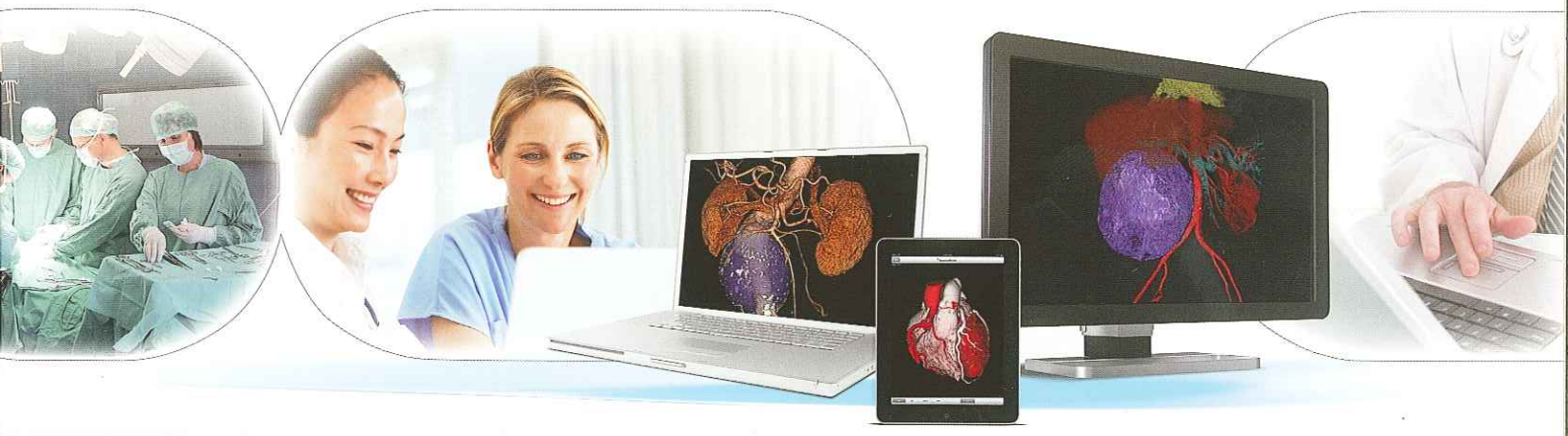
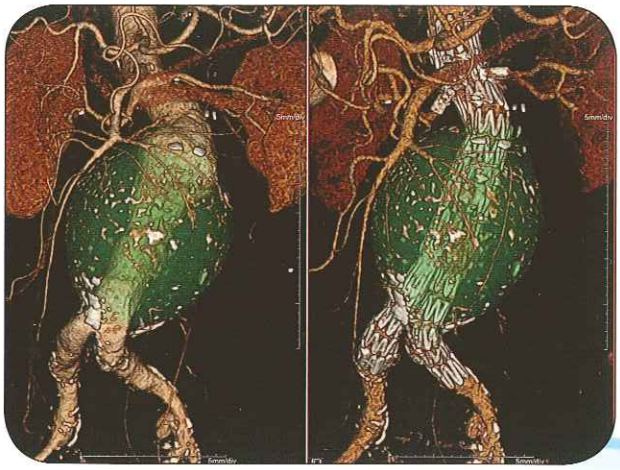
iNtuition™

Sophistication and power in the datacenter.
Simplicity and elegance at your fingertips.

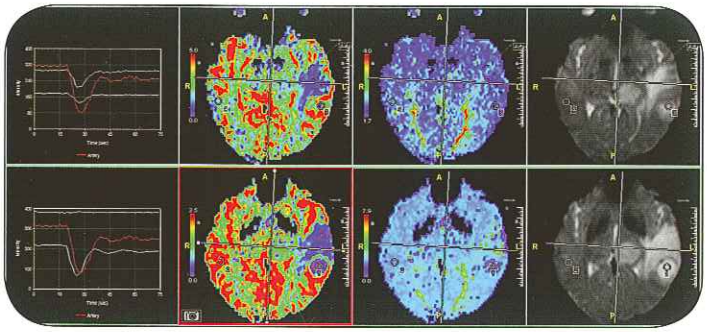


TERARECON

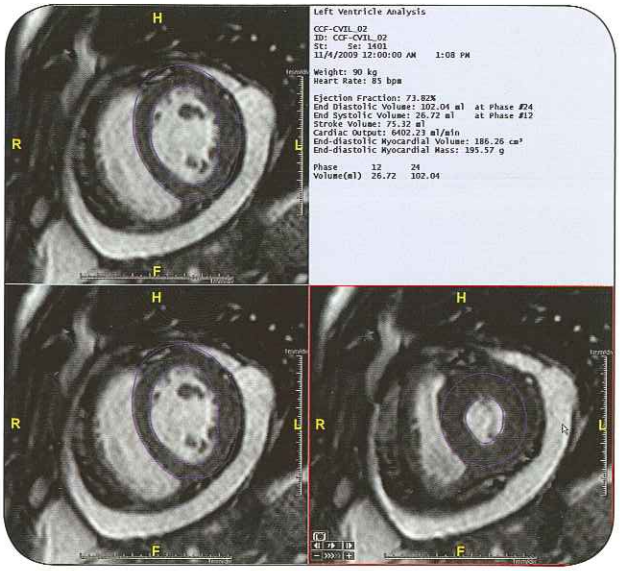
iNtuition: Multi Disciplinary & Multi Modality



