering the techniques necessary to solve them. This was followed by the Eighth Annual Godina Lecture presented by Dr. Roger Khouri which was entitled "Reconstruction: The Journey." This was an incredible and surreal presentation of Roger's unbelievable experience and multifaceted research interests which have provided significant contributions to our field of reconstructive microsurgery.

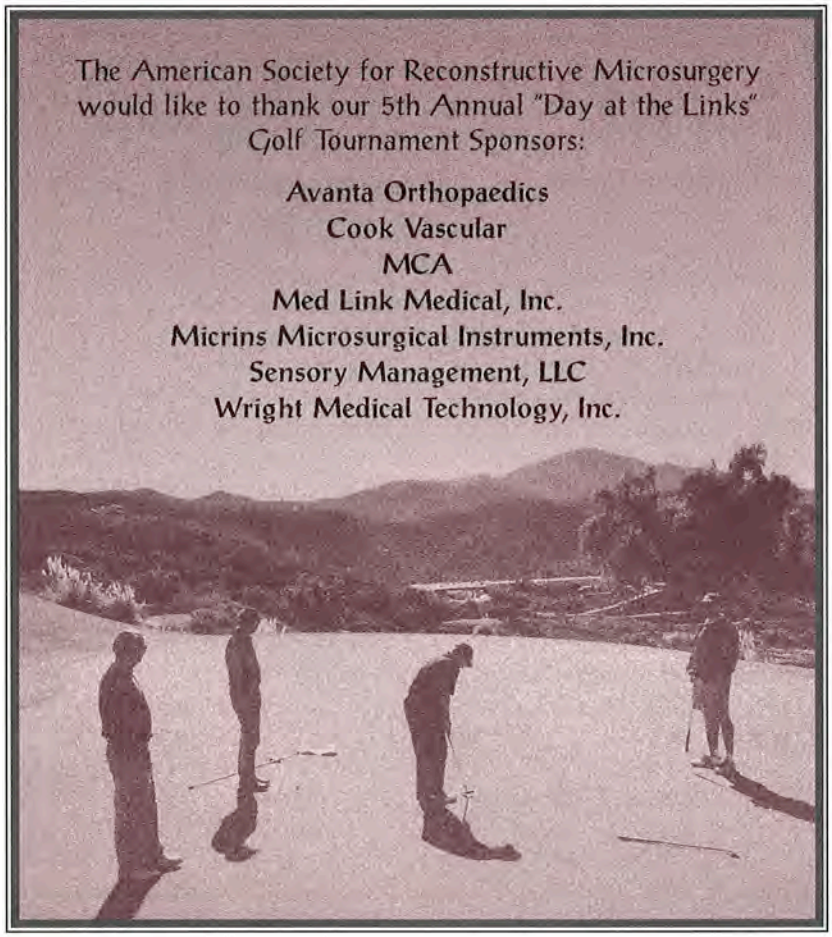
The Godina Lecture was followed by our first concurrent scientific paper sessions with clinical "Head and Neck" papers being presented in one room and "Research" papers in another. The use of the anterolateral thigh flap and lateral arm flaps for head and neck reconstruction was emphasized in several papers whilst the use of very small radial forearm flaps for use as nasal lining and buccal sulcus release was also presented. There were several papers dealing with the use of free fibula flaps for maxillary reconstruction as well as for augmenting upper and lower jaws in the case of extreme jaw atrophy. In the "Research" section, there were interesting papers on free tissue transfers in the presence of coagulation and vessels disorders, on ischemia reperfusion, on transplantation, and on liponeogenesis with a vascularized engineered construct. Following this, there was a panel dealing with Surgically Engineered and Customized Free Flap Transfers moderated by Dr. Michael Neumeister with panelists Roger

Khouri, Julian Pribaz, and Thomas Rath from Austria. They reported on the state-of-the-art in prefabricated and prelaminated flaps. This panel was followed by the Founder's Lecture in which Professor Wayne Morrison from Australia continued the same theme, providing a very interesting lecture on his research dealing with tissue engineering. He described his laboratory's efforts in providing a blood supply to tissue engineered constructs as a first step to organogenesis.

