



The 3rd dimension of ultrasound reinvented

TOMOGRAPHIC ULTRASOUND

PIUR
IMAGING
piurimaging.com





PIUR TOMOGRAPHIC ULTRASOUND

PIUR's tomographic ultrasound solutions turn any standard ultrasound system into a tomographic 3D imaging device, bridging the gap between 2D ultrasound and regular tomographic imaging modalities.

With any conventional 2D ultrasound transducer, high-resolution tomographic images can be generated. While standard ultrasound requires on-the-spot assessment of the images, PIUR's 3D ultrasound volumes of entire structures or organs allow retrospective diagnosis at any time. Our solutions support a wide range of clinical applications, including vascular, thyroid, and nerve imaging.

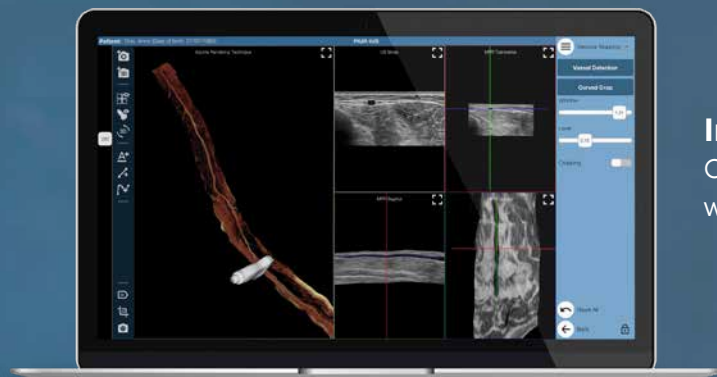


PIUR tUS *Infinity*

The PIUR tUS Infinity is PIUR's latest wireless tomographic ultrasound solution.

The Infinity video box transfers 2D images from any standard ultrasound device to the Infinity workstation.

The Infinity sensor can be clipped onto any linear ultrasound transducer to track its orientation during the scan. Information from the Infinity video box and sensor are combined at the Infinity workstation where AI-based image reconstruction algorithms generate tomographic ultrasound volumes. Smartly designed apps allow quick and easy extraction and visualisation of diagnostic information from the scan.



Infinity Workstation – standard laptop:

Computation of tomographic ultrasound volume with subsequent image analysis and visualisation.

Infinity Video Box:

Wireless transmission
of live ultrasound
via Wi-Fi

Infinity Sensor:

