

Leaders in microsurgery and reconstruction

### Autumn-Winter 2020

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# Reconstructive Microsurgery

THE AMERICAN SOCIETY FOR RECONSTRUCTIVE MICROSURGERY • VOLUME 31.2

### PRESIDENT'S MESSAGE

### 2020 Offers More Cased-based, Interactive Programming Than Ever!



Guenter Germann, MD ASRM President

he COVID-19 pandemic has not come to a halt, has taken many lives around the globe and may change social interaction, economy, and political systems permanently. One of the consequences was that we had to cancel our annual meeting in Kauai in January, 2021.

Thanks to the joint effort of all three societies (AAHS, ASPN and ASRM), the negotiations with the hotels, which were brilliantly led by Krista Greco and Sarah Boardman, resulted in very favorable conditions for the cancellation of all

reserved hotels so that ASRM came away with nothing more than a small black eye.

In view of the global health situation and the quarantine rules enforced in all states, no major meeting could be held as an in-person meeting. The ASRM council decided that we will offer a virtual two-day meeting which follows a half day symposium of the American Society of Lymphatic Surgery (ASLS). Prominent speakers from the US and all parts of the world will cover all major fields in microsurgery with panels and keynote lectures. We are happy that we will also include the "Best Case/Best Save" presentation in our virtual program (see details in the program co-chairs' report).

A new website will be presented early next year. The task force under the guidance of Evan Matros is working extremely hard to complete this monumental task. The preliminary results are excellent and I'm sure that you as members will like the appearance and the many new features built in.

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#### FROM THE EDITOR

### **Dear Readers**



Babak J. Mehrara, MD ASRM Secretary,

**RM Editor** 

want to welcome everyone to this edition of *Reconstructive Microsurgery*. As many of you have noticed, this newsletter has grown significantly in size and scope and nicely summarizes many of the initiatives and programs of our society.

The world has changed since our last meeting with the emergence of COVID-19 and the pandemic that has touched all of our lives. We all know people who have suffered from this disease and many of us, unfortunately, know people who have succumbed to it. Hundreds of physicians, nurses, physicians assistants and other medical professionals all around the globe died from complications of COVID-19. Many of our members were redeployed and helped with the care of the enormous number of patients that flooded our hospitals. Putting themselves at personal risk, these selfless and brave individuals represent all that is good in our society.

This has been a humbling experience. Humbling that in 2020, the world is brought to its knees by a virus with a genome spanning just 30 kilobases (for reference, the human genome is 3 million times bigger). Humbling

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#### RECONSTRUCTIVE MICROSURGERY

#### Autumn/Winter 2020

President Professor Guenter Germann, MD

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The mission of the American Society for Reconstructive Microsurgery is to foster excellence and innovation in microsurgery and reconstructive surgery. ASRM upholds the values of Integrity, Collegiality, Scholarship and Innovation.

### SOCIAL MEDIA TASK FORCE REPORT

### ASRM on Social Media!



Melissa Poh, MD Chair, Social Media Task Force

ello everyone! What an interesting year it has been so far. In line with ASRM's goal to augment our social media presence, the Social Media Task Force started an Instagram profile (@asrm\_micro) in June. The account has grown quickly with nearly 1,200 followers in a short 5 months! In addition to posting meeting announcements and selected scientific articles related to microsurgery, we also invited institutions to highlight their microsurgery fellowships as a way to provide more information to interested applicants. The Task Force is always on the look-out for interesting content to share. The Instagram account rounds out the ASRM Facebook group and Twitter account (@asrm\_micro) which have increased in followers by nearly 20% and 50% respectively since the relaunch this summer.

Especially in this time of social distancing and virtual meetings, the ASRM social media network is a great way to keep in touch and up to date with the Society and colleagues. Please continue to tag @asrm\_micro or #ASRMmicro in your posts and tweets. And for the upcoming virtual meeting in January, you can also use #ASRM2021. If you have any questions or comments for the Social Media Task Force, please contact us at ASRMposts@gmail.com. Let's get connected! **RM** 

### MESSAGE FROM THE 2021 SCIENTIFIC PROGRAM CO-CHAIRS

### 2021 ASRM Virtual Symposium



Aldona Spiegel, MD 2021 Scientific Program Co-Chair



**Bauback Safa, MD, MBA** 2021 Scientific Program Co-Chair



e have all been looking forward to an extraordinary meeting in Hawaii. Unfortunately, we will need to put our beach gear away for awhile and keep donning our masks as we have postponed our ASRM Annual Meeting to 2022, which will take place in Carlsbad, California.

