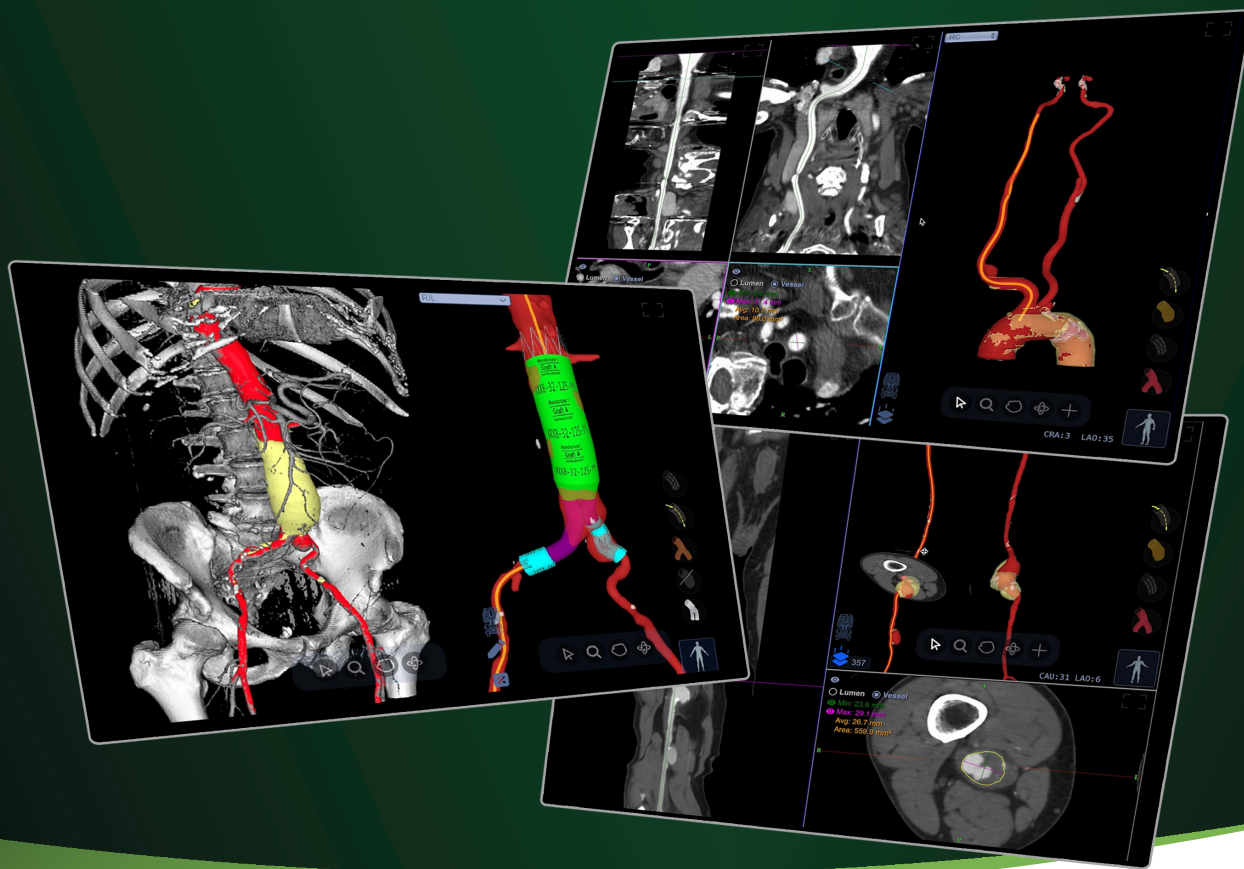# CVi42® | Vascular CT

AI-enabled platform for vascular assessment, interventional planning, and follow up across aortic, carotid, and peripheral arteries. Evaluate disease progression, plan interventions, and monitor outcomes with confidence and precision.

For more information, contact us at **sales@circlecvi.com** or scan the QR code.
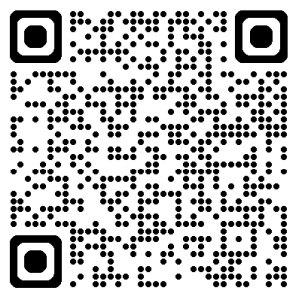
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Diagnostic, Interventional Planning and Follow Up

cvi42®

cvi42® | Vascular CT

Computed Tomography — CT
- Aorta
- Carotid
- Peripherals
- Finite Element Analysis†
- Surveillance

Interventional Planning — IP
- Aorta
  TEVAR - EVAR - F/BEVAR
- Carotid
- Peripherals
- Virtual Graft / Device Modeling
- Vascular Access

Automated with AI for an Integrated, Best-in-Class Solution

A unified, imaging intelligence solution within the cvi42 platform designed to streamline vascular diagnostics, planning, and follow-up workflows. Built for performance, security, and collaboration, the platform empowers clinicians to access, analyze, and share imaging data seamlessly anytime, anywhere to ensure precision at every stage of care.

