



MEDICAL
TEMPLATES

The Cube Navigation System

Easy to use in daily clinical routine, highly accurate
in complex cases



In the age of GPS, why navigate with a paper map?

Image guided percutaneous interventions with thin instruments are commonly done free-hand. This is the equivalent of crossing a big city with nothing more than a paper map in your pocket. Since needle placement accuracy is critical, why risk:

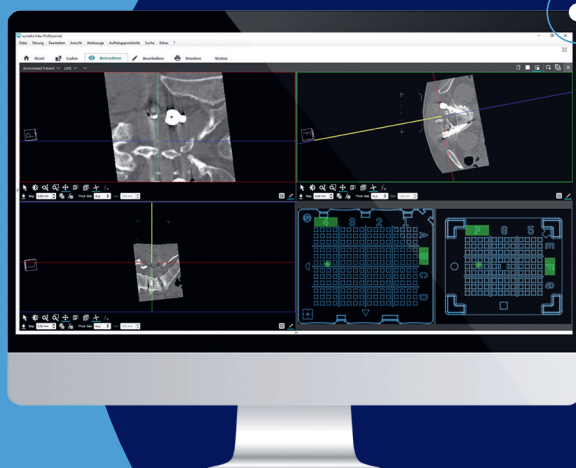
- prolonged procedure time?
- complications?
- frequent control scans?
- altogether unsuccessful procedures?

With double angulated routes or less experienced operators, these problems are only exacerbated. Use intelligent technology to guide your punctures with a simple, yet effective navigation system.

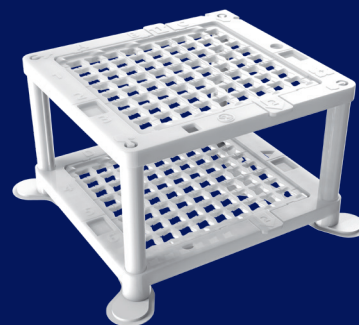
Navigate with ease

The Cube Navigation System is an easy-to-learn, use, and adopt navigation support for CT-guided interventions. Our sterile guidance Cube is scanned with the patient, allowing the physician to choose an optimal route to the target while the software calculates the coordinates in the Cube. The puncture is then performed through those coordinates on the top and bottom plates of the Cube, with minimal disruption to the workflow. You choose the route, the algorithm guides your path through the Cube. It's that simple.

Cube Navigation System (CNS)



Planning software calculates the optimal entry points through the guidance cube based on the planned needle path



Sterile guidance Cube unerringly guides thin instruments through the two-layer grid to the target

Use intelligent technology to guide your punctures

We don't believe complex issues require complicated, cumbersome solutions. The Cube Navigation System (CNS) was developed with medical experts and your specific needs in mind.

We help you perform procedures in less time and with more accuracy, especially for out of plane access routes. With no bulky equipment to set up or calibrate, you're up and running in no time. Punctures performed with the Cube Navigation System have been shown to require fewer corrections, meaning fewer control scans and better plannability of interventional procedures.



Increased accuracy
Significantly better targeting



Improved efficiency
Overall lower intervention time



Fewer control scans
Reduced number of CT scans



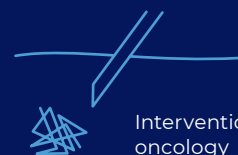
Covering a wide range of interventions



Pain therapy



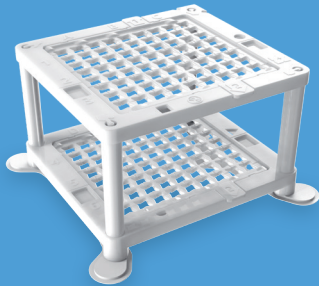
Needle biopsies



Interventional oncology

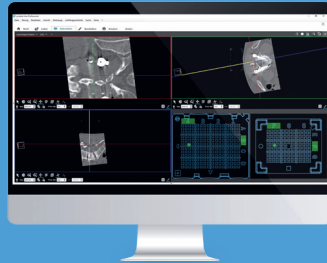
Universally compatible

The Cube Navigation System works with all CT imaging modalities and thin instruments with diameters between 10-22G. Two available Cube accessories allow for a wide range of interventions. Our DICOM-compatible software allows for seamless access of the images, so you can plan directly in your workspace.



