

**2018 MSTS Annual Meeting  
Final Program**  
October 10-12, 2018  
Memorial Sloan Kettering Cancer Center  
New York, NY

*Nicola Fabbri, MD, Program Chair*  
*Joseph Benevenia, MD, MSTS President*

**Educational Goals and Objectives**

At the conclusion of this CME activity, the attendee should be able to:

- Understand current trends in cancer research and treatment.
- Review principles of Limb Salvage surgery.
- Focus on management and surgical techniques for malignant tumors of the spine.
- Review overall management and operative approach to pelvic bone metastases.
- Increase understanding of Chondrosarcoma biology, genetics and clinical course.
- Update on basic science research in musculoskeletal oncology.
- Identify current and future applications of Quality of Life assessments and PROMIS.

**Wednesday, October 10, 2018**

1:00 PM - 6:30 PM	Registration
1:00PM - 5:00 PM	Technical Exhibit Booth Set Up
3:00 PM - 6:00 PM	MORI/MSTS Young Members Session - Room 102
6:30 PM - 8:30 PM	Welcome Reception - Morton Zuckerman Building Lobby

**Thursday, October 11, 2018**

6:30 AM - 5:30 PM	Registration	
7:00 AM - 8:30 AM	Breakfast	
7:00 AM - 5:30 PM	E-Poster/Technical Exhibits	
7:30 AM	Introduction and Welcome	Nicola Fabbri, MD and Joseph Benevenia, MD
7:35 AM - 8:00 AM	Trends in Modern Cancer Research	Craig B. Thompson, MD, President and CEO, MSKCC

**Session I: Bone Sarcomas – Preoperative Risk Factors, Biology and Decision-Making**

Moderators: Megan E. Anderson, MD and Benjamin J. Miller, MD, MS

8:00 AM - 8:05 AM	Paper 1	Orthopedic Oncology And Preoperative Counseling: What Influences The Patient'S Choice Between Limb Salvage And Amputation?	Richard W Gurich, MD
8:05 AM - 8:10 AM	Paper 2	Income And Gender Data In Orthopaedic Oncology: How Do We Stack Up?	Ethan Krell, MS
8:10 AM - 8:15 AM	Paper 3	Are Rural Osteosarcoma Patients At Risk For Worse Outcomes?	Ryan Wendt
8:15 AM - 8:25 AM		Moderated Discussion	
8:25 AM -8:30 AM	Paper 4	High Grade Intramedullary Osteosarcoma: Does Histologic Subtype Affect Outcome?	James Henry Flint, MD
8:30 AM - 8:35 AM	Paper 5	Oncologic Outcome In Patients With Osteosarcoma Of The Extremities And Pathologic Fractures: Differences In Micro Rna Profile	Santiago A. Lozano Calderon, MD, PHD
8:35 AM - 8:40 AM	Paper 6	Limb-Salvage Surgery Is Associated With Better Long-Term Overall Survival Compared To Amputation For Osteosarcoma Of The Extremity	Chang-Yeon Kim, MD
8:40 AM - 8:50 AM		Moderated Discussion	
8:50 AM - 9:00 AM		Set The Stage for Limb Salvage	Mark Gebhardt, MD
<b>Session II: Limb Salvage – Heavy Metal Reconstruction</b>			
Moderators: Valerae O. Lewis, MD and Joel Mayerson, MD			
9:00 AM - 9:05 AM	Paper 7	Biomechanical "Scratch Fit "- Achieving Adequate Operative Press Fit Fixation With Distal Femoral Oncologic Implants	Ernest U Conrad III, MD
9:05 AM - 9:10 AM	Paper 8	Press Fit Vs Cemented Femoral Stems In Arthroplasty For Oncologic Indications	Courtney Kaiser, BA

