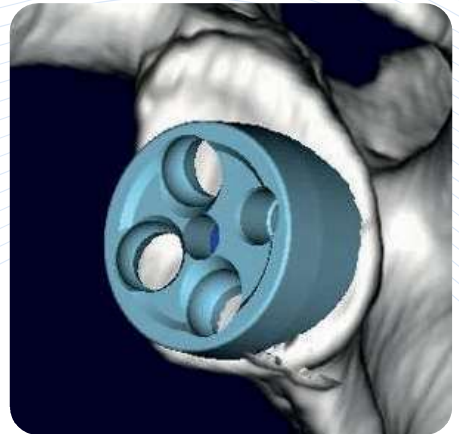
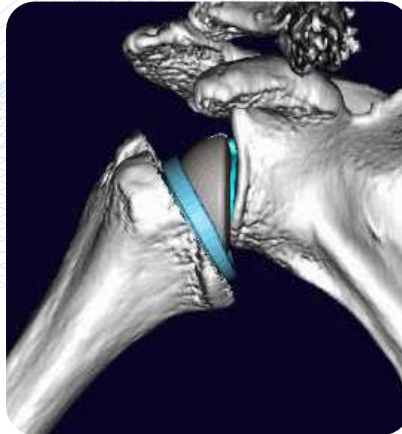
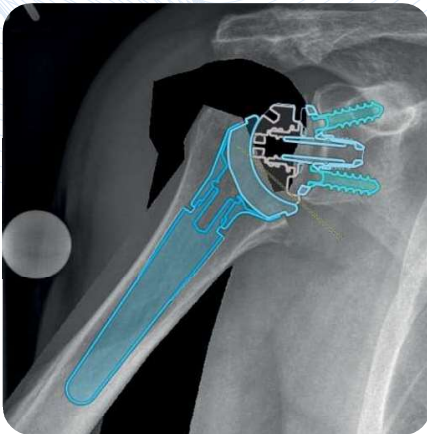


3D Shoulder

Automatic Segmentation
Automatic Measurements
2D/3D Planning
Rapid 3D Reconstruction



mediCAD®



www.mediCAD.eu



Working with mediCAD® 3D Shoulder

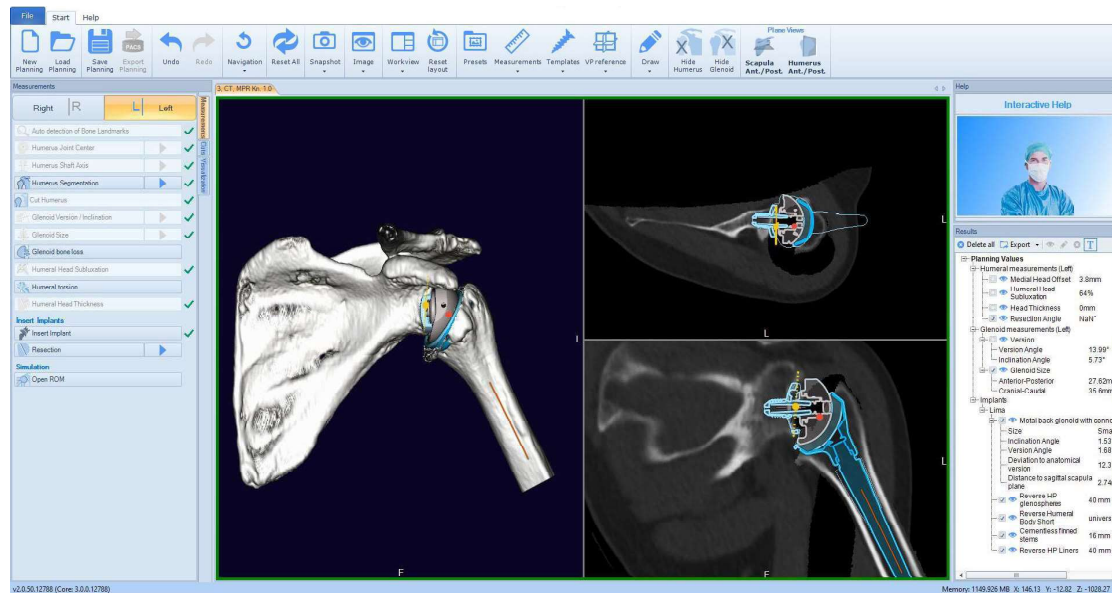
Import assistant/interactive help

mediCAD® 3D Shoulder enables you to select the storage location for your patient data and images with just a click of the mouse. You can load the images, as you would normally, from your PAC system via our mediCAD® Query Client interface.

