sirio

INVALUABLE GUIDANCE FOR
INTERVENTIONAL RADIOLOGY

MASMEC
BIOMED


sirio
NAVIGATION
Acquire Direction
Lock Direction
Needle Calibration
Lock Needle
TOOLS
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sirio

AN OVERVIEW OF SIRIO

Sirio is a navigation system that supports interventional radiology procedures performed using CT or other 3D imaging equipment for guidance.
Starting from radiological images, it reconstructs a three-dimensional model of the patient's anatomical structures, allowing physicians to identify the optimal insertion trajectory of needles and other instruments and track them in real time. This technology allows reaching even deep and small target lesions with more accuracy, faster and with less risk in comparison with standard methods.

Sirio is employed in procedures such as biopsies and ablations, on lungs, kidneys, and the musculoskeletal system.

BENEFITS

FOR INTERVENTIONAL RADIOLOGISTS

- Reduced radiation exposure
- Higher procedure reliability
- Preoperative planning
- Reduced procedure time
- Easy use and learning

FOR PATIENTS

- Lower absorbed radiation dose
- Higher procedure efficacy
- Reduced complications

MAIN FEATURES

Ease of use

Sirio is very simple to use: the registration procedure of the patient and instruments is swift and automatic; the touchscreen enables immediate interaction.

Accurate tracking

Sirio features an infrared tracking system and can support multiple cameras at the same time to facilitate tracking of tools and allow physicians to move freely.

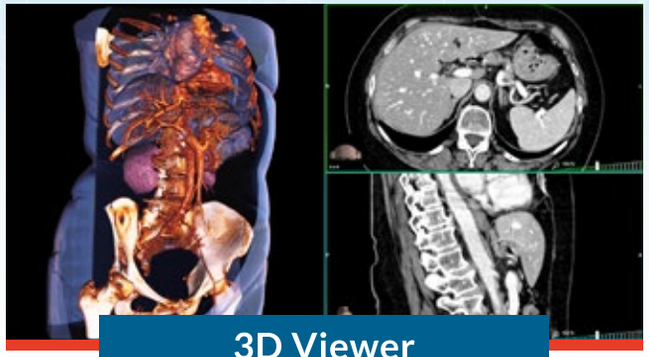
Monitoring of movements and breathing

By means of specific systems, Sirio monitors the movements of the patient's rib cage and the change of position that may occur, displaying the level of reliability of the virtual model.

Full compatibility

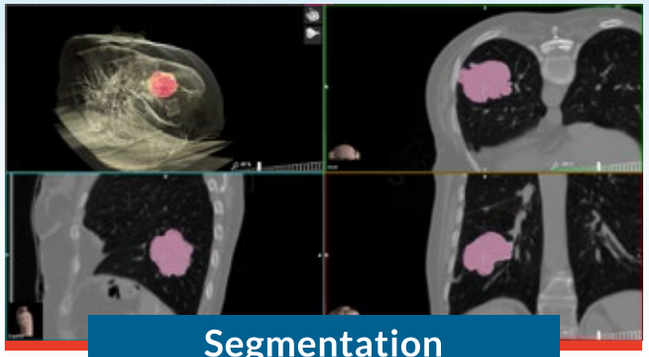
Sirio is compatible with all 3D imaging systems compliant with DICOM standard.
It can be used with any kind of needle or rigid surgical instrument with a diameter size ranging from 7G to 20G by specific adapters.

SOFTWARE SUITE



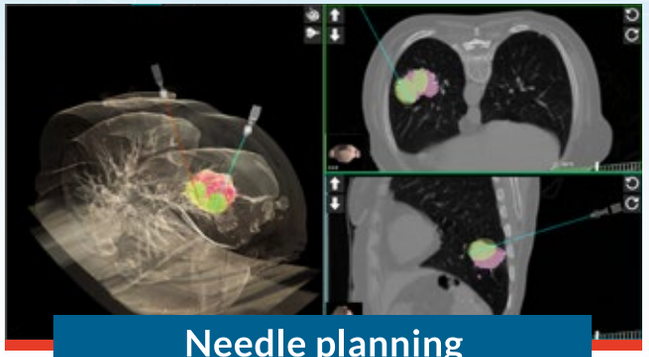
3D Viewer

- Review of medical images shown in axial, sagittal, and coronal planes, supported by multi-touch gestures
- Visualisation and adjustment of 3D imaging with cut-plane tool and selective colour palettes