However, together with our international co-chair, Dr. Dirk Schaefer, we are excited to offer a new educational opportunity by holding the first ASRM Virtual Symposium on January 16 – 17, 2021, with the theme of "Bringing the Microsurgery World Together Virtually." We are looking forward to a fantastic Master Series in Microsurgery chaired by Babak Mehrara, MD, which will showcase keynotes highlighting the most current advances in subspecialty areas. We will also feature national and international speakers giving a global perspective on hottest specialty topics, including Breast, Head and Neck, Hand and Upper Extremity, Chest and Abdominal wall, and Lower Extremity.

We are pleased to collaborate with the American Society for Lymphatic Surgery on a combined session before the meeting on January 15, 2021, that will provide focused virtual education in advanced lymphatic reconstructive surgery. Continuing our tradition, we will also have combined programming with the American Society for Peripheral Nerve (ASPN) and the American Association for Hand Surgery (AAHS).

One of the highlights will be the first Virtual Best Case/Best Save session as always chaired by Dr. Michael Zenn, which promises to be entertaining with its trademark humor, expert judgment with strong audience and participant involvement.

One of the goals of ASRM is to continue growing our international membership; with that in mind, we have considered the timing for the live presentations as optimally as possible for global time zones. We are anticipating worldwide participation that reflects the multinational and multi-specialty nature of our society.

The best abstracts selected from a large number of submitted high-quality abstracts will be available on-demand. The live session will showcase the top abstracts and highlight honorable mentions. An essential aspect of ASRM is the importance of trainees, and therefore we are waiving the registration fees for all students, residents, and fellows.

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"ASRM's first virtual symposium is "Bringing the Microsurgery World Together Virtually" and will feature national and international and international speakers as well as the Master Series in Microsurgery and a virtual Best Case/Best Save session."

### **FROM THE EDITOR** *Continued from page 2*

that in 2020, our most advanced medical advice is social distancing, avoid touching your face, and hand washing. I don't mean to minimize the importance of these approaches, but it is astounding how little our medical system has advanced in some areas since the last global influenza pandemic in 1918. I hope that ongoing research projects discover novel treatments and preventative options for this disease so that we can return to our jobs of helping patients.

For many of us, a significant portion of our practice has been sidelined. Although the importance of cancer reconstruction and microsurgery is undisputed, these procedures have been deemed "non-essential" in some areas during this difficult time. As a result, many of us have had to make difficult decisions and have uncomfortable discussions with our patients. I hope that we can use this experience for a positive purpose. Perhaps we can use this unusual and external negative experience as a means of evaluating the importance of reconstructive microsurgery.

Given the events that have occurred this spring, it is difficult to imagine a time when we will be able to meet again in a large gathering such as our annual ASRM meeting. For the first time ever, our next annual meeting will be "virtual"; however, I am confident that the program will be as exciting and interesting as ever. The planning for our annual meeting



While COVID has shut down our Annual Meeting in Hawaii, it has not stopped us from taking care of patients and doing some amazing cases. Did you perform the BEST CASE of the year? Did you totally pull victory from the clutches of defeat with an amazing BEST SAVE of the year? Are you disappointed that you cannot present it this January in Hawaii? You are in luck because **BEST CASE / BEST CASE is going virtual this January at the ASRM Virtual Symposium on January 16**, 2021!

Submit your one-of-a-kind, never-been-seen, did-they-just-do-that!!! case to the BEST CASE / BEST SAVE COMPETITION by December 7, 2020. This virtual meeting will have the largest viewership of all time so show the reconstructive world what you've got! See <u>www.microsurg.org</u> for submission qualifications and instructions.

And this time, it's BYOB!

has progressed nicely under the leadership of our President Dr. Guenter Germann and his Scientific Co-chairs Aldonna Spiegel and Bauback Safa. The Scientific Committee is planning an exciting meeting with emphasis on scientific evidence. I am hopeful that we can all meet again in person in 2022. RM

#### 2021 ASRM VIRTUAL SYMPOSIUM Continued from page 3

One of the most exciting features of ASRM meetings is the social interaction and camaraderie shared by the members. We want to continue this aspect as much as possible remotely and are planning a virtual social program with exciting networking opportunities. We plan to feature virtual "Party rooms" hosted by individuals or organizations that will be available for sign up. We will also have designated networking hours for The Young Microsurgeons Group (YMG) led by Dr. James Butterworth, and The Women's Microsurgery Group (WMG) led by Dr. Summer Hanson. For residents seeking guidance and advice, there will be an opportunity to sign up for a happy hour group with a mentor.

