

SCANCO MEDICAL

Finite Element Analysis

SCANCO Medical's finite element analysis software, an optional package that integrates seamlessly into the standard software suite, has been specifically designed for the calculation of stiffness and strength of bone. It provides direct and complete evaluation of the mechanical consequences of morphological changes due to, for example, osteoporosis or drug treatment.

Compression and other mechanical tests can be simulated on scanned bone specimens to determine their stiffness and strength as well as their tissue-level loading. In combination with XtremeCT images, a fully automated and validated measurement of *in vivo* bone strength is possible.

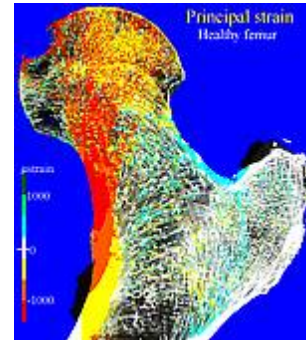
Depending on the type of analysis and the chosen options, results include:

- Average elastic properties (complete stiffness and compliance tensor)
 - Engineering constants (Young's and shear moduli and Poisson's ratios)
 - Average specimen and tissue level stresses and strains
 - Image file representing the distribution of mechanical parameters
- An export tool is included that supports MSC.MARC, ABAQUS and ANSYS formats.

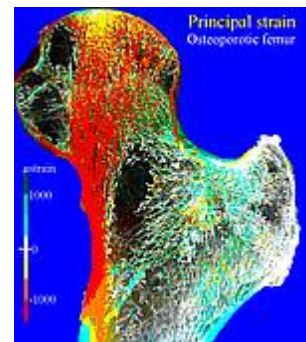
Important Features:

- Highly-efficient solver for linear elastic analyses
- Built-in library of predefined tests
- Convenient definition of user-defined tests
- Suitable for models with millions of elements
- Models can obtain up to 255 different isotropic elastic materials
- Fully integrated into IPL

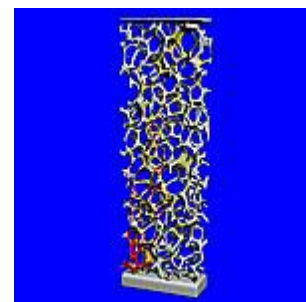
See the [brochure](#) for more details.



Strain in healthy femur



Strain in osteoporotic femur



Stress in Al foam

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