○ **Cloud Web Viewer** – Access from any browser.

○ **AI-Enabled** – Built for speed, scale, and precision.

○ **Seamless Integration** – Works with PACS, RIS, and EMR systems.

○ **Collaborative Review** – Real-time, multi-user case evaluation.

○ **Automated Reporting** – Supporting multiple export formats.

○ **Scalable & Secure** – Enterprise-ready, HIPAA/GDPR compliant.

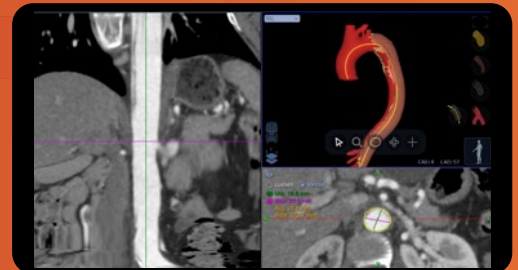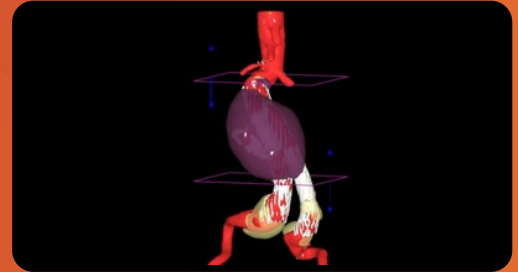○ **FDA 510(k) Cleared** – Validated and cleared for clinical use.

† For research use only

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Analyze vascular CT with AI-powered processing to streamline diagnostic evaluation and follow-up of aortic, carotid, and peripheral disease.
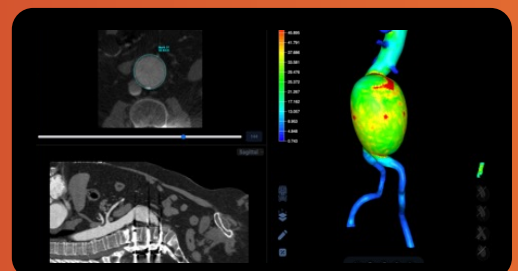
Aorta (AAA, TAA, dissection, EVAR/TEVAR follow-up)

○ **AI-powered segmentation** of lumen, thrombus, calcium, endoleaks, and dissection flaps for faster, consistent analysis.

○ **Automated measurements** (diameter, length, angle, tortuosity) for AAA, TAA, and dissection assessment.

○ **Volumetric quantification** of lumen, thrombus, calcium, and endoleak for disease tracking.

○ **True/false lumen separation and endoleak localizatio**n for post-EVAR/TEVAR follow-up.

○ **Multi-centerline extraction** of the aorta and major branches (renal, mesenteric, celiac, etc.).

○ **Serial study comparison** to evaluate stent behavior and disease progression.

○ **3D reconstruction and MPR views** for precise evaluation of aortic geometry and complex anatomy.

○ **Volume- and trend-based alerts** to support early detection of aneurysm progression or device complications.

○ **Supports clinical research** with quantitative metrics and standardized data export.

Aortic Stress Analysis (FEM-Based)[†] [††]

○ **Finite Element Modeling (FEM)** to evaluate aortic wall stress.

○ **Heatmap visualization** highlighting regions of peak stress.

○ **3D stress distribution** with exportable visuals for reporting.

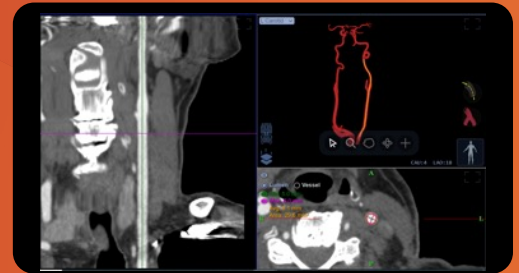○ Supports **AAA assessment** in pre-intervention and follow-up

[†] For research use only
[††] Patented Technology

CT

Analyze vascular CT with AI-powered cloud processing to streamline diagnostic evaluation and follow-up of aortic, carotid, and peripheral disease.

Carotid Artries

- ○ **AI-powered segmentation** of lumen, calcium, and plaque with stenosis visualization.

- ○ **Bilateral coverage** (CCA, ICA, ECA) with side-by-side comparison.

- ○ **Serial study tracking** for disease progression and post-treatment follow-up.

- ○ **3D and MPR visualization** with web-based, zero-footprint access.

Peripheral Artries

- ○ **AI-powered segmentation** from iliac bifurcation to distal runoff.

- ○ **Automated centerline extractio**n with cross-sectional analysis.

- ○ **Comprehensive measurements** for diameter, lesion length, plaque, and tortuosity.

- ○ **Bilateral comparison** for left and right extremities.

- ○ **3D and CPR visualization** for detailed anatomical assessment

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Interventional
Planning

CVi42®

AI-enabled vascular planning providing predictive insight, optimized device selection, and enhanced decision-making for every intervention.