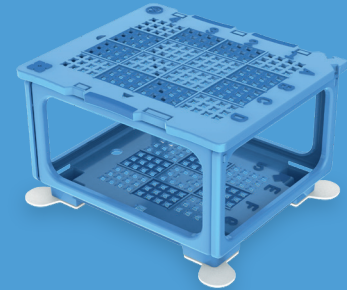
Access Cube

supports instruments up to 10G and is fully dismantlable



Planning software

connects to any CT Scanner

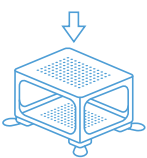


Puncture Cube

supports needle sizes 18-22G and is collapsible

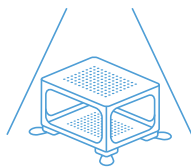
Preserve your clinical workflow

We understand that the clinical workflow makes or breaks a practice. That's why we keep alterations of the workflow to a minimum, making the system easy to adopt.



Place

Place the Cube over the target region of the intervention.



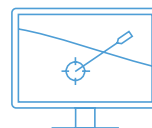
Scan

Scan the target area with a standard planning scan.



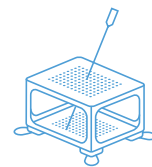
Detect

The software automatically detects the Cube in the scan images.



Plan

Plan a trajectory with the virtual needle while the software calculates corresponding entry points in the Cube grid.



Puncture

Perform the puncture by moving the needle through the suggested holes in the Cube.



“Simple enough to use in the daily clinical routine, yet offering sophisticated navigational support for those complex, image guided punctures.”

Prof. Dr. Med. Kai Wilhelm, Head of Department, Radiology

Johanniter-Kliniken Bonn

Editor: CT- and MR-Guided Interventions in Radiology

Cube Navigation System vs. free-hand

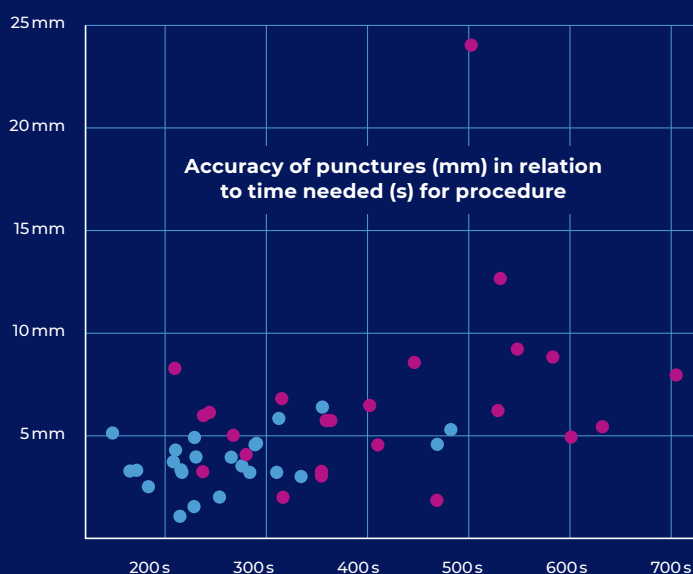
First punctures performed with the CNS were more than **4x closer to the target** (2.5mm ± 1.2mm vs. FHM 12.1mm ± 7.7mm)

Final puncture locations were **significantly more accurate** (3.8mm ± 1.3mm vs. FHM 6.7mm ± 4.5mm, p=0.004)

Punctures required significantly **less time** (263.1s ± 84.4s vs. FHM 411.2s ± 141.0s, p<0.001) and needed **only half the control scans** (1.4 ± 0.6 vs. FHM 2.8 ± 0.4, p<0.001)

Krammer, L. et al (2023). Evaluation of the Access Cube patient-mounted navigation system for CT-guided percutaneous needle placement – a phantom study. *Journal of Vascular and Interventional Radiology*, 34, 10

● with Access Cube ● free-hand method



Benefit economically when using the CNS

With no high upfront equipment investments or risk due to financial exposure, the Cube Navigation System offers a low barrier to entry. The CNS has demonstrated efficiency gains such as shorter and less varied procedure length, allowing for optimized CT room scheduling. The increased revenue generation and cost saving potential means a quickly realized return on investment.

Efficiency gains through:

- Reduced procedure length
- Avoided repeat procedures
- Increased CT room capacity
- Optimized treatment to diagnostics ratio
- Enabling of less experienced staff to perform complex treatments

Be ready for the future

New directions in medicine present an opportunity for interventional radiologists to grow their practices. Minimally invasive treatment options are expanding the role of IR departments, while precision medicine in oncology is increasing technical demands for biopsy quality as well as points in the patient journey where biopsies are required.

New options for pain management such as cryo-ablation are poised to have a major impact on public health and opioid abuse. Be ready to address the changing demand by making reproducibility, plannability of resources, and availability of services a cornerstone of your department. The CNS is your partner, now and in the future.

Want to learn more? Contact us for a free demo:

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