XXXIV Course on MUSCULOSKELETAL PATHOLOGY
“Hot topics in musculoskeletal tumor treatment”

May 3-6, 2023
Rizzoli Orthopaedic Institute - Bologna, Italy

Director of the Course
MARCO MANFRINI, M.D.
Orthopaedic Oncology
Rizzoli Orthopaedic Institute, Bologna, Italy

Invited Speakers
ANGELO P. DEI TOS, M.D.
Pathology
University of Padua School of Medicine, Padua, Italy

LEE JEYS, M.D.
Orthopaedic Oncology
Royal Orthopaedic Hospital NHS, Birmingham, UK

SILVIA CAMMELLI, M.D.
Radiotherapy
Imaging and Radiotherapy, S.Orsola University Hospital, Bologna, Italy

MARCO CIANCHETTI, M.D.
Proton Therapy
Department of Proton Therapy, Trento, Italy
FACULTY

Orthopedic Oncologic Clinic - Course Staff & Presenters
Davide Maria DONATI
Giuseppe BIANCHI
Laura CAMPANACCI
Costantino ERRANI
Tommaso FRISONI
Eric L. STAALS

Diagnostic & Interventional Radiology - Course Staff
Marco MICELI
Giancarlo FACCHINI
Giuliano PETA
Federico PONTI
Paolo SPINNATO
Alberto BAZZOCCHI

Anatomy and Pathological Histology - Course Staff
Marco GAMBAROTTI
Alberto RIGHI

Osteoncology - Course Staff
Ibrahim TONI
Marilena CESARI
Giorgio FREGA
Andrea MARRARI
Anna PAIOLI
Emanuela PALMERINI

Laboratory of Experimental Oncology
Katia SCOTLANDI, Maria Cristina MANARA, Caterina MANCARELLA

Pharmacogenomics and Pharmacogenetics
Massimo SERRA

Regenerative Therapies in Oncology
Enrico LUCARELLI

Advanced Experimental Models
Laura MERCATALI

Spine Surgery
Alessandro GASBARRINI, Riccardo GHERMANDI

Orthoplasty
Marco INNOCENTI, Francesco MORI

General & Thoracic Surgery
Fabio DAVOLI
AIM OF THE COURSE
The Course consists in a 4-day update on management of bone and soft tissue tumors with particular emphasis on clinico-pathologic and radiographic correlations including practical studies under microscope. It is addressed to orthopaedic surgeons, oncologists, pathologists, radiologists and basic researchers to improve their knowledge and competence in these pathologies by working in multidisciplinary teams.

The format includes interactive sessions for questions, case presentations and an early morning interactive session of multiple choice questions reviews the topics previously discussed. The last day participants are grouped in multidisciplinary teams to discuss a clinical case. The best teams are awarded a prize.

SITE
Istituto di Ricerca Codivilla-Putti - Via di Barbiano 1/10, Bologna, Italy
(can be easily reached by bus A from railstation and town center)
Start: Wednesday, 3rd May at 11.00
End: Saturday, 6th May at 13.00

REGISTRATION FEE AND DEADLINES
Regular.................................................................€ 450,00 VAT included
SIAPEC Member – Regular Fee discount 20%..............€ 360,00 VAT included
Resident with letter from Chief Dept .......................€ 200,00 VAT included
AISOT Member..........................................................€ 200,00 VAT included
SIAPEC Member – Resident Fee discount 20%...........€ 160,00 VAT included

Fee reserved for UNIBO residents,
PhD students and International Fellows of the
IOR Orthopaedic and Traumatology Clinic III (oncology)......€ 100,00 VAT included

The registration fee covers:
- admittance to the scientific session and final program
- refreshments during break and lunches

Course dinner: Friday, 5th May 2023 .........................€ 60,00 VAT included

The registration and payment forms will be available online at
https://www.lcfcongress.com/eventi/xxxiv-course-on-musculoskeletal-pathology/

Deadline for registration is 19th APRIL, 2023

ORGANIZING SECRETARIAT
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OFFICIAL LANGUAGE
English
WEDNESDAY, 3 May 2023

11.00  Registration and Welcome reception

12.00  Introduction to the course
       M. Manfrini

PSEUDO TUMORAL BONE LESIONS
Presenter: Laura Campanacci
Panel: Pathologist, Radiologist and Guests

12.30  IS BIOPSY NECESSARY IN A RADIOLOGICALLY SUSPECTED BONE CYST?
       Introduction: presentation of a case (UBC vs ABC vs Fibrous dysplasia)
       L. Campanacci
       Discussion on differential radiological diagnosis
       G. Facchini
       Discussion on differential pathological diagnosis
       M. Gambarotti
       Discussion with the audience through interactive unknown cases:
       when perform a needle biopsy? When perform open surgery with
curettage in a cystic lesion
       Panel