The final day of the meeting commenced with the final panel which dealt with the current status of "Perforator Flaps." An international panel consisting of Bob Allen, Isao Koshima, Axel Feller and Jeong Kim brought the membership up to date on the use of perforator flaps throughout the body. The advances depicted were quite aptly named "free style free flaps" by Bill Shaw, who moderated the panel. Following this panel, the remainder of the meeting was concurrent paper sessions dealing with "Lower Extremity," "Head and Neck," and then the bullet three-minute presentations many of which were also poster presentations. In these sessions, several outcomes studies were presented as well as algorithms for flap selection and papers on limb salvage, peripheral vascular and end stage renal disease. In the "Head and Neck" section, complications related to dextran use were featured and interesting cases of staged esophageal and pharnygoesophageal reconstruction were presented. There was good attendance until the very end of the meeting with lively discussions occurring even for the last papers that were presented.

Drs. Allen Van Beek, Larry Colen, Fred Valauri, and Bruce Williams getting ready to tee off.

Dr. Jeff Friedman tees off during the annual golf tournament.



In addition to the scientific parts of this meeting, there were many social functions, including a golf afternoon and welcome receptions for the three combined societies, as well as a cocktail party for the Microsurgical Society. These were all well attended and afforded a good opportunity to renew acquaintances with our many international guests and enjoy the camaraderie of colleagues with whom we share common interests in this exciting field of microsurgery.

As Program Chairman, I would like to take this opportunity to thank the members of our Program Committee, the Central Office, and all the panelists and moderators for the contribution to the success of this meeting.

Julian Pribaz, MD
2001 Program Chairman
RM

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ANNUAL MEETING 2002

On-Line Abstract Submission

It is time again to gather your works for abstract submission to the ASRM Annual Meeting. The meeting will be held in Cancun, Mexico, on January 12-15, 2002. As last year, abstracts will be accepted on-line. You may submit your abstract by going to the ASRM web site at www.microsurg.org. On the left hand column, click on the button that reads "On-line Abstracts Submission". This will link you to the combined ASRM/AAHS/ASPN abstract submission page.

Abstracts can be submitted as either a paper or poster presentation. As you begin the abstract submission process, your abstract will be assigned a four digit abstract ID and password. Using both of these, you may return at any time to update, modify, or delete your abstract. Your abstract will remain available and you may modify it, as many times as you like up until the final abstract submission date, which is May 1, 2001.

When entering the author information, please place the principal author first. All correspondence will be with the principle author. The principal author does not also need to be the presenter. Any subsequent author entry can be listed as a presenter. Be sure to include the e-mail address for all authors, as notification of acceptance of papers will be performed by e-mail.

You may type your abstract on any word processing program and then copy and paste your abstract to the "text box" on the abstract submission web site. There are also utilities available to include images and graphs. The total abstract submission, however, must be limited to 400 words. The number of available words will be reduced if an image or graph is included. At the end of the abstract submission process your entire abstract will display and you will have the opportunity to make corrections at that time or to return at a later date.

Return to the ASRM home page frequently to view details about the 2002 meeting in Cancun. As soon as the schedule of events is finalized it will be posted on the web site. After the abstracts have been accepted, the authors and their position in the program will also be posted.

Keith Brandt, MD, FACS
Chair, Electronic Communications Committee RM

ASRM 2002 PROGRAM COMMITTEE

Invitation to Attend

As program chairman I cordially invite all members and guests to the 2002 meeting of the American Society for Reconstructive Microsurgery. The 17th Annual Meeting will be held at the Hilton Cancun Golf and Beach Resort in Cancun, Mexico and coordinated with the American Association for Hand Surgery and the American Society for Peripheral Nerve meetings. Combined sessions, with topics of interest for all attendees, will help unite the three organizations into a unified educational symposium.

We have extended invitations to our Latin American colleagues and are excited about the unique interchange of ideas, innovations, and techniques that will occur. The warm climate of Cancun, Mexico and the fabulous facilities at the golf and beach resort should insure that our free time is well spent.

Please consider submitting an abstract to our Microsurgery meeting and attending all the meetings January 9-15, 2002.

