

MCCAIGINSTITUTE FOR BONE AND JOINT HEALTH



IMAGING • MOVEMENT ASSESSMENT • DIAGNOSTICS

CENTRE FOR MOBILITY AND JOINT HEALTH

IMAGING



Mobility for Life.

In November 2016, the McCaig Institute for Bone and Joint Health announced the official opening of the Centre for Mobility and Joint Health (MoJo).

Located in the University of Calgary's Cumming School of Medicine, the MoJo is a state-ofthe-art facility where researchers, trainees and physicians can work together to develop new technologies for the prevention, early diagnosis and treatment of bone and joint conditions.

The MoJo features the latest in imaging, movement assessment and diagnostic equipment, allowing researchers to assess bone and joint health on every level.

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The MoJo is designed to accelerate solutions to bone and joint problems, and translate basic science into realworld clinical solutions. We are a hub where physicians, basic scientists, biomedical engineers, patients and the Alberta health system, collaborate to keep Albertans moving.

Steven Boyd, PhD DIRECTOR OF THE MCCAIG INSTITUTE

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STATE-OF-THE-ART IMAGING

The MoJo features the latest in imaging equipment specifically designed for bone and joint research. Scientists work with the support of clinical research coordinators, licensed medical imaging technologists and IT experts to capture detailed, targeted images essential for research studies.

Equipment and expertise in the MoJo is available to the research community.

Key equipment includes:

- Digital radiography (X-ray)
- Magnetic Resonance Imaging (MRI)
- Computed Tomography (CT)
- Ultrasound
- High-Resolution Peripheral Quantitative CT
- Dual-Energy X-ray Absorptiometry (DXA)
- Bi-Planar X-ray (EOS)

Additional features and services:

- Image analysis workstations
- Research PACS system
- Computational analyses
- Resolution MD for offsite image access
- Data management coordination
- Teleradiology
- Research participant reception area
- Online scheduling system
- Fully equipped medical examination rooms



IMAGING EQUIPMENT



DIGITAL RADIOGRAPHY (X-RAY)

GE Discovery XR 656

- Volume RAD
- Dual energy subtraction
- Auto image paste

USE:

 As per standard musculoskeletal applications

MAGNETIC RESONANCE IMAGING (MRI)

GE Optima 430s 1.5T

- Extremity scanner
- High signal-to-noise ratio
- Multiple coils for specific joints

USE:

- Elbow, hand, knee, ankle
- Soft tissue imaging
- Bone lesions
- 3D imaging

COMPUTED TOMOGRAPHY (CT)

GE Revolution HD GSI

 Gemstone Spectral Imaging (140 kV and 80 kV fast switching)

VEO for ultra low dose image reconstruction

USE:

- 3D modelling using low radiation dose
- Material decomposition, e.g. uric acid in gout



ULTRASOUND

GE Logiq S8

- Multiple transducers
- Examination rooms
- Elastography

USE:

 As per standard musculoskeletal applications

HIGH-RESOLUTION PERIPHERAL QUANTITATIVE CT

XtremeCT (I and II)

- Extremity scanner
- Hands, wrists, ankles and knees
- 61 µm resolution
- Low dose

USE:

 Bone quality and micro-architecture

DUAL-ENERGY X-RAY ABSORPTIOMETRY (DXA)

GE iDXA

- Bone mineral density
- Body composition/ lean mass
- Trabecular bone score (TBS)

USE:

 As per standard musculoskeletal applications

IMAGING EQUIPMENT







BI-PLANAR X-RAY (EOS)

EOS

- Simultaneous bi-planar X-ray
- High geometric accuracy
- Low radiation dose for specialized pediatric application

USE:

- Surgical planning and follow up
- Skeletal alignment assessment

DICOM ANALYSIS AND STORAGE

Aycan PACS/Viewing

- Image storage
- Radiology viewing

Calgary Scientific ResMD

- Teleradiology
- Computer analysis workstations
- Full suite of software applications

RECEPTION

Direct to appropriate rooms

- Imaging
- Motion analysis
- Biomarker collection



• Scoliosis



CENTRE FOR MOBILITY AND JOINT HEALTH (MoJo)

Imaging services for research studies are available to the research community. Contact us for more information about equipment or fees associated with services.

CONTACT US

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MCCAIG INSTITUTE FOR BONE AND JOINT HEALTH

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