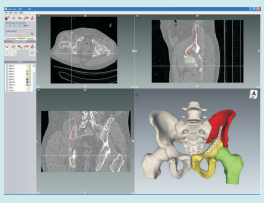
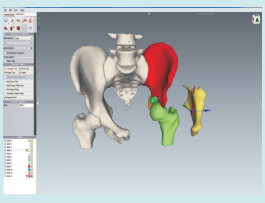
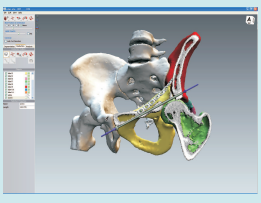
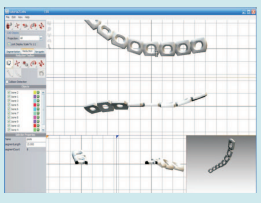
# EBS

## medical software for trauma and ortopedic surgery planning

- SEGMENTATION
- REDUCTION/RECONSTRUCTION
- PLANNING
- CONSTRUCTION AND DESIGN

# WHAT IS EBS

EBS is standalone medical software which is used in healthcare for preoperative planning, constructing and designing of personal guiding templates and fixation plates based on the real patient data.

It supports the surgeon to plan the surgical procedure of fracture reduction, to construct or design fixation plates and guiding templates in an intuitive and user-friendly way.

EBS operates on Windows based PC. Basic commands are designed in a user friendly way and the screen is arranged similarly to other programs for PC on Windows.

A real patient data - CT examination in form of DICOM files is accepted as an input. 3D mesh models are built from the DICOM examination in segmentation process.

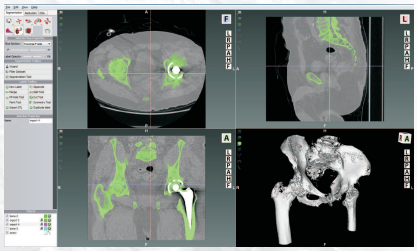
CE MARK CERTIFIED medical device

STANDALONE SOFTWARE used in healthcare

EASY TO USE software FOR SURGEON - no need for Cad Cam knowledge

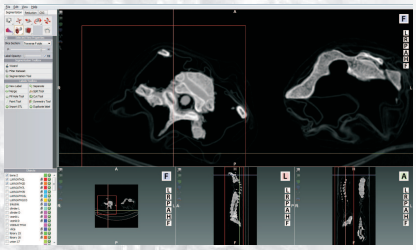
Preoperative planning of surgical approaches based on REAL PATIENT DATA

# EBS functions & user interface



EBS software provides complete preoperative planning on the model, which is made from real patient data. Data is obtained from CT DICOM format investigation which is uploaded on a user's/surgeons PC.

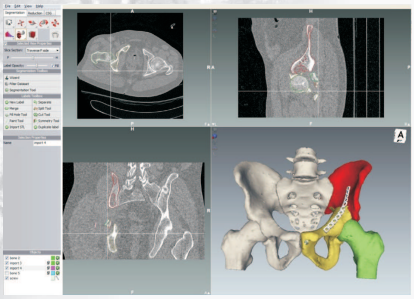
SEGMENTATION



Segmentation function enables segmentation of bone structures resulting in a buildup of a 3D mesh model.

The first part of this process is to determine the area of interest from which the model is built. The program automatically builds 3D model based on defined/selected Hounsfield unit.

The second step of the segmentation process is divided into two parts. First is the basic segmentation of the fracture and second where the fracture is divided into smaller fracture fragments. Last step is cleaning of the noises.

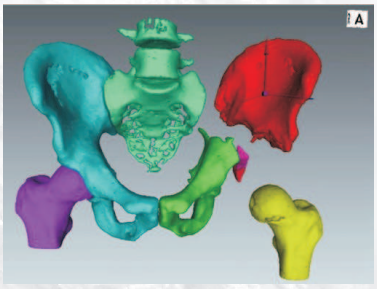


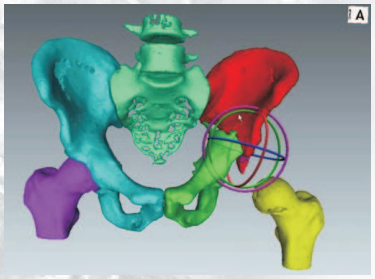
In the process of segmentation one can use a variety of user friendly tools.