Lawrence B. Colen, MD
2002 ASRM Scientific Program Chair

Invitation for Suggestions to the Nominating Committee

Suggestions are being requested for the ASRM officer positions for 2002-2003. ASRM members are encouraged to forward names for consideration for the following positions:

Vice President **Treasurer-Elect**

Please send a letter or fax to:

American Society for Reconstructive Microsurgery
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Chicago, IL 60602
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COMMITTEE REPORT

Update from Coding Committee

Recent changes in the way microvascular procedures are viewed by the AMA is currently altering our approach to this vital topic. In 1993, at HCFA's request, Work-RVUs for carrier-priced codes were addressed by specialty societies and the AMA/RUC. During initial review of the replantation and free tissue transfer procedures, it became evident that nomenclature for microsurgery was not clear or accurate in the CPT manual and a review of existing microsurgical CPT codes was undertaken. The results of these efforts have evolved over many years, including deletion and revision of many codes. Through all of this review, it was evident that CPT was lacking in codes to describe microdissection and/or microrepair at operation requiring the use of a surgical microscope for vessels and tissues other than nerves.

Prior to developing CPT 69990, initial consideration was given to creating separate new codes throughout the surgery section of CPT, comparable to CPT 61712 and 64830, that would allow for accurate coding of microdissection/microrepair requiring the use of an operating microscope. However, specialties whose members use the operating microscope and the CPT Editorial Panel determined that creating and adding new codes to the Surgery Section of CPT would not be prudent. Instead, a "generic" new code was created and placed at the end of the Surgery Section in the *1999 CPT Manual*. The CPT Editorial Panel took great care in defining when the use of CPT 69990 would not be appropriate by listing all codes where microdissection and/or microrepair requiring the use of a surgical microscope is an inclusive component.

After approval by the CPT Editorial Panel, and after much discussion and delay, several surgical specialties were convinced that CPT 69990 was not amenable to a RUC survey because of it's add-on nature to numerous codes with highly variable work. Additionally, there were two CPT codes (intended for dele-

The ASRM Council and the 2001 Annual Meeting Program Committee would like to thank the following companies for their support and participation:

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ASSI, Accurate Surgical and Scientific Instruments Corp.
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Hand Innovations
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HTCC - Hand Therapy Certification Commission
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TriMed, Inc.
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tion) with similar and stable Work-RVUs that could be used as a proxy for a Work-RVU recommendation for CPT 69990. In 1998, the AMA/RUC accepted a recommendation to weight average the Work-RVUs for deleted microdissection/microrepair CPT codes 61712 and 64830 as a proxy for the new microdissection/microrepair add-on CPT code 69990.

At issue currently is HCFA's misunderstanding of why CPT 69990 was developed. As presented above, CPT 69990 was developed to encompass microdissection/microrepair using the operating microscope whenever necessary and when not an inclusive component of the primary procedure. Modifier -20 was redundant to CPT 61712 and 64830 AND to all of the possible CPT codes that could have been developed for surgery which sometimes requires microdissection/microrepair.

The surgical community has worked diligently with the CPT Editorial Panel to identify procedures where microsurgery is an integral component and not separately reportable.

The necessity for a microvascular code is obvious in that many of the procedures that we deal with are not automatically associated with a microvascular code. Some examples of these codes include primary neurroraphy, repair of arteries or vein, etc. As many of you remember, Dan Nagle, former president of ASRM, has been instrumental in bringing these necessary "add-on" codes to the AMA. At a recent meeting in which Dan was in attendance with AMA representatives, it is apparent the 69990 codes that have been utilized to identify these microvascular procedures not included within the specific identifying code for that procedure, were called into question. Thus your coding committee is currently identifying those codes and subsequent procedures that can be associated with any type of microvascular surgery. Further Dan Nagle through the Hand Societies is currently working on codes that pertain to hand procedures associated with microvascular techniques. I would encourage all of you to submit and suggest any frequent code that can be associated with microvascular surgery. It is important to include our Neurosurgical and Orthopedic colleagues as well. It is our hope that with the identification of these additional codes associated with procedures that we perform with a microscope, that we can finally and clearly obtain compensation for this added technical component. This is the time to identify these procedures. The coding committee can use your help.