Wireless transmission
of probe position
via Bluetooth



Quick Access Toolbar

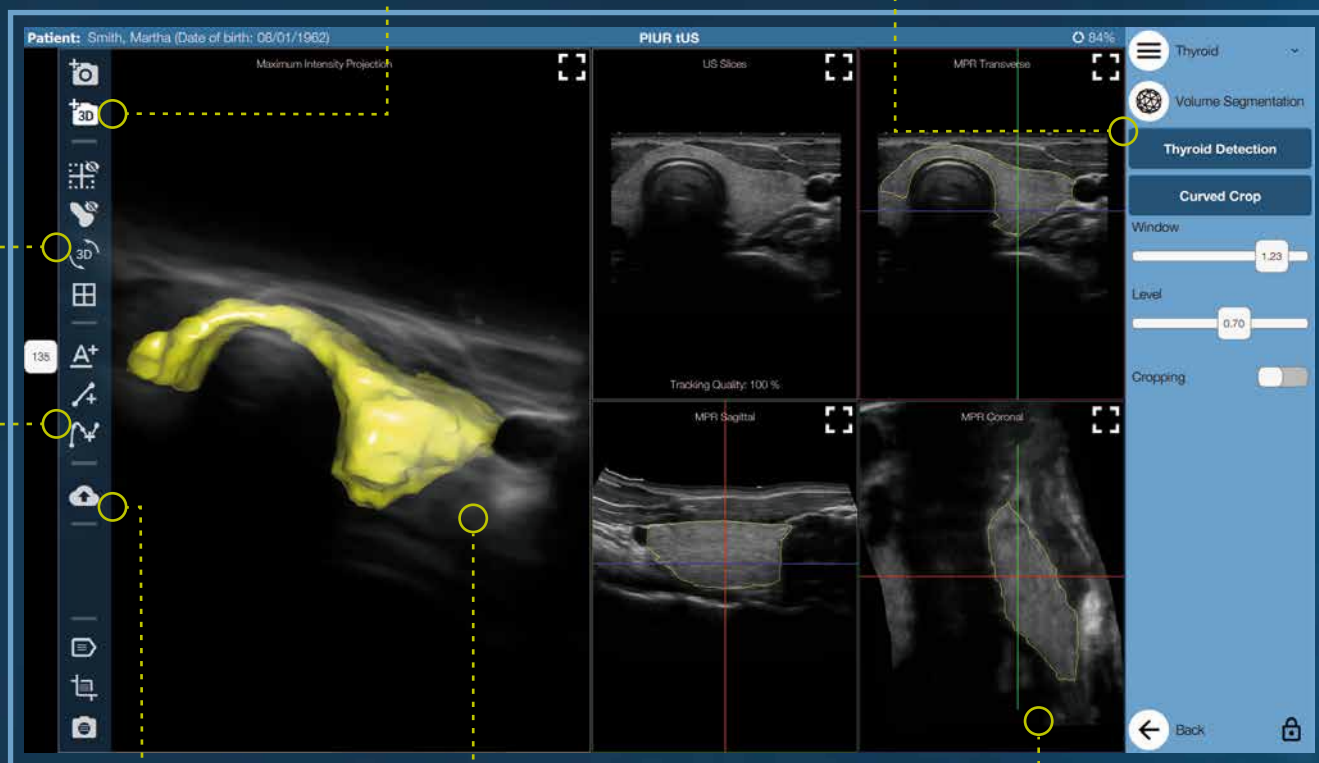
Main functions
just one click away

3D Screenshots

Easy documentation
of processed dataset

Clinical Apps

Buttons and features
optimised for each
clinical indication



Data Quantification

3D length and
volume measurements

PACS

Easy archiving
with Send to PACS

Volume Rendering

Visualisation and
documentation
of 3D structures

MPRs

Cross-sectional views
of three orthogonal
planes

INFINITY SOFTWARE

The Infinity software runs on any Windows computer that meets the minimum requirements.

The software has been designed for ease-of-use, providing sophisticated analysis and documentation tools to process the acquired volume data. Multiplanar reconstructions and 3D volume renderings facilitate diagnosis of patients.





AV FISTULA PLANNING AND MONITORING

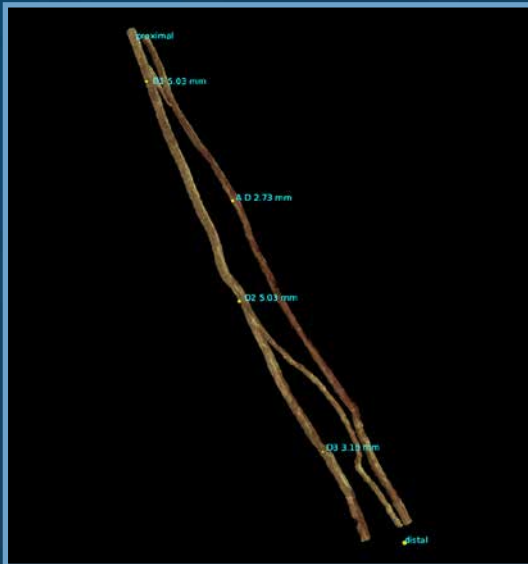
For longer lasting fistulas

PIUR tUS allows rapid scanning and 3D visualisation of arteries and veins in the forearm. Dynamic 3D maps help the surgeon to optimally plan arterio-venous fistula interventions.

