



32ND ANNUAL MEETING OF THE EUROPEAN MUSCULO SKELETAL ONCOLOGY SOCIETY

FLORENCE, ITALY · MAY 15-17, 2019

SCIENTIFIC PROGRAM



European Musculo-Skeletal Oncology Society

E.M.S.O.S.

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WEDNESDAY - MAY 15, 2019 - TRAINING DAY

AUDITORIUM

08.15 **OPENING REMARKS**

08.30 **Domenico Andrea Campanacci** (Florence - Italy), **Rodolfo Capanna** (Pisa - Italy)

08.30 **DIAGNOSIS**

10.00 Moderators: **Vittorio Miele** (Florence - Italy), **Piero Picci** (San Lazzaro di Savena - Italy)

PATHOLOGY

08.30 Advances in pathology of bone tumors
Alessandro Franchi (Pisa - Italy)

08.45 Advances in pathology of soft tissue tumors
Ramses Forsyth (Brussels - Belgium)

NEW IMAGING TECHNOLOGIES IN BONE AND SOFT TISSUE TUMORS

09.00 Advances in MRI technology: total body MRI; 7 Tesla MRI
Virna Zampa (Pisa - Italy)

09.10 PET-MRI: present and future applications
Maria Picchio (Milan - Italy)

09.20 PET-CT guided biopsy
Lucia Zanoni (Bologna - Italy)

STAGING AND MARGINS

09.30 New details in staging and surgical margins assessment
Nicola Fabbri (New York - USA)

09.45 Discussion

10.00 Coffee break

10.30

10.30 **MEDICAL TREATMENT**

11.00 Moderators: **Rick Haas** (Amsterdam - The Netherlands), **Angela Tamburini** (Florence - Italy)

10.30 Target and immunotherapy in sarcomas
Silvia Stacchiotti (Milan - Italy)

10.45 New drugs in pseudotumoral and benign bone lesions
Maria Luisa Brandi (Florence - Italy)

11.00 **RADIATION THERAPY**

11.30

11.00 New technologies in conventional radiationtherapy
Daniela Greto (Florence - Italy)

11.15 Adrotherapy in bone and soft tissue sarcomas
Maria Rosaria Fiore (Pavia - Italy)

11.30 **MININVASIVE THERAPIES**

12.00

11.30 New technologies in mininvasive therapies
Laura Campanacci (Bologna - Italy)

11.45 Discussion

WEDNESDAY - MAY 15, 2019 - TRAINING DAY

12.00 **LECTURE:** New perspectives in basic science of musculoskeletal oncology
12.30 **John H. Healey** (New York - USA)

Introduction: **Domenico Andrea Campanacci** (Florence - Italy)

12.30 Working lunch
13.30

13.30 **SURGERY 1**

15.00 Moderators: **Giulio Maccauro** (Rome - Italy), **Michael Parry** (Birmingham - UK)

13.30 The evolution of vascularized bone grafts in sarcoma surgery
Luca Delcroix (Florence - Italy)

13.45 Advances in soft tissue flaps reconstructions
Emanuele Cigna (Pisa - Italy)

14.00 New perspectives in paediatric reconstructions
Marco Manfrini (Bologna - Italy)

14.15 The history and evolution of megaprotheses
Reinhard Windhager (Vienna - Austria)

14.30 The role of massive allograft today
Sander Dijkstra (Leiden - The Netherlands)

14.45 Discussion

15.00 Coffee break
15.30

15.30 **SURGERY 2**

17.00 Moderators: **Andreas Leithner** (Graz - Austria) **Raimondo Piana** (Turin - Italy)

15.30 Advances in shoulder girdle reconstructions
Pietro Ruggieri (Padua - Italy)

15.45 New technologies in pelvic surgery for bone tumors
Davide Maria Donati (Bologna - Italy)

16.00 New trends in spine tumor surgery
Alessandro Gasbarrini (Bologna - Italy)

16.15 What's new in sacral tumor surgery
Wei Guo (Beijing - China)

16.30 How to personalize surgical procedures in orthopaedic oncology
Panayiotis Papagelopoulos (Athens - Greece)

16.45 Discussion

17.00 **OPENING CEREMONY**

18.00 Cyberhand and exoskeleton
Manuel Giuseppe Catalano (Genoa - Italy)

Leonardo Da Vinci: 500 years after the genius death
Rodolfo Capanna (Pisa - Italy)

THURSDAY - MAY 16, 2019 - SCIENTIFIC PROGRAM: SESSIONS

AUDITORIUM

08.00
09.30 **SESSION 01 - NEW STRATEGIES IN SARCOMA THERAPY:
CHEMOTHERAPY, TARGET THERAPY, IMMUNOTHERAPY
AND RADIATION THERAPY**

Moderators: **Stefan Bielack** (Stuttgart - Germany), **Joanna Szkandera** (Graz - Austria)

Speaking time: 5' + 2' discussion

2297 - Neoadjuvant/adjuvant chemotherapy with doxorubicin, cisplatin, high-dose ifosfamide, and high-dose methotrexate for patients with osteosarcoma of the extremity

Shigeki Kakunaga¹, Satoshi Takenaka², Yoshinori Imura¹, Hidetatsu Otani², Kenichiro Hamada², Norifumi Naka¹, Ikuo Kudawara¹, Nobuhito Araki³, Takafumi Ueda¹, Hideki Yoshikawa² (¹Osaka - Japan, ²Suita - Japan, ³Ashiya - Japan)

2253 - Is there a role for chemotherapy after local relapse in high grade osteosarcoma?

Emanuela Palmerini¹, Elisa Torricelli², Stefano Cascinu², Michela Pierini¹, Massimiliano De Paolis¹, Davide Maria Donati³, Marilena Cesari¹, Alessandra Longhi¹, Massimo Eraldo Abate¹, Anna Paioli¹, Elisabetta Setola¹, Stefano Ferrari¹ (¹Bologna - Italy, ²Modena - Italy)

2411 - Quantitative assessment of off-label use of immunomodulatory, targeted or other non-cytotoxic agents for recurrent osteosarcoma in Germany: Data from the Cooperative Osteosarcoma Study Group (COSS)

Benjamin Sorg¹, Stefanie Hecker-Nolting¹, Regine Mayer-Steinacker², Lars Lindner³, Peter Reichardt⁴, Norbert Graf⁵, Udo Kontny⁶, Michaela Nathrath⁷, Thorsten Langer⁸, Wolf Hassenpflug⁹, Stefan Bielack¹ (¹Stuttgart - Germany, ²Ulm - Germany, ³Munich - Germany, ⁴Berlin - Germany, ⁵Homburg/Saar - Germany, ⁶Aachen - Germany, ⁷Kassel - Germany, ⁸Lübeck - Germany, ⁹Hamburg - Germany)

2287 - A potential repurposing drug (mycophenolate mofetil) from organ transplantation to osteosarcoma treatment
Dumnoensun Pruksakorn, Jeerawan Klangjorhor, Pimpisa Teeyakasem, Areerak Phanphaisarn, Jongkolnee Settakorn, Kriengsak Lirdprapamongkol, Nutnicha Sirikeaw, Sarawoot Yama³, Jisnusun Svasti, Parunya Chaiyawat (Chiang Mai - Thailand)

2702 - The impact of local control strategies in Ewing sarcoma of bone in children

Marco Manfrini, Silvia Cammelli, Massimo E. Abate, Alessandra Longhi, Laura Campanacci, Davide Maria Donati (Bologna - Italy)

2576 - The role of neoadjuvant radiotherapy in Ewing sarcoma patients

Suat Ulutas¹, Murat Hiz¹, Mahmut Kursat Ozsahin¹, Bedri Karaismailoglu², Tulin Tiraje Celkan¹, Hidayet Fazilet Dinibas¹ (¹Istanbul - Turkey, ²Sinop - Turkey)

2351 - Larotrectinib as neoadjuvant therapy in the treatment of pediatric Tropomyosin Receptor Kinase fusion sarcomas

Stefan Bielack¹, Birgit Georger², Steven G. DuBois³, Leo Mascarenhas⁴, Ramamoorthy Nagasubramanian⁵, Alberto Pappo⁶, Brian Turpin⁷, Taumoha Ghosh⁸, Maria Kirby⁹, Shoji Saito¹⁰, David Ziegler¹¹, Yoshiyuki Suehara¹², Neerav Shukla¹³, Barrett H. Childs¹⁴, Nora C. Ku¹⁵, Michael C. Cox¹⁵, Theodore W. Laetsch¹⁶, Noah Federman⁴ (¹Stuttgart - Germany, ²Villejuif - France, ³Boston - USA, ⁴Los Angeles - USA, ⁵Orlando - USA, ⁶Memphis - USA, ⁷Cincinnati - USA, ⁸Minneapolis - USA, ⁹Adelaide - Australia, ¹⁰Azumino City - Japan, ¹¹Randwick - Australia, ¹²Tokyo - Japan, ¹³New York - USA, ¹⁴Whippany - USA, ¹⁵San Francisco - USA, ¹⁶Dallas - USA)

2484 - The efficacy and safety of apatinib in metastatic alveolar soft part sarcoma: a case series of six patients in one institution

Yitian Wang, Minxun Lu, Fan Tang, Yi Luo, Yong Zhou, Li Min, Wenli Zhang, Hong Duan, Chongqi Tu (Chengdu - China)

2473 - Stereotactic ablative radiotherapy for oligometastatic soft tissue sarcoma patients

Erika Scocimarro, Luca Dominici, Monica Lo Russo, Daniela Greto, Camilla Delli Paoli, Mauro Loi, Donato Pezzulla, Sara Lucidi, Domenico Andrea Campanacci², Giovanni Beltrami², Guido Scocianti², Giuliana Roselli³, Lorenzo Livi (Florence - Italy)

THURSDAY - MAY 16, 2019 - SCIENTIFIC PROGRAM: SESSIONS

AUDITORIUM

SESSION 01 (cont.)

2524 - Stereotactic ablative body radiotherapy (SABR) for lung metastases from soft tissue sarcoma: preliminary results of a perspective phase II study

Lucia Di Brina, **Pierina Navarra**, **Fiorenza De Rose**, **Davide Franceschini**, **Angelo Tozzi**, **Cozzi Salvatore**, **Alexia Bertuzzi**, **Vittorio Quagliuolo**, **Marta Scorsetti** (Rozzano - Italy)

2668 - Carbon ion therapy alone for the treatment of sacral chordoma. The histological, PET and MRI response

Valerio Pipola¹, **Gisberto Evangelisti**¹, **Maria Rosaria Fiore**², **Stefano Bandiera**¹, **Giovanni Barbanti Brodano**¹, **Riccardo Ghermandi**¹, **Marco Girolami**¹, **Giuseppe Tedesco**¹, **Silvia Terzi**¹, **Roberto Orecchia**², **Alessandro Gasbarrini**¹ (¹Bologna - Italy, ²Pavia - Italy)

2502 - Short-term neoadjuvant denosumab and surgery compared to long-term including adjuvant denosumab in advanced giant cell tumor of bone

Lizz van der Heijden, **Astrid Lipplaa**, **Michiel A.J. van de Sande**, **Arjan J. Verschoor**, **Frank M. Speetjens**, **Hans Gelderblom**, **P.D. Sander Dijkstra** (Leiden - The Netherlands)

2250 - Pexidartinib for advanced tenosynovial giant cell tumor: patient subgroup results from the phase 3 ENLIVEN study
Michiel van de Sande¹, **Eric Staals**², **Alessandro Gronchi**³, **Peter Choong**⁴, **Aurelio Santos Rodas**⁵, **Robert Turcotte**⁶, **William D. Tap**⁷, **Hans Gelderblom**¹, **Emanuela Palmerini**², **Silvia Stacchiotti**³, **Jayesh Desai**⁴, **Andrew J. Wagner**⁸, **Thierry Alcindor**⁶, **Kristen Ganjoo**⁹, **Javier Martín-Broto**⁵, **Christopher W. Ryan**¹⁰, **Charles Peterfy**¹¹, **Heather L. Gelhorn**¹², **Jonathan Greenberg**¹³, **Qiang Wang**¹³, **John H. Healey**⁷

(¹Leiden - The Netherlands, ²Bologna - Italy, ³Milan - Italy, ⁴Melbourne - Australia, ⁵Seville - Spain, ⁶Montreal - Canada, ⁷New York - USA, ⁸Boston - USA, ⁹Stanford - USA, ¹⁰Portland - USA, ¹¹Boca Raton - USA, ¹²Bethesda - USA, ¹³Basking Ridge - USA)

09.30 **BATTLE** - *Speaking time: 10' + 10' general discussion*

10.00 Local treatment of pelvic Ewing: always preoperative RT vs primary surgery when possible

Lee Jeys (Birmingham - United Kingdom) vs **Dimosthenis Andreou** (Münster - Germany)

Discussors: **Davide Maria Donati** (Bologna - Italy), **Philip Funovics** (Vienna - Austria)

10.00 Coffee break

10.30

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10.30 **SESSION 02 - SOFT TISSUE SARCOMAS 1**
11.30 Moderators: **Lorenzo Livi** (Florence - Italy), **Jay Wunder** (Toronto - Canada)

Speaking time: 4' + 2' discussion

2500 - Lymph node metastasis from extremity soft tissue sarcomas

Georges Basile, **Jean-Camille Mattei**, **Ibrahim Alshaygy**, **Anthony Griffin**, **Jay Wunder**, **Peter Ferguson** (Toronto - Canada)

2565 - Oncologic and clinical outcomes of limb sparing surgery in soft tissue sarcoma

Angeles Cabas Geat, **Jose Ignacio Albergo**, **German Farfalli**, **Miguel Angel Ayerza**, **Luis Aponte-Tinao**, **Luis Domingo Muscolo** (Buenos Aires - Argentina)

2393 - Leiomyosarcomas of the musculoskeletal system. Therapy and prognosis

Hans Roland Dürr, **Malik Maghames**, **Lars Lindner**², **Barbara Zollner**³, **Thomas Knösel**⁴, **Andrea Baur-Melnyk**⁵, **Volkmar Jansson**, **Alexander Klein** (Munich - Germany)

2534 - Oncologic outcomes in patients with extraskelatal Ewings sarcoma (EES)

Ashish Gulia, **Navneeth Kamath**, **Prateek Hegde**, **Tushar Vora**, **Ashwin Prajapati**, **Vineet Kurisunkal**, **Srinath Gupta**, **Ajay Puri** (Mumbai - India)

2398 - Preoperative hypofractionated radiotherapy in patients with primary lower limb myxoid liposarcoma. Single-arm prospective clinical trial

Hanna Kosela-Paterczyk, **Mateusz Spalek**, **Aneta Borkowska**, **Bartłomiej Szostakowski**, **Piotr Rutkowski** (Warsaw - Poland)

2525 - Adjuvant volumetric modulated arc therapy (VMAT) versus three dimensional conformal radiation therapy (3DCRT) for newly diagnosed extremities Soft Tissue Sarcoma patient. A comparative study

Lucia Di Brina, **Pierina Navarra**, **Giuseppe Roberto D'Agostino**, **Tiziana Comito**, **Ciro Franzese**, **Cristina Simona Iftode**, **Ilaria Renna**, **Andrea Marrari**, **Ferdinando Cananzi**, **Vittorio Quagliuolo**, **Marta Scorsetti** (Rozzano - Italy)