Greg Evans, MD
Chair, Coding and Reimbursement Committee
RM

ASRM 2001 New Members

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Dimitri Anastakis, MD
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Corresponding Membership

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Cluj-Napoca, Romania

Ashok Govila, MD
Abu Dhabi, UAE

Yasser Safoury, MD
Cairo, Egypt

ASRM Microsurgery Calendar

October 31–November 3, 2001
World Society of Microsurgery
Taipei, Taiwan

FUTURE ASRM ANNUAL MEETINGS

January 12–15, 2002
Hilton Cancun Beach and Golf Resort
Cancun, Mexico

January, 2003
Hyatt Regency, Kauai
Kauai, Hawaii

COMMITTEE REPORT

Outcomes Study Needs Member Input

TRIM: Tracking Results in Microsurgery

The major focus of the Clinical Guidelines and Outcome Studies Committee for the past several years has been to develop an online database of microsurgery outcomes that Society members could use to track their own microsurgical outcomes as well as benchmark them against average outcomes of the Society as a whole. Thanks to the dedication and hard work of Carolyn Kerrigan, this outcomes tracking system now exists in the form of TRIM (Tracking Results In Microsurgery). The Society views TRIM as a critically important resource to meet the needs of both the Society and its members by supporting:

1. The members' need to quantify effectiveness and competence.
2. Justify resource utilization as benchmarked against one's peers.
3. The Society's need to monitor academic and private sector activities.
4. Research and teaching.

TRIM: The ASRM database

TRIM is an online, web-based database developed and operated in conjunction with Outcome Sciences of Boston, who have extensive experience in clinical outcomes database management. Using a secure online connection and member password protection, security and privacy are assured. Because TRIM is a part of the ongoing quality assurance process, it is felt that IRB approval is not necessary. Data entry is quick and easy. Currently, tracked data include age, sex, diagnosis, comorbidities, procedure type and location, as well as certain aspects of resource utilization. Outcome measures include aesthetics, function, oncology, and complications. It is hoped that with ongoing member feedback, the database can be expanded to include additional data fields that are of value to the membership.

What information can I get?

How many microsurgical cases did I do last year? What is my complication rate? What types of patients am I treating? What is my average length of stay for a free flap? These are all questions that TRIM can answer for you.

Currently both personalized and aggregate/society reports are available. These include information such as a number of cases done in a period of time, patient demographics, procedure type, etiology, comorbidities, functional and aesthetic outcomes, and complications. Recently, the database of Sloan-Kettering and MD Anderson have been incorporated, providing some very interesting and important data to compare one's own personal experience against.

To participate in TRIM, call Outcome Sciences at

(888) 526-6700

to get your password, then log on at

https://research.outcomesciences.com

or

www.microsurg.org

How can I get started?

You can start using TRIM right away. Simply call Outcome Sciences: at 888-526-6700 to get your password, then the log on at: https://research.outcomesciences.com or via the ASRM web site: www.microsurg.org. You can then start entering data right away. The people at Outcome Sciences will help guide you through the process initially. And, there's always a help link available.

The future

The database is only as good as the information we enter into it. The Society hopes that as more and more members use TRIM over time and provide suggestions for improvements, that its value will continue to increase. In addition to quality monitoring, the research possibilities are limitless.

The possibility of collaborating with other organizations such as AAHS, ASSH, ASPS, AAOS, AMA, and ACS has the potential to open new avenues of cooperation in the areas of education, clinical guidelines, as well as the politics of resource utilization and reimbursement at the local, state, and national levels. Without the type of data that only TRIM can provide, we are powerless. TRIM may well be a critical tool for our survival.

Let's all get on board today!

2001 Clinical Guidelines and Outcome Studies Committee:
Nicholas Vedder, MD, Chair
David Chang, MD
William Kuzon, MD
Michael Miller, MD
Peter Neligan, MD
RM

MICROSURGICAL PEARLS

Microsurgical Tips from the Faculty of the University of Rochester Division of Plastic Surgery

Joseph M. Serletti, MD, FACS
Breast Reconstruction

Greg S. Orlando, MD
Upper Extremity Reconstruction

Andrew W. Smith, MD
Head and Neck Reconstruction

TIP #27

Preparation of the Thoracodorsal Vessel Recipient Site in Delayed Breast Reconstruction