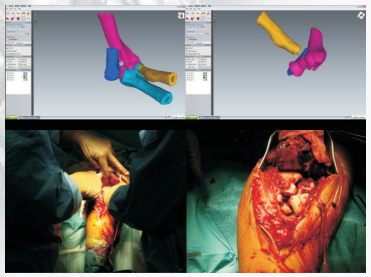
## KEY BENEFITS

- Preoperative study of different surgical approaches
- Allows more precise and predictable course of operation
- Preparation reduces the possibilities for complication and enables faster recovery of the patient
- Shortens the time of surgical procedures

# EBS functions & user interface







## REDUCTION/RECONSTRUCTION

In the process of reduction the reduction i.e. reconstruction of bone fractures are performed. The 3D mesh models of bone fragments can be viewed in arbitrary 3D projection as well as manipulated in order to simulate reduction.

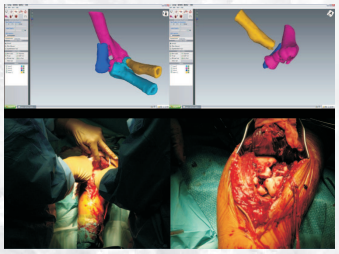
After completing the process of segmentation, each fracture fragment becomes a separate object, which can be individually manipulated. Each fragment can be colored with various colors for better visual representation. This allows the user to easily perform virtual operations. Bone fragments can be moved and rotated in all three planes.

In the process of reduction different tools are available to adjust the fragments to real situations during the surgery. Each fragment can be manipulated individually in order to simulate optimal layout of the fracture parts in the process of reduction.

## KEY BENEFITS

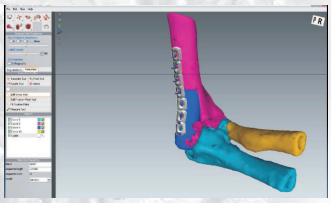
- User friendly interface
- Short learning curve
- Simple planning of workflow
- Educational tool

# EBS functions & user interface

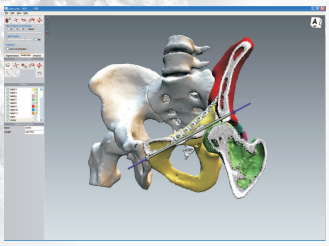


PLANNING

Planning enables study of different surgical approaches and optimal positioning of fixation plates and screws. In the process of planning, minimal invasive approach is planned along with the optimal positioning of the fixation plates and screws.



After completion of reduction process, procedure is continued with the fixation procedure, with selection of appropriate fixation plate. Screws are inserted into the fixation plate or separately. Length of screws can be accurately measured. Bone can be made more transparent, so one can control the direction of screws. Additional specialty of the EBS software is a simulation of intraoperative x-ray. Fracture can be viewed from different directions during the virtual surgery, making it possible to study each step in the process of the surgical procedure.



User friendly tools are designed to support the user during the process of planning. No extra skill and computer knowledge is needed to be able to work with those tools.

## KEY BENEFITS

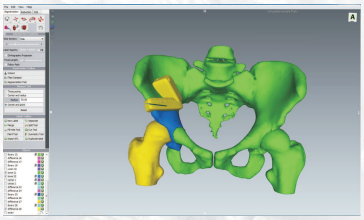
Simulation of surgical procedure

X-ray simulation view

Implant design

Direct export for 3D print

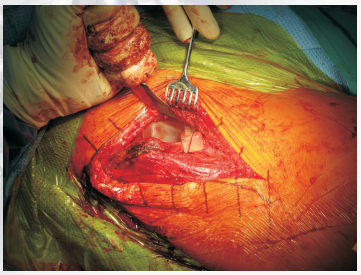
# EBS functions & user interface



CONSTRUCTION AND DESIGN OF PERSONALIZED PLATES AND GUIDING TEMPLATES

EBS enables the surgeon to construct and design the plates and guiding templates for individual patient, which can be later manufactured in different processing techniques. EBS also supports the latest additive technology - 3D print.

Guiding templates can be used in conjunction with existing surgical tools (saws, drillers,...) for different surgical procedures, for example for osteotomy, total knee arthroplasty, in spinal surgery for pedicular screw placement etc.



MINIMUM SYSTEM REQUIREMENTS

System memory (RAM) - 4GB

Processor min "i3"

Windows 64- bit operating system

Contact
For further information, please contact Ekliptik sales department

Ekliptik d.o.o.
Teslova 30 1000 Ljubljana Slovenia
T: +386 (1) 477 66 31 F: +386 (1) 477 66 32 E: info@ekliptik.si W: www.ekliptik.si

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