9:10 AM - 9:15 AM	Paper 9	Distal Femoral Compressive Osseointegration Endoprotheses: A Minimum Ten-Year Follow-Up Study With Functional Results	Musa Zaid, MD
9:15 0AM - 9:25 AM		Moderated Discussion	
9:25 AM - 9:30 AM	Paper 10	Outcomes Of Expandable Protheses For Primary Bone Malignancies In Skeletally Immature Patients: A Meta-Analysis	Robert Christian, MD
9:30 AM - 9:35 AM	Paper 11	Long Term Outcomes Of Total Humeral Replacement For Primary Bone Tumors In 18 Patients	Alexander Upfill-Brown
9:35 AM - 9:40 AM	Paper 12	Long Term (> 15 Year) Outcomes Of Custom Cross-Pin Fixation Of Tumor Endoprotheses Stems	Alexander Upfill-Brown
9:40 AM - 9:50 AM		Moderated Discussion	
9:50 AM - 10:10 AM		Product Theater- Onkos Surgical - Room 103	
9:50 AM - 10:20 AM		E-Poster Viewing - Room 117	
9:50 AM - 10:20 AM	Break		
<b>Session III: Complications: Limb Salvage – Custom, 3D Printed, Biologic</b>			
Moderators: David S. Geller, MD and Cynthia M. Kelly, MD			
10:20 AM - 10:25 AM	Paper 13	Patient-Specific 3D Printed Implant Design For Pediatric Orthopaedic Oncology Reconstruction	Scott M Tucker, BS, MS
10:25 AM - 10:30 AM	Paper 14	Our Experience With 3-D Preoperative Planning, Stereolithographic Models And Custom-Made Implants At A University Hospital In A Developing Country	Marcos Galli Serra, MD
10:30 AM - 10:35AM	Paper 15	Dynamic Prediction For Patients With High-Grade Extremity Soft Tissue Sarcoma	Michiel van de Sande, MD, PhD

10:35 AM - 10:40 AM	Paper 16	Cement Spacers For Intercalary Reconstructions	Jan Lesensky, MD
10:40 AM - 10:55 PM		Moderated Discussion	
10:55 AM - 11:00 AM	Paper 17	Short- And Intermediate Term Function After Distraction Osteogenesis For Bone Reconstruction Of Osseous Tumors In The Upper And Lower Extremity	Eugenia Schwarzkopf, MD
11:00 AM - 11:05 AM	Paper 18	Long-Term Follow-Up Of Massive Allograft Reconstructions. What We Expected After Ten Years Of Surgery	Luis Aponte-Tinao, MD
11:05 AM - 11:10 AM	Paper 19	Long Term Outcomes Of Telescope Allograft Technique For Diaphyseal Reconstruction In Limb Salvage Surgery	Mohamed Ahmed Yakoub, MD, MSc
11:10 AM -11:20 AM		Moderated Discussion	
<b>Session IV: Limb Salvage – Complications and Amputation</b>			
Moderators: Robert H. Quinn, MD and Wakenda K. Tyler, MD, MPH			
11:20 AM - 11:25 AM	Paper 20	Sarcopenia Is Associated With Increased Mortality And Complications Following Limb-Sparing Reconstruction For Sarcoma Of The Extremities	Nathan Hendrickson, MD
11:25 AM - 11:30 AM	Paper 21	Tranexamic Acid Use In Cancer Patients Undergoing Wide Resection And Endoprosthetic Reconstruction – A Retrospective Review	Douglas Haase, MD
11:30 AM -11:35 AM	Paper 22	Ivc Filter Placement In 286 Patients With Malignant Disease: Benefits Continue To Outweigh Risks	Valdis Lelkes, MD
11:35 AM -11:45 AM		Moderated Discussion	
11:45 AM -11:50 AM	Paper 23	Polyethylene Wear In Distal Femur Replacement In Oncology Patients	Ana Cecilia Belzarena, MD
11:50 AM -11:55 AM	Paper 24	Outcomes Of Free Vascularized Fibular Grafts For The Treatment Of Radiation-Induced Femoral Nonunions	Meagan E Tibbo, MD
11:55 AM -12:00 PM	Paper 25	Effect Of Perioperative Radiation Therapy On Outcomes Of Vascularized Fibular Graft Reconstruction Of Long Bones	Mohamed Ahmed Yakoub, MD, MSc