As the Scientific Program Chairs, we extend an enthusiastic invitation to join us for the virtual meeting, kick back and relax in the comfort of your home and learn the most updated information from worldwide experts and connect with friends and colleagues. Stay well, stay safe, and "see you" soon! **RM** 

### HISTORIAN'S CORNER: IN MEMORIUM



### Remembering our Great Reconstructive Surgery Colleagues

Joan Lipa, MD ASRM Historian



Ian Jackson, MD 1934-2020

an Jackson was one of the best known Plastic Surgeons in the world. His contributions to the specialty are immense. Dr. Jackson did his medical training in Glasgow and, in fact, started his career in pathology. He soon changed to surgery and completed his plastic surgery training in the renowned Canniesburn Unit in Glasgow, becoming a consultant there in 1969. He subsequently moved to the United States and became professor and head of the Section of Plastic Surgery at the Mayo clinic, Rochester for 10 years. After this, he moved to Southfield, Michigan where he established a craniofacial center that still bears his name. So you might wonder, why we should honor him in the microsurgery community. He is probably best known for his work in cleft and craniofacial

surgery, after all. However, one of his biggest contributions and one which is an important part of the story of the development of flaps, was the recognition of axial blood flow in the groin flap. This is work he did in Canniesburn with Ian McGregor [1,2] and it paved the way to a recognition of the patterns of blood flow and to the development of flaps as we know them today. His book "Local Flaps in Head and Neck Reconstruction" is a classic. It has been used by many generations of surgeon and continues to be used today.

Ian was a wonderful teacher. He travelled all over the world and had an infectious enthusiasm about him. He loved what he did and instilled that love in others. He adopted a patient, a boy he had seen in South America who had been abandoned as a baby. He did numerous surgeries to reconstruct his face and the boy became part



Marjorie, David, and Ian Jackson

of the family. His wife, Marjorie wrote a book about the experience entitled, "The Boy David". Jackson was profiled in Panorama, the BBC equivalent of 60 Minutes. This story inspired millions of people and he inspired many young doctors to become Plastic Surgeons. He will be sadly missed and is one of those rare surgeons who is irreplaceable. He is survived by his wife, Marjorie, his children and grandchildren. **RM** 



Peter Neligan sharing a smile with his friend and colleague, Ian Jackson. (Peter kindly contributed this photo tribute.)

#### REFERENCES

- McGregor IA, Jackson IT. The groin flap. Br J Plast Surg. 1972 Jan;25(1):3-16.2.
- 2. Axial Pattern Flow. McGregor, IA and Morgan G. Axial and Random Pattern Flaps. Br.J.Plast. Surg. 26:202-213, 1973

PRESIDENT'S MESSAGE

### HISTORIAN'S CORNER: IN MEMORIUM

#### Continued

### Nicolas Guay, MD 1968-2020

N icolas Guay was a very well-known plastic surgeon in Canada, specializing in the entire scope of breast reconstruction. I first met him in 2005, when he was President of the Groupe pour L'Avancement de la Microchirurgie, which is the Canadian Microsurgery Society. This was early in his career, and I recall being impressed by his limitless passion for his work and his patients.

He received his medical degree as well as his Plastic and Reconstructive Surgery Fellowship at the University of Montreal and then completed his Microsurgery Fellowship at the University of California, Los Angeles. He started his practice in 2000 in Canada's capital of Ottawa. From there, he developed the Canadian Collaboration on Breast Reconstruction, one of the first patient information websites for women considering breast reconstruction, with input from over 100 physicians and surgeons from across the country. He was instrumental in developing the breast cancer reconstruction program at The Ottawa Hospital.

Dr. Guay then attained the position of Corporate Chief of Surgery at the William Osler Health System in 2013, in the Greater Toronto Area. He was able to develop the Rapid Diagnostic and Breast Support Clinic, and advance the systems in place for operating room procedures and post-operative assessment. He would take on difficult reconstructive problems, and could operate with extreme efficiency to be able to help as many patients as he could.

