The 3rd dimension of ultrasound reinvented

TOMOGRAPHIC ULTRASOUND
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.
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

piurimaging.com
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 arteriovenous 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 fistulæ
- 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 analysis includes:

- Plaque volume
- Volumetric stenosis
- 3D greyscale median
- Stenosis distribution
- Greyscale median distribution
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
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Reduced Risk
Faster Scanning-Time
Optimised Workflow
Improved Communication
Reduced Costs

piur imaging GmbH
Media Quarter Marx 3.2 / 1. OG
Maria Jacobi Gasse 1
1030 Vienna
Austria

info@piurimaging.com
Phone: +43-126501-60

piurimaging.com