Surgical Planning

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Lifetime from: 1999
Lifetime to: 2012
Short description: Computer aided surgical planning with semi-automatic segmentation, implant insertion and biomechanical analysis

Description: Skeletal injury operations are in general of high complexity and require extreme accuracy. That is why it seems practical that prior to a surgical intervention a geometric and mechanic model is prepared, which can be used to simulate various operational solutions. We present here a computerized system, which we call MedEdit, that helps the surgeon to plan the operation and with the use of a Finite Element Analysis (FEA) program the effects of the modifications can be measured or compared. Extensive work is done on the navigation module (MedNav) which helps the surgeon in the operating theatre to find the exact positions and angles during the insertion of implants.

Segmentation of the CT images.

Surgical planning: reposition of bones and insertion of implants.
Result of the analysis showing deformation and stress.


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