He will be missed by his colleagues, and his patients – he helped many to look beautiful after breast cancer. He is survived by his wife, Dr. Tania Di Renna, and his two daughters. **RM** 



Nicolas Guay becomes a member of the Atlantic Society of Plastic Surgeons, and is accompanied by some of his Canadian microsurgery colleagues, Joan Lipa, Steven Morris, and Jason Williams.

Continued

Social media presence will also be intensified in the coming months. Our Social Media Task Force invested many hours to lay the groundwork for increased communication to and interaction between ASRM members, predominantly driven by our younger members.

"The preliminary results are excellent and I'm sure that you as members will like the appearance and the many new features built in."

While we postponed the due date for the membership dues because of the COVID-19 pandemic, the Central Office will now be sending out dues payment notices for 2020. Please balance your account in a timely manner.

I'm very confident that we as an organization will master the challenges arising from the pandemic, and all of our council and committee members are optimistic that we can stage our meeting in January 2022 in Carlsbad, California.

Please stay healthy and good luck for you and your family.

### YOUNG MICROSURGEONS GROUP

### Finding Positives in a Dark Landscape



James A. Butterworth, MD Young Microsurgeons' Group Chair

t would be a difficult task to try to succinctly express the way that this past year has gone. It started with such a high, coming off of an amazing meeting in January. That unfortunately followed with the advent of COVID-19 and the resulting hardships in the months to follow.

While the outlook seems bleak with the ever-increasing numbers of victims contracting the virus, one can step back and try to recognize a few positives in a fairly dark landscape. We are struck by the number of neighbors gathering in driveways and genuinely connecting with people who are otherwise passing acquaintances or strangers.

We, as plastic surgeons, answered the call when asked to leave our lane, shake off the general medicine dust, and provide support to EDs, ICUs, and stepdown units through whatever means necessary. We connected with patients, trainees, colleagues, friends, and family through video conferencing in an effort to stay in touch with individuals in need, people that we care about, and those that we love. It seemed like a miracle to see my wife's parents on the other end of a video conference in late spring. It took a lot of coaching, a test of patience with two very tech-averse people, and tolerance of what internet speeds are like on a farm in rural Iowa; but we adapted and overcame. Now we are able to see them on a weekly basis, through a computer screen, which

never would have happened prior to COVID. While this virtual format does not, in any way, replace real and tangible human contact, it has provided a medium for interaction, outreach, and productivity.

The number of virtual educational opportunities have exploded over the past months. Through quick zigs and zags, our societies have managed to continue holding important meetings and conferences at both regional and national levels. While these may not be the same as our typical meetings, they are important in the ongoing dissemination of information, sharing of ideas, continued contact with our colleagues, mentors, and mentees, and possibly most importantly, perseverance. It is a testament to the strength and durability of our communities, that they are making sure that life and work do not come to a grinding halt in the face of incredible adversity. We do it differently and with restrictions, but we do it and that is what is most critical.

Our upcoming ASRM meeting in January will become a virtual symposium and although it will be different, it will be thoughtful, educational, unprecedented, and amazing. The YMG is committed to continue to contribute meaningfully and educationally. As a result, we will host the 4th Fellow Meet "We, as plastic surgeons, answered the call when asked to leave our lane, shake off the general medicine dust, and provide support to EDs, ICUs, and step-down units through whatever means necessary."

& Greet Forum where residents and medical students can virtually have introductions to the microsurgical fellowships and active fellows. This will be done through a series of sessions to allow for presentations and Q&A's as interactive experiences for prospective microsurgeons. Look out for notifications on Instagram, ASRM\_MICRO. We look forward to seeing you there! RM

### **Building Resilience**



Summer E. Hanson, MD, PhD Chair, Women's Microsurgery Group

hat a difference a few months has made in our planning and preparation for the Annual Meeting. The virtual meeting this year will look very different from what we were hoping for, but the Program Chairs, committee and Executive Committee have been working tirelessly to ensure the high quality, cutting edge programming that we are accustomed to with ASRM. The pandemic has shown us that as surgeons, educators, and researchers, we are innovative, adaptable, and resilient.