Segmentation

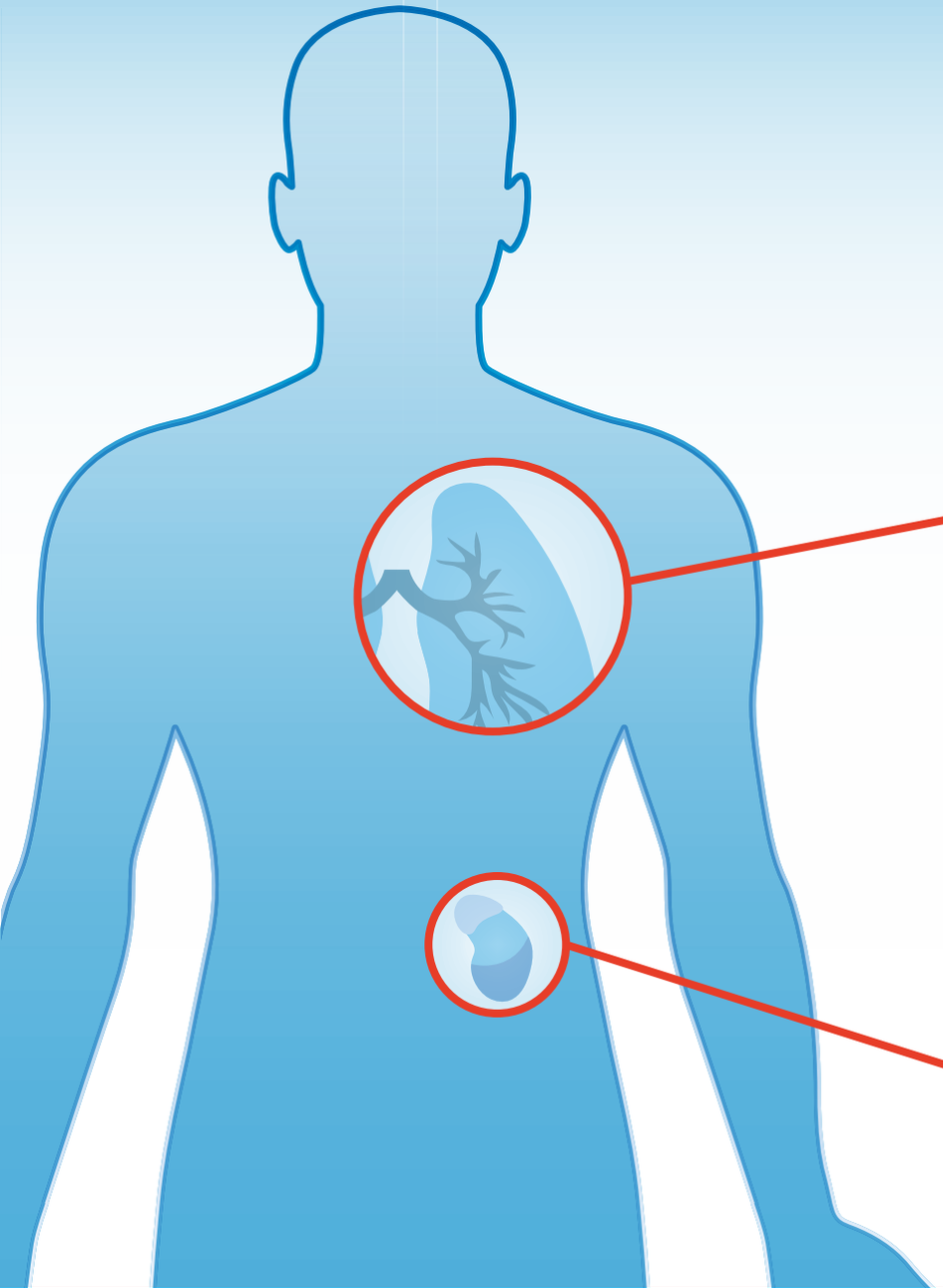
Three-dimensional and interactive segmentation of tumour lesions and anatomical structures for morphometric and volumetric characterisation