In most delayed reconstruction patients, a scar usually extends into the axillary region. This scar is excised and the mastectomy defect is recreated by elevating superiorly and inferiorly based chest flaps. Although the mastectomy defect has been recreated, the central portion of the lateral chest skin remains attached to the chest wall, limiting access to the axilla. With retractors against the superolateral and inferolateral portions of the elevated chest flaps, the lateral chest is dissected into the axilla beginning at the level of the fifth or six rib. This dissection extends until the lateral border of the latissimus muscle is identified. This border is cleared from the level of the fifth or six rib superiorly. Care must be taken to avoid injury to the axillary vein during the upper portion of this dissection. With the latissimus border identified, dissection in the axilla goes from lateral to medial towards the chest wall. This maneuver exposes the anterior surface of the latissimus and the terminal branches of the thoracodorsal vessels as they begin to enter the muscle. The vessels and nerve at this location are usually free of scar. These vessels are then dissected moving in an inferior to superior direction until the axillary vein is identified. With more superior dissection, there is a tendency for greater scar tissue attachments. We have found the use of the sharp end of the Freer elevator very helpful in separating these vessels from the surrounding scar. It is extremely rare that in the delayed setting, the thoracodorsal vessels are not adequate as recipient vessels. The vessels are separated from the nerve and the axilla is set up just as in the immediate setting (*Tip #29*).

– Joseph M. Serletti, MD, FACS

TIP #28

Preparation of the Muscle Sparing TRAM Flap

In beginning the dissection of the muscle sparing TRAM flap, the upper limb of the transverse skin island is incised first. An upper abdominal flap is elevated to the zyphoid and costal margins. Perforators from the abdominal wall to the upper portion of the abdominal flap are preserved to maximize vascularity of this upper abdominal flap. In situations where there is a question as to the amount of abdominal tissue that can be removed for flap harvest, the patient is placed in a semi-Fowlers position and the upper abdominal flap is advanced over the lower abdominal skin island. This helps to insure adequate closure of the donor site without undue tension. This upper abdominal flap is then retracted superiorly and sutured onto the lower chest wall. Doing this keeps the upper abdominal tissue out of the way of the TRAM flap dissection. A decision is made as to ipsilateral or contralateral free flap reconstruction. The lateral edge of the selected side is elevated to the first row of lateral perforators. The anterior rectus fascia is incised and a muscle splitting dissection is performed. We typically dissect out the entire length of the inferior epigastric vessels to their origins at the external iliacs. This dissection is facilitated by three well placed retractors. An intermediate sized right angle retractor is placed against the anterior rectus fascia at its most inferior aspect. Two curved retractors are placed with one against the peritoneum directed in a superior location against the arcuate line. Another curved retractor is placed at right angles to this, medial to the inferior epigastric vessels, retracting the peritoneum medially. This provides three-point retraction in the lower inguinal region allowing full exposure of these vessels. In a patient with a moderate amount of adiposity here, the back surface of the inferior epigastric vein can easily be dissected from the fat with a Freer elevator all the way down to the external iliac vein. This maneuver helps to identify the location of the iliac vessels. After completing vessel dissection, the inferior epigastrics are not yet divided so as to help reverse the spasm typically induced by their dissection. The opposite end of the flap is then elevated to the first row of medial perforators overlying the selected rectus abdominis muscle and again a muscle splitting dissection is performed. There are typically more intramuscular small vessels encountered on the medial side during muscle dissection as compared to the lateral side. Once this is completed, the three retractors for the iliac vessel exposure are again placed and the inferior epigastric vessels are divided using hemaclips to occlude their origins at the external iliac vessels. This maneuver and dissection provides for a very adequate length of donor vessels. If there are two equal sized inferior epigastric veins, the dissection to the external iliac vein usually ends in a single vein and provides for a single venous anastomosis.