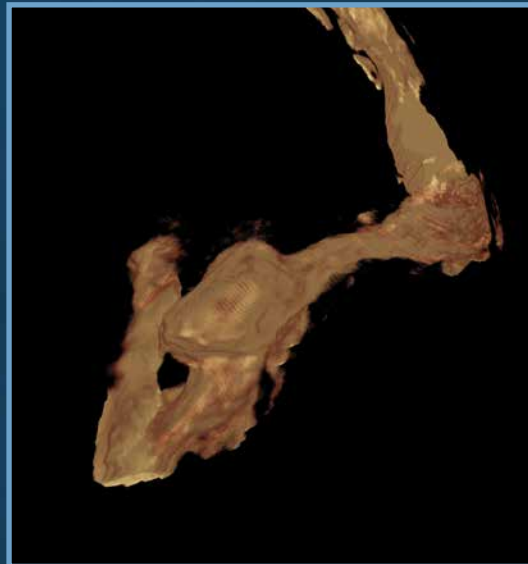
Volume acquisitions of mature fistulae reduce operator dependency in fistula monitoring, and provide a non-invasive, faster and 3D alternative to duplex ultrasound and fistulography.



- Dynamic 3D maps for surgery planning
- Faster, non-invasive monitoring of mature fistulae
- Reduced operator dependency
- 3D guidance to support dialysis needle placements



Dynamic 3D map for fistula planning

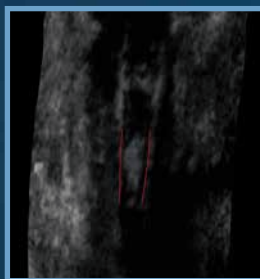
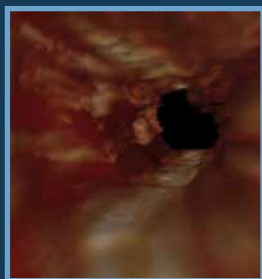
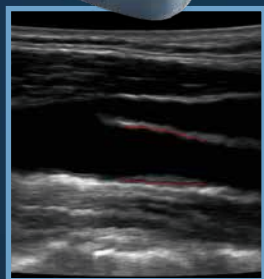
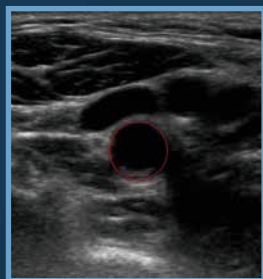


Mature fistula with aneurysm

CAROTID PLAQUE VOLUME ANALYSIS

Advanced diagnosis of carotid disease

Quantification of plaque volume and analysis of plaque morphology can be performed within a few minutes. Paired with standard 2D ultrasound, the Infinity provides physicians advanced parameters for diagnosing carotid disease.



Plaque volume segmentation with virtual fly-through

Plaque analysis includes:

- Plaque volume
- Volumetric stenosis
- 3D greyscale median
- Stenosis distribution
- Greyscale median distribution