Likewise, the WMG has been planning virtual events to coordinate with the annual meeting as well as expanding our Mentorship and Career Development Programming. The collective experience of our WMG faculty members has been the strength of our mentorship program and each year we add new mentors and mentees. Initiated with this past meeting in Florida, mentor and mentee pairs were matched for a yearlong commitment based on survey questionnaire responses identifying specific needs of the mentee, similar career goals and interests, and demographic information. Overall, we had 24 mentee participants and 12 mentors. The mid-program feedback we have received over the summer has been uniformly positive. Particularly as the resident visiting rotations and in-person fellowship interviews were limited this year, virtual networking and sponsorship among the WMG faculty and residents has been more valuable than ever.

As we have quickly learned to optimize our virtual meeting capacity, the Mentorship subcommittee will be developing a Zoom series. Stay tuned for programming on WMG Career Development. Be sure to check out the narratives by our previous Vioptix Scholarship recipients. The Resident / Fellow Award went to Dr. Megan Fracol from Northwestern University while Giulia Daneshgaran from Albert Einstein College of Medicine (now UW-Seattle PS intern) was the recipient of the Medical Student Award. Each awardee has their experience featured in the newsletter. Having spent time with all of the mentees this year, the future looks bright for microsurgery. For more information on the Mentorship Program, please see the website www.microsurgery. org/WMG.

The WMG panel this year will focus on optimizing productivity and management among a variety of practices. Our expert faculty will speak to navigating new systems and career changes, the importance of optimal practice management and time management and both defining and achieving personal and professional success. We will all benefit from learning practical tools and tangible advice for building resilience at various stages of development. "Our expert faculty will speak to navigating new systems and career changes, the importance of optimal practice management and time management and both defining and achieving personal and professional success."

It is with great enthusiasm and gratitude that I represent the WMG this year. I truly value the mentorship and friendship that I have received from the exceptional membership of the ASRM. I add something valuable to my practice or my well-being with every program and hope to do the same for my colleagues and friends. I look forward to a time when we are toasting the Best Cases and Best Saves again in person but in the meantime will enjoying seeing everyone virtually again soon. Be safe! RM

### MICROSURGERY MATCH AND FELLOWSHIP PROGRAM

### Microsurgery Match Program Proceeding Despite COVID-19 Disruptions



Jay Agarwal, MD Chair, Microsurgery Fellowship Match Committee

his has been a challenging year given the COVID-19 pandemic. This is especially true as it relates to our trainees and future microsurgery fellows. The disruptions and uncertainty surrounding the future caused by COVID-19 has created a great deal of stress for graduating residents seeking a fellowship in reconstructive microsurgery. The rapidly evolving conditions

Despite COVID, we've had another fantastic match season with 70 fellowship applicants, 30 active fellowship programs and a record 47 positions offered.

surrounding the COVID-19 pandemic kept the ASRM Microsurgery Fellowship Committee busy and I am grateful for our committee members who have helped to ensure a fair and safe microsurgery fellowship match program. Additionally, I am thankful for the flexibility and dedication to applicant health and safety exhibited by each of the fellowship member institutions.

In the spring of 2020 our committee members: Shai Rozen MD, Jamie Levine MD, Gedge Rosson MD, and Adrian Ooi MD, along with ASRM Administrative Liaison Krista Greco, convened an urgent meeting to discuss this year's match amid the rapidly evolving outbreak. With uncertainties about the potential health risks and state by state travel restrictions, we made a decision to postpone this year's microsurgery match timeline. All participating sites and applicants were informed of the new timeline:

Rank List deadline: October 21, 2020

Match Results: October 28, 2020

Post-match vacancies posted: Thursday, October 29, 2020

In June 2020, the committee sent a survey to all participating program directors requesting their opinions on virtual interviews for this year's match. We received a majority response indicating that due to the ongoing COVID-19 pandemic, programs would be in favor of virtual interviews. With approval from the ASRM Chair and Council, the microsurgery fellowship match committee requested that all Microsurgery Fellowship Programs conduct online/virtual-only interviews for this year's match.

Despite COVID-19, we've had another fantastic match season

with 70 fellowship applicants, 30 active fellowship programs and a record 47 positions offered. Fellowship interviews are currently winding down and from all indications, the virtual format was very successful. While a virtual interview limits an applicant's ability to visit the institution and the city where they may spend the next year, my personal communications with a number of applicants indicate that they were still able to get a good feel for the programs. The applicants were very positive about the experience and were thankful for the time and cost saving that the virtual format afforded them. The committee will conduct a post-match survey to gain an understanding of how things went from the perspective of the fellowship programs.

