



10th Joint MSK/HSS/IOR Course in

Musculoskeletal Tumor Pathology & Clinical Oncology

OCTOBER 10-12, 2017

ZUCKERMAN RESEARCH CENTER
NEW YORK CITY



Memorial Sloan Kettering
Cancer Center

HOSPITAL
FOR
SPECIAL
SURGERY



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Istituto Ortopedico Rizzoli di Bologna
Istituto di Ricovero e Cura a Carattere Scientifico

COURSE OVERVIEW

This well-received annual course is designed to give a current review of musculoskeletal tumor pathology and principles of management to orthopaedic surgeons, radiation oncologists, medical oncologists, radiologists and pathologists. This course covers the most common and clinically relevant benign and malignant musculoskeletal tumors from diagnosis to integrated treatment and outcome. This course is in collaboration with **Hospital for Special Surgery** and **Instituto Ortopedico Rizzoli, Bologna, Italy**.

This course will cover the following topics:

BENIGN NON SURGICAL AND SURGICAL LESIONS

- Aneurysmal bone cyst
- Bone cyst
- Chondromyxoid fibroma
- Chondroblastoma
- Chondromas
- Desmoplastic fibroma
- Eosinophilic granuloma
- Fibrous dysplasia
- Giant cell tumor
- Histiocytic fibroma
- Myositis ossificans
- Osteoblastoma
- Osteochondromas
- Osteoid osteoma

MALIGNANT TUMORS

- Adamantinoma
- Chondrosarcomas
- Chordoma
- Ewing's sarcoma
- Lymphoma
- Myeloma
- Osteosarcomas
- Secondary malignancies
- Spindle and pleomorphic sarcomas
- Vascular tumors
- Bone Metastases

SOFT TISSUE TUMORS

- Lipoma and other benign soft tissue tumors
- Liposarcoma
- Fibrosarcoma
- Malignant fibrous histiocytoma
- Synovial sarcoma
- Rare Entities

VARIOUS

- Biological prognostic and therapeutic markers
- Bone allografts in skeletal reconstruction
- Chemotherapy issues and future trends
- Integrated treatment of soft tissue sarcomas
- Reconstruction in children
- Staging and biopsy and margins
- Surgical principles of benign lesions
- Surgical treatment of spine tumors

SPECIAL SESSIONS

- Basic Research
- Molecular Biology in the Diagnosis of Bone and Soft Tissue Tumors
- Imaging of Bone and Soft Tissue Tumors
- Limb Salvage Surgery

FOR MORE INFORMATION OR TO REGISTER:

www.mskcc.org/musculoskeletal

COURSE FACULTY

COURSE DIRECTORS



Nicola Fabbri MD

Attending Surgeon
Orthopedic Service
Department of Surgery
Memorial Sloan Kettering Cancer Center



Michael J. Klein MD

Pathologist in Chief Emeritus
Department of Pathology and
Laboratory Medicine
Hospital for Special Surgery
Professor of Pathology and
Laboratory Medicine
Weill-Cornell School of Medicine
Consultant in Pathology,
Memorial Sloan Kettering Cancer Center

MSK FACULTY

Kaled M. Alektiar MD

Attending Radiation Oncologist
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Department of Radiation Oncology

Narasimhan P. Agaram MBBS

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Autopsy Service
Department of Pathology

Grigoriy Arutyunyan, MD

MSK Fellow
Orthopaedic Service

Edward Athanasian MD

Associate Attending Surgeon
Orthopedic Service
Department of Surgery

Mark Bilsky MD

Attending Neurosurgeon
Department of Neurosurgery

Mark A. Dickson MD

Assistant Attending Physician
Sarcoma Medical Oncology Service
Division of Solid Tumor Oncology
Department of Medicine

Azeez Farooki MD

Associate Attending Physician
Endocrinology Service
Division of Subspecialty Medicine
Department of Medicine

Mrinal Gounder MD

Assistant Attending Physician
Sarcoma Medical Oncology Service
Division of Solid Tumor Oncology
Department of Medicine

Meera Hameed MD

Chief, Surgical Pathology Service
Director, Molecular Genetic
Pathology Fellowship Program
Attending Pathologist
Department of Pathology