12:00 PM -12:05 PM	Paper 26	Early Outcomes Of Osseointegrated Implants In Transhumeral And Transfemoral Amputations	Colin Harrington BS
12:05 PM -12:20 PM		Moderated Discussion	
12:20 PM - 12:40 PM		Product Theater - Stryker - Room 102	
12:40 PM - 1:00 PM		Product Theater - Zimmer Biomet - Room 103	
12:20 AM - 1:00 AM		E-Poster Viewing - Room 117	
12:20 PM - 1:00 PM	Lunch		
1:00 PM -1:10 PM		Set The Stage for Soft Tissue Sarcoma	Jay Wunder, MD
<b>Session V: Soft Tissue Sarcoma</b>			
Moderators: Carol D. Morris, MD, MS and Theodore W. Parsons, III, MD, FACS			
1:10 PM - 1:15 PM	Paper 27	Socioeconomic Factors Affecting Outcomes Of Surgical Treatment Of Bone And Soft Tissue Sarcomas: A S.E.E.R. Database Study	Eugene Shin Jang, MD, MS
1:15 PM - 1:20 PM	Paper 28	Host Immune Response In Undifferentiated Pleomorphic Sarcoma – A 10-Year Retrospective Analysis	Rosanna Wustrack, MD
1:20 PM - 1:25 PM	Paper 29	The Role Of Radiation Therapy And Margin Width In Localized Soft Tissue Sarcomas	Meena Bedi, MD
1:25 PM - 1:35 PM		Moderated Discussion	
1:35 PM - 1:40 PM	Paper 30	Oncologic And Clinical Outcomes Of Limb Sparing Surgery In Soft Tissue Sarcoma At Median And Long Term Followup.	Angeles Cabas-Geat
1:40 PM - 1: 45 PM	Paper 31	Development Of A Prognostic Nomogram To Predict For Post-Operative Surgical Site Infection In Localized Soft Tissue Sarcomas Of The Extremity	Meena Bedi, MD
1:45 PM - 1:50 PM	Paper 32	Designing A Rational Follow-Up Schedule For Soft Tissue Sarcoma	David Wilson, MD, FRCS
1:50 PM - 2:00 PM		Moderated Discussion	

2:00 PM - 2:40 PM		MSTS Business Meeting - MSTS Members Only	
2:40 PM - 3:00 PM		Product Theater - LinkBio Corp - Room 102	
3:00 PM - 3:20 PM		Product Theater - Merete Technologies, Inc. - Room 103	
2:50 PM - 3:20 PM		E- Poster Viewing - Room 117	
2:50 PM - 3:20 PM		Break	
3:20 PM - 3:30 PM		Set The Stage for Metastatic Bone Disease	John H. Healey, MD, FACS
<b>Session VI: Metastatic Bone Disease</b>			
Moderators: Michael P. Mott, MD and Joseph H. Schwab, MD			
3:30 PM - 3:35 PM	Paper 33	One Year Results Of The Illuminos Lightfix Trial Indicate Durable Improvements In Pain And Function After Treatment Of Humeral Metastatic Disease	Richard M Terek, MD, FACS
3:35 PM - 3:40 PM	Paper 34	Comparison Of Photodynamic Stabilization, Intramedullary Nail, And Cemented Plate For Pathologic Humerus Fractures	Jason Shih Hoellwarth
3:40 PM - 3:45 PM	Paper 35	Oncologic Advantages Using Carbon Fiber Implants	Howard G Rosenthal, MD
3:45 PM - 3:50 PM	Paper 36	Prophylactic Stabilization Of Metastatic Femoral Lesions Has A Survival Benefit Compared To Pathologic Femur Fracture Fixation: Nationwide Analysis In The Va Healthcare System	Travis Philipp, MD
3:50 PM - 4:00 PM		Moderated Discussion	
4:00 PM - 4:05 PM	Paper 37	Thirty-Day Readmission, Reoperation And Mortality In Surgical Management Of Metastatic Bone Disease: An Analysis Of The National Surgical Quality Improvement Program	Kathryn Gallaway
4:05 PM - 4:10 PM	Paper 38	Prophylactic Vs. Post-Fracture Stabilization For Neoplastic Lesions Of The Long Bones: A Comparison Of 30 Day Post-Operative Outcomes	Jad El Abiad, BS