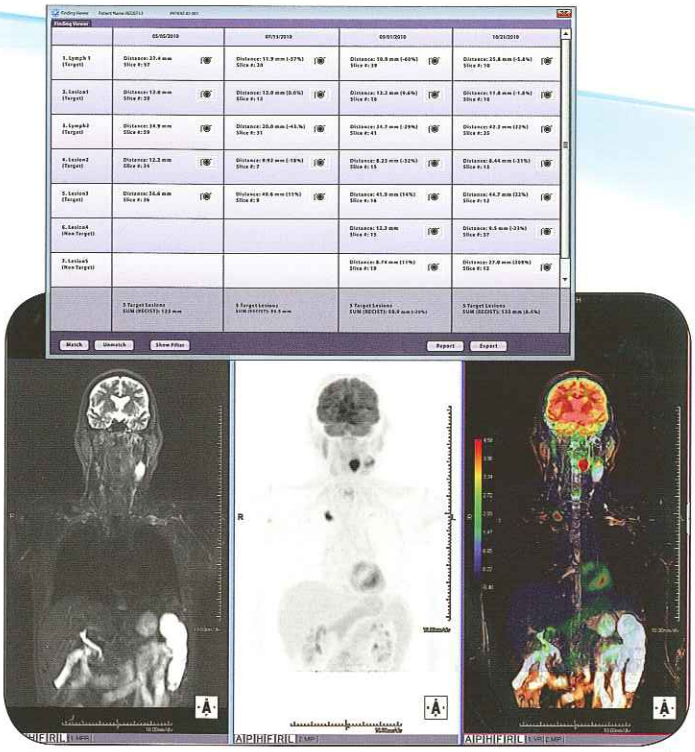
VASCULAR & INTERVENTIONAL



NEUROIMAGING



CARDIAC



ONCOLOGY & CLINICAL RESEARCH

iNtuition Client Standard Features

- Perspective (endoluminal view)
- Medial Axial Reformat (MAR)
- Curved Planar Reformat (CPR)
- Double-oblique MIP and MPR
- 3D triangulation
- Multi-monitor support
- Image enhancement filters
- Cube view
- Multi-mask display
- Synchronized center of rotation viewing
- Synchronized side-by-side review
- iNtuition Workflow Templates (3D Presentation States)
- Workflow Scenes: restore saved state
- CT, MR, Nuc, PET, Angio, US/Echo, CR/DR Review
- Volume rendering, MIP, MPR, MinIP, Raysum (ThickMPR)
- Distance, ROI and volume measurement
- Measurement calibration and ratio tools
- Output to DICOM, JPEG, BMP, AVI, Word
- Editing tools: crop, cut, free-hand
- Dynamic region grow segmentation
- Angulation tools including Cobb angle
- Distance pair
- User-defined measurement protocols
- Structured reporting with XML output
- 2D/3D Batch Movie Tool
- Conferencing and collaboration

Optional Clinical Modules

VESSEL ANALYSIS iNtuition's Vessel Analysis option is a comprehensive vascular analysis package for CT and MR angiography capable of a broad range of vascular analysis tasks, from coronary arteries to aortic endograft planning and more general vascular review, including carotid and renal arteries. Auto-centerline extraction, straightened view, diameter and length measurements, CPR and axial renderings, and Vessel Track mode for automated thin-slab MIP are included.

CALCIUM SCORING Semi-automated identification of coronary calcium with Agatston, volume and mineral mass algorithms supported. An integrated reporting package with customization options is included.

TDA - TIME DEPENDENT ANALYSIS The time-dependent behavior of appropriate examinations can be studied, such as time-resolved planar or volumetric 4D brain perfusion examinations acquired with CT or MR. The TDA package supports color or mapping of various parameters such as mean enhancement time and enhancement integral, with semi-automated selection of input function and baseline, to speed analysis. TDA supports rapid automated processing of dynamic 4D area-detector CT examinations to ensure interpretation within minutes of acquisition.

CT/CTA SUBTRACTION Helpful in the removal of non-enhancing structures (e.g. bone) from CT angiography examinations, the CT/CTA option includes automatic registration of pre- and post-contrast images, followed by a dense-voxel masking algorithm which removes high-intensity structures (like bone and surgical clips) from the CTA scan without increasing noise, aiding with the isolation of contrast-enhanced vascular structures.

LD – LOBULAR DECOMPOSITION Identifies tree-like structures within a volume of interest, e.g. a scan region containing a vascular bed, or an organ such as the liver. The LD tool then identifies sub-volumes of interest based on proximity to a given branch of the tree or one of its sub-branches. Research applications include the analysis of the lobular structure of organs .

iGENTLE General Enhancement & Noise Treatment with Low Exposure. An advanced volumetric filter architecture applying noise management techniques to improve the effectiveness of 3D, centerline, contouring and segmentation algorithms even when source image quality is not optimum.

SAT - SEGMENTATION, ANALYSIS & TRACKING SAT supports analysis and characterization of masses and structures, such as solitary pulmonary nodules or other potential lesions. Tools are provided to identify and segment regions of interest, and to then apply measurement criteria, such as RECIST and WHO, leading to tabulated reporting of findings and follow-up comparison. Display and management of candidate markers from optional detection engines are supported, including iNtuition's Spherefinder.

TVA - TIME VOLUME ANALYSIS TVA provides automated calculation of ejection fraction from a chamber in rhythmic motion, such as a cardiac ventricle. A fast and efficient workflow is offered to enable the user to identify the wall boundaries of interest (e.g. epicardium and endocardium) and, based on these user-confirmed regions of interest, to report ejection fraction, wall volume (mass) and wall thickening from multi-phasic CT data. Tabulated reporting output is included.

MAXILLO-FACIAL To support the analysis and visualization of CT examinations of the Maxillo-facial region, this option applies the CPR tool to generate "panoramic" projections in various planes and of various thicknesses, and cross-sectional MPR views at set increments along the defined curve plane.

FLYTHROUGH Applicable to endoluminal CT or MR investigations such as colon, lungs, or blood vessels, the Flythrough option supports side-by-side review, painting of previously-viewed areas, percent coverage tracking, and multiple screen layouts including forward, reverse, fisheye and flat volume rendered views. Tools are provided for contrast subtraction, "Cube View", and integrated contextual reporting. Display and management of candidate markers from optional detection engines are supported, including iNtuition's Spherefinder.