Derek G. Hansen MD

MSK Fellow
Orthopaedic Service

John H. Healey MD

Stephen McDermott Chair in Surgery
Chief, Orthopaedic Service
Attending Surgeon
Department of Surgery

Robert A. Lefkowitz MD

Associate Attending Radiologist
Body Imaging Service
Department of Radiology

Ernesto Santos Martin MD

Attending Radiologist
Interventional Radiology Service
Department of Radiology

Majid Maybody MD

Associate Attending Radiologist
Director, Interventional Radiology Training Program
Department of Radiology

Paul A. Meyers MD

Attending Physician
Vice Chair, Academic Affairs, Department of Pediatrics
Robbins Family Chair in Pediatrics
Department of Pediatrics

Jonathan Morris MD

MSK Fellow
Orthopaedic Service

David M. Panicek MD FACR

Vice Chair for Clinical Affairs
Director, Educational Programs
Attending Radiologist
Body Imaging Service
Department of Radiology

Daniel Prince MD

Assistant Attending Surgeon
Orthopedic Service
Department of Surgery

Yoshiya (Josh) Yamada MD

Attending Radiation Oncologist
Brachytherapy Service
Department of Radiation Oncology

Sam S. Yoon MD

Associate Attending Surgeon
Gastric and Mixed Tumor Service
Division of General Surgical Oncology
Department of Surgery

Gary A. Ulaner MD PhD

Associate Attending Radiologist
Molecular Imaging and Therapy Service
Department of Radiology

Maksim Vaynrub MD

Assistant Attending Surgeon
Orthopedic Service
Department of Surgery

INVITED FACULTY

Joseph Benevenia MD

Professor and Chair
Department of Orthopaedics
Rutgers, New Jersey Medical School
Newark, NJ

Stefano Boriani MD

Istituto Ortopedico Rizzoli
Bologna, Italy (FORMERLY)
IRCCS Galeazzi Institute
Milano, Italy (8/31/-17-PRESENT)

Edward DiCarlo MD

Attending Pathologist
Professor, Clinical Pathology and
Laboratory Medicine
Weill Cornell Medical College
New York, NY

Mark C. Gebhardt MD

Professor (HMS) and Chairman Orthopaedics (BIDMC)
Harvard Medical School
Beth Israel Deaconess Medical Center
and Boston Children's Hospital
Boston, MA

Joseph H Schwab MD MS

Associate Professor of Orthopedic Surgery
Department of Orthopedic Surgery
Massachusetts General Hospital
Harvard Medical School
Boston, MA

Richard M Terek MD FACS

Professor of Orthopaedics
Brown University
Providence, RI

SCIENTIFIC AGENDA

TUESDAY, OCTOBER 10, 2017

- 7:45 AM **REGISTRATION & BREAKFAST**
- 8:20 AM **Welcome & Announcements**
Nicola Fabbri MD
Michael J. Klein MD
- 8:30 AM **Bone Development, Anatomy and Physiology**
Michael J. Klein MD
- 9:20 AM **Basics of Histopathology**
Michael J. Klein MD
- 9:50 AM **Imaging - Characterizing Bone Tumors at MRI:
What is Realistically Possible?**
David M. Panicek MD FACR
- 10:15 AM **Questions and Discussion**
All Faculty
- 10:30 AM **BREAK**
- 10:40 AM **Staging, Biopsy and Margins**
Joseph Benevenia MD
- 11:10 AM **BENIGN FIBROUS / BONE FORMING
NOF, Fibrous Dysplasia, Osteoid Osteoma,
Osteoblastoma, Desmoplastic Fibroma**
Daniel Prince MD
- 11:40 AM **BENIGN CARTILAGE TUMORS**
Chondromas, Osteochondromas,
Chondroblastoma, Chondromyxoid Fibroma
Maksim Vaynrub MD
- 12:10 PM **CYSTIC AND OTHER BENIGN LESIONS**
Bone Cyst, Aneurysmal Bone Cyst,
Langerhans Cell Histiocytosis
Richard M Terek MD FACS
- 12:40 PM **Questions and Discussion - Case Presentation**
Nicola Fabbri MD & All Faculty
- 1:10 PM **LUNCH**
- 2:10 PM **Giant Cell Tumor**
Nicola Fabbri MD
- 2:30 PM **Hyperparathyroidism, Paget Disease and
Metabolic Bone Disease Considerations**
Edward DiCarlo MD
- 3:00 PM **Histo Review of Benign Tumors**
Michael J. Klein MD
Meera Hameed MD
- 3:30 PM **Surgery for Benign Bone Tumors**
Joseph Benevenia MD
- 4:00 PM **Questions and Discussion - Case Presentation**
Nicola Fabbri MD & All Faculty
- 4:30 PM **BREAK**
- 4:45 PM **Interventional Radiology for Benign
Musculoskeletal Lesions**
Majid Maybody MD
Ernesto Santos Martin MD
- 5:15 PM **Imaging in Musculoskeletal Oncology of the Spine:
A Rationale Approach**
Stefano Boriani MD
- 5:45 PM **Questions and Discussion - Case Presentation**
Nicola Fabbri MD & All Faculty
- 6:30 PM **NETWORKING RECEPTION**