4:10 PM - 4:15 PM	Paper 39	Hybrid Surgery-Radiosurgery Therapy For Metastatic Epidural Spinal Cord Compression (Mescc): A Prospective Evaluation Using Patient-Reported Outcomes	Ori Barzilai, MD
4:15 PM - 4:20 PM	Paper 40	The Treatment Of Metastatic Spine Disease In Patients Without Definitive Operative Indications: Radiation Therapy Vs. Surgical Decompression And Corpectomy For Neurologically Intact Patients With Epidural Spinal Cord Compression And Indeterminate Sins	Anthony A. Catanzano Jr, MD
4:20 PM - 4:30 PM		Moderated Discussion	
4:30 PM -4:40 PM		Set the Stage - Outcome & Quality of Life	R. Lor Randall, MD
<b>Session VII: Outcome and Quality of Life</b>			
Moderators: Kathleen Beebe, MD and Anna A. Kulidjian, MD			
4:40 PM - 4:45 PM	Paper 41	Variation In The Administration And Reporting Of The Msts Score: Evidence For The Need Of Standardized Outcome Measurement Guidelines	Justin E Bird, MD
4:45 PM - 4:50 PM	Paper 42	An Evaluation Of Promis Health Domains In Sarcoma Patients Compared To The United States Population	Anna R. Cooper, MD, MPH
4:50 PM - 4:55 PM	Paper 43	Promis May Be A Superior Measure Of Patient Reported Outcomes In Musculoskeletal Oncology Patients	Jason S. Lipof, MD
4:55 PM - 5:00 PM	Paper 44	Accelerometer-Based Measurement Of Balance And Gait After Treatment For Lower Extremity Musculoskeletal Cancer In The Clinic: A Feasibility And Validity Study	Sherron Furtado, MSC, PHD

5:00 PM - 5:05 PM	Paper 45	A Markerless Motion Capture To Quantify Functional Outcomes Using A Depth-Sensor After Treatment For Lower Extremity Sarcomas In The Clinic: A Feasibility And Validity Study	Sherron Furtado, MSC, PHD
5:05 PM - 5:20 PM		Moderated Discussion	
5:20 PM		Meeting Adjourns	
Social Event - Cipriani 25 Broadway			
<b>Friday, October 12, 2018</b>			
6:30 AM- 8:30 AM	Registration		
7:00 AM - 8:30 AM	Breakfast		
7:00 AM - 11:45 AM	E- Posters/Technical Exhibits		
7:30 AM - 8:00 AM		The Long Journey of Surgical Oncology at Memorial Sloan Kettering: Tradition and Challenges of Cancer Surgery in the 21st Century	Jeffrey Drebin, MD, Department of Surgery Chair, MSKCC
8:00 AM - 8:50 AM		Presidential Guest Lecturer - Surgical Management of Malignant Bone Tumors of the Spine	Stefano Boriani, MD
<b>Session VIII: Sacrum and Pelvis</b>			
Moderators: Francis J. Hornicek, MD and Peter S. Rose, MD			
8:50AM - 8:55 AM	Paper 46	Patient Specific 3D Cutting Guides Provide Similar Cut Accuracy And Superior Far-Side Cut Penetration Accuracy Compared With Computer Navigation Or Freehand Technique In An Idealized Sawbones Pelvic Resection Model	Matthew W Colman, MD
8:55 AM - 9:00 AM	Paper 47	Hip Joint Reconstruction Is Not Necessary Following Periacetabular Resection For Sarcoma	David Wilson, MD, FRCSC
9:00 AM - 9:05 AM	Paper 48	Comparison Of Reconstruction Versus No Reconstruction Following Acetabular Resection For Pelvic Chondrosarcoma	Joshua Johnson
9:05 AM - 9:15 AM		Moderated Discussion	
9:15 AM - 9:20 AM	Paper 49	What Is The Risk Of Mortality Following Local Chordoma Recurrence?	Matthew T. Houdek, MD