2477 - Response rates and local recurrences after TNF-alpha and melphalan based isolated limb perfusion in soft tissue sarcoma

Lars Erik Podleska, **Julia Brandt**, **Jendrik Harges**, **Stefanie Bertram**, **Arne Streitbürger**, **Farhad Farzaliyev**, **Georg Taeger** (Essen - Germany)

2290 - Body composition as a predictor of toxicity after treatment with eribulin for advanced soft tissue sarcoma

Hiroshi Kobayashi¹, **Tomotake Okuma**¹, **Hiroyuki Oka**¹, **Koichi Okajima**¹, **Yuki Ishibashi**¹, **Liuzhe Zhang**², **Toshihide Hirai**¹, **Takahiro Ohki**¹, **Yusuke Tsuda**¹, **Msachika Ikegami**¹, **Ryoko Sawada**¹, **Yusuke Shinoda**¹, **Toru Akiyama**², **Hirota Kawano**¹, **Takahiro Goto**¹, **Sakae Tanaka**¹ (¹Tokyo - Japan, ²Saitama - Japan)

2466 - Post-radiation sarcoma: a multi-center study

Min Wook Joo¹, **Koichi Ogura**², **Shintaro Iwata**², **June Hyuk Kim**³, **Xiaohui Niu**⁴, **Pramod S Chinder**⁵, **Han Soo Kim**¹, **Sung Wook Seo**¹, **Yang-Guk Chung**¹ (¹Seoul - South Korea, ²Tokyo - Japan, ³Goyang - South Korea, ⁴Beijing - China, ⁵Bangalore - India)

11.30 **BATTLE** - *Speaking time: 10' + 10' general discussion*

12.00 Re-excision after whoops surgery: Always +/- RT vs never (wait and see)

Domenico Andrea Campanacci (Florence - Italy) vs **Alessandro Gronchi** (Milan - Italy)

Discussors: **Sander Dijkstra** (Leiden - The Netherlands), **Robert Grimer** (Birmingham - UK)

12.00 **SPONSORED SYMPOSIA**

13.00

13.00 Working lunch

13.45

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AUDITORIUM

- 13.45** **CAMPANACCI LECTURE**
14.15 Florence city of arts by Mario Campanacci, 1995
Domenico Andrea Campanacci (Florence - Italy)
- 14.15** **ROUND TABLE: INDICATIONS IN INTERCALARY RECONSTRUCTIONS**
15.15 Moderators: **Guido Scoccianti** (Florence - Italy), **Reinhard Windhager** (Vienna - Austria)
Speaking time: 10' + 5' discussion
- Allografts - **Louis Alberto Aponte Tinao** (Buenos Aires - Argentina)
- Allografts + VF - **Rodolfo Capanna** (Pisa - Italy)
- Bone transport - **John H. Healey** (New York - USA)
- Recycling - **Hiroyuki Tsuchiya** (Kanazawa - Japan)
- 15.15** **BATTLE** - *Speaking time: 10' + 10' general discussion*
15.45 Joint-sparing reconstructions: biological vs prosthesis
Eric Mascard (Paris - France) vs **Shekhar Madhukar Kumta** (Hong Kong - China)
Discussors: **Marco Manfrini** (Bologna - Italy), **Rob Pollock** (Stanmore - United Kingdom)
- 15.45** Coffee break
16.15
- 16.15** **SESSION 03 AND SESSION 04 - NEW TECHNIQUES IN PEDIATRIC**
18.15 **RECONSTRUCTIONS AND LIMB LENGTHENING DEVICES**
Moderators: **Giovanni Beltrami** (Florence - Italy), **Ajay Puri** (Mumbai - India), **Michiel Van de Sande** (Leiden - The Netherlands)
Speaking time: 4' + 2' discussion
- 2241 - Chondrosarcomas in children and adolescents – are they different?
Ajay Puri, Vineet Kurisunkial, Ashish Gulia (Mumbai - India)
- 2315 - Primary lymphoma of bone and soft tissue in childhood
Nilgun Kurucu, Canan Akyüz, Ali Varan, Aysegul Uner, Aydin Burca, Bilgehan Yalcin, Tezer Kutluk (Ankara - Turkey)
- 2474 - Clinical outcome and treatment strategies for Ewing sarcoma patients below 10 years with a minimum follow-up of ten years
Sarah Bosma¹, Miquel San Julian², Luis Sierrasesumaga², Michiel van de Sande¹, Sander Dijkstra¹ (¹Leiden - The Netherlands, ²Pamplona - Spain)
- 2272 - Growth plate and expandable endoprostheses: joint saver implants
Margarita Montero, Juan Carlos Abril, Carlos Miranda (Madrid - Spain)
- 2421 - Growth pattern of tibias after passive implant insertion in adolescent patients with sarcoma in femur
Zou Changye, Shen Jingnan (Guangzhou - China)
- 2469 - Tibial growth after distal femoral megaprosthesis in children: the efficacy of pediatric tibial components
Eric Staals, Fabio Ciavatti, Laura Campanacci, Riccardo Zucchini, Davide Maria Donati, Marco Manfrini (Bologna - Italy)
- 2328 - Reconstruction of knee joint with semi-joint endoprosthesis in bone malignancies of adolescents
Jingnan Shen, Junqiang Yin, Gang Huang, Changye Zou, Xianbiao Xie, Qinglin Jin (Guangzhou - China)

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SESSION 03 AND SESSION 04 (cont.)

2306 - 18 years experience with growing endoprosthesis in children and adolescents with primary malignant bone tumors
Andrzej Szafranski, Bartosz Pachuta, Iwona Malesza, Magdalena Rychlowska - Pruszyńska, Tomasz Walenta (Warsaw - Poland)

2312 - Outcome of extendable prosthesis in children with bone sarcoma
Shigeki Kakunaga¹, Yoshinori Imura¹, Satoshi Takenaka², Hidetatsu Otani², Kenichiro Hamada², Norifumi Naka¹, Akira Myoui², Takafumi Ueda¹, Yasuaki Aoki³, Hideki Yoshikawa² (¹Osaka - Japan, ²Suita - Japan, ³Himeji - Japan)

2471 - Preliminary results from EMSOS study on expandable distal femoral megaprotheses
Eric Staals¹, Andrea Sambri¹, Eric Mascard², Adesegun Abudu³, Panagiotis Gikas⁴, Michiel van de Sande⁵, Edwin Dierselhuys⁶, Paul Jutte⁷, Domenico Andrea Campanacci⁸, Francesco Muratori⁸, Magdalena Gilg⁹, Andreas Leithner⁹, Reinhard Windhager¹⁰, Yair Gortzak¹¹, Philipp Funovics¹⁰, Martina Schinhan¹⁰, Oleg Vyryva¹², Marco Manfrini¹, Davide Maria Donati¹ (¹Bologna - Italy, ²Paris - France, ³Birmingham - United Kingdom, ⁴London - United Kingdom, ⁵Leiden - The Netherlands, ⁶Nijmegen - The Netherlands, ⁷Groningen - The Netherlands, ⁸Florence - Italy, ⁹Graz - Austria, ¹⁰Vienna - Austria, ¹¹Tel Aviv - Israel, ¹²Kharkiv - Ukraine)

2440 - Complications after endoprosthetic reconstruction of the knee joint in children and adolescence with bone tumors
Nikolay Bolshakov, Artem Artemov, Alexey Slinin, Marina Tikhonova, Nikolay Grachev (Moscow - Russia)

2470 - Reconstruction of the proximal femur after bone tumor resection in children
Eric Staals, Joele Canapeti, Riccardo Zucchini, Marco Colangeli, Davide Maria Donati, Marco Manfrini (Bologna - Italy)

2676 - The Use of PRECICE® nail in the management of limb length discrepancy following biological reconstruction with "frozen hotdog" technique
Harzem Ozger, Bugra Alpan, Osman Emre Aycan, Natig Valiyev (Istanbul - Turkey)

2436 - Methods of limb reconstruction after resection of primary malignant bone tumours of the distal tibia in children and adolescent
Magdalena Rychlowska-Pruszyńska, Andrzej Szafranski, Bartosz Pachuta, Iwona Malesza, Teresa Klepacka, Justyna Dusinska (Warsaw - Poland)

2519 - Vascularized epiphyseal proximal fibula transfer in a 2 year old with Ewings sarcoma of proximal tibia
Pramod Shekarappa Chinder, Suraj Hindiskere (Bangalore - India)

2453 - Vascularized fibula graft after bone tumor resection in pediatric age: old or new technique?
Giovanni Beltrami, Francesco Muratori, Guido Scocciati, Francesca Totti, Luca Delcroix, Marco Innocenti, Domenico Andrea Campanacci, Rodolfo Capanna (Florence - Italy)

2256 - Joint preservation limb sparing surgery in children with malignant bone tumors about the knee: the biological solution
Samuel Kenan, Shachar kenan (New York - USA)

2563 - Residual epiphysis growth after epiphyseal-preservation surgery for childhood osteosarcoma around the knee joint
Akihiko Takeuchi, Norio Yamamoto, Katsuhiko Hayashi, Shinji Miwa, Kentaro Igarashi, Yuta Taniguchi, Hirotaka Yonezawa, Yoshihiro Araki, Sei Morinaga, Hiroyuki Tsuchiya (Kanazawa - Japan)

2581 - Reconstruction in skeletally immature patients: outcomes of two viable options
Joseph Ippolito, Jennifer Thomson, Kathleen Beebe, Francis Patterson, Joseph Benevenia (Newark - USA)

2672 - Managing the acetabulum in paediatric proximal femoral replacements
Jonathan Stevenson, Charles Baird, Benjamin Jacques, Robert Grimer, Lee Jeys, Michael Parry (Birmingham - United Kingdom)

THURSDAY - MAY 16, 2019 - SCIENTIFIC PROGRAM: SESSIONS

SALA VERDE

08.00
09.15

SESSION 05 - PATHOLOGY OF BONE AND SOFT TISSUE TUMORS - BASIC SCIENCE

Moderators: **Ramses Forsyth** (Brussels - Belgium), **Anne Gomez-Brouchet** (Toulouse - France)

Speaking time: 5' + 2' discussion

2415 - The role of high temperature requirement factor A-1 (HTRA1) positivity in recurrence of giant cell tumor of bone
Mehmet Ali Deveci, Kivilcim Erdogan, Mehmet Yigit Gokmen, Gulfiliz Gonlusen, Serdar Ozbarlas (Adana - Turkey)

2687 - Hydrogen-peroxide reduces cell viability and induces apoptosis of giant cell tumor cells – an in vitro model of intraoperative hydrogen-peroxide treatment
Georg Omlor, Jörg Fellenberg, Jessica Lange, Burkhard Lehner (Heidelberg - Germany)

2547 - Female hormone plays a major role in grade 2 chondrosarcoma survival
Minna Laitinen¹, Jose Albergó², Michael Parry³, Jonathan Stevenson³, German Farfalli², Luis Aponte-Tiniao², Lee Jeys³ (¹Helsinki - Finland, ²Buenos Aires - Argentina, ³Birmingham - United Kingdom)

2692 - The balance between osteoclasts and macrophages determines the effectiveness of chemotherapy in osteosarcomas and illustrates the spatial and temporal heterogeneity of these tumors
Anne Gomez-Brouchet¹, Régis Brion², Julia Gilhodes¹, B Ouvrard², Nathalie Gaspar³, Corinne Bouvier⁴, Laurence Brugières³, Sophie Piperno-Neumann⁵, Françoise Rédini² (¹Toulouse - France, ²Nantes - France, ³Villejuif - France, ⁴Marseille - France, ⁵Paris - France)

2496 - Clinical and molecular correlative analysis of pathologic fracture associated osteosarcoma. Implications from microRNA profiling
Santiago Lozano-Calderon, Cassandra Garbutt, Jason Kim, Yen-Lin Chen, Karen De Amorim Bernstein, Ivan Chebib, Petur Nielsen, Vikram Deshpande, Renee Rubio, Brian Lawney, Yaoyu Wang, John Quackenbush, Thomas Delaney, Kevin Raskin, Edwin Choy, Gregory Cote, Dimitrios Spentzos (Boston - USA)

2683 - APO 10 and TKTL1 are reliable markers for the detection and follow-up of high grade sarcomas
Frank Traub, Saskia Sachsenmaier, Sabine Schleicher, Evi Schmidt (Tübingen - Germany)

2501 - Radiotherapy for rhabdomyosarcoma – more than a local treatment in combination with immunotherapy
Franziska Eckert, Ivan Jelas, Moritz Oehme, Julia Schmitt³, Bernd J Pichler³, Stephan M Huber, Daniel Zips, Rupert Handgretinger, Karin Schilbach (Tübingen - Germany)

2432 - Radiation dose deviations by titanium versus carbon fibre/polyether ether ketone (CF/PEEK) implants in long bones
Christoph J. Laux, Christina Villefort, Stefanie Ehrbar, Lotte Wilke, Matthias Guckenberger, Daniel A. Müller (Zurich - Switzerland)

2622 - Novel germline variants in sporadic schwannomatosis
Min Wook Joo, Byung-Joo Min, Yang-Guk Chung, Sung Hyun Cho (Seoul - South Korea)

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SALA VERDE

09.15 **SESSION 06 - ADVANCES IN IMAGING TECHNIQUES**
10.00 Moderators: **Vittorio Briganti** (Florence - Italy), **Carmine Zoccali** (Rome - Italy)

Speaking time: 4' + 2' discussion

2491 - Is there a correlation between radiology experience and final histological diagnosis in bone & soft tissue tumours?
Umar-Khetaab Hanif, Ahmed I Saad, Scott Evans, Louis-Romee Le Nail, Steven James, Mark Davies, Rajesh Botchu (Birmingham - United Kingdom)

2693 - Which indeterminate pulmonary nodules represent lung metastases in primary bone sarcoma?
Kim Tsoj, Martin Lowe, Yusuke Tsuda, Dominic Tan, Johnathan Lex, Michael Parry, Jonathan Stevenson, Scott Evans, Lee Jeys (Birmingham - United Kingdom)

2325 - Evaluation of lateral extent of the reactive layer around subcutaneous soft tissue sarcomas by ultrasonography
Munenori Watanuki, Masami Hosaka, Kou Hayashi, Shinichirou Yoshida, Toshihisa Yano, Eiji Itoi (Sendai - Japan)

2638 - 18F-FDG PET/CT in the evaluation of cartilaginous bone neoplasms: the added value of tumor grading
Alessio Annovazzi¹, Vincenzo Anelli¹, Nicolò Rumi¹, Agnese Persichetti¹, Mariangela Novello¹, Rosa Sciuto¹, Franco Bertoni², Virginia Ferraresi¹, Roberto Biagini¹, Carmine Zoccali (¹Rome - Italy, ²Bologna - Italy)

2307 - Tumor uptake and tumor necrosis evaluation at staging positron emission tomography in osteosarcoma and Ewing sarcoma: prognostic value of standardized uptake value
Rossella Di Dato, Michela Allocca, Anna Lisa Martini, Angela Tamburini, Chiara Caporalini, Catia Olianti, Roberto Sciagrà, Vittorio Briganti (Florence - Italy)

2476 - 18F-FDG PET-CT is less favorable compared to MRI for detection of skeletal metastasis in Ewing sarcoma
Sarah Bosma, Dennis Vriens, Hans Gelderblom, Michiel van de Sande, Sander Dijkstra, Hans Bloem (Leiden - The Netherlands)

