

Istituto Ortopedico Rizzoli



Inauguration of the Rizzoli Orthopaedic Institute (june 28, 1896) with Royalty present.



1 st Canada-Italy Business Forum on Artificial Intelligence
Spotlight on Emilia Romagna September 17th, 2019 –
Montréal, Canada

Healthcare

Oncologic area

- Orthopaedic and Traumatologic Clinic prevalently Oncologic
- Spine Surgery prevalently Oncologic and degenerative
- Chemotherapy Ward of Musculoskeletal Tumors
- Anatomy and Pathological Histology

Orthopedic Area

- Orthopaedic and Traumatologic Clinics
- Orthopaedic-Traumatology and Prosthetic surgery and revisions of hip and knee implants
- Reconstructive Orthopaedic Surgery Innovative Techniques - Musculoskeletal Tissue Bank
- Pediatric Orthopedics and Traumatology
- Shoulder and elbow Surgery
- Rachis Deformation Surgery

Other clinical activities

- Medicine and rheumatology
- Medical Genetics and Rare Orthopaedic Diseases
- Functional Recovery and Rehabilitation
- Diagnostic and Interventional Radiology





Rizzoli RESEARCH



Laboratories



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

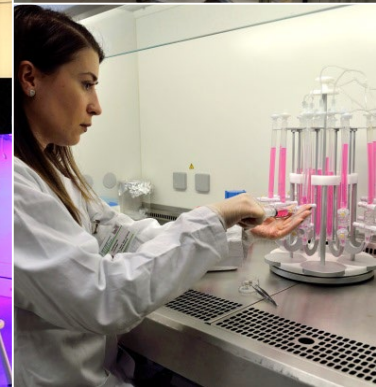
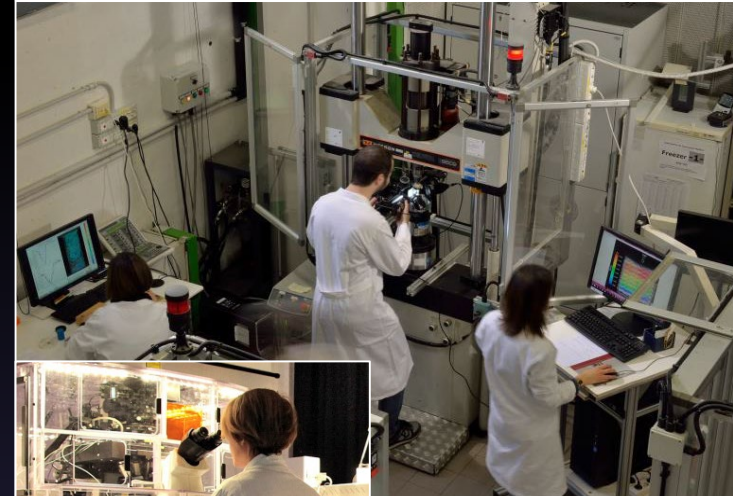


Research

- Laboratory of Movement Analysis and Functional-Clinical Evaluation of Prosthesis
- Medical Technology Laboratory
- Lab of Immunorheumatology and tissue regeneration
- Laboratory of Experimental Oncology
- Laboratory on Implant Infections

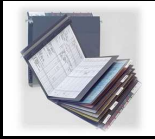
Rizzoli Research, Innovation & Technology (RIT) Department:

- Bioengineering and Computing Laboratory (BIC)
- Clinical Bioinformatics lab (CLIBI)
- Laboratory of preclinical studies for regenerative medicine of the musculoskeletal system (RAMSES)
- Preclinical and Surgical Studies
- Musculoskeletal Cell Biology
- Biomechanics and technology innovation
- Lab for Orthopaedic Pathophysiology and Regenerative Medicine





DATA



CLINICAL DATA



IMAGING DATA

Histological, X-Rays, Ultrasound, CT Scan, MRI, 3Tesla MRI, Gait Analyses, TBS

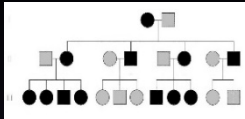


OMICS



OTHERS

Gait Analyses, Biochemical, Roentgen Stereophotogrammetric analysis (RSA), DXA, etc.