13.30  WHEN SHOULD A NON-OSSIFYING FIBROMA (NOF) BE CURETTED OUT?
       Introduction: presentation of a fractured case
       L. Campanacci
       Radiographical sign of NOF (differential diagnosis)
       G. Facchini

13.45  HOW TO TREAT ANEURYSMAL BONE CYST IN SKELETALLY IMMATURE
       PATIENTS
       Introduction: presentation of a case treated with bone marrow
       concentration
       L. Campanacci
       The need for biopsy and the differential diagnosis in ABC
       M. Gambarotti
       Interventional radiology in ABC
       G. Facchini
       Discussion with the audience through interactive unknown cases:
       when to perform a needle biopsy? When to perform open surgery
       with curettage in a ABC: the good and the bad (from curopsy to
growth plate damage)
       Panel

14.30  Coffee break
## BENIGN BONE LESIONS

**Presenter:** Eric L. Staals  
**Panel:** Radiologist, Pathologist, Oncologist and Guest

### 15.00 HOW AGGRESSIVE SHOULD BE A CURETTAGE?

- **Presentation of clinical cases**  
  *E. Staals*

- **Key radiological issues in the diagnosis of benign bone lesions**  
  *G. Facchini*

- **Key pathological issues in the diagnosis of benign bone lesions**  
  *A. Righi*

- **The use of Denosumab in benign bone lesions**  
  *E. Palmerini*

- **Benign bone lesions in the spine**  
  *A. Gasbarrini*

- **The use of osteosynthesis in bone curettage**  
  *L. Jeys*

### 16.30 THE HISTOLOGICAL TRANSITION FROM BENIGN TO MALIGNANT CARTILAGE: IS BIOPSY ALWAYS NECESSARY?

- **Clinical presentation of cartilage lesions**  
  *E. Staals*

- **The radiological keys in cartilage tumors progression**  
  *G. Facchini*

- **The histological progression**  
  *A. Righi*

- **Current ROH strategy on Chondrosarcoma of limb and pelvis**  
  *L. Jeys*

- **Discussion with the audience through interactive unknown cases:**  
  when to perform a needle biopsy? Curettage vs resection in low grade cartilage tumors  
  *Panel*

### 18.00 End of the day

_Histo-slides of the presented entities will be displayed on the microscopes all day_
THURSDAY, 4 May 2023

MALIGNANT BONE TUMORS
Presenter: Marco Manfrini
Panel: Pathologist, Radiologist, Oncologist, Researchers, Radiotherapists, Guests

08.00 MALIGNANT PROGRESSION IN OSTEOID BASED BONE TUMORS?
Presentation of cases of with progression to high grade osteosarcoma
M. Manfrini
Key radiological issues in malignant osteo-differentiation
M. Miceli, G. Facchini
The pathology perspective in the diagnosis of osteoid based bone tumors
M. Gambarotti
Chemotherapy in high grade variants
M. Cesari
How preclinical models could help clinician decisions in Osteosarcoma
M.C. Manara
Discussion with the audience through interactive unknown cases:
How to treat recurrent high grade osteosarcoma?
Panel

09.45 ROUND TABLE: Questions to Research
Why to store biological samples?
K. Scotlandi, M. Serra

10.15 Coffee break

10.45 TREATMENT OF NOT RESPONSIVE EWING SARCOMA
Presentation of a case of Ewing with soft tissue persistence after inductive chemotherapy
M. Manfrini
Radiological key issues in the evaluation of response to chemotherapy
M. Miceli, G. Facchini
Pathological key issues in the evaluation of response to chemotherapy
A. Righi
The role of High-Dose ChemoTx in Ewing sarcoma
A. Paioli
The role of Radiotherapy in not responsive Ewing sarcoma
S. Cammelli, M. Cianchetti
Pelvic Ewing sarcoma: when the surgical treatment
L. Jeys
12.00 **ROUND TABLE: Is prognosis of metastatic Ewing sarcoma better than metastatic osteosarcoma?**

What about the outcome of Ewing and Osteosarcoma metastatic cases?