2554 - Improved virtual surgical planning with 3D-multimodality image for malignant giant pelvic tumors
Hong Duan, Xiang Fang (Chengdu - China)

2635 - A convolutional neural network (CNN) for predicting fracture risk in metastatic bone disease (MBD) of the proximal femur
Anthony Bozzo¹, Michelle Ghert², Jim Reilly², Kiret Dhindsa², Kellee Stephens², Tricia Schneider² (¹Montreal - Canada, ²Hamilton - Canada)

10.00 Coffee break
10.30

THURSDAY - MAY 16, 2019 - SCIENTIFIC PROGRAM: SESSIONS

SALA VERDE

10.30
12.00

SESSION 07 AND SESSION 08 - INFECTIONS AND INTERCALARY RECONSTRUCTIONS

Moderators: **Zdenek Matejovsky** (Prague - Czech Republic) - **Daniel Müller** (Zurich - Switzerland)

Speaking time: 4' + 2' discussion

2291 - Microbiological particularities of surgical site infections in oncologic orthopedic surgery
Thierry Rod Fleury¹, Jean-Camille Mattei¹, Ilker Uçkay² (¹Geneva - Switzerland, ²Zürich - Switzerland)

2494 - Bacteriological description and resistances analysis in surgical site infection after resection of primary pelvic bone malignancy

Yoann Varenne¹, Vincent Crenn¹, Sophie Touchais¹, François Guoin², David Boutoille¹, Pascale Bemer¹, Stephane Corvec¹ (¹Nantes - France, ²Lyon - France)

2666 - Is conventional antibioprohylaxis associated with increased infection rates in oncologic orthopaedics?
Robin Evrard, Sophie Mercier, Christine Detrembleur, Pierre-Louis Docquier, Thomas Schubert (Brussels - Belgium)

2429 - Perioperative surgical antibiotic prophylaxis in orthopaedic oncology: which antibiotic is adequate for resection of soft tissue sarcomas in the adductor and gluteal area

Alexander Klein, Chatout Chudamani, Volkmar Jansson, Hans Roland Dürr (Munich - Germany)

2376 - Occlusive wound closure prevents prolonged wound discharge - A randomized controlled trial in patients undergoing tumor resection and endoprosthetic reconstruction of the proximal femur

Werner Hettwer¹, Chunsen Wu², Peter Horstmann¹, Claus Lindkær Jensen¹, Anders Krarup-Hansen¹, Michael Mørk Petersen¹ (¹Copenhagen - Denmark, ²Odense - Denmark)

2528 - A new non-invasive procedure to diagnose periprosthetic joint infection

Mohamed Omar, Henning Windhagen, Christian Krettek, Max Ettinger (Hannover - Germany)

2661 - Short term benefits of passively eluting Agluna silver are not proven in the medium term for preventing infection in EPRs
Jonathan Stevenson, Nomaan Sheikh, Joy Harris-Folb, Minna Laitinen, Michael Parry, Lee Jeys (Birmingham - United Kingdom)

2403 - Two-stage revision for suspected infection in knee endoprosthetic replacement: does silver coating help?

Massimiliano De Paolis, Andrea Sambri, Riccardo Zucchini, Gianluca Lonardo, Eleonora Zamparini, Pierluigi Viale, Davide Maria Donati (Bologna - Italy)

2700 - Osteoarticular reconstruction in lower limbs with MUTARS silver plated endomegaprotheses: experience of 86 cases

João Freitas, Diogo Moura, Francisco Fernandes, Sandra Santos, Isabel Ferreira, Ruben Fonseca, José Casanova (Coimbra - Portugal)

2677 - Infectious complications and aseptic instability in children with megaprosthesis of bones and joints
Dmitry Nisichenko, Aslan Dzampaev, Vakhtang Kharbedia, Mamed Aliev (Moscow - Russia)

2660 - Clinical outcome of infection treatment after endoprosthetic reconstruction of the lower extremities

Philip Sanders, Michael Bus, Robert Van der Wal, Michiel Van de Sande, Mark De Boer, Henk Scheper, Sander Dijkstra (Leiden - The Netherlands)

2417 - Microsurgical reconstruction with vascularized fibula and massive bone allograft for bone tumors

Costantino Errani¹, Patricio Alfaro Toloza², Virginia Ponz³, Giovanni Ciani¹, Massimo Ceruso⁴, Davide Maria Donati¹, Marco Manfrini¹ (¹Bologna - Italy, ²Conception - Chile, ³Madrid - Spain, ⁴Florence - Italy)

2551 - Complications of reconstruction of bone defects after wide resection of malignant musculoskeletal tumours with a devitalized autograft combined with free vascularised fibular graft

Kerem Basarir, Mehmet Armangil, Mustafa Onur Karaca, Onur Nazim Tan, Hüseyin Yusuf Yildiz, Sirri Sinan Bilgin (Ankara - Turkey)

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SESSION 07 AND SESSION 08 (cont.)

2580 - Intercalary endoprosthetic reconstruction: an analysis of complications

Jennifer Thomson, Joseph Ippolito, Kathleen Beebe, Francis Patterson, Joseph Benevenia (Newark - USA)

2593 - Preliminary results of a new intercalary modular endoprosthesis for the management of diaphyseal bone tumors

Mehmet Ayvaz¹, Kadir Buyukdogan², Barlas Göker¹, Mazhar Tokgozoglu¹, Ulukan Inan³, Korhan Özkan², Tahsin Sami Colak⁴, Alp Akman⁵ (¹Ankara - Turkey, ²Istanbul - Turkey, ³Eskisehir - Turkey, ⁴Konya - Turkey, ⁵Denizli - Turkey)

12.00 SPONSORED SYMPOSIA 13.00

13.00 Working lunch
14.15

14.15 SESSION 09 - SOFT TISSUE SARCOMAS 2 15.45 Moderators: **Franco Gherlinzoni** (Gorizia - Italy), **Shintaro Iwata** (Tokyo - Japan)

Speaking time: 4' + 2' discussion

2542 - Novel treatment of Zaltoprofen for diffuse-type tenosynovial giant cell tumor arising in knee and ankle joint: a pilot study

Akihiko Takeuchi, Norio Yamamoto, Katsuhiko Hayashi, Shinji Miwa, Kentaro Igarashi, Yuta Taniguchi, Hiroataka Yonezawa, Yoshihiro Araki, Sei Morinaga, Hiroyuki Tsuchiya (Kanazawa - Japan)

2682 - Low grade fibromyxoid sarcoma: demographics, prognosis and behavioural patterns

Louis Romee Le Nail, Umar Khetaab Hanif, Yusuke Tsuda, Michael Parry, Lee Jeys, Scott Evans (Birmingham - United Kingdom)

2540 - Outcome after surgical treatment of dermatofibrosarcoma protuberans (DFSP): does it requires all this follow up? How much resection margin is enough?

Ibrahim AlShaygy, Jean-Camille Mattei, Georges Basile, Anthony Griffin, Jay Wunder, Peter Ferguson (Toronto - Canada)

2651 - Challenging factors in the treatment of synovial sarcoma

Philipp Theodor Funovics, Klemens Vertesich, Heiko Schmid-Stino, Markus Schreiner, Gerhard Hobusch, Joannis Panotopoulos, Reinhard Windhager (Vienna - Austria)

2310 - Does pre-operative magnetic resonance predict the risk of local recurrence in primary myxofibrosarcoma of the extremities?

Andrea Sambri, Paolo Spinnato, Gianmarco Tuzzato, Davide Maria Donati, Giuseppe Bianchi (Bologna - Italy)

2572 - Prognostic survival model of myxoid liposarcoma patients using machine learning

Dayton McMillan, Aditya Karhade, Pramod Kamalopathy, Adam Kline, Kevin Raskin, Joseph Schwab, Santiago Lozano-Calderon (Boston - USA)

2681 - Are we detecting extra-pulmonary metastases early enough in Myxoid liposarcomas?

Ananth Srinivasan, Leo Feinberg, Jonathan Gregory, Michael Parry, Jonathan Stevenson (Birmingham - United Kingdom)

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SESSION 09 (cont.)

2344 - Incidence and outcome of abdominal metastases in soft tissue sarcoma. Results of a multicentre study
Maria Anna Smolle¹, Angelika Schaffler¹, Andreas Leithner¹, Veroniek van Praag², Marko Bergovec¹, Joanna Szkandera¹, Bernadette Liegl-Atzwanger¹, Maja Niethard³, Per-Ulf Tunn³, Michiel van de Sande², Dimosthenis Andreou⁴ (¹Graz - Austria, ²Leiden - The Netherlands, ³Berlin - Germany, ⁴Münster - Germany)

2374 - Soft tissue sarcoma abutting/involving the bone, a proposed guideline for surgical management
Ahmad Shehadeh, Abedlatif Al Mousa, Sameer Yaser, Iyad Sultan (Amman - Jordan)

2643 - Outcomes of vascular reconstructions following sarcoma excision
Jean-Camille Mattei, Julia Visgaus, Ibrahim Alshaygy, Georges Basile, Anthony Griffin, Curtis Woodford, Thomas Lindsay, Jay Wunder, Peter Ferguson (Toronto - Canada)

2527 - Patterns of care and survival in elderly patients with advanced soft-tissue sarcoma
Monica Lo Russo, Luca Dominici, Erika Scoccimarro, Daniela Greto, Camilla Delli Paoli, Mauro Loi, Donato Pezzulla, Sara Lucidi, Domenico Andrea Campanacci, Giovanni Beltrami, Guido Scoccianti, Anna Rita Palomba, Giuliana Roselli, Lorenzo Livi (Florence - Italy)

2384 - Advancing soft-tissue sarcoma aftercare using flexible parametric survival models
Maria Anna Smolle¹, Michiel van de Sande², Dario Callegaro³, Jay Wunder⁴, Andrew J Hayes⁵, Lukas Leitner¹, Marko Bergovec¹, Per-Ulf Tunn⁶, Veroniek van Praag², Joannis Panotopoulos⁷, Madeleine Willegger⁷, Reinhard Windhager⁷, Jakob M Riedl¹, Martin Pichler¹, Michael Stotz¹, Armin Gerger¹, Herbert Stöger¹, Bernadette Liegl-Atzwanger¹, Josef Smolle¹, Andreas Leithner¹, Rick L Haas⁸, Joanna Szkandera¹ (¹Graz - Austria, ²Leiden - The Netherlands, ³Milan - Italy, ⁴Toronto - Canada, ⁵London - United Kingdom, ⁶Berlin - Germany, ⁷Vienna - Austria, ⁸Amsterdam - The Netherlands)

2258 - Prognostic factors and outcomes in soft tissue sarcomas of the extremities: 10-year experience at tertiary care hospital
Thanate Pooiripinyo¹, Taweekok Wisanuyotin², Winai Sirichativapee², Permsak Paholpak², Polasak Jeeravipoonvarn² (¹ChumPhae - Thailand, ²Khon Kaen - Thailand)

2356 - Sarcopenia affects incidence of surgical wound complications in localized soft tissue sarcoma patients but not outcome
Roberto Velez, Matias Vicente, Matias de Albert, Manuel Perez (Barcelona - Spain)

2550 - Results of multi-visceral resection for retroperitoneal sarcoma from a UK reference centre
Anant Desai, Robert Tyler, Max Almond, Samuel Ford (Birmingham - United Kingdom)

15.45 Coffee break
16.15

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16.15 **SESSION 10 – BENIGN AND PSEUDOTUMORAL LESIONS**
17.30 Moderators: **David Biau** (Paris - France), **Burkhard Lehner** (Heidelberg - Germany)

Speaking time: 4' + 2' discussion

3002 - Operative versus non-operative approach in aggressive fibromatosis: preliminary data from a multicentric study
P. Cuomo¹, **G. Scoccianti**¹, **A. Schiavo**¹, **F. Muratori**¹, **D. Matera**¹, **M. Kukushkina**², **P. Funovics**³, **M.T. Lingitz**³, **R. Windhager**³, **S. Dijkstra**⁴, **J. Jasper**⁴, **D. Muller**⁵, **D. Kaiser**⁵, **T. Perlaky**⁶, **D.A. Campanacci**¹ (¹Florence - Italy, ²Kiev - Ukraine, ³Vienna - Austria, ⁴Leiden - The Netherlands, ⁵Zurich - Switzerland, ⁶Budapest - Hungary)

2449 - Prognostic factors for the disease progression of aggressive fibromatosis on the wait-and-see policy: analysis of 35 patients at a single institution
Mariia Kukushkina, **Serhii Korovin**, **Anatoly Diedkov**, **Sergii Diedkov**, **Vasyl Ostafichuk**, **Denis Chornenkiy** (Kyiv - Ukraine)

2465 - Surgical treatment of patients with diffuse-type tenosynovial giant-cell tumours: an individual patient data meta-analysis
Monique Mastboom¹, **Emanuela Palmerini**², **Floortje Verspoor**³, **Anja Rueten-Budde**¹, **Silvia Stacchiotti**⁵, **Eric Staals**², **Gerard Schaap**⁵, **Paul Jutte**⁶, **Will Aston**⁷, **Hans Gelderblom**¹, **Andreas Leithner**⁸, **Dietmar Dammerer**⁹, **Akihiko Takeuchi**¹⁰, **Quirina Thio**¹¹, **Xiaohui Niu**¹², **Jay Wunder**¹³, **Michiel van de Sande**¹ (¹Leiden - The Netherlands, ²Bologna - Italy, ³Nijmegen - The Netherlands, ⁴Milan - Italy, ⁵Amsterdam - The Netherlands, ⁶Groningen - The Netherlands, ⁷London - United Kingdom, ⁸Graz - Austria, ⁹Innsbruck - Austria, ¹⁰Kanazawa - Japan, ¹¹Boston - USA, ¹²Beijing - China, ¹³Toronto - Canada)

2663 - The effect of imatinib mesylate in diffuse-type tenosynovial giant cell tumour on MR imaging and PET-CT
Monique Mastboom¹, **Willemijn Lips**¹, **Max Mifsud**², **Colin Ng**², **Catherine McCarthy**², **Kirsten van Langevelde**², **Nick Athanasou**², **Max Gibbons**², **Michiel van de Sande**¹ (¹Leiden - The Netherlands, ²Oxford - United Kingdom)

2628 - Chondroblastoma of bone in extremities-a single centre study of 177 cases
Minna Laitinen¹, **Adesegun Abudu**², **Jonathan Stevenson**², **Scott Evans**², **Vaiyapuri Sumathi**², **Lee Jeys**², **Michael Parry**² (¹Helsinki - Finland, ²Birmigham - United Kingdom)

2330 - Characteristics of giant cell tumor in teenagers
Won Gyun Lee, **Sung-Taek Jung** (Gwang-ju - South Korea)

2652 - Clinical outcome and risk for recurrence of progressed giant cell tumors of the bone - retrospective analysis of 90 cases
Burkhard Lehner, **Jessica Lange**, **Jörg Fellenberg**, **Georg Omlor** (Heidelberg - Germany)

2240 - Denosumab - Why and when?
Ajay Puri, **Ashish Gulia**, **Prateek Hegde** (Mumbai - India)

2472 - Incidence of malignancies in fibrous dysplasia: data from a national pathology cohort
Bas Majoor, **Marlous Rotman**, **Natasha Appelman-Dijkstra**, **Neveen Hamdy**, **Michiel van de Sande**, **Judith Bovee**, **Olaf Dekkers**, **Sander Dijkstra** (Leiden - The Netherlands)