After selecting the storage location, all the available patient data located in the selected directory and subdirectory is displayed in the mediCAD® 3D Shoulder workspace.

Interactive help will support you during the course of your surgical planning with a schematic view and a list of all the steps you need to take. Clear informational texts and images are also used to highlight the relevant areas and functions in the application.

This means all the information you need is always visible, making your work easier and faster.



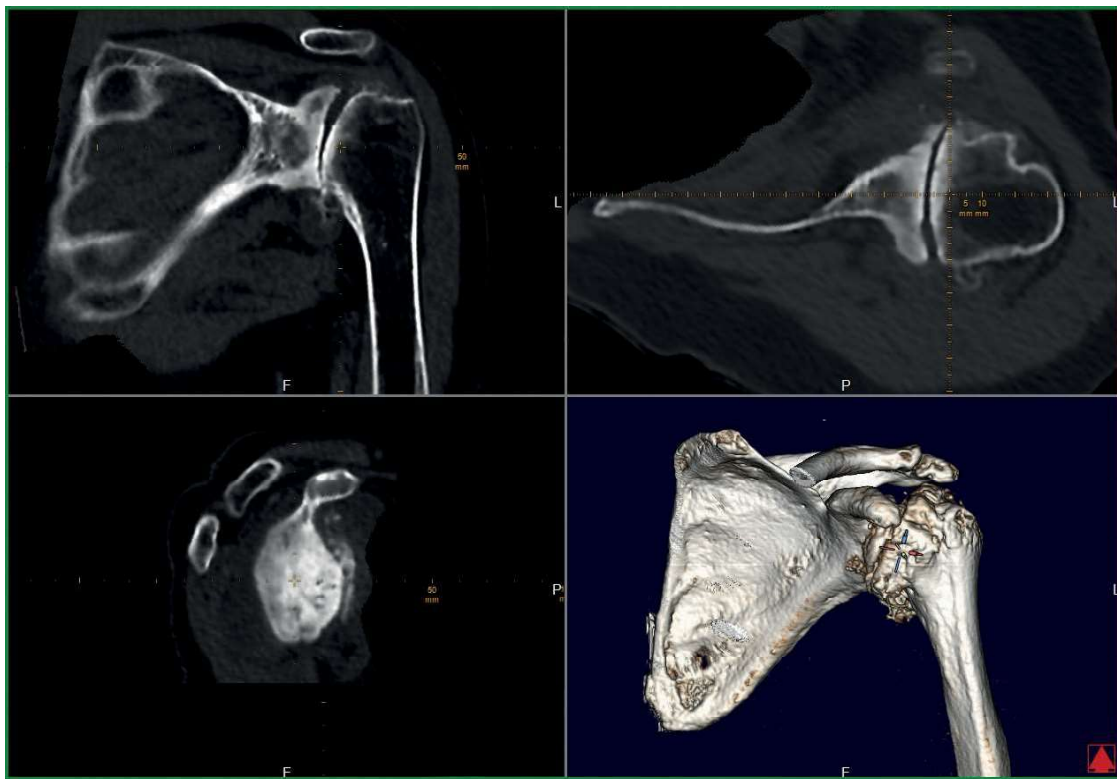
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Automatic 3D and 2D viewing

mediCAD® 3D Shoulder provides a wide range of visualizations. Each image and each plan is different, and follows a different objective or requires a different approach. This sometimes makes it necessary to display the image data from a variety of perspectives.

In addition to the 3D model, which can be visualized from all sides, you can display individual 2D slices in the axial, sagittal and coronal planes. You can also view and have the 3D model displayed from several different angles at the same time.