– Joseph M. Serletti, MD, FACS

continued on page 14

Microsurgical Pearls

continued from page 13

TIP #29

Preparation of the Thoracodorsal Vessel Recipient Site in the Immediate Reconstructive Setting

After completion of the modified radical mastectomy, nine-inch self-retaining retractors are placed in the axilla to expose the thoracodorsal vessels. One end of one retractor is placed retracting the inferior edge of the pectoralis muscle near the insertion of the muscle. The other portion of that retractor is against the inferolateral breast flap. The second retractor is placed at approximately 90 degrees to the first. This is retracting the superolateral portion of the breast flap and the lateral chest wall. With these two retractors in place, the entire axillary vein and thoracodorsal system are well exposed and no additional retraction is required. The thoracodorsal nerve typically crosses from medial to lateral on top of the thoracodorsal vessels. The nerve is dissected first, completely separating it from the vessels. The thoracodorsal artery and vein are then dissected down to the first major branch to the serratus anterior. The artery and vein are also separated from each other for the distal half of the length from the axillary vein to the first major serratus branch. These vessels typically go into spasm following this dissection and usually require five to ten minutes to recover prior to beginning the microsurgery. The thoracodorsal vessels are divided after the spasm has been corrected. They are divided at the junction with the first serratus branch. These vessels are then transposed in a lateral arc of rotation so as to now lie on top of the crossing thoracodorsal nerve. The vessels are then initially retracted superiorly and a moistened sponge is placed in the axilla so as to create a horizontal platform. Two, one inch by three inch, neurosurgical sponges are dampened and placed on top of this. This allows for an excellent surface upon which to perform the microsurgical anastomoses. The retracted thoracodorsal vessels are then laid out on top of the neurosurgical sponges. The TRAM flap is divided and sutured along the inferior chest wall just inferior to the exposed axilla. The thoracodorsal vessel length and the inferior epigastric length allow for easy anastomosis within the axilla keeping the TRAM tissue from undue obstruction in performing these anastomoses.

– Joseph M. Serletti, MD, FACS

TIP #30

Preparation of the Internal Mammary Vessel Recipient Site (Delayed or Immediate Reconstruction)

In the delayed reconstructive setting, a scar usually extends to the medial chest. This scar is excised and breast flaps are elevated. In the immediate setting, the remaining breast skin can usually be retracted medially to allow access to the internal mammary vessel location. With the breast flaps raised in either the immediate or delayed setting, the sternal angle is identified. The rib just lateral to the sternal angle is also identified which is the second rib. The third rib and its costal cartilage is palpated just below this and the pectoralis major muscle is divided using electric cautery directly over this area. Four or five inch self-retaining retractors are used to expose the third costal cartilage. They are positioned to retract one edge of the pectoralis muscle and the opposite breast skin flap. These are positioned at 90 degrees from each other providing maximum exposure of the parasternal region. The perichondrium is incised and a subpericondrial dissection is coursed onto the deep surface of the costal cartilage. A rongeur is then used to remove the costal cartilage. The cartilage is removed almost to the point of where it joins the rib. It is also removed all the way but not into the sternum. Inadvertent removal of the sternal bone causes exposed cancellous bone which bleeds throughout the remainder of the procedure, interfering with the microanastomoses. This bleeding continues despite using bone wax and cautery for control. With the costal cartilage removed, the deep surface of the perichondrium is incised well lateral to the vessels. A longitudinal bluish hue can usually be seen through the deep perichondrium indicating the position of the internal mammary vessels. Moving lateral to medial in elevating the perichondrium to expose the vessels avoids any injury to small branches coming off of this system. Once the vessels are identified, the perichondrium is elevated off of them both superiorly and inferiorly. The deep chest wall musculature and remaining lymphatics which are directly superficial to the internal mammary vessels are divided using a low setting of cautery. This is done under direct vision avoiding injury to the vessels. As a result of this dissection, the vessels are exposed from the bottom of the second rib to the top of the fourth rib. A Freer elevator is quite helpful in separating these vessels from each other as well as from the remaining attachments to the lymphatics and attachments to the underlying pleura. We have found the internal mammary artery very sensitive to injury even when using vascular forceps. The internal mammary artery must be handled with a higher level of care as compared to the thoracodorsal vessels or normal vessels within the extremities. We have also found the right internal mammary vein to be quite reliable in terms of its diameter for microanastomosis. We have on occasion found the left internal mammary vein too small to use even at the level of the third rib. When the small internal mammary vein is encountered on the left side, we have usually abandoned this recipient site in favor of the thoracodorsal site. Transposing the external jugular vein or cephalic vein remains an option for using the internal mammary recipient site when the internal mammary vein's

diameter is insufficient. In the routine setting of using the internal mammary vessels, the vessels are divided at the top edge of the fourth rib. A trimmed piece of neurosurgical sponge is placed within the floor of the defect created by removal of the rib and the vessels are placed on top of this. The divided TRAM flap is secured to the inferior chest wall just inferior to the vessel recipient site. Here again with the typical dissection of the inferior epigastric vessels all the way to the external iliacs, enough donor vessel length allows for positioning of the TRAM flap well out of the way of the medial chest.

