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EMSOS
European Musculo-Skeletal Oncology Society

ISOLS International Society
Of Limb Salvage



International Course on Custom Solutions for **SEVERE BONE** and **JOINT DEFECTS**

OCTOBER 26 | 28

BOLOGNA - ITALY

www.orthopaediccoursesbjd.it

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2022



International Course on “Custom Solutions for severe bone and joint defects” (CSBJD)

“In recent years the need for extremely large osteoarticular reconstructions is increasing in orthopaedic surgery. Most of the patients are referred to orthopaedic oncology surgeons due to their ability to reconstruct large part of limbs. Bone tumours, but also implant infection, multiple prosthetic revision as well as multiple fragment fracture in older patients, are cause of involvement of expert surgeons able to restore the limb function. Beside the use of standard mega implants a number of reconstructions need a patient specific implant to better solve the problem. To date the printing technology and surgical experience are improving to provide durable solutions. The course is address to orthopaedic surgeons interested to complex reconstructions achieved by 3D printing custom implants in different skeletal site with the aim to improve anatomical fit, increase host implant integration and reduce the impact of tissue excision. Particular focus will be brought to pelvic oncology as well as osteochondral partial prosthetic substitutions.”



October 26th

13:30 Course admission

14:30

Session 1:

Overview on standard implants used in large skeletal defects

Presentation of the course: why to improve the actual implants used in large skeletal defect.
Focus on fixation, integration, infection

14:30 Limits of the standard mega-implants:
what it can be done, and what should not.
Complications
Massimiliano De Paolis
(Rizzoli Institute, Bologna)

15:00 Limits of biological reconstructions:
what can be done, and what should not.
Complications
Marco Manfrini
(Rizzoli Institute, Bologna)

Implant infection

15:30 Infection in orthopaedic implants. How to limit the reinfection after two stage surgery
Pablo Corona
(Barcellona)

16:00 Discussion & Coffee break

16:30

October 26th

Implant loosening

16:30 Design implant fixation. What's new in implant design and material
Paolo Dalla Pria
(Link)

Implant integration

17:00 The definition of scaffold. Porous resorbable structures vs porous metals (tantalum, titanium).
Davide M. Donati
(Rizzoli Institute, Bologna)

Principles of custom reconstructions

17:30 Custom as a standard solution (Stanmore).
Custom in disaster cases (Link). Forged device.
Custom as reliable prosthetic solution in young individuals (Custom – better anatomy respect – better function – better durability)
Davide M. Donati
(Rizzoli Institute, Bologna)

18:00 *Discussion*

18:30

18:30 *End of the day*



October 27th

Session 3:
Generalities on custom solutions

The use of new virtual technology applied to orthopaedic surgery

08:00 Navigation, robotic, use of patient specific instrumentation.
PSI vs navigation vs robotics.
Tommaso Frisoni
(Rizzoli Institute, Bologna)

3D printing technology

08:30 Different materials and machines.
What is standard and future directions.
Enrico Sandrini
(Lincotek)

Projecting custom made solutions (biomechanical approach)

09:00 Designing the trabecular custom structure.
How to improve integration,
how to decrease infection risk
Paolo Dalla Pria
(Link)

An overview of the use of 3D printing custom implant

09:30 A skeletal journey in bone and joint replacement
with custom implant
Davide M. Donati
(Rizzoli Institute, Bologna)

10:00 *Discussion & Coffee break*

10:30

October 27th

Session 4:
Custom solutions in the pelvis

Standard solution in tumour pelvic surgery

10:30 Pelvic resections: surgical approach, resection classification, different type of reconstruction in different pelvic sites
Davide M. Donati
(Rizzoli Institute, Bologna)

Standard solution in hip revision surgery

11:00 Principle of cup revision in 3b Paproski cases and more. Pseudotumor cases.
How to regain the bone stock
Alessandro Massè
(CTO, Turin)

Custom made prosthesis in pelvic area: Rizzoli experience

11:30 How to match resection and reconstruction. The use of 3D printed guides. Fixation. Reduce the reconstruction time. Quality of bone stock in revision cases
Davide M. Donati (Rizzoli Institute, Bologna)

12:00 *Discussion*

12:30

12:30 *Lunch break*

14:00



Session 5: Skeletal Custom applications (1)

Custom made prosthesis in pelvic area: relive surgery

- 14:00 Resection and reconstruction of a pelvic tumor
Davide M. Donati
(Rizzoli Institute, Bologna)

Custom made prosthesis in pelvic area

- 14:30 Presentation of cases from participants:
Cases in oncology surgery
Cases in revision surgery
Davide M. Donati
(Rizzoli Institute, Bologna)

How to fight infection in standard tumor mega prosthesis

- 15:30 Presentation of cases from invited speaker:
Cases in oncology surgery
Cases in revision surgery
Tamàs Perlaky
(Budapest, Hungary)

- 16:00 *Discussion & Coffee break*
16:30

Partial replacement of the knee in young patients

- 16:30 The use of Hemiarticular replacement
in proximal tibia composites.
Partial prosthetic replacement in
young individual osteonecrosis
Laura Campanacci
(Rizzoli Institute, Bologna)

October 27th

Custom made application around the knee

17:30 From allograft replacement experience, trough partial prosthetic applications, to articular replacement (small and large osteochondral)
Davide M. Donati
(Rizzoli Institute, Bologna)

Relive surgery (knee)

18:00 Custom made condyle substitution in GCT failure
Davide M. Donati
(Rizzoli Institute, Bologna)

18:30 *End of the day*

20:30 *Course Dinner*
22:30



October 28th

Session 6: Skeletal Custom applications (2)

Custom made applications around the shoulder

08:30 How to improve functional activity.
Attachment of the scapula.
Shoulder joint reconstruction
Giuseppe Bianchi
(Rizzoli Institute, Bologna)

Custom made application around the ankle

09:00 Ankle arthrodesis in distal tibia fracture.
Mobile ankle in tumor or fracture surgery
Massimiliano Mosca
(Rizzoli Institute, Bologna)

Custom made application in the tibia

09:30 Personal experience and literature review
Davide M. Donati
(Rizzoli Institute, Bologna)

10:00 *Coffee break*

10:30

Biomechanics of the tibia

10:30 Fixation and integration of tibia devices.
From allograft to custom made implants
Eric Staals
(Rizzoli Institute, Bologna)

11:00 **Presentation and discussion on cases provided
12:00 by participants and invited speakers**

12:00 *End of the course*

October 28th



NOTE



Segreteria Organizzativa

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