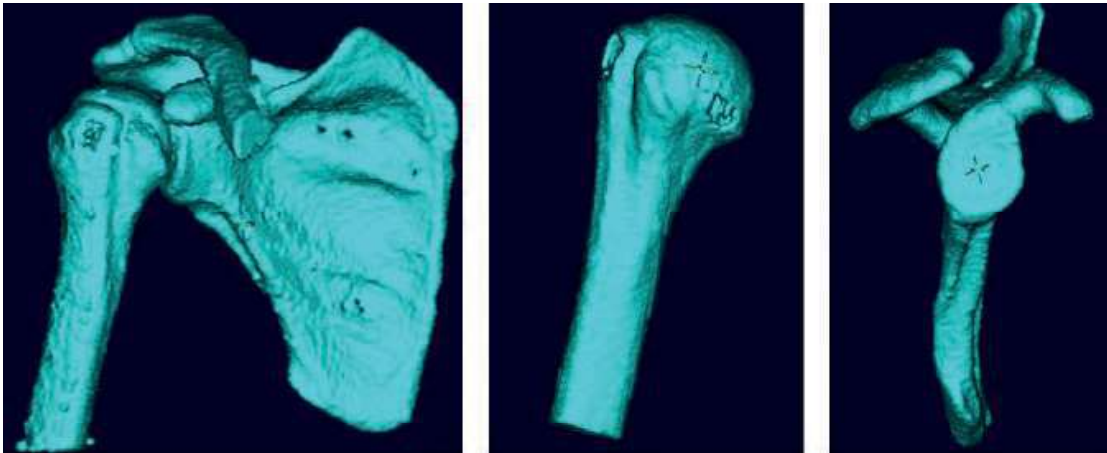


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Working with mediCAD® 3D Shoulder

Automatic bone segmentation and automatic resection

Automatic segmentation is an important building block in preoperative planning for shoulder surgery. Segmentation displays the humerus as a high-resolution three-dimensional image separate from the glenoid. With the help of automatic segmentation, the displayed area can be better visualized in order to determine the condition of the joint and to resect the humeral head, for example.



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mediCAD® 3D Shoulder provides two different ways of carrying out a resection. The first option is automatic resection. The plane of the cut or the position of the resection is adapted to the resection specifications of the implant manufacturer. The second option allows you to manually determine the resection plane and move or rotate the cut area as needed in order to perform a correction. All dimensions are adjusted automatically and thus reflect the new situation after the correction has been performed.

This allows you to simulate and test various scenarios to achieve the optimal result for the patient.



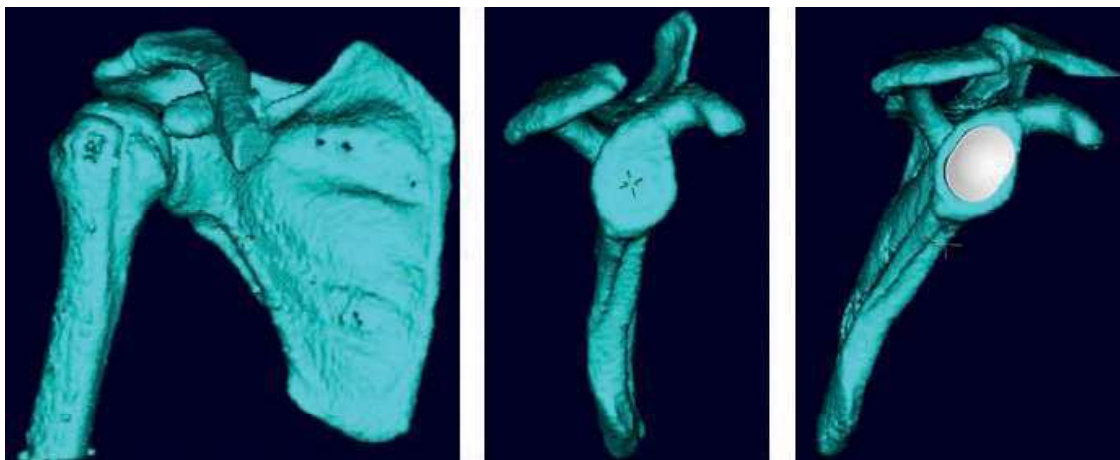
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3D printing and customized implants

The integrated mediCAD® Services allows users to order realistic, patient-specific 3D models of pathologies and anatomical regions.

All of our 3D modules, such as 3D Hip, 3D Spine, 3D Knee, 3D Foot, 3D Hand and, of course, 3D Shoulder, offer the entire range of modern preoperative planning for diseases of the musculoskeletal system. Customized implants are an increasingly important area of surface replacement and partial or total joint replacement.



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mediCAD® 3D Shoulder lets you segment the areas of the bone very precisely. You can save the segmented area, or areas, as a 3D file format. You can send the 3D file with the planning information from your device to your customized implant manufacturer quickly and easily during or after planning together with the corresponding dimensions.

Advancements in visualization technology, such as 3D printing, are proven to support hospitals in developing customized surgical strategies for patients.

You can initiate the ordering process directly from mediCAD® 3D Shoulder.