Volume renderings of 3D vein maps

VASCULAR MAPPING

See more to plan better

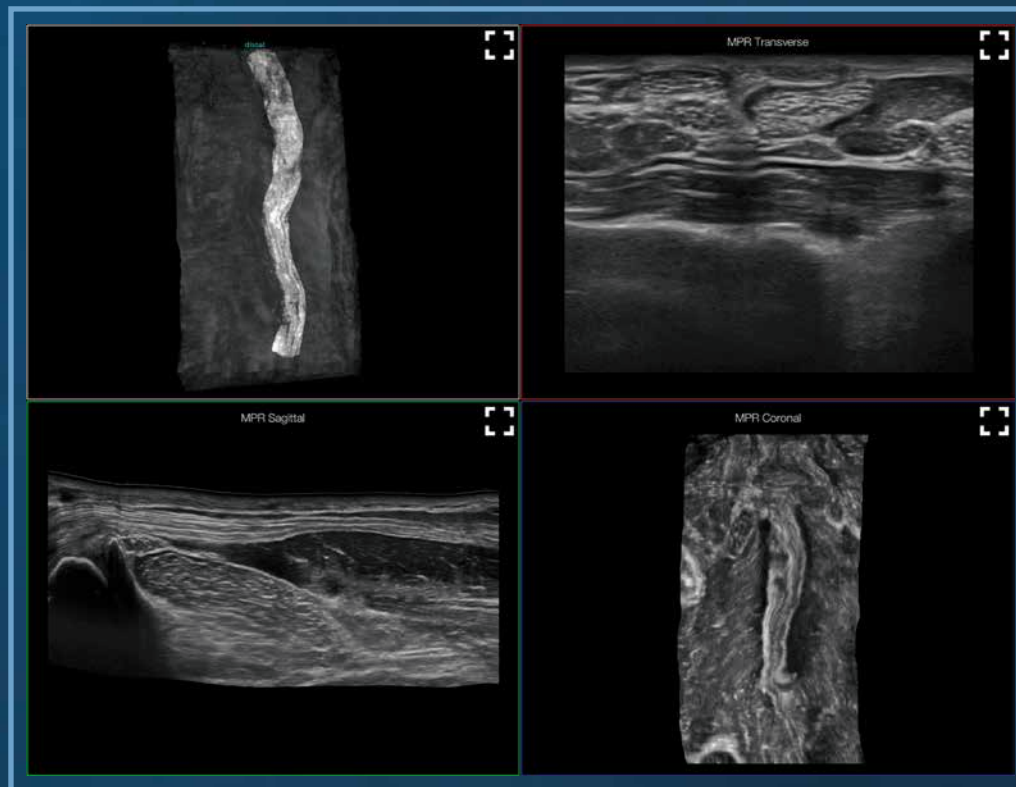
Dynamic 3D maps of superficial veins can be acquired and processed in seconds. Reporting of data, including length and diameter measurements, identification of abnormalities, and documentation can be performed off-line outside the scan room.

- Separation of scanning and image analysis
- Increased scan capacity through reduced scan time
- Improved graphical documentation
- Reduced incision time through better planning

NERVE AND TENDON MAPPING

Reduced ambiguities, more possibilities

Tomographic ultrasound imaging with high-frequency transducers produces volumes with resolution superior to CT and MR. Ultrasound data becomes objectifiable and diagnosis more user-independent. 3D measurement tools allow advanced quantification of lesions and facilitate diagnostic decisions.



PIUR tUS acquisition of median nerve, displayed as volume rendering (top left) and multiplanar reconstructions

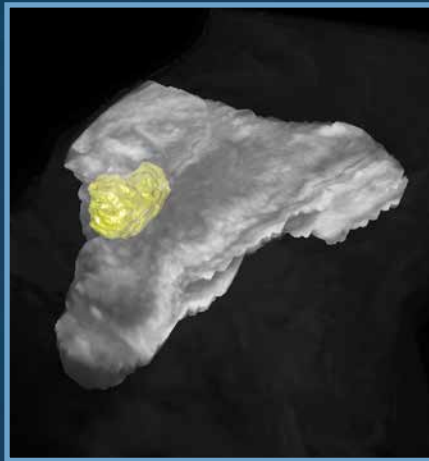
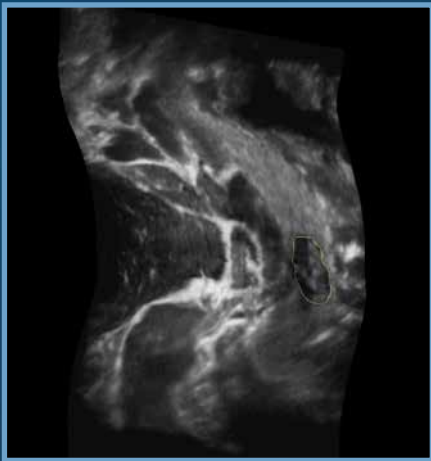


THYROID IMAGING

Fast and accurate
volume measurements

Tomographic imaging of the whole thyroid gland together with AI-facilitated segmentation tools provide quick and accurate measurements of thyroid volumes. Potential nodules are fully documented, can be measured and visualised. This improves traceability of volume changes and optimises patient monitoring.

- Complete documentation of thyroid and nodules
- Separation of scanning and image analysis
- Real volume measurements of thyroid and nodules
- Improved monitoring of volume changes



Volume thyroid scan with nodule segmentation



Reduced
Risk



Faster
Scanning-Time



Optimised
Workflow



Improved
Communication



Reduced
Costs

PIUR IMAGING

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