GENEALOGIC DATA

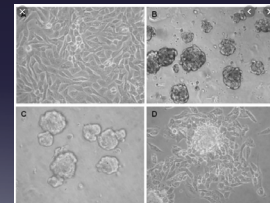
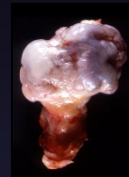
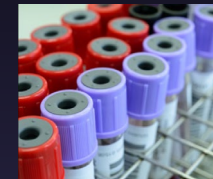
Datasets

- 4 Rare Disease Registry (REM, ROI, RED, ROM)
- RIPO Registry of Orthopaedic Prosthetic Implants
- REPO Registry of Explanted Prostheses
- Registries of Malignant Primary Bone Tumors (National and Regional Registry)
- Regional database of Rheumatoid arthritis
- several other datasets

BIOLOGICAL SAMPLES

Biobanks

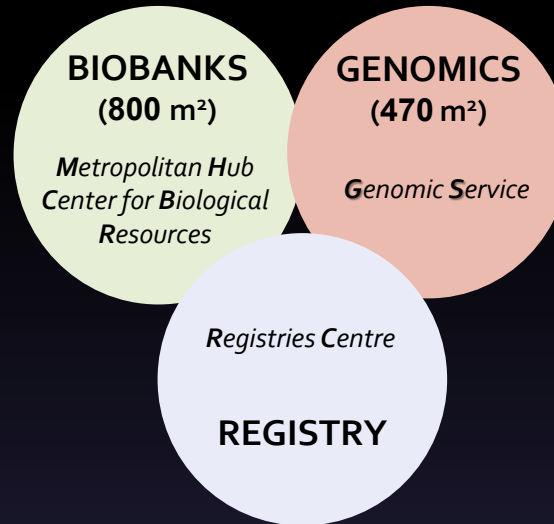
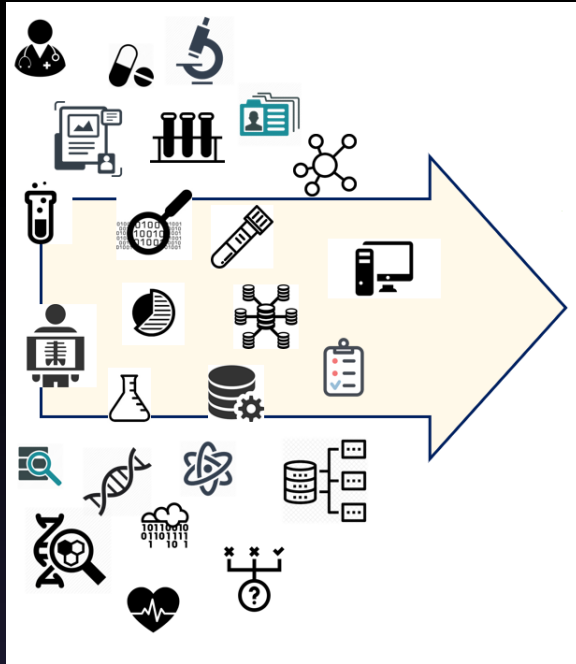
- Cell and Musculoskeletal Tissue Bank (BTM)
- Genetic Biobank (BIOGEN)
- Skeletal Tumor Biobank  
- Regional Registry-based Biobank Development and Pharmacogenetic Analysis in Rheumatoid Arthritis (RABiobank) 
- several other collection of samples (i.e. pathology unit)



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METROPOLITAN INFRASTRUCTURE



High Performance
Computing facility (HPC)



High Throughput
Computing facility (HTC)

REGIONAL BIG DATA INFRASTRUCTURE (SUPER) for advanced application in Life Science, Materials and Innovative Industrial Processing

3 areas: Supercomputing and Big Data, Genomic-Regenerative Medicine-Biobanking (**IOR**), Innovative industrial materials and systems