2506 - The West China Hospital femur Classification: a retrospective analysis of 237 patients for fibrous dysplasia of the femur
Yitian Wang, **Minxun Lu**, **Fan Tang**, **Yi Luo**, **Yong Zhou**, **Li Min**, **Wenli Zhang**, **Hong Duan**, **Chongqi Tu**, **Yuqi Zhang**, **Cai Liu** (Chengdu - China)

2512 - First application of three-dimensional (3D) designing total hip arthroplasty (THA) with long uncemented stem for fibrous dysplasia (FD) patients combined with hip joint osteoarthritis (OA)
Li Min, **Yi Luo**, **Yong Zhou**, **Jie Wang**, **Yitian Wang**, **Kai Yao**, **Chongqi Tu** (Chengdu - China)

2426 - Can an artificial bone graft provide bone regeneration and mechanical support? A preliminary study on clinical reliability
Michele Boffano, **Pietro Pellegrino**, **Nicola Ratto**, **Ugo Albertini**, **Stefano Marone**, **Elena Boux**, **Andrea Ferro**, **Raimondo Piana** (Turin - Italy)

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17.30 **SESSION 11 – FREE PAPERS 1**
18.15 Moderators: **Roberto Biagini** (Rome - Italy), **Oleg Vyrva** (Kharkiv - Ukraine)

Speaking time: 4' + 2' discussion

2530 - Oncological outcomes of surgically treated extremity and pelvic chondrosarcomas
Ashish Gulia, Vineet John, Prateek Hegde, Ajay Puri, Ashwin Prajapati, Avdhoot Dixit (Mumbai - India)

2401 - Prognostic factors and survival in clear cell chondrosarcoma patients – an European Musculoskeletal Oncology Society study
Dimosthenis Andreou¹, Julian Röder¹, Georg Gosheger¹, Imre Antal², Daniel Baumhoer³, Giuseppe Bianchi⁴, David Biau⁵, José Casanova⁶, Nicola Fabbri⁷, Anthony Griffin⁸, Lee Jeys⁹, Mikel San-Julian¹⁰, Alexander Klein¹¹, Carolin Knebel¹¹, Minna Laitinen¹², van de Sande Michiel¹³, Frank Traub¹⁴, Panagiotis Tsagkozis¹⁵, Per-Ulf Tunn¹⁶, Oleg Vyrva¹⁷, Andreas Leithner¹⁸ (¹Münster - Germany, ²Budapest - Hungary, ³Basel - Switzerland, ⁴Bologna - Italy, ⁵Paris - France, ⁶Coimbra - Portugal, ⁷New York - USA, ⁸Toronto - Canada, ⁹Birmingham - United Kingdom, ¹⁰Pamplona - Spain, ¹¹Munich - Germany, ¹²Helsinki - Finland, ¹³Leiden - The Netherlands, ¹⁴Tuebingen - Germany, ¹⁵Stockholm - Sweden, ¹⁶Berlin - Germany, ¹⁷Kharkiv - Ukraine, ¹⁸Graz - Austria)

2367 - Lung metastasectomy improves survival in high-grade chondrosarcoma
Andrea Sambri, Gianmarco Tuzzato, Michele Rocca, Giuseppe Bianchi, Davide Maria Donati (Bologna - Italy)

2294 - Does surgical resection of primary lesion improve survival in osteosarcoma patients with metastasis at diagnosis?
Liuzhe Zhang¹, Toru Akiyama¹, Takashi Fukushima¹, Shintaro Iwata², Sakae Tanaka¹, Katsushi Takeshita³, Akira Kawai², Hiroshi Kobayashi² (¹Saitama - Japan, ²Tokyo - Japan, ³Tochigi - Japan)

2394 - Extremity sarcoma resections: how far is far enough?
Annika Bilgeri, Alexander Klein, Lars Lindner, Barbara Zollner, Thomas Knösel, Andrea Baur-Melnyk, Volkmar Jansson, Hans Roland Dürr (Munich - Germany)

2302 - Endoprosthetic distal femur replacement after intra-articular knee resection for sarcoma and recurrent giant cell tumor
Jendrik Hardes^{1,3}, Marcel-Philipp Henrichs², Georg Gosheger³, Gregor Hauschild³, Maria Eveslage³, Eike Bormann³, Markus Nottrott^{1,3}, Dimosthenis Andreou³, Wiebke Guder¹, Arne Streitbürger^{1,3} (¹Essen - Germany, ²Osnabrück - Germany, ³Münster - Germany)

2311 - Giant cell tumour of the distal radius: wrist arthrodesis or osteoarticular reconstruction?
Giuseppe Bianchi¹, Andrea Sambri¹, Eleonora Marini², Primo Andrea Daolio², Raimondo Piana³, Domenico Andrea Campanacci⁴, Davide Maria Donati¹ (¹Bologna - Italy, ²Milan - Italy, ³Turin - Italy, ⁴Florence - Italy)

2370 - Radiologic follow-up of untreated enchondroma and atypical cartilaginous tumors in the long bones - update
Claudia Deckers, H.W. Bart Schreuder, Jacky.W.J de Rooy², Ingrid.C.M. van der Geest (Nijmegen - The Netherlands)

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08.30
09.30 **SESSION 12 - INTRAOPERATIVE CONTROL SURGERY
(CUTTING GUIDES, NAVIGATION, ROBOTICS)**
Moderators: **Nicola Fabbri** (New York - USA), **Philip Funovics** (Vienna - Austria)

Speaking time: 4' + 2' discussion

2380 - Evaluation of surgical margins using computer assisted surgery of primary bone sarcoma resections
Marco van Leeuwen, Sarah Bosma, Sander Dijkstra (Leiden - The Netherlands)

2492 - Computer-assisted surgery in orthopaedic oncology indications, problems and results en 164 consecutive patients
Jose Ignacio Albergo, German Luis Farfalli, Miguel Angel Ayerza, Lucas Eduardo Ritacco, Luis Alberto Aponte-Tinao (Buenos Aires - Argentina)

2340 - Improved surgical accuracy for navigated pelvic and sacral primary bone sarcoma resections: a case-control study
Sarah Bosma, Arjen Cleven, Sander Dijkstra (Leiden - The Netherlands)

2537 - The advance in planning and modification of the procedure of hemipelvectomy with 3 D reconstruction based on the experience of 30 cases - is navigation the best option?
Daniel Kotrych¹, Andrea Angelini², Pietro Ruggieri², Andrzej Szafranski³, Pawel Zietek¹, Andrzej Bohatyrewicz¹
(¹Szczecin - Poland, ²Padua - Italy, ³Warsaw - Poland)

2703 - Computed tomography assisted percutaneous fixation of extensive metastatic cancer and pathologic fracture of the ilium improves pain and maintains function at one year
Derek Hansen, John Healey, Nicola Fabbri (New York - USA)

2503 - Web access 3D model-based ICT tool for surgeon-manufacturer communication to manage rare and complex orthopaedic cases treated with patient-specific devices (implants and surgical guides)
Milda Jokymaityte (Kaunas - Lithuania)

2396 - Surgical classification for robot-assisted sacral tumor resection
Jun-qiang Yin, Hui Wu, Gang Huang, Yu-long He, Jing-nan Shen (Guangzhou - China)

2434 - Robotic surgery assisted En Bloc sacrectomy for primary bone tumours of the sacrum
Pramod Shekarappa Chinder, Suraj Hindiskere (Bangalore - India)

2552 - Ultrasonography-guided surgery for impalpable and ill-defined malignant soft tissue tumor
Akihiko Takeuchi, Norio Yamamoto, Katsuhiko Hayashi, Shinji Miwa, Kentaro Igarashi, Yuta Taniguchi, Hirotaka Yonezawa, Yoshihiro Araki, Sei Morinaga, Hiroyuki Tsuchiya (Kanazawa - Japan)

09.30 **BATTLE** - *Speaking time: 10' + 10' general discussion*
10.00 Guided surgery: cutting guides vs navigation
Discussors: **Francois Guoin** (Lyon - France) vs **Paul Jutte** (Groningen - The Netherlands)
Discussors: **Luis Alberto Aponte Tinao** (Buenos Aires - Argentina), **Shekhar Kumta** (Hong Kong China)

10.00 Coffee break
10.30

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10.30 **SESSION 13 - CUSTOM MADE PROSTHESES AND DEVICES**

11.30 Moderators: **Panayiotis Papagelopoulos** (Athens - Greece), **Maurizio Scorianz** (Florence - Italy)

Speaking time: 4' + 2' discussion

2322 - Custom-made acrylic bone cement spacers for the reconstruction of difficult cases in orthopedic oncology
Pablo Arbelaez, Francisco Linares (Bogota - Colombia)

2518 - Uncemented three-dimensional printed prosthetic reconstruction for giant cell tumor of the distal tibia
Minxun Lu, Li Min, Chongqi Tu, Yuqi Zhang (Chengdu - China)

2486 - The use of 3-D printed joint sparing endoprosthesis in bone tumor surgery, the future is now!
Ahmad Shehadeh, Muthana Abdelhaleem, Mohamad Qwasm, Ula Isleem (Amman - Jordan)

2613 - 3D-printed custom-made prosthetic reconstructions: analyses of 41 cases in two referral centers
Andrea Angelini¹, Giulia Trovarelli¹, Elisa Pala¹, Antonio Berizzi¹, Daniel Kotrych², Andrzej Szafranski², Pietro Ruggieri¹ (¹Padua - Italy, ²Warsaw - Poland)

2520 - Three-dimensional printed customized prosthesis for periacetabular malignancies: prosthesis design and surgery techniques
Jie Wang, Li Min, Minxun Lu, Yuqi Zhang, Yong Zhou, Chongqi Tu (Chengdu - China)

2610 - The use of custom made prostheses after oncological massive bone resections: remarks deriving from our experience
Lorenzo Andreani, Sheila Shytaj, Fabio Cosseddu, Stefano Grossi, Antonio D'Arienzo, Federico Sacchetti, Simone Colangeli, Rodolfo Capanna (Pisa - Italy)

2326 - Reconstruction with a novel combined hemipelvic endoprosthesis after resection of periacetabular tumors involving the sacroiliac joint: a report of 25 consecutive cases
Bo Wang, Junqiang Yin, Gang Huang, Changye Zou, Xianbiao Xie, Jingnan Shen (Guangzhou - China)

2454 - Custom made 3D printed implants in orthopedic oncology: problem solving or new problem?
Giovanni Beltrami, Guido Scoccianti, Pierluigi Cuomo, Francesco Muratori, Maurizio Scorianz, Francesca Totti, Rodolfo Capanna, Domenico Andrea Campanacci (Florence - Italy)

2632 - Complex spinal reconstruction after spinal tumor surgery: do we really need custom made 3D-printed implants?
Marco Girolami, Riccardo Ghermandi, Stefano Bandiera, Giovanni Barbanti-Brodano, Silvia Terzi, Giuseppe Tedesco, Gisberto Evangelisti, Valerio Pipola, Alessandro Gasbarrini (Bologna - Italy)

11.30 **EMSOS LECTURE**

12.00 My career in musculoskeletal oncology: what have I learned in five decades?
Franklin Sim (Rochester - USA)

Introduction: **Rodolfo Capanna** (Pisa - Italy)

12.00 **SPONSORED SYMPOSIA**

13.00

13.00 Working lunch

13.45

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13.45
14.00

KEYNOTE LECTURE

Chordoma of the mobile spine and sacrum
Francis Hornicek (Los Angeles - USA)

Introduction: **Pietro Ruggieri** (Padua - Italy)

14.00
15.30

SESSION 14 - SPINE AND PELVIC TUMORS

Moderators: **Alessandro Gasbarrini** (Bologna - Italy), **Pietro Ruggieri** (Padua - Italy)

Speaking time: 4' + 2' discussion

2674 - Carbon-fiber-reinforced PEEK fixation system in the treatment of spine tumours
Valerio Pipola, Giuseppe Tedesco, Stefano Bandiera, Giovanni Barbanti Brodano, Silvia Terzi, Riccardo Ghermandi, Gisberto Evangelisti, Marco Girolami, Alessandro Gasbarrini (Bologna - Italy)

2618 - Sacrectomy. The Royal National Orthopaedic Hospital experience
Freya Guinness, Heledd Havard, Sarah Sexton, Hanny Anwar, Will Aston, Timothy Briggs, Panos Gikas, Jan Lehovsky, Robert Pollock, Craig Gerrand (London - United Kingdom)

2334 - Sacral chordoma treated with resection or carbon ion radiotherapy
Toshiyuki Kunisada¹, Eiji Nakata¹, Joe Hasei¹, Reiko Imai², Toshifumi Ozaki¹ (¹Okayama - Japan, ²Chiba - Japan)

2342 - What is the risk of mortality following local chordoma recurrence?
Matthew Houdek¹, Mario Hevesi¹, Joseph Schwab², Anthony Griffin³, John Healey⁴, Michael Yaszemski¹, Jay Wunder³, Francis Hornicek⁵, Patrick Boland⁴, Franklin Sim¹, Peter Ferguson³, Peter Rose¹ (¹Rochester - USA, ²Boston - USA, ³Toronto - Canada, ⁴New York - USA, ⁵Los Angeles - USA)

2704 - Surgical management of iliosacral bone malignancies: tumor location, extent of sacral excision and sacro-iliac stabilization are significant predictors of functional outcome
Mohamed Yakoub, Patrick Boland, John Healey, Nicola Fabbri (New York - USA)

2300 - Surgical treatment of bone tumors affecting the sacroiliac joint
Roger Rojas Sayol, Laura Noguera Alonso, Laura Trullols Tarragó, Ana Peiró Ibañez, Pau Machado Granados, Juan José Velazquez Frago, Ana Belen Perez Romera, Gemma Vilà Canet, Isidro Gracia Alegria (Barcelona - Spain)

2546 - Clinical evaluation of lower abdominal aorta balloon occlusion in pelvic or sacral tumors resection
Yi Luo, Yong Zhou, Chang Zou, Wenli Zhang, Li Min, Rui Shi, Hong Duan, Chongqi Tu, Jianguo Fang (Chengdu - China)

2435 - Pelvic chondrosarcoma – a retrospective analysis of 160 patients who underwent hemipelvectomy at a single supraregional center
Wiebke K. Guder, Jendrik Harges, Markus Nottrott, Arne Streitbürger (Essen - Germany)

2570 - Treatment of metastatic pelvic Ewing sarcoma: a retrospective monocentric analysis
Silvia Cammelli¹, Letizia Ronchi¹, Benedetta Spazzoli¹, Stefano Pasini¹, Annalisa Cortesi², Marco Manfrini¹, Massimo Eraldo Abate¹, Alessandra Longhi¹, Alessio Giuseppe Morganti¹, Davide Maria Donati¹ (¹Bologna - Italy, ²Meldola - Italy)

2490 - Does extracorporeal irradiation and reimplantation after acetabular resections result in adequate hip function? A preliminary report
Rajeev Reddy, Manish Agarwal, Manit Gundavda (Mumbai - India)

2327 - Hemi-pelvic joint reconstruction with remaining of femoral head in peri-acetabular malignancies: a technical note of limb-salvaging surgery
Jingnan Shen, Junqiang Yin, Gang Huang, Changye Zou, Xianbiao Xie, Qinglin Jin (Guangzhou - China)

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SESSION 14 (cont.)

