Inside this Issue

President’s Report ...................... 1
MSTS Executive Committee ............ 1
Treasurer’s Report ..................... 2
2019 Specialty Day .................... 3
2018 Annual Meeting Report ........... 3
Research Committee .................. 4
Evidence Based Medicine Committee . 4
Sarcoma Strong Corner ............... 5
A Tribute to Henry Mankin, MD ........ 5
Thank You 2018 Annual Meeting
Supporters and Exhibitors ............ 6
Practice Management Committee ...... 7
Future Meetings ....................... 7

President’s Report – R. Lor Randall, MD, FACS

On behalf of your MSTS Executive Committee, Happy New Year. Unfortunately, 2018 ended with a very somber event, the passing of one of our Founders and an MSTS icon, Dr. Henry Mankin. Words cannot express what Dr. Mankin meant to us individually, our society, our field and countless patients from around the world. Please see Dr. Gebhardt’s tribute on page 5 of this newsletter. He also wrote an obituary in JBJS, which will be featured in an upcoming issue.

As we look to 2019 for further growth of our mission, we want to recognize our tremendous management team, our many committee participants, and members of the Musculoskeletal Tumor Society (MSTS). We are very grateful for all your efforts to move the needle in our field and improve care for patients suffering from mesenchymal neoplastic diseases. Membership engagement is the engine of our success. Of course, the past year has seen great progress and so we are so grateful for the leadership of our outgoing President, Joe Benevenia. A heartfelt thanks to you Joe!

The 2018 Annual Meeting in New York and Memorial Sloan Kettering set a new standard for our Society! Nicola Fabbri worked tenaciously to make it truly one of a kind. From a robust academic program to a world class gala, the meeting will stand out for years to come as a benchmark. The conference attendance was global and exceeded our expectations. Presidential speaker Stefano Boriani’s talk “Surgical Management of Malignant Bone Tumors of the Spine” was very well received.

The MSTS Executive Committee welcomes Dr. Michael Mott as our new Treasurer, Dr. Carol Morris moves on to Secretary and Dr. R. Lor Randall, MD, FACS

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Continued on page 2

MSTS Executive Committee

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In closing, I am humbled by the opportunity to serve as your President. Please reach out to me or the executive committee with your ideas and concerns. Let us know how we can further improve our operations to benefit the Society’s vision and mission. Hope to see everyone in Las Vegas for Specialty Day.

Humbly,
Lor

Treasurer’s Report
Michael P. Mott, MD

The Society remains in good financial shape with a comfortable amount of money in our reserves (> $1 million) which consists of operating cash, general invested funds and the Hatcher Fellowship account. The 2018 Annual Meeting was a very successful meeting for us financially as was Specialty Day. The society has worked diligently to secure yearlong partnerships as well as sponsorship for our meetings and this strategy has been successful in helping to secure our financial goals. Investment accounts with Morgan Stanley followed the general market decline in 2018 and resulted in an overall small net loss.

We received a modest contribution for research efforts through designated giving via the Orthopaedic Research and Education Foundation (OREF). Once again, a heartfelt thank you to Dr. Matthew DiCaprio for his continued contributions to the Sarcoma Research Fund as well individual members of the Society who made designated contributions to our research efforts. Research grants have been given over the years and are currently funded largely through this effort helping our research mission while simultaneously helping to maintain the fiscal health of our Society.

I look forward to presenting you the details of our budget on behalf of the finance committee at Specialty Day in Las Vegas. A special thank you is extended to Anna Greene (Finance Director) and our executive management team for their guidance and help.
The 2018 MSTS Annual Meeting was held October 10-12 in New York, New York, at Memorial Sloan Kettering Cancer Center (MSKCC). Nearly 400 health professionals registered for the meeting and Nurse and Allied Health Professionals Course. It was a record breaking year for MSTS with 95 individuals registering onsite.

The meeting was kicked off socially on Wednesday, October 10th with a welcome reception in the lobby of the Mortimer B. Zuckerman Research Center at MSKCC. The new building houses many core laboratory facilities shared by research groups and accommodates approximately 100 researchers and their teams. The Center’s laboratories allow for the recruitment of new investigators and the expansion of many existing programs within the Sloan Kettering Institute.

On the morning of Thursday, October 11, the scientific program began and included a full day of informative and engaging podium presentations. Attendees had the opportunity to digitally interact with electronic posters to learn about interesting and provocative data showcased by their colleagues.

On Thursday evening, attendees enjoyed an elegant banquet at Cipriani’s 25 Broadway located in lower Manhattan. A true New York City Landmark, the grand space was completed in 1921. Attendees dined and danced under 65-foot high ceilings, and enjoyed the Great Hall’s soaring marble columns, magnificent inlaid floors and Italian neo-renaissance murals. The spectacular event was a major highlight of the meeting.