VOLUMETRIC HISTOGRAM The Volumetric Histogram option allows a volume of interest to be segmented and analyzed for composition. Research applications include the analysis of low-attenuation regions of the lungs, threshold-based division of tumors into voxel populations, investigation of thrombosed vessels or aneurysms, or other pathology.

FINDINGS WORKFLOW This option provides a framework for tracking findings across serial examinations. A database holds measurements and key images, and provides support for structured comparisons and tabulated reporting of findings over time, such as the RECIST 1.1 approach for presenting serial comparisons. The Annotation and Image Markup (AIM) XML schema is supported, for automated integration with voice-recognition systems or clinical databases, and Word-based reports may be derived from the database.

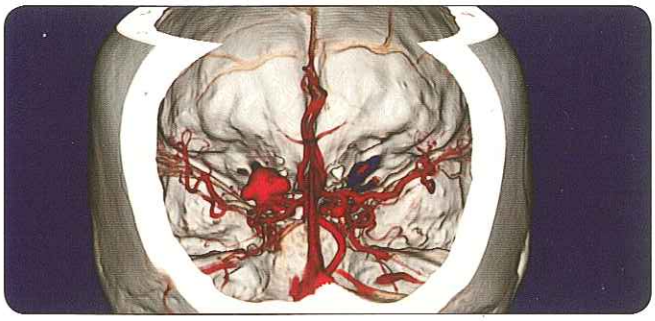
FUSION FOR CT/MR/PET/SPECT With this module, any two CT, PET, MR or SPECT series, or any two-series combination thereof can be overlaid with one assigned a semi-transparent color coding and the other shown in grayscale and volume rendering for anatomical reference. Automatic registration is provided and subtraction to a temporary series or to a saved, third series is possible. Support for PET/MR visualization is included.

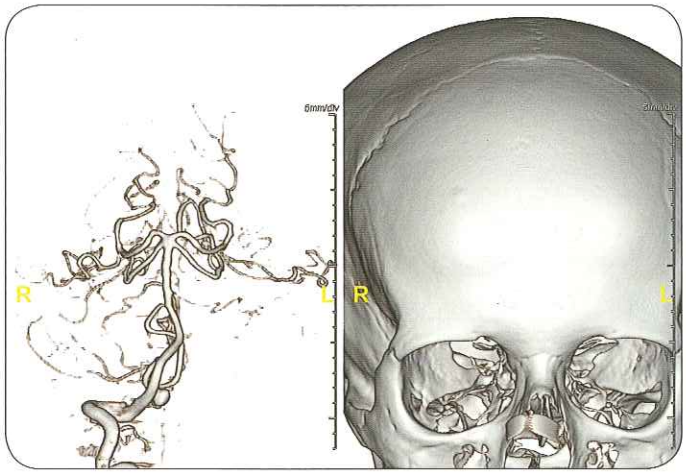
MULTI-PHASE MR Certain MR examinations (for example, Breast MR) involve a series of image acquisitions taken over a period of time, where certain structures become enhanced over time relative to other structures. This module features the ability to subtract a pre-enhancement image from all post-enhancement images to emphasize visualization of enhancing structures (for example, vascular structures and other enhancing tissue). Time-dependent region-of-interest tools are provided to plot time-intensity graphs of a given region.

PARAMETRIC MAPPING An optional enhancement to the Multi-Phase MR tool, the parametric mapping option pre-calculates overlay maps where each pixel in an image is color-coded depending on the time-dependent behavior of the pixel intensity. As an example, this tool can be used in Breast MR to speed identification and investigation of enhancing regions.

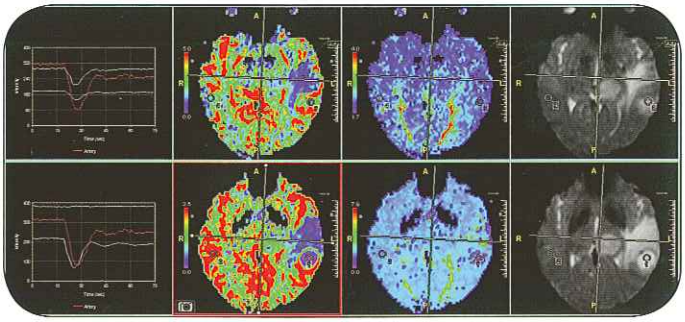
SPHEREFINDER The Spherefinder option performs zero-click automated analysis of volumetric examinations to identify the location of structures with a high sphericity index (characteristics exhibited by many nodules and polyps). Spherefinder is often used with Lung or Colon CT scans to identify potential areas of interest.

MULTI-KV The MultiKv option provides support for Dual Energy and Spectral Imaging acquisitions from multiple vendors, providing standard image processing algorithms such as segmentation or contrast suppression, as well as generic toolkits for precise analysis and development of new techniques.