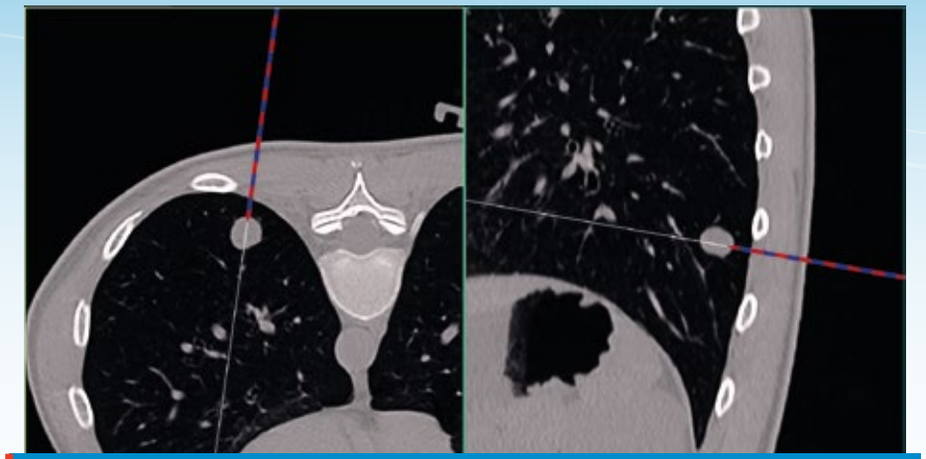


Needle planning

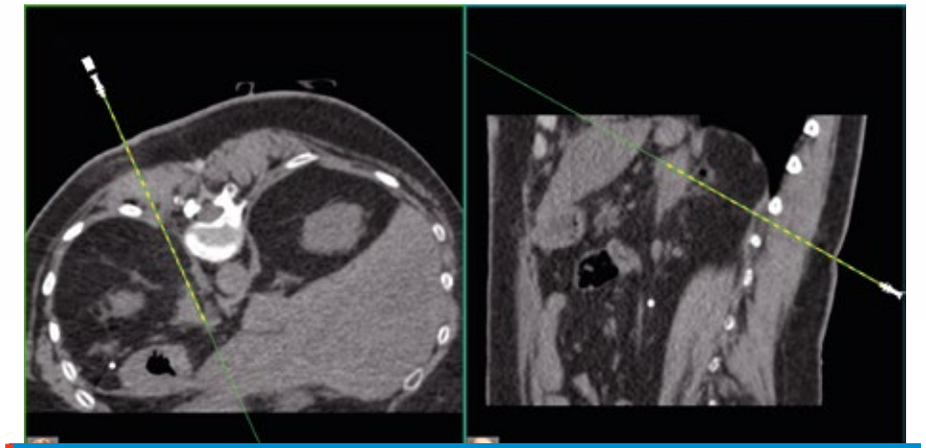
- Preoperative simulation of the insertion trajectory of one or more needles
- Preview of the treatment zone when placing ablation needles