The morning of Friday, October 12th, the presidential guest speaker, Dr. Stefano Boriani, Professor of Orthopaedic Surgery and Scientific Director of the Istituto Ortopedico Galeazzi in Milano, former Chief of Spine Oncology at the Istituto Rizzoli in Bologna, presented “Surgical Management of Malignant Bone Tumors of the Spine.” Dr. Boriani is a true clinician scientist whom has pioneered the treatment of spine malignancies during the last three decades. His interests and activities are aimed towards a comprehensive approach to the problem and include optimization of pre-operative imaging and planning, understanding tumor biology and novel treatment options.

The traditional program was complimented with MSKCC President Dr. Craig Thompson and Department of Surgery Chair, Dr. Jeffrey Drebin sharing their perspectives on the evolving world of cancer research and care. In addition to podium presentations throughout the morning, attendees could explore the exhibit halls and visit several MSTS Product Theater presentations for unique opportunities to interact with exhibitors and learn about new products and technologies.

A special thanks to everyone who participated in the success of this meeting! In particular, we would like to thank Dr. Joseph Benevenia and his team at Rutgers New Jersey Medical School and Dr. Nicola Fabbri and his team at Memorial Sloan Kettering Cancer Center. We are grateful to the contributions of our presenters, generous sponsors and exhibitors, the MSTS Executive Committee and the MSTS Annual Meeting Program Committee for their efforts in making this conference a successful, educational, and memorable event.

We look forward to seeing you at the next MSTS Annual Meeting, October 2-4, 2019 in Portland, Oregon!
Research Committee
– Francis Young Lee, MD, PhD, Chair

The Research Committee is pleased to announce the following research opportunity in collaboration with the Sarcoma Strong Foundation:

MSTS/Sarcoma Strong Foundation Research Funding Announcement (RFA)

I. Key Dates
- RFA Release Date: February 1, 2019
- Letter of Intent/Inquiry: April 1, 2019 (Not mandatory)
- Application Deadline: June 15, 2019 (pdf file to info@msts.org and francis.lee@yale.edu)
- Peer Review: July 15, 2019
- Funding Decision: Around Aug 19, 2019
- Start Date: September 1, 2019
- End Date: Aug 31, 2020 (No Cost Extension is possible until Aug 31, 2021)
- Progress Report: March, 2020 (Presentation at AAOS Specialty Day or Executive Committee)
- Final Report: 2021 MSTS Annual Meeting / Executive Committee (Presentation)

II. Program Description
With a strong commitment from Dr. Matthew DiCaprio, the Sarcoma Strong Foundation will support MSTS to provide a $50,000 one-year grant for the most impactful research related to sarcoma. The field of oncology has been rapidly evolving over the past 5 years. This is evidenced by the 2018 Nobel Prize in Medicine and Physiology that was awarded jointly to James P. Allison and Tasuku Honjo “for their discovery of cancer therapy by inhibition of negative immune regulation.” MSTS and Sarcoma Strong Foundation recognize the urgent need to provide MSTS members with just-in-time research opportunities in highly mechanistic biologic sarcoma research by adopting recent advances in immune-check points, oncogenic signaling, novel targeted therapies, RNA sequencing, circulating cancer cells, precision medicine, and other contemporary research concepts. Descriptive research on data collection or comparative studies, will be of less priority.

III. Eligibility
Assistant or Associate Professors at organizations with appropriate research infrastructure in U.S. Recipients of prior MSTS Grants or major NIH/NCI/DOD/National Research Council Canada will not be eligible.

IV. Grant Format and Page-Limits
(Arial font Size 11; 0.5 inch Margin Top, Bottom, Right, Left)
- Cover Page (SF 424 R&R form; https://apply07.grants.gov/apply/forms/sample/RR_SF424_2_0-V2.0.pdf
- NIH-format 5 page Biosketches for PI and other Co-Investigators (Samples and Forms are available @ https://grants.nih.gov/grants/funding/424/sf424r-r_biosketchsample_verb.doc; https://grants.nih.gov/grants/forms/biosketch-blankformat.docx )
- 1 page Specific Aim Page
- Up to 12 page Research Plan including Figures (Significance, Innovation, Approach including Preliminary Data)
- Literature Cited; IRB; IACUC; Letters; Other Forms (Not included in the Page Limit)

V. Review Criteria & Peer Review
NIH/OREF Review Format: Overall Impact (Significance; Innovation; Investigators; Approach; Environment). The proposal will be reviewed by established investigators with prior federal funding history.