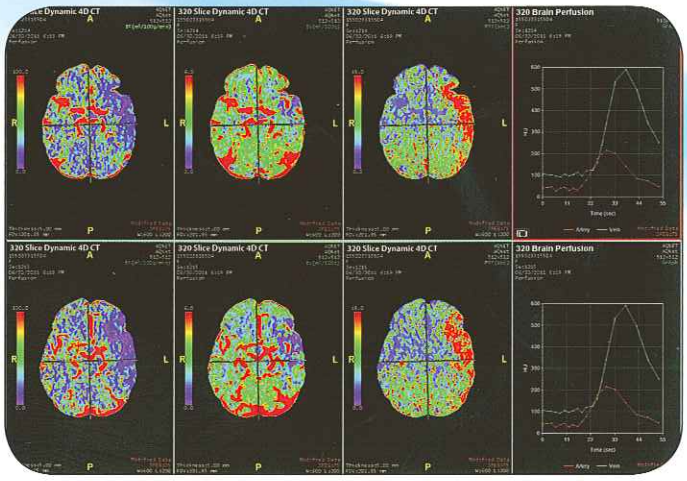




Segmentation & Visualization



MR TDA - Time Dependent Analysis

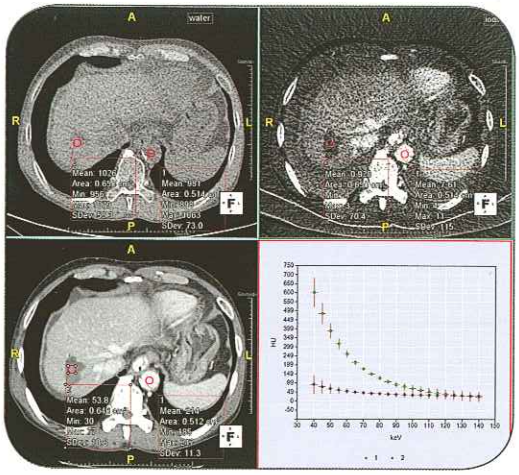


CT TDA - Time Dependent Analysis

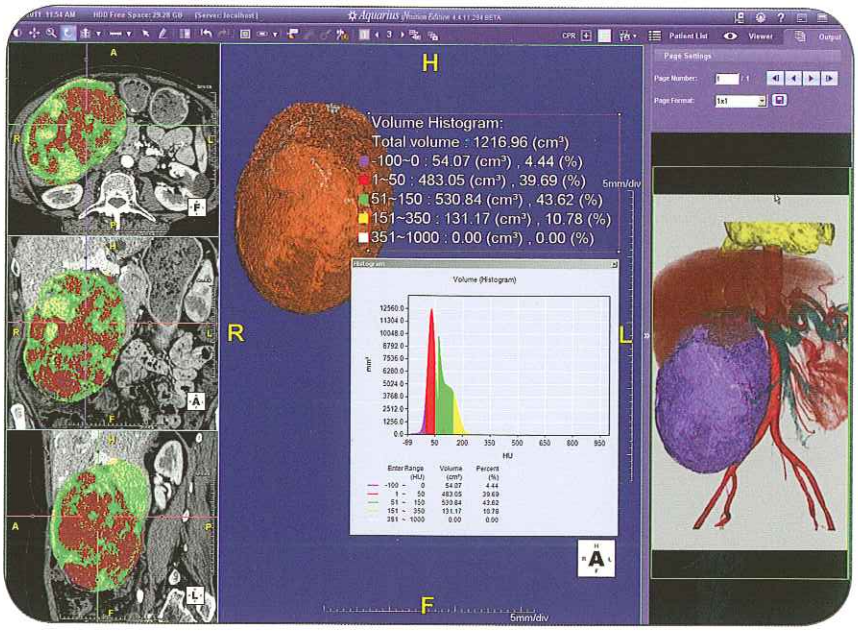
Optional Modules for Neuroimaging

- [x] Vessel Analysis
- [ ] Calcium Scoring
- [x] TDA - Time Dependent Analysis
- [x] CT/CTA Subtraction
- [ ] LD - Lobular Decomposition
- [x] iGENTLE
- [x] SAT - Segmentation Analysis & Tracking
- [ ] TVA - Time Volume Analysis
- [ ] Maxillo-facial
- [ ] Flythrough
- [ ] Volumetric Histogram
- [ ] Findings Workflow*
- [x] Fusion for CT/MR/PET/SPECT
- [ ] Multi-Phase MR
- [ ] Parametric Mapping
- [ ] Spherefinder
- [x] MultiKV*

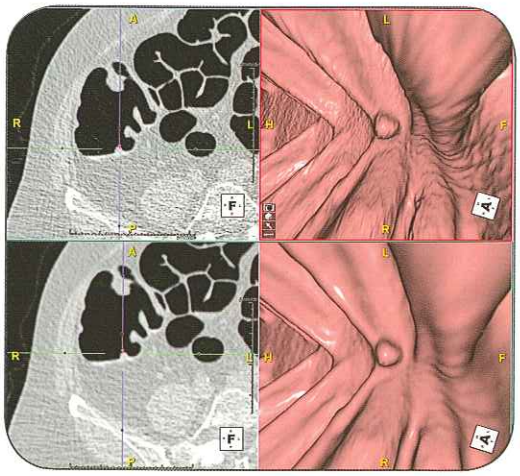
*Scheduled for mid-2012



MultiKV – Dual Energy & Spectral Imaging

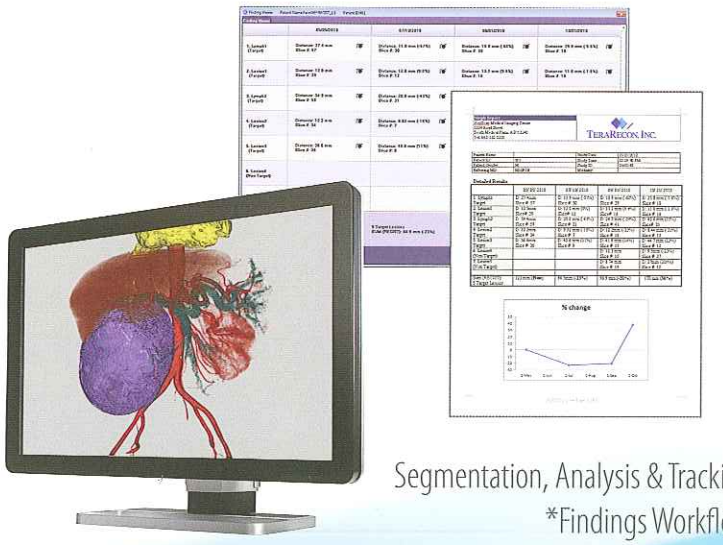


Tumor analysis with Volumetric Histogram



iGENTLE

General Enhancement & Noise Treatment with Low Exposure
An advanced volumetric filter architecture applying noise management techniques to improve the effectiveness of 3D, centerline, contouring and segmentation algorithms even when source image quality is not optimum.



