

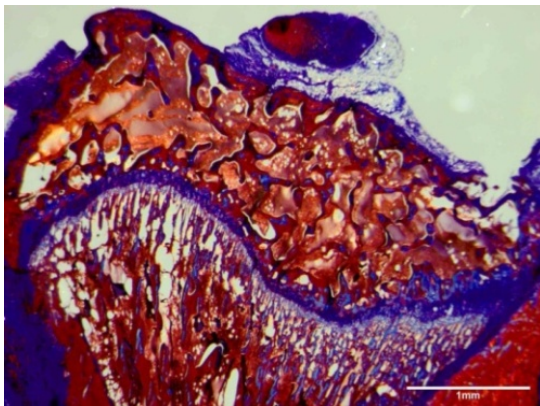
Molecular and Cellular Orthopaedic Laboratory

Overview

The Molecular and Cellular Orthopaedic laboratory is a 450 ft² space dedicated to researching molecular aspects of orthopaedic disease, injury, and healing in order to broaden biomedical knowledge and improve patient outcomes.

Capabilities

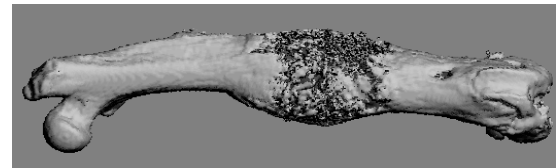
- Pre-clinical and clinical studies of orthopaedic disease and injury
- Cell culture
- Histology/immunohistochemistry
- Gene expression analyses
- Proteomic analyses
- Biomechanical testing
- Micro Computed Tomography



Photomicrograph of rat tibial growth plate stained with Masson's trichrome to visualize cartilage (blue) and bone (red).

Educational Activities

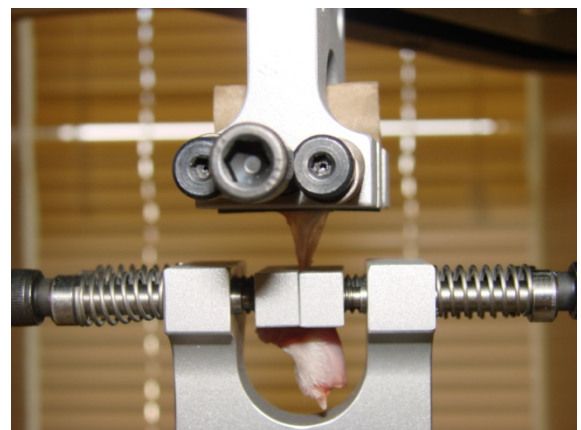
- Laboratory instruction of undergraduates, medical students, and surgical residents
- Lectures and poster presentations



MicroCT image of fractured mouse femora 21 days following fracture induction.

Research Projects

- Evaluation of the Calcitonin Receptor Peptide (CRP) for treatment of osteoporosis
- Understanding of the role of apoptosis in fracture repair
- Testing the efficacy of PRP in accelerating tendon healing
- Determination of the effects of methylphenidate on skeletal development



Photograph showing biomechanical testing of a rat Achilles tendon.

Laboratory Director

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