- The segmented bone areas are created using the software and then saved as stl files
- The user registers at services.medicad.cloud to start the ordering process
- The saved stl file of the anatomical region is uploaded
- The user is given an automatic cost calculation and quotation
- The ordering process is initiated

In partnership with a mediCAD® 3D printing partner, the order is processed immediately after it has been received. The 3D printing process uses PolyJet to manufacture the orders. Due to its phenomenal accuracy and precision, this printing technology is ideally suited to manufacturing true-to-life products. It uses the Stratasys J750, which is seen as a first-rate printer for efficiently manufacturing customized, authentic products

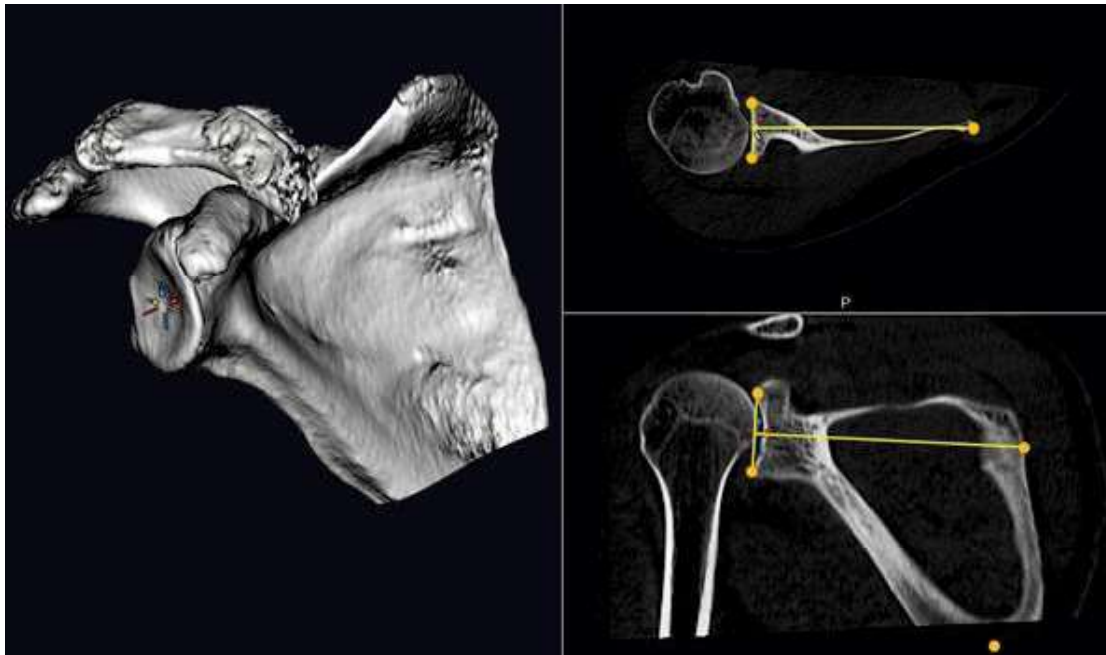
Delivery is guaranteed within 2 to 4 working days* thanks to express postage.

* Within Germany (as this will be sent to international customers)

Working with mediCAD® 3D Shoulder

Automatic, simple and accurate measuring methods

mediCAD® 3D Shoulder supports shoulder endoprosthesis planning. A large number of classic measurements can be carried out and recorded.



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- Exact assessment of the glenoid type according to Walch
- Glenoid size determination
- Inclination angle determination
- Humeral torsion
- Glenoid version
- Medial humeral head offset
- Inclination angle of the humeral head resection
- Humeral head subluxation
- Humeral head thickness (and height)
- Humeral head diameter
- Standard measurements such as distance, angle, etc

The measurements are recorded directly in a structured list of results.



Transparent view and implant-bone contact visualization

Each image and each plan is different, has a different objective, or requires a different view. You can use the transparent view to better observe the implants used in their various positions. It is often necessary to visually determine the condition of the bone at the planned implant position. High and low density values can occur at the planned implant location. Higher or lower primary stability can therefore be assumed when the implants are inserted.



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ROM (range of motion) simulation

The abnormal shape of bones that leads to shoulder impingement is not always identified by traditional radiology. The complex relationship between the shape of the glenoid, the shape of the humeral head and their interaction during movements is difficult to conceive without a visual depiction. Shoulder problems are dynamic and multidimensional. Current, static imaging leaves a lot to the imagination. By entering anatomical movement parameters, the range of motion can now be displayed dynamically and visually with the ROM simulation.