Our plan for the upcoming year is to resume the usual match timeline, which typically begins with applicant registrations in early January. The decision to pursue in-person or virtual interviews for next year's match will be made as we get closer to next year's interview dates and with consideration of the status of the COVID-19 pandemic. **RM** 

### MICROSURGICAL PEARLS

### Shining Through in our Virtual Realms



Michele Manahan, MD, MBA, FACS Education Committee Chair

hat can one say about education pearls in "these trying times?" The "unprecedented" situation defies traditional wisdom. I can only offer to you that educational principles are suffering the same conundrums as every other aspect of life these days.

On one hand, we see the importance of "keeping calm and carrying on." We benefit from regularity in our lives. When everything else is shifting, we tell ourselves that we can at least rely on our daily clinical and scientific work, educating ourselves through daily practice, educating our colleagues through presentations, meetings, and publications, and educating our trainees through our daily interactions as we care for our patients.

Can we *truly* rely on the comforting familiarity of our jobs right now, though? Many of us were asked or chose to curtail our daily work during the worst of the COVID-19 experiences. We have gone almost exclusively virtual for meetings, learning to accept pixelated versions of our colleagues' faces and occasional audio freezes as substitutes for the rich interpersonal learning from which we have all benefitted in the past. We have been separated, in many cases, from the presence of students and other trainees, which we had previously assumed would always be there. We've turned frenetically to churning through publications as an outlet for our professional energy.

Just as many must find creative ways to keep education of children fresh and engaging during the virtual COVID-19 period, I suggest we spend similar energies on ourselves and those within our professional spheres. We must fully embrace technology to optimize learning without asking others to risk the health of themselves and their families. We must remain imaginative and engaging. What has sparked our interest in new areas in our pasts? Can we focus our modern educational efforts on tidbits and teasers? Can we deliver our information through news headlines and media-inspired reports, so to speak?

Can we broaden the audiences for those hallway debates about a tough patient from which we all learn so much? Can we use technology to become like a fly on the wall for two colleagues solving the problems of their day?

As your Education Committee Chair,

I put forth a challenge, for our society and for ourselves. Let's bring back the fun of learning. Let's make our plastic surgery homework a choose-your-ownadventure challenge. Let's make it visual through video shorts, while resisting the urge to over-formalize this by requiring professional editing. Let's work to let ourselves and our personalities shine through in our virtual realms. Let's make our professional avatars as exciting as those the gamers devise for themselves. Let's build a phoenix of novel educational methods to rise from the ashes of the COVID-19 disaster. Your education committee remains ready and willing to meet these challenges. RM

"We must remain imaginative and engaging. What has sparked our interest in new areas in our pasts?"



### WEBSITE TASK FORCE REPORT

## ASRM Website Task Force: Onwards and Upwards



**Evan Matros, MD** Senior Member-At-Large, reporting on behalf of the Website Task Force

nder the leadership of Dr. Guenter Germann and with the input of the Website Task Force, incredible progress has been made towards the site rebuild in just 6 months of time. The committee members initially met both to determine the content as well as the visual layout of entire website. Information was presented to three website

vendors who bid on the scope of the project. Upon review, the ASRM Council selected American Eagle (Americaneagle. com) as the vendor. American Eagle has been involved in web design, development, hosting, and digital marketing services for over 25 years helping clients, from start-ups to Fortune 500 companies, in all industries.

A variety of new features will be available on the ASRM website. The most important functionality will be an adaptive format which will enable ASRM members to easily use the site from their cellular phones or tablet. The member login will be much more visible from the landing page allowing ASRM members to access their own personalized dashboard which contains pertinent information. This will include dues, donations, current and past committee participation and upcoming deadlines. A mock-up of the dashboard can be seen in the image below.

All sections of the website will have enhanced functionality and will be

Continued on page 12

"The most important functionality will be an adaptive format which will enable ASRM members to easily use the site from their cellular phones or tablet."



#### WEBSITE TASK FORCE REPORT

#### ONWARDS AND UPWARDS Continued

more visual, including graphics, photos and videos. For example, the section "About ASRM" will include an expanded ASRM organizational history including an interactive time line of key "firsts" in microsurgery with videos by the current ASRM historian, Joan Lipa, MD, a video from one of the original founding members, as well as a video on the future vision of microsurgery

by former president Dr. Scott Levin. The "Meetings" section will feature and provide accessibility to the upcoming, as well as both future and past meetings. As before, links will be provided for registration and abstract submissions; however, information on previous meetings will be more comprehensive containing details on award winners, panels, abstracts, as well as Master Series videos links. The website traffic report also revealed that a large number of site visits are for residents seeking information about the microsurgery match. The new web design will not only link them to the SF Match website, but provide more content about each of the microsurgical training programs available across the US and abroad. Each training program will be solicited to provide up to date information on details of their training experience including number, types of surgery performed, and positions available.

