



Osteoporosis Models

Senile, post-menopausal or secondary osteoporosis weakens long bones by decreasing their mineral content and altering their structure. Animal models of osteoporosis allow assessing the efficacy and safety of novel anti-osteoporotic drugs.

Animal Models

Primary osteoporosis models:

- Ovariectomy in female rats
- Orchidectomy in male rats

Secondary osteoporosis models:

- Glucocorticoid treatment in rats
- Bone immobilization in rats

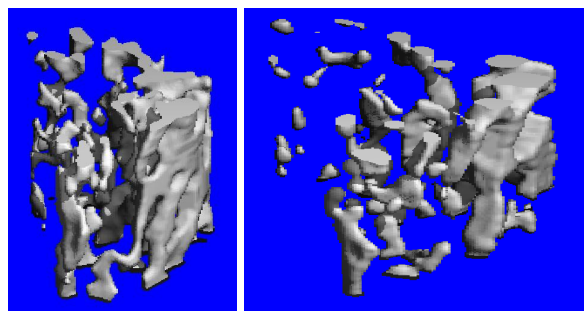


Three-dimensional reconstruction of rat femoral structure. Courtesy of B-Cube.

Outcome Measurements

A wide range of measurements can be performed such as:

- *In vivo* and *ex vivo* BMD and BMC measurements of cortical and trabecular bones by DEXA, pQCT and μ CT
- Biomechanical testing
- Physiological bone turnover markers (blood, urine)
- Ash chemical analysis
- Histomorphometry, histology



MicroCT imaging of lumbar vertebral cancellous bone loss in the ovariectomized (OVX) rat. Left: pre-OVX. Right: 16 weeks post-OVX.