Zero-Click Surgery Planning

Optimize every endovascular procedure with AI-driven Zero-Click Surgery Planning. Plan complex anatomies, simulate interventions, and receive device recommendations effortlessly.

- **Automated tissue segmentation** of lumen, thrombus, calcium, stent grafts, dissections, and endoleaks.
- **Automated multi-centerline generation** and precise 3D visualization for complex anatomies.
- **Automated measurements** of length, diameter, area, volume, angulation, and tortuosity.
- **Volume-based analysis** to evaluate aneurysm progression, rupture risk, and post-op changes.

- **AI-driven graft and implant recommendation** with auto-fitting for all major MedTech devices.
- **Custom graft design** for physician-modified grafts, with exportable measurements and design parameters.
- **Longitudinal follow-up** to monitor disease progression, device performance, and post-op outcomes.
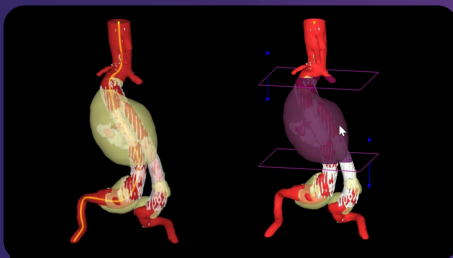- **Automated reporting** and analytics summarizing key metrics, and device information for streamlined documentation.

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Study Images

AI-Enabled
- Tissue Segmentation
- Multi-centerline
- Measurements
- Graft/Implant Recommendation
- Reporting

Zero-Click Surgery Planning

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AI-enabled vascular planning providing predictive insight, optimized device selection, and enhanced decision-making for every intervention.
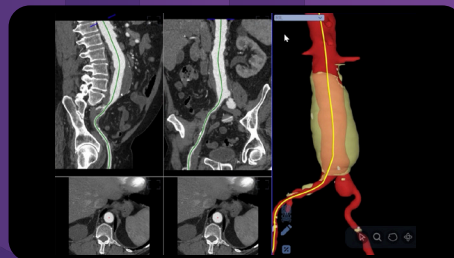
Aorta
EVAR, TEVAR, and F/BEVAR Planning (AAA, TAA, Dissections)

○ **AI-driven 3D segmentation** of lumen, thrombus, calcifications, and dissection flaps for precise anatomical modeling.

○ **Automated centerline extraction** and vessel straightening for optimal graft sizing and planning.

○ **Comprehensive measurements** including diameters, neck length, angles, tortuosity, clockface, and landing zones.

○ **Volumetric analysis** of thrombus, calcium, and endoleak for post-operative surveillance.

○ **Supports F/BEVAR planning** with accurate fenestration and branch visualization of renal and mesenteric take-offs.

○ **Virtual graft simulation** and auto-recommendation of grafts based on manufacturers' IFUs.

○ **Multi-study comparison** to evaluate stent behavior and disease progression.

○ **Web-based access** with 3D, MPR, and orthogonal views for fast review and structured reporting.
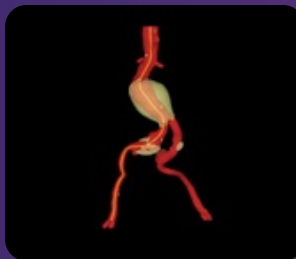

Automated Segmentation & Measurements

Multi-centerline

Virtual Graft Simulation

TEVAR - TAA

EVAR - AAA

F-BEVAR

Longitudinal Tracking

AI-enabled vascular planning providing predictive insight, optimized device selection, and enhanced decision-making for every intervention.

Carotid Stenting

○ AI-driven carotid segmentation with plaque and calcium visualization.

○ Centerline-based side-by-side review for ICA/CCA/ECA.

○ Comparison of bilateral carotids for stenosis grading and pre/post intervention analysis.
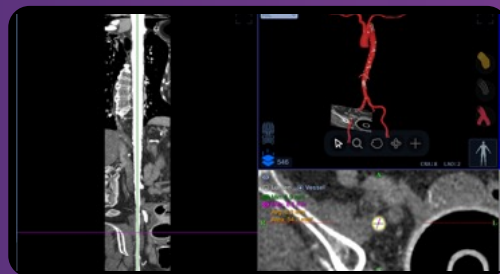

Peripheral Arteries

○ AI-powered segmentation from iliacs to distal runoff with lesion highlighting.

○ Comprehensive measurement tools for diameter, length, and tortuosity.

○ CPR and cross-sectional tools to assist with stent sizing and placement.

○ Limb-to-limb comparison and timeline tracking for reintervention assessment.

Vascular Access

○ Automated segmentation with intelligent centerline generation.

○ Comprehensive measurements for diameter, length, and tortuosity.

○ Calcium quantification to assess vessel suitability.

○ Virtual graft planning and path simulation for optimized strategy.

○ Supports femoral, iliac, and upper-extremity access planning.

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based on user experience

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*cvi**42**.VCTBS.v6.4.11.25.r.1*