As a microsurgery society, our primary purpose is to improve and advance the care for our patients.



*A lymph node transfer, an example of common microsurgery procedures created specifically for patient education that will be posted on the website.* 

As such, the "For Patients" section has been restructured in conjunction with the ASRM Education Committee led by Dr. Michele Manahan to be more user friendly for patients. Content will include short paragraphs written for patients on common microsurgery procedures and will include simplified illustrations created specifically for the website. Attached is a figure of a lymph node transfer to be included in this section.

In the upcoming weeks, the Task Force will be soliciting materials from the membership to "fill in" the new website canvas. This will include images from meetings, personal images of yourself to include on your dashboard page and for committees, details on fellowships, as well as research labs. Please respond to these requests as fast as possible as it will be critical to the success of the website. In the meantime, committee members are meeting with American Eagle each week on site development. Please feel free to reach out if you would like to participate or have an interesting idea to contribute. All suggestions are welcome.

Warmest and safest regards to everyone.

### ASRM Calendar



JANUARY 16–17, 2021 ASRM VIRTUAL SYMPOSIUM & 36TH ANNUAL MEETING Featuring presentations from experts around the world



JANUARY 15–18, 2022 ASRM 37TH ANNUAL MEETING Omni La Costa Resort and Spa Carlsbad, California

#### **RESEARCH COMMITTEE**

### The Importance of Fostering Research



Howard Levinson, MD

Chair, Research Committee

he American Society for Reconstructive Microsurgery (ASRM) recognizes the importance of fostering the development of surgeon scientists and innovative research in microsurgery and reconstructive surgery. The ASRM is committed to investing in the future of microsurgery and developing leaders in microsurgery and reconstruction. The ASRM Medical Student Research Grant is intended to fund a research project to be completed during the three (3) summer months between a student's first and second year in medical school.

A summary from 2020 Medical Student Research Grant recipient Scott Echternacht is presented below. The other 2020 award recipient, Hosannah Evie, published her report in the Spring/Summer 2020 issue.

#### 2020 MEDICAL STUDENT RESEARCH GRANT RECIPIENT REPORT, PART II

### EVALUATION OF NERVE REGENERATION IN "SUPER-HEALING" MICE



Authors: Scott R. Echternacht, BA<sup>1,2</sup> (at left); Dalton T. LaBarge, BA<sup>1</sup>; Jonnby S. LaGuardia, BS<sup>1</sup>; and Jonathan I. Leckenby, MD, PhD<sup>2</sup>

Affiliations: 1) University of Rochester School of Medicine and Dentistry; 2) University of Rochester Medical Center, Division of Plastic and Reconstructive Surgery

Twenty million Americans suffer from peripheral nerve injury, costing the United States an estimated 150 billion health-care dollars annually and having a devastating impact on a patients' quality of life<sup>1,2</sup>. Despite decades of research, improvement in microscopes and surgical technique, outcomes of nerve repair have remained largely unchanged<sup>3</sup>. Traditional approaches that seek to improve regenerative outcomes following nerve injury have largely focused on manipulating the environment or upregulating stimulatory factors to promote axonal growth.

The Murphy Roths Large/Lymphoproliferative (MRL/ MpJ) strain of mice have become well known as "super-healing" mice<sup>4</sup>. First developed as a model for lupus, their super-healing capabilities were discovered accidentally and since then they have been shown to have decreased scar formation in wound and tendon healing models. While this superior healing has been suggested in peripheral nerve regeneration as well, it has not been quantified with a functional outcome and is not fully understood<sup>5</sup>.

This study sought to investigate the effect scar formation has on peripheral nerve regeneration through the use of these super-healing MRI/MpJ mice. The hypothesis being tested is that reduced scar formation in the peripheral nervous system will yield better nerve regeneration, in the form of improved functional and histomorphological outcomes.