*E. Palmerini*

New variants in small round cell tumors

*P. Dei Tos*

Surgical treatment of lung metastases

*F. Davoli*

Stereotactic radiotherapy application in lung metastasis

*S. Cammelli*

13.00 *Lunch break*

**SOFT TISSUE TUMORS**

*Presenter: Giuseppe Bianchi*

*Panel: Pathologist, Radiologist, Oncologist, Researchers, Radiotherapists, Plastic Surgeon*

14.00 **LATE EFFECTS OF RADIATION THERAPY IN SOFT TISSUE SARCOMAS**

Real life experience Case 1

*L. Jeys*

Real life experience Case 2

*G. Bianchi*

Orthopedic approach to post radiation complications

*G. Bianchi*

Post radiation sarcomas

*P. Dei Tos*

15.00 **Oncoplastic approach to irradiated sites and lymphedema**

*M. Innocenti*

How to reduce post radiation toxicity: proton vs photon therapy

*M. Cianchetti*

15.30 **Coffee break**

16.00 **COMBINED TREATMENTS IN SOFT TISSUE SARCOMAS**

Neo or adjuvant systemic therapy in STS

*M. Cesari*

Radiotherapy in combination with systemic therapy in STS

*S. Cammelli*

Could immunotherapy have a role in the treatment of STS?

*T. Ibrahim*

How preclinical models could help clinician decisions in STS

*L. Mercatali*
17.00  **UNKNOWN CASES AND OPEN DISCUSSION**
Real life experience Unknown Case 1
G. Bianchi
Discussion
A. Marrari
Real life experience Unknown Case 2
G. Bianchi
Discussion
G. Frega

18.00  End of the day
Histo-slides of the presented entities will be displayed on the microscopes all day

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**FRIDAY, 5 May 2023**

**SECONDARY BONE LESIONS**
Presenter: Davide Maria Donati
Panel: Pathologist, Radiologist, Oncologist, Researchers, Radiotherapists, Spine Surgeon, Guest

08.30  **PERSPECTIVE OF CURE OF METASTATIC CARCINOMA IN 2022**
Epidemiology update on metastatic carcinoma treatment in western countries
D.M. Donati
Difficult diagnosis in bone and soft tissue metastases
P. Dei Tos
When biopsy is required in metastatic carcinoma medical treatment
T. Ibrahim
Mechanism of action of antiresorptive molecules on bone tumor microenvironment
E. Lucarelli
Overview of interventional radiology in the treatment of bone metastatic lesions
G. Facchini
Action of palliative treatments on bone (electro-chemotherapy vs other techniques
L. Campanacci

10.00  Coffee break
10.30 TREATMENT OF BONE METASTATIC CANCERS

The role of surgery for long bone metastases
C. Errani

Radiotherapy strategy in metastatic carcinomas, when and how
S. Cammelli

The role of surgery for spine metastases
A. Gasbarrini

Pelvic surgery of bone metastatic lesions
L. Jeys

Proximal femur treatment presentation of two cases
T. Ibrahim

12.00 DISCUSSION ON SELECTED CASES PRESENTED BY PARTICIPANTS

Staff and Guests

13.00 Lunch break

HOT TOPICS ON MUSCULOSKELETAL RECONSTRUCTIONS

Presenter: Tommaso Frisoni

14.00 Current role of bone grafts in oncological patients (adults and children)
M. Manfrini

14.20 How to face limb discrepancy in pediatric surgery
L. Campanacci

14.40 Is 3D printing custom device replacing allograft application in limb reconstruction?
D.M. Donati

15.00 Computer assisted surgery: navigation vs 3D printing in pelvic resection
L. Jeys

15.20 Discussion

16.00 Coffee break

16.30 DISCUSSION ON SELECTED CASES PRESENTED BY PARTICIPANTS

Staff and Guests

18.30 End of the day

Histo-slides of the presented entities will be displayed on the microscopes all day

Slide of different presentations of the same session should filled in the same PPT to not loose time with change of PPT files

All the slides should be inserted in the course logo PPT

19.00 COURSE DINNER
**SATURDAY, 6 May 2023**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>08.30</td>
<td>Display of 8-10 final unknown cases and teams line-up</td>
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<tr>
<td>10.00</td>
<td>Coffee break</td>
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<tr>
<td>10.15</td>
<td>Test continuing education (ECM)</td>
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<tr>
<td>10.30</td>
<td>Discussion of the final unknowns and Musculoskeletal Pathology Contest</td>
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<td><strong>Staff and Guest</strong></td>
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<td>Attendees will form multispecialistic teams, will be called to discuss one of the final unknown cases and will be scored by the guest professors and staff. Each team will have a maximum of 15 minutes for their case discussion.</td>
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<tr>
<td>13.00</td>
<td><strong>End of the course and award ceremony</strong></td>
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AUSPICIE OBTAINED

EURO Ewing Consortium

Italian Sarcoma Group

International Society of Limb Salvage

Società Italiana di Anatomia Patologica

Società Italiana di Ortopedia e Traumatologia

AUSPICIE REQUESTED

European Musculo-Skeletal Oncology Society