EXAMPLES OF APPLICATIONS

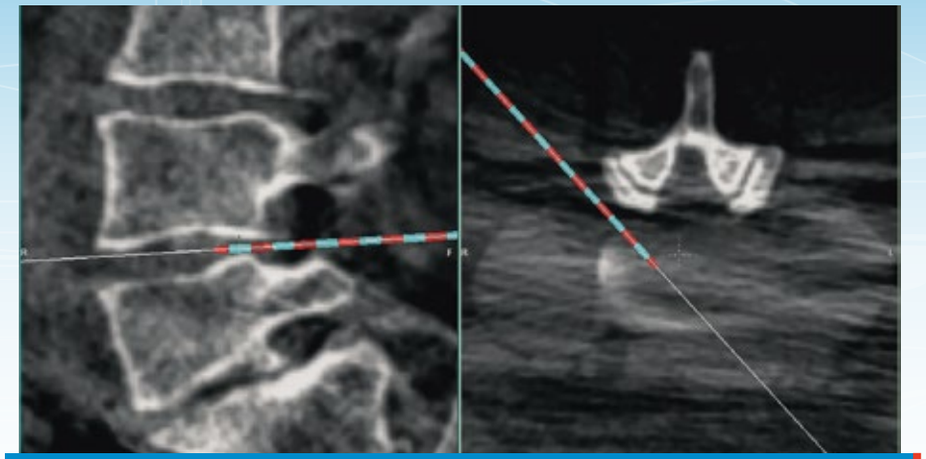




Biopsy of a lung nodule

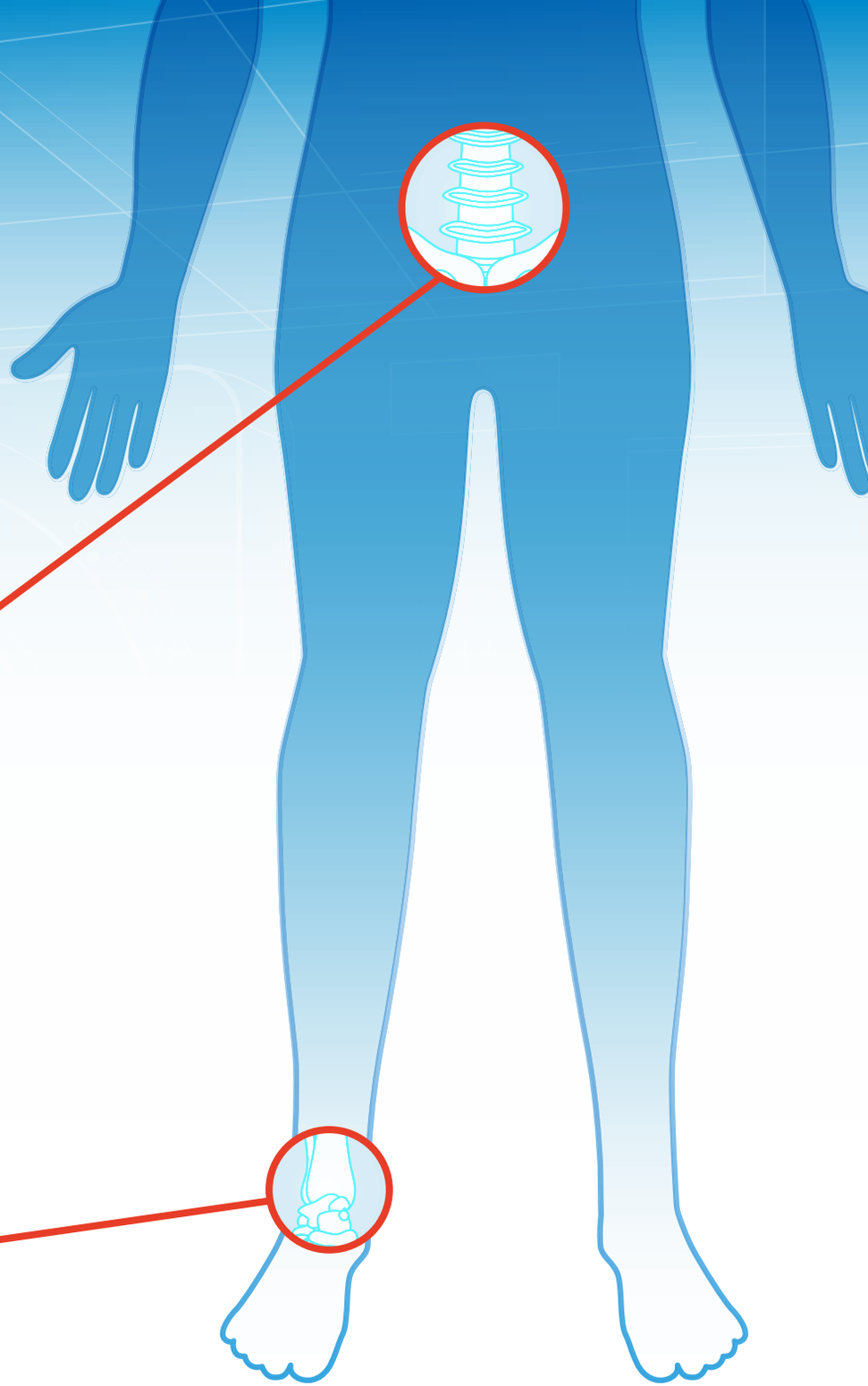