2673 - LUMiC: updates from an international study on periacetabular reconstructions

Michaël Bus¹, Dimosthenis Andreou², Andrzej Szafranski³, Simen Sellevold⁴, Tomasz Goryn³, Paul Jutte⁵, Jos Brammer⁶, Daniel Kotrych⁷, Michiel van de Sande¹, Sander Dijkstra¹ (¹Leiden - The Netherlands, ²Münster - Germany, ³Warsaw - Poland, ⁴Oslo - Norway, ⁵Groningen - The Netherlands, ⁶Amsterdam - The Netherlands, ⁷Szczecin - Poland)

2243 - The results of LUMIC endoprosthesis in patients with tumor lesion of the acetabulum

Vadim Karpenko, Georgii Iluridze, Vitaliy Derzhavin, Artem Bucharov (Moscow - Russia)

2634 - Acetabular reconstruction using pedestal acetabular endoprosthesis for pelvic malignancies; the Royal Orthopaedic Hospital Experience

Martin Lowe, Michael Parry, Lee Jeys, Rob Grimer (Birmingham - United Kingdom)

2329 - Soft tissue reconstruction after major lower limb amputation: The efficacy and reliability of free fillet flap reconstruction

Juha Kiiski¹, Minna Laitinen², Louis-Romée Le Nail³, Hannu Kuokkanen², Francis Peart⁴, Lee M. Jeys⁴, Michael C. Parry⁴ (¹Tampere - Finland, ²Helsinki - Finland, ³Tours - France, ⁴Birmingham - United Kingdom)

15.30 **BATTLE** - *Speaking time: 10' + 10' general discussion*

16.00 Local adjuvants in curettage (yes or no?)

Andreas Leithner (Graz - Austria) vs **Jay Wunder** (Toronto - Canada)

Discussors: **Hans-Roland Dürr** (Munich - Germany), **Hiroyuki Tsuchiya** (Kanazawa - Japan)

16.00 Coffee break

16.30

16.30 SESSION 15 - SURGICAL TECHNIQUES IN UPPER AND LOWER LIMB RECONSTRUCTIONS

17.15 Moderators: **José Casanova** (Coimbra - Portugal), **Daniel Kotrych** (Stettino - Poland)

Speaking time: 4' + 2' discussion

2521 - Modular reverse total shoulder prosthesis after tumor resection

Giulia Trovarelli, Alessandro Cappellari, Elisa Pala, Andrea Angelini, Antonio Berizzi, Pietro Ruggieri (Padua - Italy)

2586 - Complications and survivorship of distal humeral allograft reconstruction following tumor resection

Pramod Kamalopathy, Akash Shah, F. Teunissen, Kevin Raskin, Joseph Schwab, Santiago Lozano-Calderon (Boston - USA)

2531 - Outcomes of short segment (less than 6cm) distal radius resections and wrist fusion with iliac crest bone grafting

Ashwin Prajapati, Ashish Gulia, Prakash Nayak, Prateek Hegde, Srinath Gupta, Vineet Kurisunkal, Navneeth Kamath, Ajay Puri (Mumbai - India)

2278 - Acetabular erosion after bipolar hemiarthroplasty in proximal femoral replacement for malignant bone tumours

Christoph Theil¹, Tom Schmidt-Bräkling¹, Georg Gosheger¹, Hannah Thoennissen¹, Jendrik Harges¹, Marcel-Philipp Henrichs², Burkhard Möllenbeck¹, Ralf Dieckmann¹ (Münster - Germany, ²Osnabrück - Germany)

2391 - Preventing local recurrence of desmoid tumors involving adjacent neurovascular bundles by "separation surgery": Mid-and-long-term follow-up of 9 patients

Jun-qiang Yin, Yi-wei Fu, Chang-ye Zou, Gang Huang, Jing-nan Shen (Guangzhou - China)

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AUDITORIUM

SESSION 15 (cont.)

2364 - Clinical course of grafted cartilage in osteoarticular frozen autografts for reconstruction after resection of malignant bone tumour involving an epiphysis

Katsuhiro Hayashi, Norio Yamamoto, Akihiko Takeuchi, Shinji Miwa, Kentaro Igarashi, Hiroyuki Tsuchiya
(Kanazawa - Japan)

2655 - Asymmetrical high acetabular placement and femoral extension for endoprosthetic reconstruction of periacetabular defects following internal hemipelvectomy

Harzem Ozger¹, Bugra Alpan¹, Natig Valiyev¹, Osman Emre Aycan¹, Mahmut Nedim Aytakin² (¹Istanbul - Turkey, ²Ankara - Turkey)

2389 - Free fibula reconstruction of distal tibial osteoarticular defects after sarcoma surgery

Bülent Erol, Evrim Sirin, Ozgur Baysal, Fevzi Saglam, Said Erkam Baykan, Servet Igrek (Istanbul - Turkey)

17.15 AWARD CEREMONY AND PRESENTATION EMSOS 2020 **17.45**

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SALA VERDE

08.00
08.30 **SPONSORED COFFEE SYMPOSIUM**

08.30
10.00 **SESSION 16 - BONE METASTASES 1**
Moderators: **Giuseppe Bianchi** (Bologna - Italy), **Francis Lee** (Yale - USA)

Speaking time: 4' + 2' discussion

2269 - Why bisphosphonates, denosumab, and radiation do not always work in osteolytic metastatic cancers to bone?: Fundamental scientific reasons and new therapeutic opportunities
Francis Lee (New Haven - USA)

2273 - Minimally invasive percutaneous ablation-osteoplasty-reinforcement-internal fixation for osteolytic metastatic cancers to bone: a new paradigm for pelvic and periarticular impending pathological fractures
Francis Lee, Igor Latich, Dieter Lindskog, Gary Friedlaender (New Haven - USA)

2587 - Bone metastases in sarcoma: is there any place for curative surgery?
Jean-Camille Mattei, Ibrahim Alshaygy, Georges Basile, Anthony Griffin, Peter Ferguson, Jay Wunder (Toronto - Canada)

2303 - When do patients with bone metastases actually break their femur? A CT-based finite element analysis of patients who fractured
Amir Sternheim¹, Yehuda Kollander², Frank Traub², Nir Trabelsi³, Zohar Yosibash¹, Solomon Dadia¹, David Nikomarov⁴, Haggai Sherman¹, Yair Gortzak¹ (¹Tel-Aviv - Israel, ²Tübingen - Germany, ³Beer-Sheba - Israel, ⁴Haifa - Israel)

2656 - An axial cortical destruction of more than 30mm measured on plain radiographs can still be used as an easy and effective risk factor in metastatic femoral bone lesions
C.W.P.G. van der Wal¹, P.D.S. Dijkstra¹, Onarisa Ayu², H.M. Kroon¹, Y.M. van der Linden¹ (¹Leiden - The Netherlands, ²Medan - Indonesia)

2657 - Should fraction risk be assessed on plain radiographs or CT scans when using an axial cortical destruction of 3 cm, in metastatic femoral bone lesions
C.W.P.G. van der Wal¹, F. Eggermont², H.M. Kroon¹, O. Ayu³, P.D.S. Dijkstra¹, Y.M. van der Linden¹ (¹Leiden - The Netherlands, ²Nijmegen - The Netherlands, ³Medan - Indonesia)

2623 - Treatment of metastatic disease at the femur: do outcomes differ by diagnosis?
Joseph Ippolito, Jennifer Thomson, Valdis Lelkes, Kathleen Beebe, Francis Patterson, Joseph Benevenia (Newark - USA)

2612 - Treatment of pathologic fractures of the proximal femur
Andrea Angelini, Giulia Trovarelli, Antonio Berizzi, Elisa Pala, Marco Maraldi, Alberto Crimi, Pietro Ruggieri (Padua - Italy)

2347 - What is the best choice of stabilization in patients with actual or impending pathological fractures of the humerus? Results of a multicenter study
Patrick Sturm¹, Per-Ulf Tunn², Georg Gosheger¹, Frank Traub³, Maria Anna Smolle⁴, Saskia Sachsenmaier³, Frank Sitterlee², Andreas Leithner⁴, Dimosthenis Andreou¹ (¹Münster - Germany, ²Berlin - Germany, ³Tübingen - Germany, ⁴Graz - Austria)

2422 - Photodynamic bone stabilization System IlluminOss to treat bone metastatic lesions: the experience of a reference centre
Ugo Albertini, Tiziana Robba, Nicola Ratto, Pietro Pellegrino, Alda Borrè, Michele Boffano, Raimondo Piana (Turin - Italy)

2504 - Preoperative venous thromboembolism as prognostic predictor for survival in operatively treated patients with bone metastases secondary to non-small cell lung cancer
Alexander Goudriaan¹, Rachel Rosovsky², Sander Dijkstra¹, Joseph Schwab² (¹Leiden - The Netherlands, ²Boston - United States)

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SALA VERDE

SESSION 16 (cont.)

09.40
09.50

KEYNOTE LECTURE

New Strategies in management of metastatic bone disease
Jacob Bickels (Hadera - Israel)

09.50
10.00

KEYNOTE LECTURE

PATHFx 3.0 - A Prognostic Decision Support updated with Machine Learning
Rikard Wedin (Stockholm - Sweden)

10.00
10.30

Coffee break

10.30
11.30

SESSION 17 - SALVAGE OF LIMB SALVAGE

Moderators: **Fabrice Fiorenza** (Limoges - France), **Antonie Taminiau** (Leiden - The Netherlands)

Speaking time: 4' + 2' discussion

2516 - Is salvage of limb salvage justified for locally recurrent osteosarcoma? A report by the Cooperative Osteosarcoma Study Group COSS

Stefanie Hecker-Nolting¹, Thomas Wirth¹, Georg Gosheger², Imre Antal³, Hans-Roland Dürr⁴, G. Ulrich Exner⁵, Joachim Gerß², Jendrik Harges⁶, Axel Hillmann⁷, Leo Kager⁸, Thomas Kühne⁹, Peter Reichardt¹⁰, Benjamin Sorg¹, Per-Ulf Tunn¹⁰, Reinhard Windhager⁸, Stefan Bielack¹ (1Stuttgart - Germany, 2Münster - Germany, 3Budapest - Hungary, 4Munich - Germany, 5Zürich - Switzerland, 6Essen - Germany, 7Bad Abbach - Germany, 8Vienna - Austria, 9Basel - Switzerland, 10Berlin - Germany)

2431 - Treatment and complications of sarcomas of the foot and ankle region. Is early amputation justified?

Andreas Leithner¹, Maria A. Smolle¹, Gregor Demmer², Carmen Trost², Jörg Friesenbichler¹, Reinhard Windhager², Marko Bergovec¹, Gerhard H. Hobusch² (1Graz - Austria, 2Vienna - Austria)

2282 - Outcomes of free vascularized fibular grafts for the treatment of radiation-associated femoral nonunions

Meagan Tibbo, Karim Bakri, Matthew Houdek, Peter Rose, S. Andrew Sems, Steven Moran (Rochester - USA)

2627 - Vascularized fibula graft in orthopaedics oncology: Management of complications

Primo Andrea Daolio¹, Stefano Bastoni¹, Eleonora Marini¹, Fabio Giardina¹, Maria Serena Bartoli¹, Marco Innocenti² (1Milan - Italy, 2Florence - Italy)

2579 - Surgical management of complications of expandable endoprostheses for skeletally immature patients with high grade sarcoma

Jennifer Thomson, Joseph Ippolito, Kathleen Beebe, Francis Patterson, Joseph Benevenia (Newark - USA)

2275 - Second and subsequent complications after successful treatment of first megaprosthesis failure in patients with sarcoma - what should we expect and when?

Christoph Theil, Julian Röder, Georg Gosheger, Niklas Deventer, Jendrik Harges, Dimosthenis Andreou (Münster - Germany)

2279 - Five-year experience of using modern technologies in replacing the cemented stem of the endoprosthesis to cementless after the previous cemented fixation. (The East-European Sarcoma Group)

Anatolii Sokolovskii, Vladimir Sokolovskii, Romi Badyrov, Mamed Aliev (Moscow - Russia)

2365 - Implant survival and mode of failure of tumour endoprosthesis after lower limb tumour resection

Takeshi Hirose, Shintaro Iwata, Fumihiko Nakatani, Eisuke Kobayashi, Tadashi Komatsubara, Jun Sugaya, Akira Kawai (Tokyo - Japan)

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SALA VERDE

SESSION 17 (cont.)

2695 - Tumor prosthesis revisions around the knee: too-precious-to-lose-now extremities
Harzem Ozger, Bugra Alpan, Osman Emre Aycan, Natig Valiyev (Istanbul - Turkey)

2577 - Extensor mechanism reconstruction of the knee using a gastrocnemius flap
Robert McCulloch, Thomas Cosker, Max Gibbons, Paul Critchley, Henk Giele, Timoleon Theologis, Duncan Whitwell (Oxford - United Kingdom)

12.00 SPONSORED SYMPOSIA 13.00

13.00 Working Lunch
13.45

13.45 SESSION 18 - FUNCTIONAL RESULTS AND QUALITY OF LIFE 14.45

Moderators: **Örjan Berlin** (Gothenburg - Sweden), **Jos Bramer** (Amsterdam - The Netherlands)

Speaking time: 4' + 2' discussion

2699 - Trevira® tube use in periarticular reconstruction with endomegaprostheses - 10 year experience
João Freitas, Diogo Moura, Francisco Fernandes, Ruben Fonseca, Sandra Santos, Isabel Ferreira, José Casanova (Coimbra - Portugal)

2541 - Post radiation pathologic femur fractures in Soft tissue sarcomas: is endoprosthetic reconstruction is a good option?
Ibrahim AlShaygy, Georges Basile, Jean-Camille Mattei, Anthony Griffin, Peter Ferguson, Jay Wunder (Toronto - Canada)

2555 - Functional results in patients with osteosarcoma around the knee joint treated with limb salvaging procedures
Tomasz Goryn, Andrzej Pienkowski, Bartłomiej Szostakowski, Iwona Lugowska, Piotr Rutkowski (Warsaw - Poland)

2514 - Functional outcomes, quality of life and complications of pasteurized autograft-prosthetic composite (PAPC) compared to endoprosthesis for reconstruction around the knee
Piya Kiattisevi¹, Kanokpol Obsangthong¹, Bhasanan Sukunthanak¹, Pongsiri Piakong¹, Dumnoensun Pruksakorn², Areerak Phanphaisarn² (¹Bangkok - Thailand, ²Chiang Mai - Thailand)

2481 - Muscle strength of knee flexors and extensors after endoprosthetic reconstruction
Lídia Maria Prada, Daniel Augusto Maranhão, Nelson Fabrício Gava, Edgard Eduard Engel (Ribeirão Preto - Brazil)

2489 - Pain sensations are key limitations in long-term survivors after major amputation for primary malignant bone tumors
Christoph Hofer, Carmen Trost, Martin Salzer, Philipp Theodor Funovics, Reinhard Windhager, Gerhard Martin Hobusch (Vienna - Austria)

2499 - Physiotherapist led bone tumour surveillance clinics
Gillian Cribb, Geraint Davies, Karen Shepherd, Paul Cool (Oswestry - United Kingdom)

2332 - A populational update on epithelioid sarcoma
Samer Elsamna, Kamil Amer, Kathleen Beebe (Newark - USA)

FRIDAY - MAY 17, 2019 - SCIENTIFIC PROGRAM: SESSIONS

SALA VERDE

SESSION 18 (cont.)