WEDNESDAY, OCTOBER 11, 2017

- 7:00 AM **BREAKFAST**
- 7:30 AM **Review of Tuesday Topics**
Nicola Fabbri MD
MSK FELLOWS:
Grigoriy Arutyunyan MD, Derek G. Hansen MD & Jonathan Morris MD
- 8:00 AM **Chondrosarcoma**
Nicola Fabbri MD
- 8:30 AM **Metabolic Imaging with PET/CT:
Osseous Malignancy and Tumor Mimics**
Gary A. Ulaner MD PhD
- 9:00 AM **Osteosarcoma, MFH Bone, Others**
John H. Healey MD
- 9:30 AM **Ewing's Sarcoma**
Joseph Benevenia MD
- 10:00 AM **Questions and Discussion**
All Faculty
- 10:30 AM **BREAK**
- 10:45 AM **Other Malignant Bone Sarcomas**
Richard M Terek MD FACS
- 11:15 AM **Histo Review of Bone Sarcomas**
Michael J. Klein MD
Meera Hameed MD
- 12:00 PM **Principles of Chemotherapy for Bone Sarcomas**
Paul A. Meyers MD
- 12:30 PM **Novel Strategies for Non Chemotherapy-sensitive
Primary Malignant Bone Tumors**
Mrinal Gounder MD
- 12:45 PM **Questions and Discussion**
All Faculty
- 1:00 PM **LUNCH**
- 1:40 PM **LOCAL TREATMENT:
SURGERY FOR PRIMARY BONE MALIGNANCIES**
Extremities (40')
Pelvis (20')
John H. Healey MD
Nicola Fabbri MD
- 2:40 PM **STRATEGIES IN SKELETALLY IMMATURE PATIENTS**
Rotationplasty and growing implants (20')
Vascularized fibula (10')
Bone transport (10')
Mark C. Gebhardt MD
Nicola Fabbri MD
Daniel Prince MD
- 3:20 PM **Allograft in Musculoskeletal Oncology**
Mark C. Gebhardt MD
- 3:50 PM **Surgery for Benign Aggressive and Malignant
Primary Bone Tumors: Spine**
Stefano Boriani MD
- 4:10 PM **Questions and Discussion**
All Faculty
- 4:30 PM **BREAK**
- 4:45 PM **Soft Tissue Tumors: Overview and Work-up**
Joseph Benevenia MD
- 5:10 PM **Basics of Imaging - Soft Tissue**
Robert A. Lefkowitz MD
- 5:30 PM **Soft Tissue Histopathology and Role of Molecular Biology**
Narasimhan P. Agaram MBBS
- 6:10 PM **Questions and Discussion - Case Presentation**
Nicola Fabbri MD & Faculty
- 6:30 PM **DAY 2 ADJOURN**