Segmentation, Analysis & Tracking
*Findings Workflow

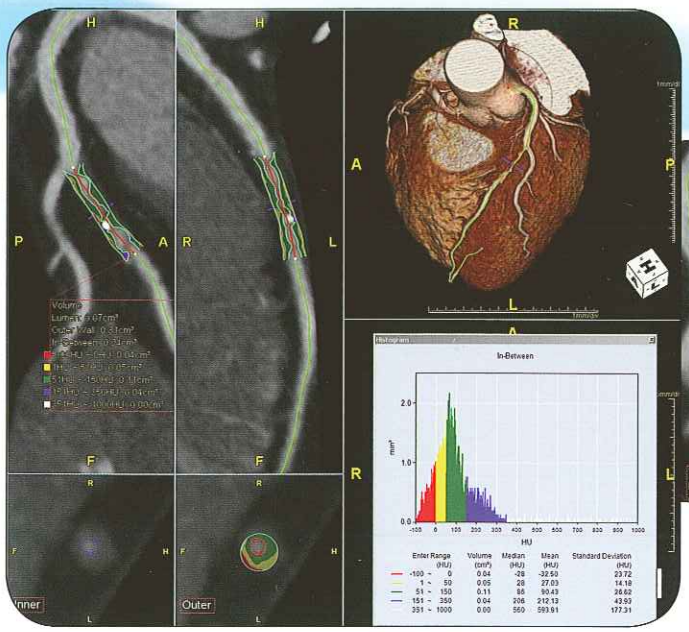
Optional Modules for Oncology & Clinical Research

- ☐ Vessel Analysis
- ☐ Calcium Scoring
- ■ TDA - Time Dependent Analysis
- ☐ CT/CTA Subtraction
- ■ LD - Lobular Decomposition
- ■ iGENTLE
- ■ SAT - Segmentation Analysis & Tracking
- ☐ TVA - Time Volume Analysis
- ☐ Maxillo-facial
- ■ Flythrough
- ■ Volumetric Histogram
- ■ Findings Workflow*
- ■ Fusion for CT/MR/PET/SPECT
- ■ Multi-Phase MR
- ■ Parametric Mapping
- ■ Spherefinder
- ■ MultiKV*

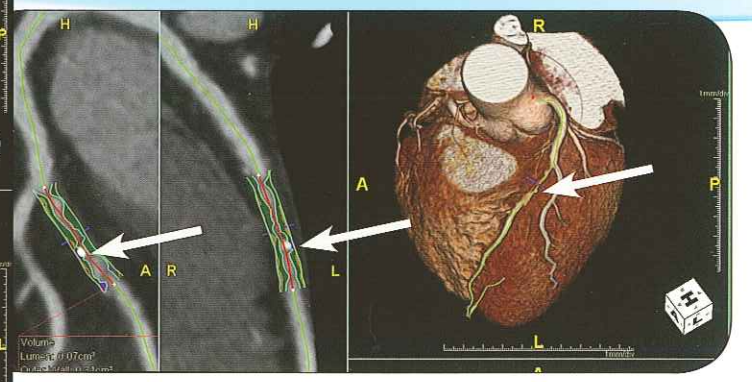
*Scheduled for mid-2012

CARDIAC & CORONARY

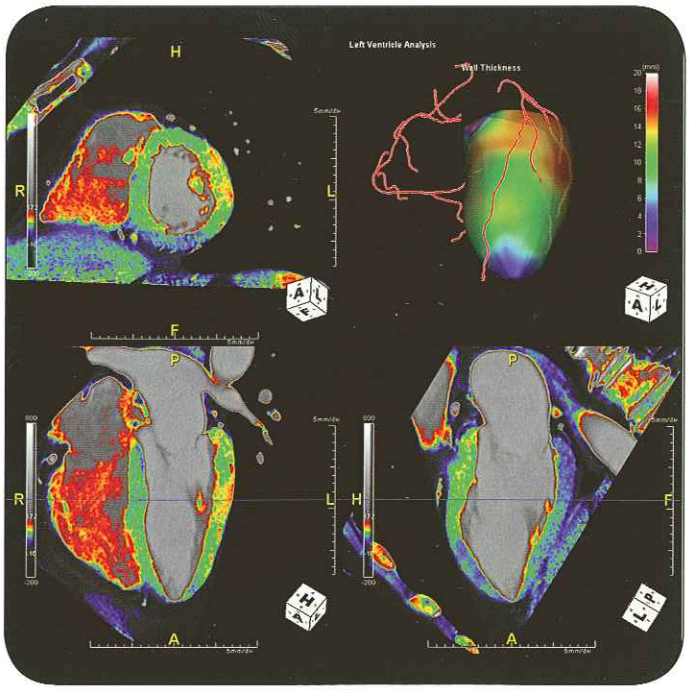
For over a decade, TeraRecon has been the leading pioneer and innovator in the field of interpretation tools for volumetric cardiac and coronary imaging. This tradition of innovation continues as iNtuition expands support for additional modalities and analysis techniques supporting both diagnostic interpretation, and clinical research, leveraging the power of the iNtuition workflow.