– Joseph M. Serletti, MD, FACS

TIP #31

Distal Anastomoses in the Palm and Digits

Standard microsurgical training teaches us to perform the proximal anastomosis prior to the distal when using interposition vein grafts. This proves difficult in digital replantation and upper extremity bypass procedures because of space constraints. The microsurgical double approximating clamps combined with limited vessel dissection makes vessel rotation almost impossible and therefore back wall suture placement difficult. In order to avoid this problem, the distal anastomosis is performed first. The front wall is completed and then the vein graft is flipped back upon itself allowing the back wall sutures to be placed under direct vision. The vein graft is then returned for suturing of the proximal anastomosis using standard technique. Prior to clamp release, the vein graft is filled with heparinized saline to eliminate any air.

– Greg S. Orlando, MD

TIP #32

Dorsal Hand Wound Coverage

Devastating dorsal hand trauma often necessitates bony reconstruction combined with extensor tendon transfer/grafting and soft tissue coverage. For adequate extensor tendon excursion, there must exist a gliding surface between the tendons and the dorsal carpus. This can be accomplished in many ways such as with a temporal parietal fascia free flap including the deep temporal fascia or a fasciocutaneous flap with subcutaneous tunneling. Another alternative is the tensor fascia lata free graft. The graft is placed deep to the extensor tendons with the "visceral" layer facing dorsally. The soft tissue flap is then placed to cover the tendons and graft. This allows a "sandwich" of soft tissue for the tendons to glide.

– Greg S. Orlando, MD

TIP #33

Vessel Transfer in Digital Replantation

Many digital amputations present with a component of avulsion/traction and/or crush injury. The vascular zone of injury often extends far proximally. This necessitates bone shortening and often interposition vein grafts. Another option is transferring a proper/common digital artery from an uninjured digit to provide arterial inflow. An example might be the radial or ulnar digital artery of the index finger for transfer to the thumb ulnar digital artery. Of course, the digital Allen's test to the index finger must be intact. This maneuver affords adequate arterial inflow from an uninjured vessel and also decreases operative time since only one anastomosis is required.

– Greg S. Orlando, MD

TIP #34

Microsurgery Technical Tips of the Head and Neck

Pedicle length: As a general rule, I prefer to partially inset the flap before performing the anastomosis. This helps set the vessel length more easily. Head rotation should also be taken into account when setting the vessel lengths.

Recipient vessel selection: For extraoral head and neck free flaps, I prefer an end to side anastomosis between the donor and recipient arteries because of technical ease. However, in the setting of intraoral mucosal defects I prefer to use a branch of the external carotid system in an end to end fashion. I believe the end to end anastomosis (which is usually in a less dependent position) is more resistant to blow-out in the setting of infection or fistula. An end to side anastomosis between the recipient vein and the internal jugular vein is preferred because of the technical ease of sewing to a large, high flow vein. An end to end anastomosis with the external jugular vein is also satisfactory. In previously radiated/operated necks I have a very low threshold for using the contralateral neck vessels.

Magnification: Most head and neck free flaps can be safely performed under 3.5X loupe magnification. If loupe magnification is used an interrupted suture technique is generally needed to allow for better visualization.

Forearm donor site: A volar splint and tie over cotton/xeroform bolster (which is left in place for 6 days) has significantly decreased the incidence of delayed healing of the skin graft over the FCR tendon.

– Andrew W. Smith, MD

RM

IN MEMORIUM

Thomas Arganese, MD
1947 - 1999

Stephen S. Kroll, MD
1944 - 2000

My Birthday Is...

Thank you for your response! We have currently collected birth date information from about one half of the membership. But we need this information from **everyone**! The ASRM leadership will use this to make decisions about membership categories, new member solicitation strategy and long term strategic planning.

Name _____

My birthday is _____
month / day / year

Please complete, copy and fax to:

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