VI. Inquiries
Francis Y. Lee, M.D., Ph.D., Research Committee Chair (francis.lee@yale.edu)
Sarcoma Strong Corner
- Matthew R. DiCaprio, MD

Sarcoma Strong experienced growth in 2018 and is well positioned to continue to support the research mission of MSTS through our collaboration. Many thanks to the Team at Montefiore who hosted their first race in 2018 and donated a portion of their funds back to the organization that inspired them to start an event. Michael Mott and the Detroit Orthopaedic Team also held their inaugural event on August 18th. Several other MSTS members became more involved through the Virtual Run option: Wakenda Tyler at Columbia Orthopaedics, Scott Weiner from Summa Health in Akron Ohio, Francis Lee, Dieter Lindskog and Izuochukwu Ibe from Yale Orthopaedics, and Rosanna Wustrack from UCSF.

Goals for 2019:
- Surpass $100,000 raised for the year
- Expand to 10-15 centers throughout the country
- Increase our social media presence
- Collaborate with other organizations with similar goals

Our registration is already up and running for our 2019 event. The 6th Annual Sarcoma Strong 5k Run/Walk will be in Albany, NY (UAlbany campus) on August 17th.

For those who have expressed a desire to get more involved I have created a Team for your institution on the registration site. An MSTS member at that institution is listed as the Team Captain. Please share the site with your sarcoma patients, their families, and your staff and colleagues at your respective institutions. Help propel us to the next fundraising level by growing our national presence.


Any MSTS member who would like to have a Team added can do so directly on the above link or you can email me at dicaprm@amc.edu. Thank you for your support. Together we can Unite the Sarcoma Fight!

A Tribute to Henry J. Mankin, MD, 1928-2018
- Mark Gebhardt, MD

Henry J. Mankin, MD, the Edith M. Ashley Professor, Emeritus of Orthopaedics at Harvard Medical School and past Chair of the Department of Orthopaedic Surgery at Massachusetts General Hospital, passed away in his home on December 22, 2018. He recently celebrated his 90th birthday with friends and colleagues. Henry was an inspirational leader who shaped the discipline of orthopaedic surgery in multiple ways and was profoundly important to the field of orthopedic oncology. He was a founding member of the Musculoskeletal Tumor Society and a past president. His many contributions to the field of orthopaedics and orthopaedic oncology are legendary and he will be missed by us all.

Henry was born in the Squirrel Hill section of Pittsburgh and was a son of Jewish immigrants from Lithuania. He talked often of growing up in the post-depression, World War II days in Pittsburgh and of his education at Taylor Allderdice High School. He received his Bachelor of Science degree Magna Cum Laude and his Doctor of Medicine from the University of Pittsburgh. He was a rotating intern and Junior Assistant Resident in Internal Medicine at the University of Chicago where he first met William Enneking and was exposed to the teachings of Dallas B. Phemister and C. Howard Hatcher.

He married his wife, Carole in 1952 and they had three talented children: Allison, David and Keith. Carole worked as a medical librarian and the two of them would drive together to the MGH each morning always arriving for 6:30 breakfasts with the residents. She was his life’s companion and support until her untimely death 6 years ago and he missed her deeply after her passing.

His medical education was interrupted by 2 years of active duty in the US Navy where he achieved the rank of Lieutenant Commander, Medical Corps and was stationed in Nevada where he treated

Continued on page 6
seamen and their families primarily for fractures and obstetrics. This is where he developed his interest in orthopaedics and he went on to complete residency training in Orthopaedic Surgery at the Hospital of Joint Diseases in New York under Joseph E. Milgram, MD. There he worked closely with Henry Jaffe, MD in pathology which furthered his education in bone tumors and metabolic bone disease. He continued his interest in bone diseases such as Paget disease, Gaucher disease and other rare metabolic bone conditions, performed pioneering research into these disorders and cared for patients so affected throughout his career.

He moved back to the University of Pittsburgh and was on the faculty with Albert B. Ferguson, Jr. MD for 6 years although most of the orthopaedic faculty at Pitt still view him as faculty member in perpetuity. He was recruited back to Mt. Sinai School of Medicine as Professor and Co-Chairman in 1996 and in 1972 he moved to Boston as the Edith M. Ashley Professor of Orthopaedic Surgery at Harvard Medical School and Orthopaedist-in-Chief at the Massachusetts General Hospital.

He was an extremely busy clinician with boundless energy who was loved by his patients and he built an outstanding department for the education of students and orthopaedic residents. “Breakfasts with Henry” every morning at 6:30 became a lasting tradition and there he taught generations of residents how to think critically about the conditions they treated and to understand the biology underlying them rather than concentrating solely on the technical aspects of orthopaedic surgery. His teaching has affected countless orthopaedic surgeons who may have never met him because they were lessons passed on by his residents. He was a born educator who lectured all over the world and was renowned for his style of teaching. He was theatrical in delivering lectures on metabolic bone disease, articular cartilage, and tumors. He would often sing the tunes of the instruments in Peter and the Wolf to represent the cells of bone turnover or act out Lot’s wife to illustrate imbalances of calcium/phosphorous metabolism. These made his lectures indelible in the minds of his students. He traveled often to Europe, Japan and Korea and established a special relationship to the Japanese orthopaedists by hosting many young researchers to work in his laboratory. They were fondly referred to as the “Mankin Club” by his Japanese fellows who met with him every time Henry visited Japan. He started one of the first orthopaedic oncology fellowships in the US which continues to this day.