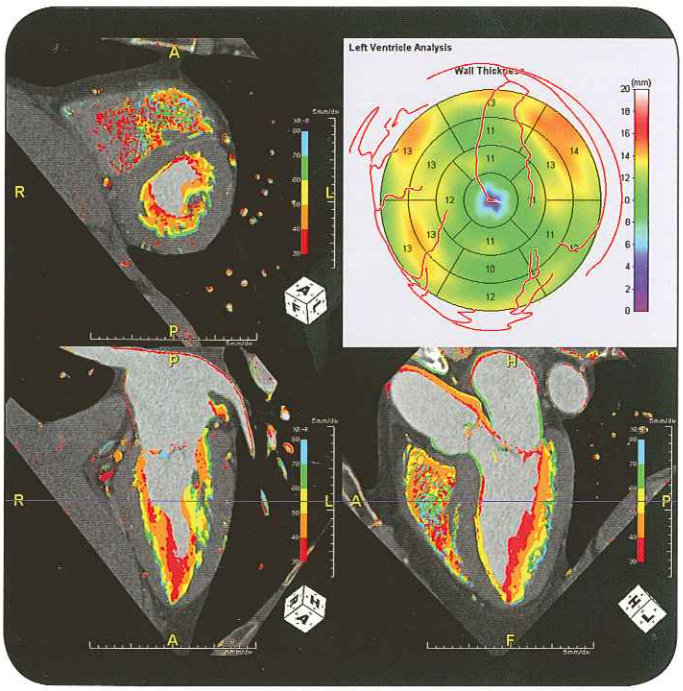
AQ Plaque



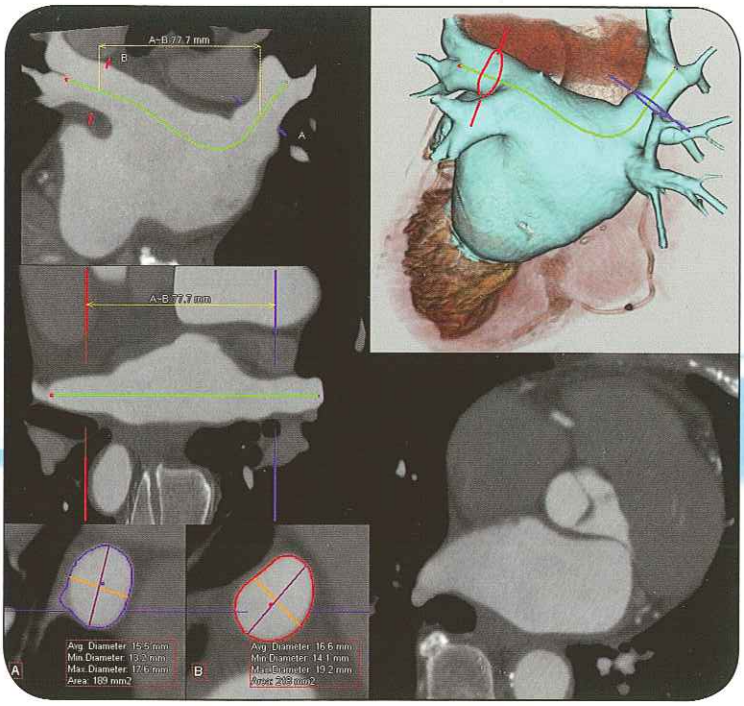
Centerline Cross Section Analytics – CCSA