THURSDAY, OCTOBER 12, 2017

- 7:00 AM **BREAKFAST**
- 7:20 AM **Review of Wednesday Topics**
Nicola Fabbri MD
MSK FELLOWS:
Grigoriy Arutyunyan MD, Derek G. Hansen MD & Jonathan Morris MD
- 7:50 AM **Surgery for Benign Aggressive and Malignant Primary Bone Tumors: Sacrum**
Joseph H Schwab MD MS
- 8:10 AM **Malignant Soft Tissue – Overview and Principles of Surgical Management: Extremities**
Richard M Terek MD FACS
- 8:30 AM **Malignant Soft Tissue: Surgical Strategies for Upper Extremity**
Edward Athanasian MD
- 8:45 AM **Malignant Soft Tissue – Overview and Principles of Surgical Management: Abdominal Sarcomas**
Sam S. Yoon MD
- 9:00 AM **Integrated Treatment of Soft Tissue Sarcomas: Radiotherapy**
Kaled M. Alektiar MD
- 9:15 AM **Integrated Treatment of Soft Tissue Sarcomas: Chemotherapy**
Mark A. Dickson MD
- 9:30 AM **Questions and Discussion**
All Faculty
- 9:50 AM **BREAK**
- 10:00 AM **Lymphoma/Myeloma**
Richard M Terek MD FACS
- 10:15 AM **Metastatic Disease: Overview, Pathophysiology and Work-up**
Joseph H Schwab MD MS
- 10:40 AM **Histo Review: Hematologic Malignancies and Metastatic Disease**
Michael J. Klein MD
Meera Hameed MD
Narasimhan P. Agaram MBBS
- 11:10 AM **Clinical Update: Use of Antiresorptives to Reduce Skeletal Related Events in Advanced Cancers Involving the Bone**
Azeez Farooki MD
- 11:25 AM **Questions and Discussion - Case Presentation**
Nicola Fabbri MD & Faculty
- 11:40 AM **BREAK**
- 11:50 AM **Interventional Radiology for Malignant Musculoskeletal Lesions**
Majid Maybody MD
Ernesto Santos Martin MD
- 12:10 PM **Role of Stereotactic Body Radiation Therapy for Spinal Metastases**
Yoshiya (Josh) Yamada MD
- 12:35 PM **Surgery for Metastatic Disease: Spine**
Mark Bilsky MD
- 1:00 PM **Surgery for Metastatic Disease: Extremities and Pelvis**
Joseph Benevenia MD
Richard Terek MD
- 1:25 AM **Questions and Discussion - Case Presentation**
Nicola Fabbri MD & Faculty
- 1:55 PM **SYMPOSIUM ADJOURN**

REGISTRATION

	EARLY*	GENERAL
Physicians (MDs, PhDs and DOs)	\$500	\$550
Residents, Fellows, Nurses and Other Healthcare Providers	\$300	\$350
Industry Professionals**	\$950	\$950

*Early Registration Ends 9/15/17

REGISTER ONLINE:

www.mskcc.org/musculoskeletal

Special Resident Group Rate

MSK is offering a special group discounted rate for residents. Please contact cme@mskcc.org for more information or to register for the group rate.

REGISTRATION DETAILS

Registration includes continental breakfast, lunch, and refreshment breaks. Please contact cme@mskcc.org at least one week prior to the course if you have any special dietary needs.

- **30% Discounted Rate for MSK Alumni and MSK Alliance Members**
MSK offers a 30% discounted rate to all MSK Alumni and MSK Alliance members to attend a CME course. Please contact cme@mskcc.org for a promo code or more information.
- **MSK Staff Registration**
Registration is complimentary for MSK staff. However, you must register online by visiting the course website, www.mskcc.org/musculoskeletal.

****Industry Members** may attend CME activities for their own education. Marketing, sales, and promotion of products and services is strictly prohibited at MSK CME activities.

ACCREDITATION STATEMENT

MSK is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.



AMA CREDIT DESIGNATION STATEMENT

MSK designates this live activity for a maximum of **24.5 AMA PRA Category 1 Credit(s)**[™]. Physicians should only claim credit commensurate with the extent of their participation in the activity.

FACULTY DISCLOSURE

It is the policy of MSK to make every effort to insure balance, independence, objectivity, and scientific rigor in all continuing medical education activities which it provides as an ACCME accredited provider. In accordance with ACCME guidelines and standards, all faculty participating in an activity provided by MSK are expected to disclose any significant financial interest or other relationship with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services which are discussed by the faculty members in an educational presentation. As required by the ACCME, when an unlabeled use of a commercial product or an investigational use not yet approved for any purpose is discussed during an educational activity, MSK requires the speaker to disclose that the product is not labeled for the use under discussion or that the product is still investigational.

ACCOMMODATIONS

MSK has negotiated special rates and amenities at select hotels in Manhattan. For information on hotels in the area of MSK with discounted rates, please visit: www.mskcc.org/cme.

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