2276 - Clinical-radiographic results and quality of life in gorham-stout disease

Kristian Nikolaus Schneider, Max Masthoff, Georg Gosheger, Sebastian Klingebiel, Dominik Schorn, Julian Röder, Moritz Wildgruber² Dimosthenis Andreou (Münster - Germany)

2522 - PROMIS Physical Function item bank for outcomes measurement during therapy of a rare, heterogeneous, musculoskeletal disease population: tenosynovial giant cell tumor (TGCT)

Heather L. Gelhorn¹, Xin Ye², Hans Gelderblom³, Rebecca M. Speck¹, Emanuela Palmerini⁴, Silvia Stacchiotti⁵, Jayesh Desai⁶, Andrew J. Wagner⁷, Thierry Alcindor⁸, Kristen Ganjoo⁹, Javier Martin-Broto¹⁰, Qiang Wang², Dale Shuster², Charles Peterfy¹¹, William Tap¹² (¹Bethesda - USA, ²Basking Ridge - USA, ³Leiden - The Netherlands, ⁴Bologna - Italy, ⁵Milan - Italy, ⁶Melbourne - Australia, ⁷Boston - USA, ⁸Montreal - Canada, ⁹Stanford - USA, ¹⁰Seville - Spain, ¹¹Boca Raton - USA, ¹²New York - USA)

14.45 **SESSION 19 AND SESSION 20 - BONE METASTASES 2 AND** 16.00 **MININVASIVE THERAPIES**

Moderators: **Primo Daolio** (Milan - Italy), **Francesco Muratori** (Florence - Italy)

Speaking time: 4' + 2' discussion

2420 - C-reactive protein predicts survival in patients with long bone metastases

Costantino Errani¹, Lorenzo Ferra¹, Giovanni Ciani¹, Patricio Alfaro Toloza², Virginia Ponz³, Laura Campanacci¹, Davide Maria Donati¹ (¹Bologna - Italy, ²Concepcion - Chile, ³Madrid - Spain)

2567 - Prognostic factors of survival after pathological fractures in multiple myeloma

Vanessa Salinas Álvarez¹, Ricardo Medellín¹, Alejandro Ras El Abiad², Camilo Soto Montoya¹, Luis Carlos Gomez Mier¹ (¹Bogota - Colombia, ²Medellin - Colombia)

2239 - Surgical treatment of humeral pathological fracture

Hideki Murata, Hirohisa Katagiri, Junji Wasa, Michihito Miyagi, Mitsuru Takahashi (Shizuoka - Japan)

2584 - Minimal invasive intramedullary stabilization of metastatic humerus lesions

Saskia Sachsenmaier, Torsten Kluba, Frank Traub (Tübingen - Germany)

2642 - The IlluminOss Fluid nail for stabilization of proximal humerus fractures and impending fractures

Carmine Zoccali¹, Jacopo Baldi¹, Nicola Salducca¹, Leonardo Favale¹, Umberto Orsini², Alessandra Scotto Di Uccio¹, Roberto Biagini¹ (Rome - Italy, ²Bari - Italy)

2418 - Minimal invasive direct anterior approach versus standard lateral approach in the management of tumor located in the femoral neck

Bo Wang, Junqiang Yin, Gang Huang, Changye Zou, Xianbiao Xie, Jingnan Shen (Guangzhou - China)

2523 - Prevention of impending pathological hip fracture with Y-STRUT® medical device: technique and clinical experience

Nicolas Reina¹, Frédéric Deschamps², Jean-Denis Laredo³, Charles Mastier⁴, Amine Bouhamama⁴, Olivier Pellerin³, Grégoire Leleup⁵, François Cornelis³ (¹Toulouse - France, ²Villejuif - France, ³Paris - France, ⁴Lyon - France, ⁵Rouen - France)

2447 - The heat transfer modelling for minimization of bone tumor lesion using the cement polymerization effect

Vania Oliveira, Elza Fonseca, Jorge Belinha, Claudia Rua, Paulo Piloto, Renato Natal Jorge (Oporto - Portugal)

2363 - Radiofrequency ablation as a treatment for atypical cartilaginous tumors - Results of 10 years experience and 133 patients

Hendricus Nijland, Jelle Overbosch, Ricardo Rivas Loya, Peter van Ooijen, Joris Ploegmakers, Charlotte Haag, Thomas Kwee, Paul Jutte (Groningen - The Netherlands)

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SESSION 19 AND SESSION 20 (cont.)

2575 - Endoscopic curettage of benign bone tumours

Walid Ebeid, Hazem Farouk, Mostafa Saladin, Wesam Abu Senna (Cairo - Egypt)

2609 - Spinal osteoid osteoma in children and CT-guided radiofrequency ablation: technical problems, results and follow up

Maria Beatrice Michelis, Luigi Aurelio Nasto, Antonio Andaloro, Flavio Becchetti, Silvio Boero (Genoa - Italy)

16.00 Coffee break
16.30

16.30 SESSION 21 - FREE PAPERS 2

17.15 Moderators: **Andrea Angelini** (Padua - Italy), **Michele Boffano** (Turin - Italy)

Speaking time: 4' + 2' discussion

2669 - Cement spacers after first stage revision of lower limb endoprosthetic replacements: how to avoid complications

Jonathan Stevenson, Rama Karri, Nagarjun Kondra, Lee Jeys, Michael Parry (Birmingham - United Kingdom)

2625 - Chondrosarcoma of the shoulder girdle behave differently depending on the location of the tumour

Minna Laitinen¹, Jose Albergó², Jonathan Stevenson³, German Farfalli², Lee Jeys³, Luis Aponte-Tinao², Michael Parry³ (¹Helsinki - Finland, ²Buenos Aires - Argentina, ³Birmingham - United Kingdom)

2578 - A case comparison study of upper and lower limb sarcoma cases – is there a difference in presentation and prognosis?

Robert McCulloch, Sofia Thoma, Jeya Palan, Shaun Wilson, Thomas Cosker, Max Gibbons (Oxford - United Kingdom)

2589 - Identifying risk factors for increased venous thromboembolism in patients with benign and malignant bone tumors

Kamil M. Amer, Dominick Congiusta, Kathleen Beebe (Newark - USA)

2298 - Treatment results of bone sarcoma patients in the Republic of Slovenia 2009-2019: a nation-wide cohort study

Blaz Mavcic, David Martincic, Marko Spiler (Ljubljana - Slovenia)

2583 - Does insurance status affect outcomes in patients with malignant bone tumors?

Jennifer Thomson, Dominick Congiusta, Joseph Ippolito, Kathleen Beebe, Joseph Benevenia (Newark - USA)

2596 - Surgical strategy for benign lesions in proximal femur: internal fixation or endoprosthetic replacement

Hong Duan, Wen Li Zhang (Chengdu - China)

- 2238 - Genomic characterization of radiation-induced sarcoma using whole genome sequencing
Eunji Kim, Jinseon Yoo, Byoung Hyuck Kim, Hong-Gyun Wu, Hak Jae Kim, Kyung Su Kim, Kyubo Kim, Han-Soo Kim, Ilkyu Han, Kyung Chul Moon, Jeong Hwan Park, Tae-Min Kim, Ji Hyun Chang (Seoul - South Korea)
- 2244 - A histological positive margin after surgery is correlated with high local re-recurrence rate in patients with recurrent myxofibrosarcoma
Kazutaka Kikuta¹, Robert Nakayama², Akihiko Yoshida¹, Ukei Anazawa³, Akira Kawai¹, Masaya Nakamura², Morio Matsumoto² (¹Tochigi - Japan, ²Tokyo - Japan, ³Chiba - Japan)
- 2248 - Langerhans cell histiocytosis of the spine in a child: a rare case and a diagnostic dilemma
Abigail Tud, Jose Bayani Aliling, Carlo Emmanuel Sumpaico (Pasig City - Philippines)
- 2251 - Impact of adjuvant therapy using acridine orange in patients with soft tissue sarcoma treated with marginal resection: A comparative study
Hiroyuki Tsuchie¹, Makoto Emori², Naohisa Miyakoshi¹, Hiroyuki Nagasawa¹, Kyoji Okada¹, Yasutaka Murahashi², Emi Mizushima², Junya Shimizu², Toshihiko Yamashita², Yoichi Shimada¹ (¹Akita - Japan, ²Sapporo - Japan)
- 2252 - A daily diagnostic multidisciplinary meeting to reduce time to definitive diagnosis in the context of primary bone and soft tissue sarcomas
Laura Hartley, Scott Evans, Mark Davies, Suzanne Kelly, Jonathan Gregory (Birmingham - United Kingdom)
- 2257 - Metastatic pleomorphic liposarcoma with pathological fracture of the proximal femur: a case report and review of the literature
Thanate Pooiripinyo (Chum Phae - Thailand)
- 2259 - Organisation of bone sarcoma care: a cross-sectional European study
Lauren Goedhart¹, Andreas Leithner², Paul Jutte¹, Study group EMSOS (¹Groningen - The Netherlands, ²Graz - Austria)
- 2263 - Tibial turn-up plasty for a failed limb salvage surgery with complex problems
Hirohisa Katagiri, Hideki Murata, Junji Wasa, Michihito Miyagi, Yuji Ishida, Mitsuru Takahashi (Shizuoka - Japan)
- 2265 - Effect of fascial manipulation on orthopedic disease
Manabu Harazono¹ (Chiba - Japan)
- 2266 - A case of malignant melanoma of unknown primary origin in the sacrum
Yoko Hagiwara¹, Ken Okazaki² (¹Chiba - Japan, ²Tokyo - Japan)
- 2267 - The PARP inhibitor olaparib potentiates the effect of the DNA damaging agent doxorubicin in osteosarcoma
Young Jae Moon, Jung Ryul Kim (Jeonju - South Korea)
- 2270 - Effect of NSAID combination with lidocaine on pain control for soft tissue biopsy patients: a randomized controlled trial study (preliminary reports)
Thanapon Chobpenthai, Pichaya Thanindratarn, Rattakorn Jaiwithee (Bangkok - Thailand)
- 2271 - Combined use of vascularized fibular graft and frozen autograft treated with liquid nitrogen for the reconstruction after excision of malignant bone tumors
Yoshikazu Tanzawa¹, Eisuke Kobayashi², Takuya Watanabe¹, Masato Sato¹, Masahiko Watanabe¹, Akira Kawai², Hiroyuki Tsuchiya³ (¹Isehara - Japan, ²Tokyo - Japan, ³Kanazawa - Japan)
- 2280 - Sentinel lymph node biopsy is an important staging tool for digital papillary adenocarcinoma
Meredith Bartelstein, Eugenia Schwartzkopf, Tyler Clark, Klaus Busam, Mary Sue Brady, Edward Athanasian (New York - USA)
- 2284 - Lipoma as a compressive origin of the posterior interosseous nerve syndrome: a clinical case
José Manuel Espinosa Pereiro, Miguel Cuervo Dehesa, José Antonio Calvo Haro, Rubén Pérez Mañanes, Lydia Mediavilla Ssantos, Irene López Torres (Madrid - Spain)
- 2285 - Hamstring autograft to augment extensor mechanism reconstruction after proximal tibia resection
Karim Masrouha¹, Naji Madi², Rachid Haidar², Said Saghie² (¹Hamilton - Canada, ²Beirut - Lebanon)

2288 - Metastatic extraskeletal myxoid chondrosarcoma: long-term survival with close observation
Karim Masrouha, Michelle Ghert (Hamilton - Canada)

2292 - Survival outcomes after adjuvant radiotherapy for aggressive fibromatosis depend on time frame and nuclear β -catenin
Jae Sik Kim, Il Han Kim, Hak Jae Kim, Kyung Chul Moon, Seung Geun Song, Han-Soo Kim, Ilkyu Han (Seoul - South Korea)

2293 - Treatment results of localized dedifferentiated liposarcoma in the extremities
Eiji Nakata, Toshiyuki Kunisada, Joe Hasei, Toshifumi Ozaki (Okayama City - Japan)

2295 - Metastatic bone disease from lung cancer. Do we need to reconsider our surgical management?
Karen Shepherd, Gillian Cribb, Paul Cool (Oswestry - United Kingdom)

2299 - Intraosseous papillary intralymphatic angioendothelioma (Dabska tumor). Intralesional radioablation is not sufficient
Sergio Gonzalez-Escobar, Eduardo Hevia-Crespo¹, Irene Barrientos-Ruiz¹, Manuel Peleteiro-Pensado¹, Eduardo Ortiz-Cruz¹ (Madrid - Spain)

2301 - Risk factor analysis of surgical site infection after resection of primary pelvic bone malignancy
Vincent Crenn¹, Yoann Varenne¹, François Gouin², David Boutoille¹, Pascale Bemer¹, Stephane Corvec¹, Sophie Touchais¹ (¹Nantes - France, ²Lyon - France)

2304 - New technical know how in reconstruction of bone defects in children and youth with primary malignant bone tumors - own experiences
Andrzej Szafranski, Bartosz Pachuta, Magdalena Rychlowska - Pruszyńska, Iwona Malesza, Justyna Dusinska, Tomasz Walenta, Anna Raciborska (Warsaw - Poland)

2305 - Left humerus reconstruction in an 8-month-old girl with Ewing sarcoma using the growing megaendoprotease
Andrzej Szafranski, Bartosz Pachuta, Magdalena Rychlowska - Pruszyńska, Anna Raciborska (Warsaw - Poland)

2309 - How to decide hemicortical resection in parosteal osteosarcoma? A therapeutic algorithm
Harzem Özger, Osman Emre Aycan, Bugra Alpan, Natig Valiyev (Istanbul - Turkey)

2313 - Pazopanib treatment for alveolar soft part sarcomas
Eisuke Kobayashi, Shintaro Iwata, Fumihiko Nakatani, Akira Kawai (Tokyo - Japan)

2314 - Long term functional outcomes of surgery and radiation for sacral chordomas
Eugenia Schwarzkopf¹, Christina Gutwoski², Evangelina Katsoulakis³, Jessica Flynn¹, Zhigang Zhang¹, Yoshiya Yamada¹, Patrick Boland¹ (¹New York - USA, ²Camden - USA, ³Tampa - USA)

2316 - Serum adhesion molecule levels in childhood bone sarcomas and its effect on prognosis
Nilgun Kurucu, Cigdem Sonmez, Neriman Sari, Miray Yildirim, Inci Ilhan (Ankara - Turkey)

2317 - Intraoperative controlled surgery (patient specific instruments, navigation, augmented reality, robotics). Precision surgery- is there a role in musculoskeletal tumor resection?
Omer Or, Avraham Soroka, Noam Olshinka, Yusuf Azraq (Jerusalem - Israel)

2320 - Bizarre parosteal osteochondromatous proliferation in the upper extremity - Discussion of a rare bony lesion
Eugenia Schwarzkopf, Yoely Tavarez, Daniel Prince, Edward Athanasian (New York - USA)

2321 - Adamantinoma: Long-term follow-up study of 20 patients treated at a single institution
Eugenia Schwarzkopf, Yoely Tavarez, Molly Friel Klima, John Healey, Daniel Prince (New York - USA)