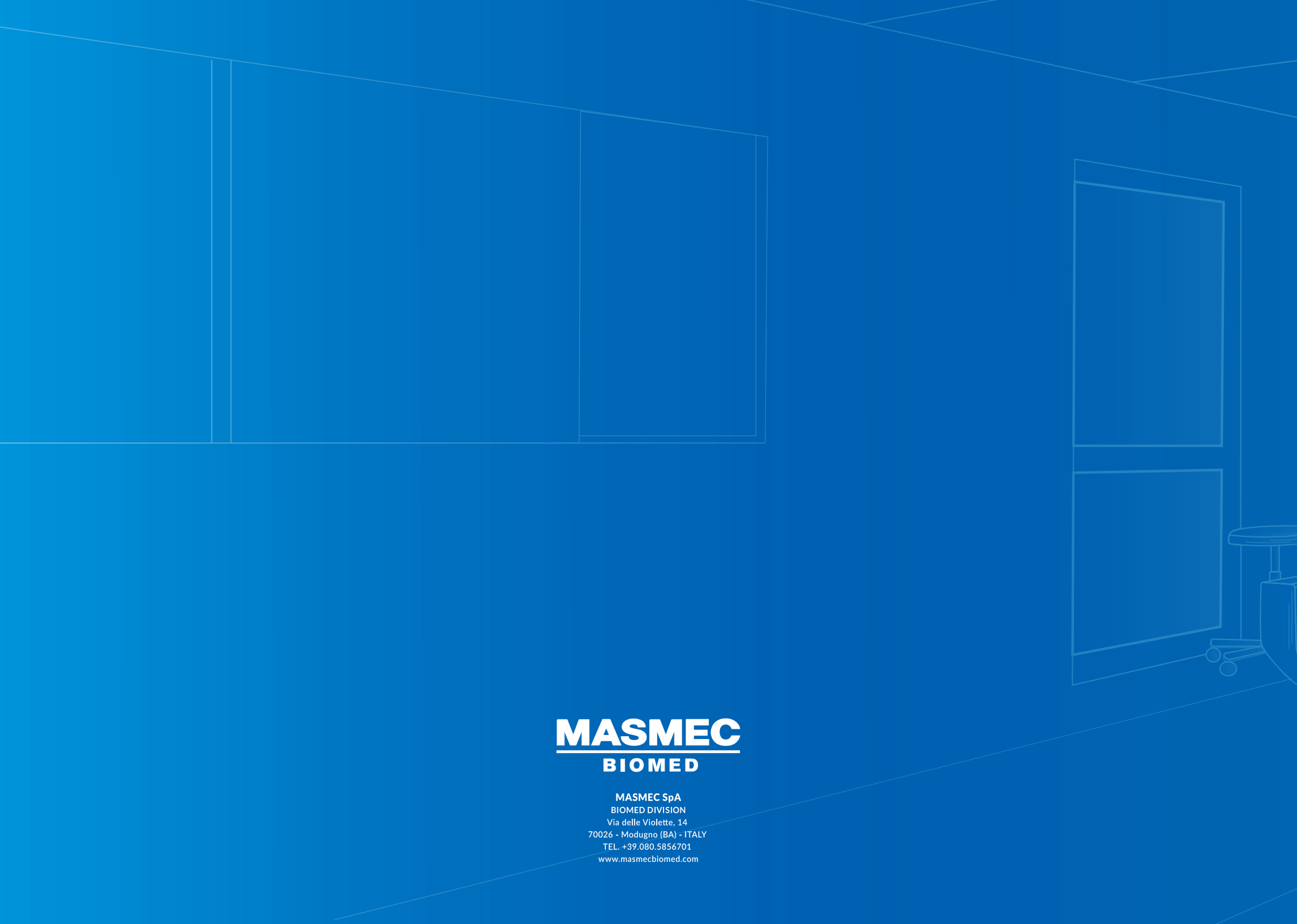
Adrenal biopsy



Nucleoplasty

Radiofrequency ablation of an osteoid osteoma





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