He was intensely involved in basic and clinical research, primarily in articular cartilage and osteoarthritis and was one of very few in his time to hold NIH funding for most of his career. He was a prolific writer of over 600 papers as well as chapters and books on a variety of topics. His papers on the hazards of the biopsy, the biology of cartilage tumors and of course, the re-introduction of allografts into the armamentarium of the limb salvage were instrumental to the field of orthopaedic oncology. He instituted a bone bank at the Massachusetts General Hospital and developed a system for assessing the functional results of his patients treated with allograft reconstructions.

His awards are too numerous to list, but included the Kappa Delta Award, The Shands Award (two) and the Bristol-Myers-Squibb-Zimmer Award for Distinguished Achievements in Orthopaedic Research.

Nationally he was a leader in Orthopaedics. He was President of the American Orthopaedic Association, Chairperson for the AAOS Committee of Evaluation and Examinations and was President of the American Board of Orthopaedic Surgery. He was devoted to inclusion of women and minorities in orthopaedics and his residency program has always been exemplary in its diversity – a culture which he attributes to his upbringing in the Squirrel Hill area in Pittsburgh. He received the AAOS Diversity Award in 2004.

To those of us who were fortunate enough know him, he will forever be remembered as a dedicated physician who was loved by his patients, and was a superb scientist, educator and leader. His mark on the discipline of orthopaedic surgery is indelible and his teachings will endure indefinitely.
It has been a busy, though productive year from a Practice Management standpoint. I would like to thank the members of the committee, who have worked hard and have done a diligent job at responding to the challenges facing our members. There are some specific points for consideration that are likely pertinent to the majority of our membership:

**Federal Budget Concerns:**
Some have inquired about the implications of the government shutdown on reimbursement and clinical care. First, it is unclear as to whether federal budget will be resolved at the time of this publication. In prior similar budgetary shutdowns, reimbursement from CMS has been held or delayed while the final budgetary allocation has been resolved. However, in this budgetary cycle, the Department of Health and Human Services has already been largely funded on a prior budget allocation. As a result, federal payors such as Medicare and Medicaid have remained open and funded, and we anticipate continued reimbursements for clinical services to be provided on time.

While the National Institutes of Health have been largely running as scheduled, some other federal agencies such as the Food and Drug Administration (FDA) have been affected. Research funding requests and reviews through the FDA has been largely on hold, as well as many applications for new drug approvals. While it remains to be seen how this will affect custom device applications and exemptions, we do anticipate some potential delays for these requests. Please let us know if there are any concerns or delays in these regards.

**New Codes:**
New CPT codes have been added for 2019, including some specific codes that are relevant to musculoskeletal oncology. In particular, structural allograft codes have now been valued and included into the CPT manual. These include:
- **20932** Allograft, includes templating, cutting, placement and internal fixation, when performed; osteoarticular, including articular surface and contiguous bone (List separately in addition to code for primary procedure).
- **20933** hemicortical intercalary, partial (i.e., hemicylindrical) (List separately in addition to code for primary procedure).
- **20934** intercalary, complete (i.e., cylindrical) (List separately in addition to code for primary procedure).

In addition, we have been working with the AAOS and representing our membership regarding changes to codes related to antibiotic cement implants as well as primary arthroplasty. Updates will be provided as further details emerge.

**Medicare Physician Fee Schedule:**
We have been working in close conjunction with the AAOS and the AMA regarding a response to the proposed changes to the Medicare Physician Fee Schedule (MPFS). Some regulations regarding the documentation requirements have already gone into effect for 2019, such as easing the need to restate information that is already available within the medical record. The bulk of the MPFS Final Rule will not be implemented until 2021, regarding the CMS reimbursement for Evaluation and Management (E&M) services.

Over the next 2 years, we will continue to work with the AMA on recommendations for adjusting the guidelines for E&M level of service (LOS). We anticipate that E&M LOS determination will be more closely related to medical decision making, with less emphasis upon history and physical examination points documented. It does appear that CMS will contract the wRVU for E&M Levels 2-4, starting in 2021, however. More information will follow as they become available.

Please let us know if there are any problems or concerns related to Practice Management, as well as additional information that may be helpful for your practices, so that we can best suit your interests and needs.