2331 - Local control with limb sparing surgery and cryo-ablation in Ewing's Sarcoma of the appendicular skeleton
Yair Gortak, Amir Sternheim, Solomon Dadia, Yehuda Kollender, Osnat Sher, Omri Meroz, Ortal Segal, Dror Levin (Tel Aviv - Israel)

2333 - The use of bone marrow aspirate concentrate (BMAC) and demineralized bone marrow (DBM) in the treatment of unicameral bone cysts of the proximal humerus
Ortal Segal¹, Ron Batash², Roy Gigi³, Omri Merosse¹, Yehuda Kollender¹, Solomon Dadia¹, Dror Ovadia¹, Amir Sternheim¹, Yair Gortzak¹ (¹Tel Aviv - Israel, ²Ashkelon - Israel)

- 2337 - Significance of tumor resection and reconstruction with endoprosthesis for metastatic bone tumor of the proximal femur
Taketoshi Yasuda, Kayo Suzuki, Kenta Watanabe, Yoshiki Washizuka, Masahiko Kanamori, Tomoatsu Kimura (Toyama - Japan)
- 2338 - Comparison of health-related quality of life due to antitumor agents in chemotherapy for advanced soft tissue sarcoma
Kayo Suzuki, Taketoshi Yasuda, Kenta Watanabe, Yoshiki Wasizuka, Masahiko Kanamori, Tomoatsu Kimura (Toyama - Japan)
- 2339 - Outcome of modular cemented endoprosthetic reconstruction in bone tumors in the lower limbs, review of 118 patients
Ahmad Shehadeh (Amman - Jordan)
- 2341 - Easy-to-use clinical tool for survival estimation in Ewing sarcoma at diagnosis and after surgery.
Sarah Bosma¹, Carlo Lancia¹, Anja Rueten-Budde¹, Andreas Ranft², Hans Gelderblom², Marta Fiocco¹, Michiel van de Sande¹, Sander Dijkstra¹, Uta Dirksen² (¹Leiden - The Netherlands, ²Essen - Germany)
- 2345 - Rapid, pronounced and sustained tumor responses to the tropomyosin receptor kinase inhibitor larotrectinib in two infants with advanced infantile fibrosarcomas carrying the characteristic ETV6-NTRK3 rearrangement
Stefan Bielack¹, Michaela Nathrath², Irene Schmid³, Katrin Apel¹, Christine Bodenstein¹, Michael C. Cox⁴, Claudia Blattmann¹, Ulrike Klenk¹, Mark Reynolds⁴, Monika Scheer¹, Katja Simon-Klingenstein¹, Sabine Stegmaier¹, Rebecca Tupper⁴, Christian Vokuhl⁵, Thekla von Kalle¹ (¹Stuttgart - Germany, ²Kassel - Germany, ³Munich - Germany, ⁴San Francisco - USA, ⁵Kiel - Germany)
- 2346 - Study of a genetic variant in Ewing sarcoma and its possible association with vincristine-induced peripheral neuropathy
Paula Gonzalez Hermida, C. Frecha, J. Muntadas, L. Santillan, M. Pauni, Patricia Streitenberger, Jose Ignacio Albergo, German Luis Farfalli, Miguel Angel Ayerza, Luis Alberto Aponte-Tinao (Buenos Aires - Argentina)
- 2348 - Accuracy of magnetic resonance imaging for detection of intraarticular involvement in juxta-articular located malignant mesenchymal tumors
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- 2349 - Detection of intraarticular involvement in periarticular located malignant mesenchymal tumors - a literature review
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- 2350 - Clinical features and prognosis of extraosseous Ewing sarcoma in the pediatric population
Karim Masrouha¹, Abdallah Abboud², Rachid Haidar², Said Saghie² (¹Hamilton - Canada, ²Beirut - Lebanon)
- 2352 - Silver coated megaprotheses: better outcome following primary implantation vs. revision surgery
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- 2355 - Infection of megaprotheses following bone tumor resection: a retrospective study
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- 2357 - Cement spacer formed in a patient-specific mould based on a three-dimensional bone model. A case report
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Florencio Vicente Segura, Florencio Pablo Segura, Facundo Manuel Segura (Cordoba - Argentina)

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Andrea Sambri¹, Giuseppe Bianchi¹, Michael Parry², Filippo Frenos³, Domenico Andrea Campanacci³, Lee Jeys², Davide Maria Donati¹ (¹Bologna - Italy, ²Florence - Italy)

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Anatolii Diedkov, Victor Kostiuk, Igor Lazarev², Sergey Boychuk, Bogdan Maksimenko (Kiev - Ukraine)

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2386 - Preliminary results of surgical treatment of tumors of a sacrum and pelvis

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2390 - Results of limb-sparing reconstructive surgery using autovenoplasty for soft tissue tumors of limbs

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2397 - Telangiectatic osteosarcoma: differential diagnosis from aneurysmal bone cyst via a discriminant function and outcome analysis

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- 2402 - Elevated mean glucose level predicts decreased disease free survival in soft tissue sarcoma patients
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- 2404 - Tips and tricks about 3D printing and surgery plan in musculoskeletal tumours
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- 2407 - Clinical outcomes and influential factors for complications and limb function in patients with malignant soft tissue tumors of the thigh
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- 2408 - Interim- as well as posttreatment response to neoadjuvant chemotherapy assessed by F-18-FDG PET/CT can predict the outcome in osteosarcoma of the extremities
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- 2410 - Anti-tumor effect of cyclolinopeptide for giant cell tumor of bone
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- 2412 - Survival of malignant soft tissue sarcomas of the extremities
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- 2414 - The role of HTRA-1 positivity to predict recurrence of giant cell tumor of bone
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- 2419 - Preliminary results of a novel knee arthrodesis system after uncontrolled periprosthetic knee joint infection
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- 2427 - Denosumab's changing experience continues – A single institutions experience in 140 cases
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- 2428 - Sarcomas of the extremities: comparing local recurrence after incisional and core needle biopsy
Alexander Klein, Annika Bilgeri, Volkmar Jansson, Hans Roland Dürr (Munich - Germany)
- 2430 - One stage intramedullary total femoral replacement for post-irradiation proximal femur non-union and ipsilateral knee osteonecrosis
Christos Vottis¹, Katsuhiko Hayashi², George Georgopoulos¹, Leonidas Dimopoulos¹, Panayiotis Papagelopoulos¹ (¹Athens - Greece, ²Kanazawa - Japan)
- 2437- The use of healthcare services two years before diagnosis in Danish sarcoma patients 2000-2013
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- 2439 - Primary treatment with an osteointegrative percutaneous prosthesis system for parossal osteosarcoma G1 after transfemoral amputation in a 42-year-old patient
Martin Schulze, Georg Gosheger, Timo Lübben, Tymoteusz Budny (Münster - Germany)

2441 - Which is the proper timing for the treatment of pathological fracture of the proximal femur in elderly people? Literature review and algorithm proposal

Andrea Conti, Federico Bertolo, Nicola Ratto, Pietro Pellegrino, Michele Boffano, Raimondo Piana (Turino - Italy)

2443 - Tumor cell seeding in the biopsy tract and its clinical significance in osteosarcomas

Kemal H. Turkoz, Bulent Erol, Ipek E. Seven (Istanbul - Turkey)

2444 - UMIC endoprosthetic reconstruction after periacetabular tumor resection: mid-term results

Bulent Erol, Evrim Sirin, Mert Osman Topkar, Fevzi Saglam, Said Erkam Baykan, Servet Igrek
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2445 - Very rapid response of a large thoracic spindle-cell sarcoma carrying the TPM3-NTRK1 fusion to neoadjuvant treatment with the tropomyosin receptor kinase inhibitor larotrectinib

Stefan Bielack¹, Bruno Märkl², Michael C. Cox³, Katrin Apel¹, Claudia Blattmann¹, Tess Holl¹, Rebecca Kloos¹, Mark Reynolda³, Katja Simon-Klingenstein¹, Simone Storck², Rebecca Tupper³, Thekla von Kalle¹, Michael Frühwald²
(¹Stuttgart - Germany, ²Augsburg - Germany, ³San Francisco - USA)

2446 - Iliac wing osteosarcoma. A challenge for total reconstruction.

Pablo Jordà-Gómez, Joan Ferràs-Tarragó, Manuel Angulo-Sánchez, Jose Vicente Amaya-Valero, Francisco Fernando Baixauli-García (Valencia - Spain)

2450 - Isolated tumoral calcinosis in the hip mimicking periarticular infection. Case report and literature review.

Vanessa Salinas Alvarez¹, Ricardo Medellín¹, Alejandro Ras El Abiad², Luis Carlos Gomez Mier¹, Camilo Soto Montoya¹ (¹Bogota - Colombia, ²Medellin - Colombia)

2451 - Tibial turn-up for femoral reconstruction, an uncommon type of rotationplasty: case report and systematic literature review

Oscar Fernando Gomez, Hermann Alfredo Riveros Riveros, Manuel Ricardo Medellín Rincon
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2455 - Non image-guided core needle biopsies can be safely used to improve diagnostic efficiency for soft tissue tumors

Marie Pouedras¹, Sylvain Briand², Elisabeth Cassagnau¹, Axelle Bertran-Vasseur¹, Vincent Crenn¹, Francois Gouin³
(¹Nantes - France, ²Kremlin-Bicetre - France, ³Lyon - France)

2461 - An unusual cause of superficial peroneal nerve entrapment

M. Williams, J. Catterson, C.L.M.H. Gibbons, T. Cosker (Oxford - United Kingdom)

2462 - Oncothermia for the bone and soft tissue sarcoma

Masahiko Kanamori, Taketoshi Yasuda, Kayo Suzuki, Kenta Watanabe, Tomoatsu Kimura
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2463 - Short-term neoadjuvant denosumab and extended curettage for locally advanced giant cell tumor of bone: a single-center study

Min Wook Joo, Ki Bong Chang, Yang-Guk Chung (Seoul - South Korea)

2464 - Intentional close margin on sciatic notch during internal hemipelvectomy associates with proper clinical outcome

Toru Akiyama¹, Liuzhe Zhang¹, Hiroshi Kobayashi² (¹Saitama - Japan, ²Tokyo - Japan)

2467 - Metastatic Marjolin's ulcer after 10 years of the amputation of an osteomyelitis: a case report

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2475 - Individual risk evaluation for local recurrence and distant metastasis in Ewing sarcoma: a multistate model

Sarah Bosma¹, Carlo Lancia¹, Anja Rueten-Budde¹, Andreas Ranft², Uta Dirksen², Hans Gelderblom¹, Michiel van de Sande¹, Sander Dijkstra¹, Marta Fiocco¹ (¹Leiden - The Netherlands, ²Essen - Germany)

2479 - Safety of distraction osteogenesis in osseous neoplasms: a review of 38 patients undergoing distraction osteogenesis for reconstruction of large osseous neoplastic defects

Eugenia Schwarzkopf, Molly Friel Klima, Daniel Prince (New York - USA)

- 2480 - A reliable approach for the resection of posteroinferior tumors of the femoral neck
Angeles Cabas-Geat, Jose Ignacio Albergo, Miguel Ayerza, German Farfalli, Luis Aponte-Tinao
(Buenos Aires - Argentina)
- 2482 - microRNA-138-5p as a worse prognosis biomarker in pediatric, adolescent, and young adult osteosarcoma
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- 2485 - Institutional review of chondromyxoid fibroma of bone with specific focus on the pelvis
Petra Balogh¹, Alessandro Vidoni¹, Daniel Lindsay¹, Fernanda Amary¹, Roberto Tirabosco¹, Rob Pollock¹, William Astom¹, Paul O'Donnell¹, Adrienne M. Flanagan² (¹Stanmore - United Kingdom, ²London - United Kingdom)
- 2488 - Cross-cultural adaption, translation and validation of the Toronto Extremity Salvage Score (TESS) for patients with bone and soft tissue sarcoma in German speaking countries
Carmen Trost, Christoph Hofer, Tanja Stamm², Philipp Theodor Funovics, Reinhard Windhager, Gerhard Martin Hobusch (Vienna - Austria)
- 2497 - Press fit vs cemented femoral stems in arthroplasty for oncologic indications
Courtney Kaiser, Jason Kim, Joseph Schwab, Kevin Raskin, Santiago Lozano-Calderon (Boston - USA)
- 2498 - Survival of mega-endoprosthetic reconstructions after two-stage revision surgery for periprosthetic joint infection
Wylie Lopez, Santiago Lozano-Calderon, Kevin Raskin (Boston - USA)
- 2507 - Be aware of zebras: biphasic synovial sarcoma diagnosed in the planta pedis of a young woman who was admitted after trauma
Silvia Zoetsch, Ewald Musser, Jörg Friesenbichler, Bernadette Liegl-Atzwanger, Iva Brcic, Marko Bergovec, Andreas Leithner, Jasminka Irgec, Joanna Szkandera, Susanne Scheipl (Graz - Austria)
- 2508 - Treatment of recurrence of osteosarcoma in children
Vadym Kobys, Sergej Savertulenko, Vladymyr Konovalenko², Oksana Ivasuk, Olja Matuschok, Oleg Nesterov, Marina Dovgenko (Kyiv - Ukraine)
- 2509 - Periplocin, the most anti-proliferative constituent of *Periploca sepium*, specifically kills liposarcoma cells by death receptor mediated apoptosis
Birgit Lohberger, Nicole Stuendl, Andreas Leithner, Beate Rinner, Rudolf Bauer, Nadine Kretschmer
(Graz - Austria)
- 2510 - First application of three-dimensional (3D) design custom-made uncemented prosthetic stem for distal femoral cemented megaprosthesis revision
Li Min, Yong Zhou, Kai Yao, Jie Wang, Yi Luo, Chongqi Tu (Chengdu - China)
- 2511 - Lymph vessel infiltration in diffuse-type tenosynovial giant cell tumour: aggressive disease in a 17-year old girl
Silvia Zoetsch, Michael Maier, Maria Smolle, Bernadette Liegl-Atzwanger, Christian Viertler, Jasminka Irgec, Marko Bergovec, Jörg Friesenbichler, Andreas Leithner, Joanna Szkandera, Susanne Scheipl (Graz - Austria)
- 2526 - Metabolic predictors of treatment response in patients with osteosarcoma and Ewing's sarcoma
Luca Coccoli, Tommaso Lupi, Gayane Aghakhanyan, Alessandro Di Gangi, Cecilia Pini, Elena Ferretti, Italia Paglianiti, Duccio Volterrani, Emanuela De Marco, Gabriella Casazza, Alessandro Franchi, Rodolfo Capanna (Pisa - Italy)
- 2529 - Proximal tibial sarcoma. An extensor-mechanism preserving custom implant
Karen Shepherd, Gillian Cribb, Paul Cool (Oswestry - United Kingdom)
- 2532 - Staging work up in chondrosarcoma: is a bone scan warranted for the metastatic workup of chondrosarcoma? A retrospective study
Ashish Gulia, Vineet John, Ajay Puri, Nilendu Purandare, Prateek Hegde, Prateek Hegde, Ashwin Prajapathi, Venkat Rangarajan (Mumbai - India)
- 2535 - Salvage vs resection in proximal femur benign aggressive lesion: challenges in decision making
Prateek Hegde, Ashwin Prajapathi, Prakash Nayak, Ashish Gulia, Navaneeth Kamath, Ajay Puri, Srinath Gupta
(Mumbai - India)

