Femoral Microradiography MGP_XMF_001

Purpose

To asses bone mineral content and morphology of femur.

Experimental Design

- **Minimum number of animals :** 1M or 1F
- **Age at test:** Week 16

Equipment

- Faxitron MX20
- Faxitron Software
- Forceps
- Perspex shelf containing image window and the 3 standards
- Tape
- Image J with macros
- Adobe Photoshop

Procedure

1. Clean femurs.
2. Set up and calibrate Faxitron machine.
3. Bones should be arranged the same way for each image, ensuring everything is visible and there is no overlap. Ensure that the controls for mineralisation (plastic, aluminium and steel wires) are visible in the image.

a. Lower limb bones should be positioned with the hollow side of the tibia towards the bottom of the image.

4. Insert tray to top shelf of the Faxitron machine and image for 25 seconds at 26 kV.

a. Reimage if positioning is not correct.

Notes

Data analysis

1. Edit soft tissue out of the image.
2. Assess the relative mineral content using ImageJ grey scale histogram obtained from the plastic (grey level 0) and steel (grey level 255) standards.
3. In ImageJ, calibrate for distance using an appropriate image.

4. Measure the length of the femur from the tip of the femoral head to the bottom of the distal end using the straight line tool in ImageJ.

Parameters and Metadata

Femoral Bone Mineral Content MGP_XMF_001_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Description: femoral_bone_mineral_content

Femur Length MGP_XMF_002_001 | v1.0

simpleParameter

Req. Analysis: false **Req. Upload:** false **Is Annotated:** true

Unit Measured: mm

Description: femur_length

Equipment manufacturer MGP_XMF_003_001 | v1.0

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Description: equipment_manufacturer

Equipment model MGP_XMF_004_001 | v1.0

procedureMetadata

Req. Analysis: true **Req. Upload:** false **Is Annotated:** false

Description: equipment_model
