Interventional radiologists challenge the Status Quo every day. So do we.

Successful ablation treatments require accurate placement of one or several applicators, optimal parameter definition, and reliable assessment of treatment outcome.

CAS-One IR supports you in all these steps and enables reliable and efficient treatments even in complex settings:

• Comprehensive needle planning - More certainty about needle positions and configuration
• One-shot needle placement - No need for additional CT scans during insertion
• Validation by image fusion - Better treatment assessment during the intervention

CAScination’s navigation technology is designed to assist you in the most elaborate IR treatments:

• Double-oblique needle paths
• Multi-needle configurations for ablation and electrical field therapy
• Targeting using images from multiple modalities
CAS-ONE IR for Stereotactic Interventions

Stereotactic support for interventional procedures through real-time planning and guidance based on 3D image data

When performing interventions, precision, time, and outcome matter. That is why CAS-ONE IR offers stereotactic support for interventional procedures. Using a simple 2-step workflow, first needle target points are defined in the image data and subsequently targeted using CAS-ONE IR system. Precise needle placement in one shot.

System
- Direct DICOM interface
- Safe and precise optical tracking technology
- Intuitive double touch screen user interface
- Completely integrated mobile cart

Functionalities
- Treatment planning in the intervention suite
- Single-Marker patient tracking
- Real-time motion and breathing detection
- Automatic patient-to-image registration
- In- & out-of-plane needle guidance
- Compatible with all
  - Ablation systems
  - Biopsy systems
  - Guide wires
Control Intervention Time and Workflow

CAS-ONE IR enables optimized clinical procedures in terms of both accuracy and interventional time.

CAS-ONE IR makes your interventions easier and gives control over intervention time. Peace of mind when scheduling your next interventions in the CT suite.

CAS-ONE IR provides stereotactic navigation guidance during your intervention without increasing complexity and changing of existing workflows.

Single-Marker Tracking allows for automatic patient registration directly after CT scanning and enables efficient respiratory gating.

Its Aiming Device achieves fast and reliable alignment of the needle guide with the planned trajectory. Virtually every needle and applicator can be guided.

Reproducible and accurate needle placements in one shot.
Reaching targets in critical positions and near risk structures? This often requires oblique or double-oblique trajectories which are difficult to carry out free-hand. CAS-ONE IR allows for the definition of up to twenty in- & out-of-plane trajectories.

Placing several ablation needles around the tumor? State-of-the-art ablation systems often require placement of multiple applicators. CAS-ONE IR enables detailed understanding of the anatomical situation and the required 3D needle configuration.

Ultimately, CAS-ONE IR enables precise transfer of the plan to the patient. Independent of its individual complexity!

Features
- In- and out-of-plane tumor targeting
- Multiple needle support
- Parallel needle planning (i.e. IRE)
Success of ablation depends on accurate needle placement and on reliable tumor destruction.

CAS-One IR gives you the tools to verify if your ablation is in the right place and has the right size.

CAScination’s “Photo-Finish” lets you fuse the images from pre-treatment planning with the post treatment control so you can validate what you’ve actually achieved.

Features:
• Fusion (Planning CT) - (Needle Control CT)
• Measurement tools for needle correction
• Fusion (Planning CT) - (Ablation Control CT)
• Blending for ablation margin verification

Photo-Finish - a winning picture.
Food for Thought
Available literature on image-guided liver interventions

Abstracts at conferences

• Image fusion and targeting accuracy of stereotactic liver interventions: a comparison of cone-beam and multidetector computed tomography guidance,

• Real-time respiratory motion detection with optical patient tracking method

• Accuracy of navigated percutaneous needle insertions
  G. Toporek, D. Wallach, M. Peterhans, S. Weber, G. Widmann
  Annual Conference of the German Society for Computer and Robot assisted Surgery 2012

Journal articles

• Percutaneous stereotactic radiofrequency ablation of colorectal liver metastases

• A navigation system for percutaneous needle interventions based on PET/CT images: Design, workflow and error analysis of soft tissue and bone punctures
  Oliveira T, Klaeser B, Weitzel T, Krause T, Nolte L, Peterhans M, Weber S

• Comparison of freehand-navigated and aiming device-navigated targeting of liver lesions

• Angiographic C-arm CT-versus MDCT guided stereotactic punctures of liver lesions: nonrigid phantom study.
  AJR. American journal of roentgenology 201:5. 1136-1140 Nov

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