- 2538 - Nutritional predictors of wound complications in patients with soft tissue sarcomas of the lower extremities
Adam Kline¹, Pramod Kamalopathy¹, Dayton McMillan¹, Katharine Bruce², Kevin Raskin¹, Joseph Schwab¹, Santiago Lozano-Calderon¹ (¹Boston - USA, ²New Orleans - USA)
- 2544 - Use of ultrasound in diagnostics and therapy of musculoskeletal tumors
Lukas Pazourek, Lubos Hrazdira, Tomas Tomas, Michal Mahdal (Brno - Czech Republic)
- 2545 - Three dimensional printed customized endoprosthesis for massive defect of pelvic pubic ramus: prosthesis design and surgical techniques
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- 2556 - Reconsidering the vascular anatomy of rectus femoris: a cadaveric dissection study
M. Williams, J. Catterson, L. Cogswell, C.L.M.H. Gibbons, T. Cosker (Oxford - United Kingdom)
- 2557 - Application of a novel epineural dissection technique for the treatment of liposarcoma with sciatic nerve involvement
M. Williams, J. Catterson, L. Cogswell, C.L.M.H. Gibbons, T. Cosker (Oxford - United Kingdom)
- 2558 - Clinical outcome of free vascularized fibular graft for reconstruction of large bone defect after tumor excision
Yongsung Kim¹, Young Ho Lee¹, Ilkyu Han¹, Hwan Seong Cho², Han-Soo Kim¹ (¹Seoul - South Korea, ²Seongnam - South Korea)
- 2561 - Safe distance from osteosarcoma to bone cutting surface for wide excision
Yongsung Kim¹, Jong Woong Park², Ilkyu Han¹, Hwan Seong Cho³, Han-Soo Kim¹ (¹Seoul - South Korea, ²Gyeonggi-do - South Korea, ³Seongnam - South Korea)
- 2562 - Giant cell tumor of bone and pregnancy
Min Wook Joo¹, Seonhwa Jeong¹, Akihiko Takeuchi², Chindanai Hongsaprabhas³, Zhiping Deng⁴, Hiroyuki Tsuchiya², Xiaohui Niu⁴ (¹Seoul - South Korea, ²Kanazawa - Japan, ³Bangkok - Thailand, ⁴Beijing - China)
- 2564 - Curettage as first surgery for bone giant cell tumor can be effectively performed by early-career orthopaedic surgeons
Costantino Errani¹, Shinji Tsukamoto², Andreas Mavrogenis³, Giulio Leone⁴, Piergiuseppe Tanzi¹, Davide Maria Donati¹ (¹Bologna - Italy, ²Nara - Japan, ³Athens - Greece, ⁴Monza - Italy)
- 2569 - Establishment of sarcoma cell lines
Beate Rinner, Luka Brvar, Iva Brcic, Ellen Heitzer, Andreas Leithner⁴, Bernadette Liegl-Atzwanger (Graz - Austria)
- 2571 - Socioeconomic mortality risk factors in soft tissue sarcoma patients
Dayton McMillan, Pramod Kamalopathy, Adam Kline, Santiago Lozano-Calderon (Boston - USA)
- 2573 - A case report on myopericytomatosis of the foot including molecular identification of a PDGFRB mutation
Viktor Labmayr, Marko Bergovec, Christian Viertler, Iva Brcic, Andreas Leithner, Bernadette Liegl-Atzwanger (Graz - Austria)
- 2574 - Total femur replacement with the MUTARSTM System in sarcoma patients – a systematic analysis of prosthetic failure modes and associated risk factors
Julian Röder, Jan Christoph Theil, Georg Gosheger, Jan Schwarze, Kristian Nikolaus Schneider, Thomas Ackmann, Niklas Deventer, Dimosthenis Andreou (Münster - Germany)
- 2582 - Differences in the Elixhauser and Charlson Comorbidity Indices in patients with malignant bone cancer
Dominick Congiusta, Jennifer Thomson, Joseph Ippolito, Kathleen Beebe, Joseph Benevenia (Newark - USA)
- 2585 - Risk factors for venous thromboembolism in patients with malignant bone cancer
Dominick Congiusta, Jennifer Thomson, Joseph Ippolito, Kathleen Beebe, Joseph Benevenia (Newark - USA)
- 2588 - Predictors of outcomes after orthopaedic tumor resection: an analysis of 14,767 cases from a national database
Kamil M. Amer, Dominick Congiusta, Rami Amer, Kathleen Beebe (Newark - USA)

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Kamil M. Amer, Dominick Congiusta, Jennifer Thomson, Samer Elsamna, Anthony Bozzo, Rami Amer, Ahmed Chaudhry, Joseph Ippolito, Kathleen Beebe (Newark - USA)

2591 - Analysis of clinical cases of CT-guided conformal cryoablation treatment of painful osteolytic bone metastases

Xiaobo Zhang, Yueyong Xiao, Xiao Zhang (Beijing - China)

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Satoshi Takenaka¹, Akira Kawai², Shigeki Kakunaga³, Yoshinori Imura³, Hidetatsu Outani¹, Kenichiro Hamada¹, Hideki Yoshikawa¹ (1Suita - Japan, ²Tokyo - Japan, ³Osaka - Japan)

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2599 - Surgical options and outcomes for pelvic bone metastasis

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Hong Duan (Chengdu - China)

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2602 - Total ulna replacement with a 3D printed custom-made prosthesis after en bloc tumor resection

Hong Duan (Chengdu - China)

2603 - Total femoral prosthesis replacement following resection of femoral malignant tumors

Hong Duan (Chengdu - China)

2604 - Total talar replacement with a novel 3D printed modular prosthesis for tumors

Hong Duan (Chengdu - China)

2605 - The effects of surgical treatment with chondroblastoma in children and adolescents in open epiphyseal plate of long bones

Hong Duan (Chengdu - China)

2606 - In vitro stress effect on degradation and drug release behaviors of basic fibroblast growth factor--poly(lactic-co-glycolic-acid) microsphere.

Hong Duan (Chengdu - China)

2607 - Clinical analysis of zoledronic acid and ibandronate in the treatment of metastatic bone disease

Hong Duan (Chengdu - China)

2608 - Enchondroma and atypical cartilaginous tumor of the knee and osteoarthritis – case series, literature review and management recommendation

Christine Wibmer, Marko Bergovec, Ines Vielgut, Magdalena Maria Gilg, Norbert Kastner, Patrick Sadoghi, Andreas Leithner (Graz - Austria)

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Min Wook Joo, Woo Hee Choi (Seoul - South Korea)

2614 - Treatment of limb-length discrepancy related to Ollier's disease: a systematic review of literature

Andrea Angelini, Andrea Dolci, Riccardo Baracco, Antonio Berizzi, Pietro Ruggieri (Padua - Italy)

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2616 - Extra abdominal desmoid tumor cases and clinical follow-up results

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Christian Joey Juan, Kathryn Anne Jimenez, Raymond Barba (Quezon City - Philippines)

2621 - Periacetabular resection at a single institution: do outcomes differ by method of reconstruction?

Joseph Ippolito, Jennifer Thomson, Steven Rivero, Francis Patterson, Kathleen Beebe, Joseph Benevenia (Newark - United States)

2624 - Clear cell chondrosarcoma of bone: review of our experience. A low grade malignant bone tumor with an unpredictable behaviour

Fabio Luca Giardina, Eleonora Marini, Stefano Bastoni, Antonina Parafioriti, Elisabetta Armiraglio, Andrea Di Bernardo, Primo Andrea Daolio (Milano - Italy)

2626 - Sarcomas occurring around the elbow - Clinicopathological features and outcomes

Jun Sugaya, Shintaro Iwata, Eisuke Kobayashi, Fumihiko Nakatani, Takeshi Hirose, Tadashi Komatsubara, Akira Kawai (Tokyo - Japan)

2629 - Occult phosphaturic mesenchymal tumor of bone: a one center's review. Diagnostic challenges and clinical outcomes

Eleonora Marini, Fabio Giardina, Stefano Bastoni, Antonina Parafioriti, Elisabetta Armiraglio, Andrea Di Bernardo, Primo Andrea Daolio (Milan - Italy)

2631 - Intercalary biological reconstruction in osteosarcoma patients with epiphyseal involvement: Walking on the razor's edge

Harzem Ozger, Bugra Alpan, Osman Emre Aycan, Natig Valiyev (Istanbul - Turkey)

2633 - Antibacterial hydrogel coating in the prevention of periprosthetic joint infection after bone reconstruction with megaprosthesis: a consecutive case series

Carmine Zoccali¹, Primo Andrea Daolio², Guido Scoccianti³, Roberto Biagini¹, Domenico Andrea Campanacci³ (¹Rome - Italy, ²Milan - Italy, ³Florence - Italy)

2636 - Can segmental resection of the spinal canal content (spinal amputation) increase local control in extracompartmental bone tumors of the spine? Is the neurological loss of function worth in order to aim at tumor-free margins? Case series of 8 patients at a minimum 2 years follow-up

Marco Girolami¹, Stefano Boriani², Riccardo Ghermandi¹, Stefano Bandiera¹, Giovanni Barbanti-Brodano¹, Silvia Terzi¹, Giuseppe Tedesco¹, Gisberto Evangelisti¹, Valerio Pipola¹, Alessandro Ricci¹, Alessandro Gasbarrini¹ (¹Bologna - Italy, ²Milan - Italy)

2637 - Neoadjuvant radiotherapy for limb salvage in the setting of recurrent extremity osteosarcoma: the unconventional weapon

Harzem Ozger, Fulya Agaoglu, Bugra Alpan, Natig Valiyev, Osman Emre Aycan, Mustafa Sungur (Istanbul - Turkey)

2640 - Pathologic fracture in a 29-year-old patient secondary to chondroblastoma of the calcaneus

Barbara Sola Duque, Irene López Torres, Jose Antonio Calvo Haro, Miguel Cuervo Dehesa, Rubén Pérez Mañanes, Lydia Mediavilla Santos, Javier Vaquero Martín (Madrid - Spain)

2641 - Thoracic wall reconstruction with rib plates vs. artificial meshes following resection of malignant chest-wall tumours

Maria Anna Smolle, Ewald Musser, Filip Tudor, Andreas Leithner, Marko Bergovec (Graz - Austria)

2644 - Establishment of 6 novel patient-derived sarcoma cell lines and 1 patient-derived carcinosarcoma cell line
Suzanne Fischer, David Creytens, Lore Lapeire, An Hendrix, Piet Pattyn, Gwen Sys (Gent - Belgium)

2645 - Electrochemotherapy for the treatment of bone metastases: the role in pain control and adjuvant to bone stabilization
Ugo Albertini¹, Andrea Conti¹, Elena Boux¹, Andrea Ferro¹, Stefano Marone¹, Laura Campanacci², Michele Boffano¹, Raimondo Piana¹ (¹Turin - Italy, ²Bologna - Italy)

2653 - Revision rates for megaprotheses: a updated review of the literature and meta-analysis
Jean-Camille Mattei¹, Arnaud Felden², Philippe Anract², David Biau² (¹Marseille - France, ²Paris - France)

2662 - Rapid, marked and durable response of a large aneurysmal bone cyst to denosumab treatment in a 7-year-old boy
Christina Wack, Stefan Bielack, Thekla von Kalle, Thomas Wirth (Stuttgart - Germany)

2665 - Survival prediction of leiomyosarcoma patients using machine learning models
Pramod Kamalopathy, Dayton McMillan, Samuel Lee, Aditya Karhade, Kevin Raskin, Joseph Schwab, Santiago Lozano-Calderon (Boston - USA)

2667 - Predictors of venous thromboembolism in patients with soft tissue sarcoma in the lower extremity
Pramod Kamalopathy Adam Kline, Hannah Hallow, Dayton McMillan, Kevin Raskin, Joseph Schwab, Santiago Lozano-Calderon (Boston - USA)

2670 - Reconstruction of the diaphysial bone defects after sarcoma resections with the vascularized fibula
Ahmet Salduz, Levent Eralp (Istanbul - Turkey)

2678 - A novel approach in treatment of infantile lymphangiomatosis of the extremity: Sirolimus
Osman Emre Aycan¹, Mehmet Azizoglu², Bugra Alpan¹, Funda Çorapçioğlu¹, Harzem Ozger¹ (¹Istanbul - Turkey, ²Kocaeli - Turkey)

2679 - Ewing Sarcoma: Oncological results in 88 patients treated with chemotherapy and limb salvage surgery
Mariano Abrego, Javier Sanches Saba, Jose Ignacio Albergo, German Luis Farfalli, Luis Alberto Aponte-Tinao, Miguel Angel Ayerza³, Federico Cayol, Patricia Streitenberger, Pablo Roitman (Buenos Aires - Argentina)

2685 - Functional outcome of the endoprosthetic replacement of the elbow at tumors – are we there yet?
Marko Bergovec, Jörg Friesenbichler, Ewald Musser, Maria Smolle, Andreas Leithner (Graz - Austria)

2689 - Use of intraoperative cell salvage in orthopaedic oncology
Sofia Thoma, Zsolt Orosz, Thomas Cosker, Robert Booth, Max Gibbons, David Pigott (Oxford - United Kingdom)

2690 - Epidemiology, incidence, and survival of Ewing Sarcoma: SEER database analysis
Kamil M. Amer, Yung-Jae Lee, Dominick Congiusta, Jennifer Thomson, Rami Amer, Ahmed Chaudhry, Jannah Chaudhry, Kathleen Beebe (Newark - USA)

2691 - Epidemiology, incidence, and survival of osteosarcoma sub-types: SEER database analysis
Kamil M. Amer, Rami Amer, Dominick Congiusta, Matthew Li, Ahmed Chaudhry, Kathleen Beebe (Newark - USA)

2694 - Treatment of chondrosarcoma: an assessment of outcome.
Jacek Matysiakiewicz, Leszek Miszczyk, Adam Chrobok, Jerzy Spindel, Patryk Tomasik, Tomasz Zakrzewski, Tomasz Mrozek, Grzegorz Gierlach, Jaroslaw Szczygiel, Bogdan Koczy, Marcin Miszczyk (¹Piekary Slaskie - Poland, ²Gliwice - Poland)

2696 - Surgical technique: limb lengthening by the soft tissue distraction and stem reconstruction by using cage and cement
Ahmet Salduz, Levent Eralp (Istanbul - Turkey)

2697 - Treatment of a supraintercondylar multifragmented fracture of an infected distal femur, with silver-coated tumor endomegaprosis
João Freitas, Diogo Moura, Francisco Fernandes, Ruben Fonseca, Sandra Santos, Isabel Ferreira, José Casanova (Coimbra - Portugal)

2698 - Two cases of the osteosarcoma with delayed excretion of methotrexate due to abnormal fluid collection in the third space
Toshinori Tsukanishi, Tsukasa Yonemoto, Hiroto Kamoda, Hideyuki Kinoshita, Yoko Hagiwara, Takeshi Ishii (Chiba - Japan)

2701 - Survival prediction of liposarcoma patients using machine learning models
Dayton McMillan, Pramod Kamalopathy, Samuel Lee, Aditya Karhade, Kevin Raskin, Joseph Schwab, Santiago Lozano-Calderon (Boston - USA)

3001 - Denosumab treatment in patients with giant cell tumor of the bone: our experience
Martina Rezzoagli, Marco Paderno, Vittorio Ferrari, Guido Zarattini, Giuseppe Milano (Brescia - Italy)