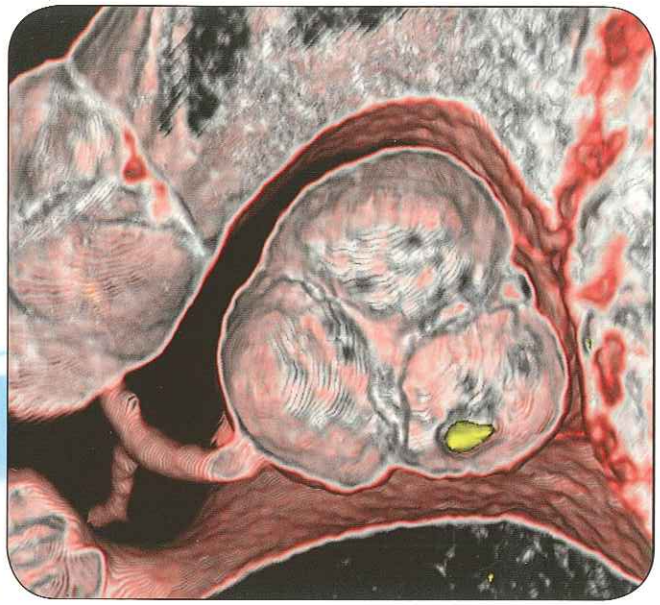


TVA – Time Volume Analysis & Enhancement Analysis

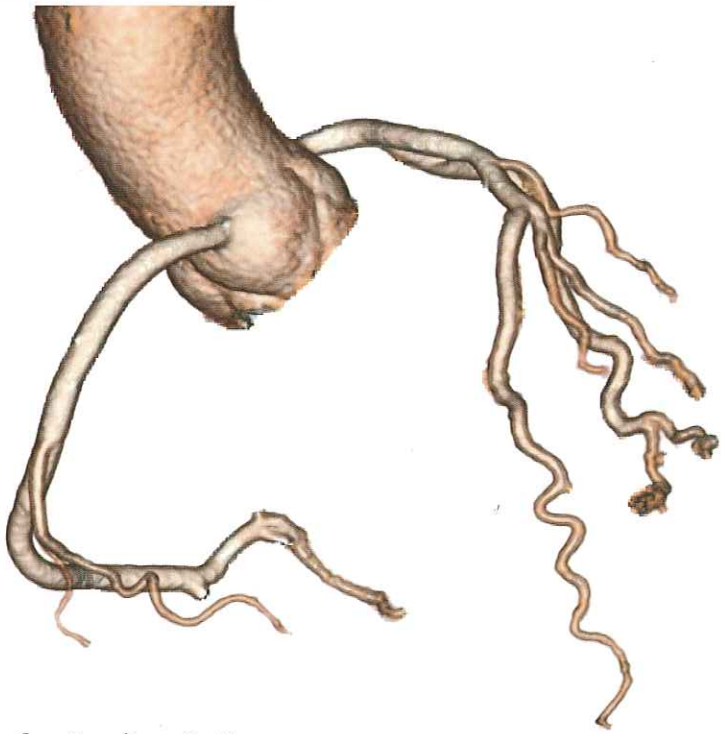


Coronary Territory & Motion Maps





Left Atrium



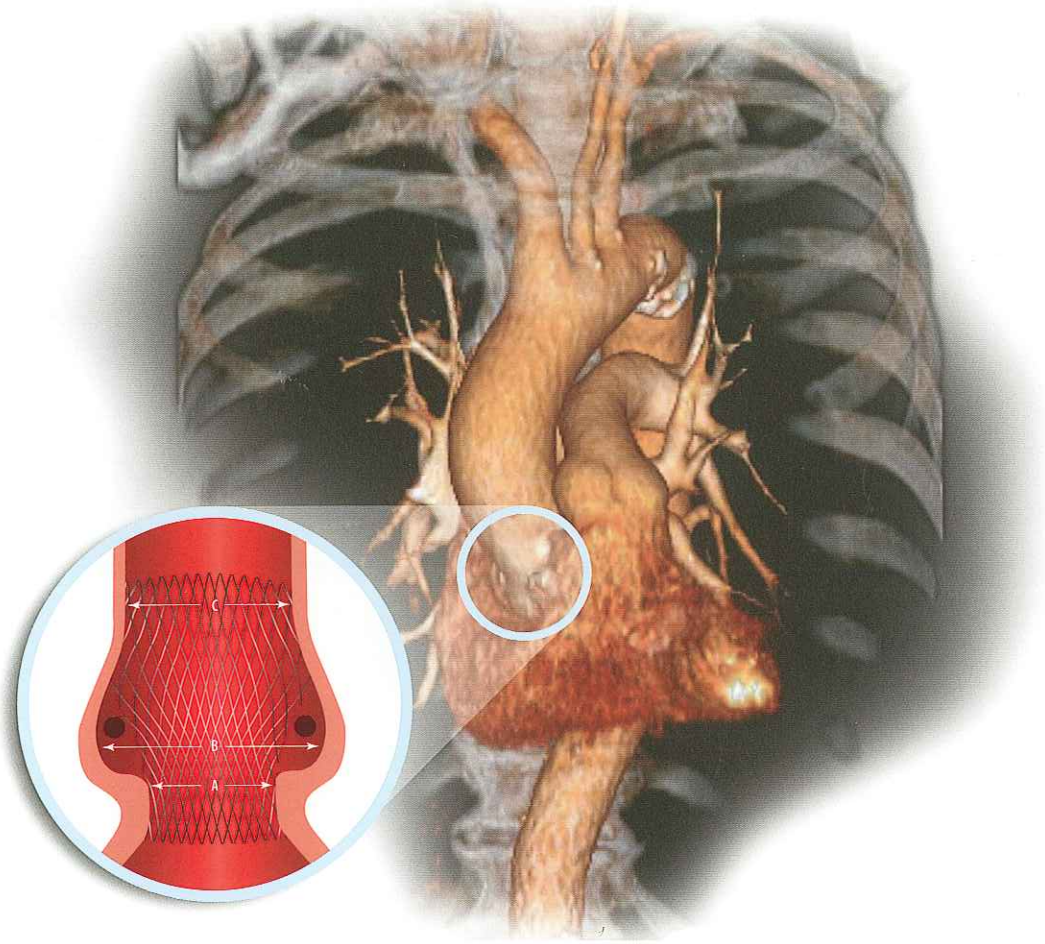
Optional Modules for Cardiac & Coronary

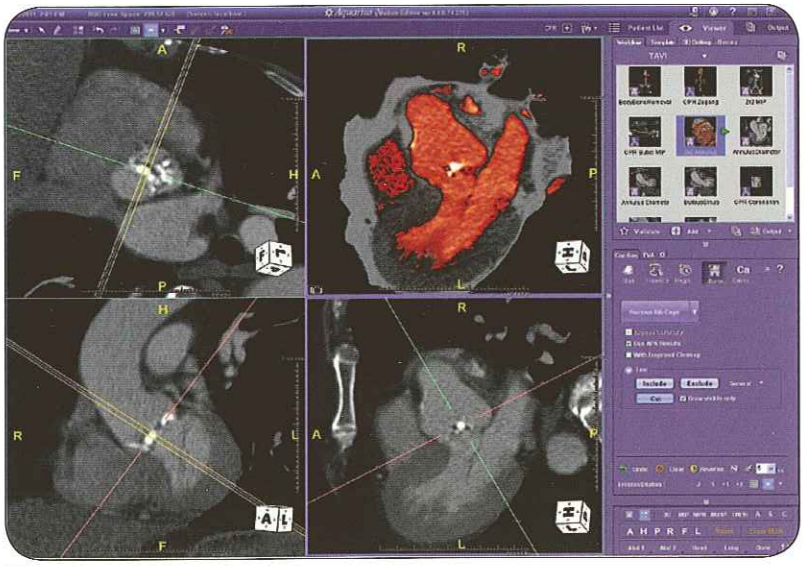
- [x] Vessel Analysis
- [x] Calcium Scoring
- [ ] TDA - Time Dependent Analysis
- [ ] CT/CTA Subtraction
- [ ] LD - Lobular Decomposition
- [x] iGENTLE
- [ ] SAT - Segmentation Analysis & Tracking
- [x] TVA - Time Volume Analysis
- [ ] Maxillo-facial
- [ ] Flythrough
- [ ] Volumetric Histogram
- [x] Findings Workflow*
- [x] Fusion for CT/MR/PET/SPECT
- [x] Multi-Phase MR
- [ ] Parametric Mapping
- [ ] Spherefinder
- [x] MultiKV*