9:20 AM - 9:25 AM	Paper 50	Factors Associated With 5-Year Survival In Chordomas: A National Cancer Database Study	Brian L. Dial, MD
9:25 AM - 9:30 AM	Paper 51	Non-Surgical Outcomes In Multiple Myeloma Peri-Acetabulum Lesions	Corey Montgomery, MD
9:30 AM - 9:40 AM		Moderator Discussion	
9:40 AM - 10:00 AM		Product Theater - Onkos Surgical - Room 103	
9:40 AM - 10:10 AM		E- Poster Viewing - Room 117	
9:40 AM - 10:10 AM		Break	
<b>Session IX: Breaking Down Chondrosarcoma</b>			
Moderators: Francis R. Patterson, MD and Kevin A. Raskin, MD			
10:10 AM - 10:40 AM		Breaking Down Chondrosarcoma	Meera Hameed, MD and Francis J. Hornicek, MD
10:40 AM - 10:45 AM		Announcement on Collaborative Trial	Jonh H. Healey, MD, FACS
<b>Session X: Basic Science, Translational Research and Collaborative Studies</b>			
Moderators: Raffi Avedian, MD and Matthew R. DiCaprio, MD			
10:45 AM - 10:50 AM	Paper 52	Degree Of Osteosarcoma Differentiation Influences Tumour Response To Bmp-2 Signalling	Joseph Kendal, MD
10:50 AM - 10:55 AM	Paper 53	Nanopiece Delivery Of Nucleotide Therapeutics Inhibits Chondrosarcoma Progression	Richard M Terek, MD, FACS
10:55 AM - 11:00 AM	Paper 54	Mithramycin A Inhibits Proliferation And Radiosensitizes Ews:Fli1+ Ewing Sarcoma	Mei Yun Lin, PhD
11:00 AM - 11:10 AM		Moderator Discussion	
11:10 AM - 11:15 AM	Paper 55	Demonstrating Osteoinductivity In A Decellularized Xenograft Bone Substitute	Alexander H Jinnah, MD
11:15 AM - 11:20 AM	Paper 56	Clinically Relevant Tumor-Initiating Cells In Patient-Derived Xenograft (Pdx) Models Of Bone Cancers	Vinagolu K. Rajasekhar, PhD
11:20 AM - 11:25 AM	Paper 57	Precision Medicine: Big Data Analysis Of Breast Cancer Gene Expression To Predict Metastasis To Bone	Izuchukwu Kenneth Ibe, MD

11:25 AM - 11:30 AM	Paper 58	Defining Optimal Administration Time And Tissue Contrast Ratios Required For Margin Assessment In Soft-Tissue Sarcomas Using An Egfr-Targeting Fluorescence Probe	Eric R. Henderson, MD
11:30 AM - 11:45 AM		Moderated Discussion	
<b>Session XI: New Ideas for Old Problems - Moderators: Michelle Ghert, MD, FRSC and Dieter Lindskog, MD</b>			
11:45 AM - 11:50 AM	Paper 59	Risk Factors In Tenosynovial Giant Cell Tumours, Evaluated In 17 International Sarcoma Centers	Michiel van de Sande, MD, PhD
11:50 AM - 11:55 AM	Paper 60	Occupational Injuries Among Orthopaedic Oncology Surgeons	Krista Goulding, MD
11:55 PM - 12:00 PM	Paper 61	The Role Of Denosumab In Joint Preservation For Patients With Giant Cell Tumour Of Bone: Not A Magic Bullet?	David Louis Perrin, MD
12:00 PM - 12:05 AM	Paper 62	Oncologic And Functional Outcomes After Treatment For Desmoid Fibromatosis Of The Extremities	Erik T. Newman, MD
12:05 PM - 12:15 PM		Moderated Discussion	
12:15 PM - 12:20 PM	Paper 63	Cost Analysis For Patients Treated For Bone And Soft Tissue Sarcomas: Index Admissions And Readmissions	Gabriel Makar
12:20 PM - 12:25 PM	Paper 64	Oncology Patients Are High Cost Outliers In Bundled Payments For Total Joint Replacement	Erik Woelber, MD
12:25 PM - 12:30 PM	Paper 65	Analysis of Principles Inspiring Design of 3D Printed Protheses In Two Referral Centers	Pietro Ruggieri, MD, PhD
12:30 PM - 12:35 PM	Paper 66	Revisiting The Role Of Radiation Therapy In Chondrosarcoma: A National Cancer Database Study	Anthony A. Catanzano Jr, MD
12:35 PM - 12:50 PM		Moderated Discussion	
12:50 PM - 1:10 PM		MSTS Paper & E-Poster Awards	
1:10 PM		Meeting Adjourns	

*Thank you for attending the 2018 MSTS Annual Meeting.*

1:20 PM - 1:40 PM

Medical Sawbones Workshop presented by IlluminOss Medical, Inc. - Room 101