Two strains of mice were compared: C57BL/6J and MRL/MpJ. In both groups, six-week old male mice were used (n=48). The right sciatic nerve was transected and immediately repaired using two epineural 10-0 nylon sutures. Animals were functionally assessed using walking track analysis at postoperative weeks (POW) 1, 3, 6, and 9. The walking track analyses were used to calculate the sciatic functional index (SFI) scores. At each endpoint, mice were sacrificed and the sciatic nerves were harvested. Sections were analyzed using light microscopy and transmission electron microscopy (TEM) to calculate axonal counts, g-ratios, and axon to extracellular matrix (ECM ratios).

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The MRL/MpJ mice were found to have superior functional outcomes at POW 1 and 3 (p = 0.0036 and 0.0443, respectively). Although the MRL/MpJ mice had better SFI scores at POW 6 and 9, the data lacked statistical significance. Surprisingly, at POW 3 and 6 the C57BL/6J mice were found to have more axons distal to the repair (p = 0.0012 and <0.001, respectively). There was no statistically significant difference in axon counts found at POW 1 and 9. When analyzing g-ratios, there was a statistically significant improvement in the MRL/MpJ mice at POW 3 and 6 (Table 1 and Figure 1). Furthermore, the MRL/MpJ mice had a significantly increased axon to ECM ratio at POW 9 (Table 1 and Figure 1).

Using TEM imaging (Figure 2 on the next page), it appears that the C57BL/6J mice are undergoing Wallerian degeneration during POW 1. If we focus on the subsequent weeks, we find that during POW 3 and 6 we see the quality of myelination (as represented by the ratio of blue to yellow) is significantly better in the MRL/ MpJ mice. When comparing this data with the axonal count data, we find that the MRL/MpJ mice produce fewer axons, but with superior myelination than the C57BL/6J mice.

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	BL6- Control	MRL- Control	BL6- DR01	MRL- DR01	BL6- DR03	MRL- DR03	BL6- DR06	MRL- DR06	BL6- DR09	MRL- DR09
G-Ratio	1.02	1.43	2.29	1.18	0.75	1.61	0.76	1.92	1.15	1.20
Axon:ECM	2.57	2.47	0.53	0.17	0.18	0.19	0.54	0.30	0.38	0.94

Table 1. Summary of g-ratios and axon to ECM ratios at baseline and post-operative weeks 1, 3, 6, and 9.



*Figure 1. Graphical representation of the overall area of each major component in the axonal biopsies at baseline and post-operative weeks 1, 3, 6, and 9.* 

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*Figure 2. TEM images of axonal biopsies distal to the site of the neurorrhaphy. Black and white images are traditional TEM images, whereas the blue (myelin) and yellow (axon) images are segmented versions of the original image.* 

### NERVE REGENERATION IN "SUPER HEALING" MICE

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While insightful, our study has turned out to be far more thought provoking. What is the mechanism causing the superior functional outcomes and myelination seen in the MRL/MpJ mice? Our first theory is that the ECM differences are due to differences in macrophages – MRL/MpJ mice are partially inflammatory suppressed and therefore do not mount an inflammatory response in the same fashion as the C57BL/6I mice. This lack of inflammatory response would result in decreased scar formation and better functional outcomes. Our other theory involves an increased

expression of c-Jun by the MRL/ MpJ mice, thereby resulting in dedifferentiation of Schwann cells into repair Schwann cells instead of endoneurial fibroblast-like cells. Further investigation is ongoing to evaluate these theories and to determine the underlying mechanism behind our results. This study lays the foundation for future research endeavors within our laboratory as we continue to strive towards improving peripheral nerve regeneration. RM

#### REFERENCES

- Lundborg G. Nerve injury and repair a challenge to the plastic brain. Journal of the Peripheral Nervous System. 2003;8(4):209-226.
- Taylor CA, Braza D, Rice JB, Dillingham T. The incidence of peripheral nerve injury in extremity trauma. Am J Phys Med Rehabil. 2008;87(5):381-385.
- Ruijs AC, Jaquet JB, Kalmijn S, Giele H, Hovius SE. Median and ulnar nerve injuries: a meta-analysis of predictors of motor and sensory recovery after modern microsurgical nerve repair. Plast Reconstr Surg. 2005;116(2):484-494; discussion 495-486.
- 4. Heydemann A. The super super-healing MRL mouse strain. 2012;7(6):522-538.
- Buckley G, Metcalfe AD, Ferguson MWJ. Peripheral nerve regeneration in the MRL/MpJ ear wound model. 2011;218(2):163-172.