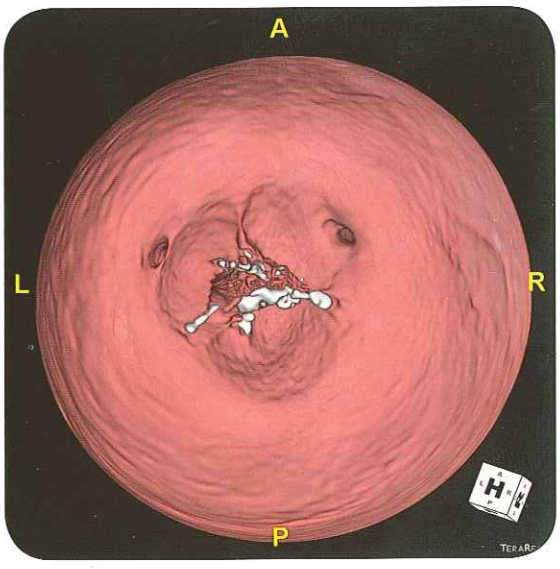
*Scheduled for mid-2012

VASCULAR & INTERVENTIONAL

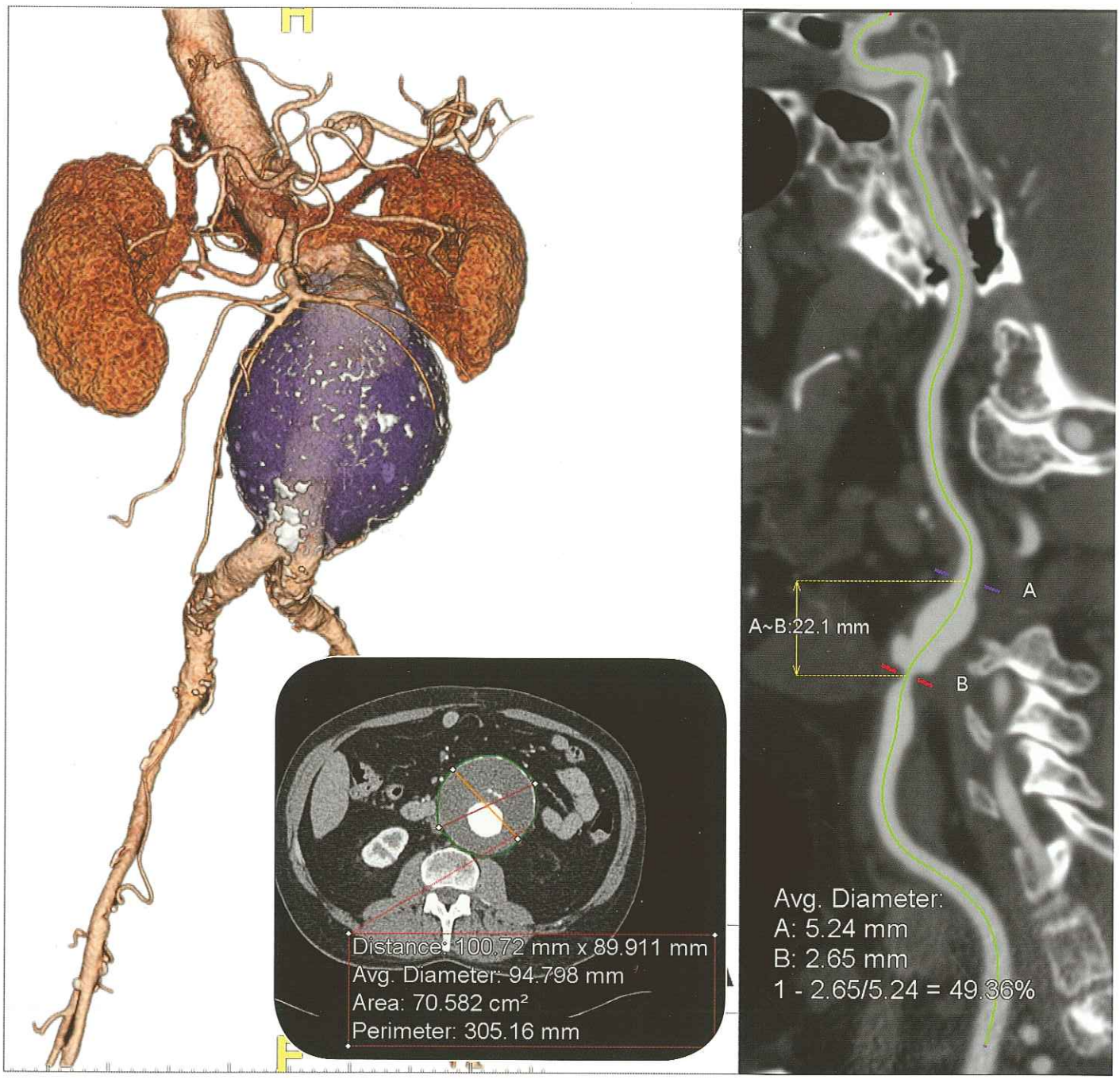
iNtuition defines the standard for advanced visualization support in interventional planning and follow-up, unmatched in the industry. Long accepted as the platform of choice for EVAR, iNtuition continues this tradition of unparalleled vascular workflow and efficiency, in support of new procedures like TAVI, and established protocols such as carotid and peripheral intervention.







TVA — Time-Volume Analysis



Optional Modules for Vascular & Interventional

- [x] Vessel Analysis
- [ ] Calcium Scoring
- [ ] TDA - Time Dependent Analysis
- [x] CT/CTA Subtraction
- [ ] LD - Lobular Decomposition
- [x] iGENTLE
- [ ] SAT - Segmentation Analysis & Tracking
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- [ ] Maxillo-facial
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- [ ] Spherefinder
- [x] MultiKV*

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