

# Stroke VCAR

Part of a comprehensive acute Neuro workup—Semi-automated segmentation and assessment of Hematoma and Aneurysms in CT images.

## Clinical and Technical Background

Stroke and trauma to the head may result in intra cerebral or subdural hematomas. Patients under suspicion of such internal bleeding are triaged using CT imaging. It is important to determine both the presence as well as the amount of such bleeding to properly triage a patient for treatment or follow-up. Bleeding in the brain may also be caused by the rupture of aneurysms. It is important to detect the presence of the aneurysm and assess its potential hazard.

## Overview

Stroke VCAR (Volume Computer Assisted Reading) gives you a complete reading workflow solution for a comprehensive and robust analysis of hematoma and aneurysms. Hematoma assessment is done using semi-automated segmentation tools married with innovative interactive editing capability in the form of SmartMesh. Aneurysm assessment is done through an innovative user guided aneurysm segmentation and visualization. The program lets you generate a clear, concise clinical summary for sharing with referring physicians.

## Highlights

- The program allows you to quickly segment the hematomas in a non-contrast CT.
- Introducing SmartMesh: an intuitive volumetric editing tool.
- Intelligent user guided aneurysm segmentation.
- Fully integrated with Spectral CT when used with GSI datasets.



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## Features

- Semi-automated segmentation and sizing of hematoma.
- Introducing SmartMesh—an interactive volumetric editing tool.
- Comprehensive reporting of segmented hematomas.
- Fully integrated with Spectral CT when using GSI data.
- Track hematoma changes both visually and quantitatively with longitudinal exam workflow.
- Simple user driven aneurysm detection workflow.
- Easy and intuitive workflow for aneurysm segmentation. Initial segmentation done with four guided clicks.
- A selection of application specific tools ensures ease of use.
- Create layouts to match your reading style.

## System Requirements

### Minimum platform release:

- AW VolumeShare 7 and AW Server 3.2 or later.
- Color monitors
- Single or Dual Display monitors for AW Server in landscape or portrait orientations.

## Regulatory Compliance

This product complies with the European CE marking regulation following Medical Devices Directive: Directive 93/42/EEC.

## Indications for Use

Stroke VCAR is a CT image analysis software package that provides information to physicians to assist them in the analysis and visualization of Brain CT data derived from DICOM 3.0 compliant CT scans. Stroke VCAR is designed for the purpose of segmenting and assessing intracerebral and intracranial hemorrhages in the brain using semi-automated tools on noncontrast CT exams. Additionally Stroke VCAR provides a set of workflow tools for the segmentation and visualization of aneurysms in the brain from contrast enhanced CT exams. It is intended for use by clinicians to process, review, archive, print and distribute CT studies.

This software will assist the user by providing initial 3D segmentation, measurements and visualization of hemorrhages and aneurysm in the brain. The user has the ability to adjust, review and has to confirm the final segmentation.



GE imagination at work

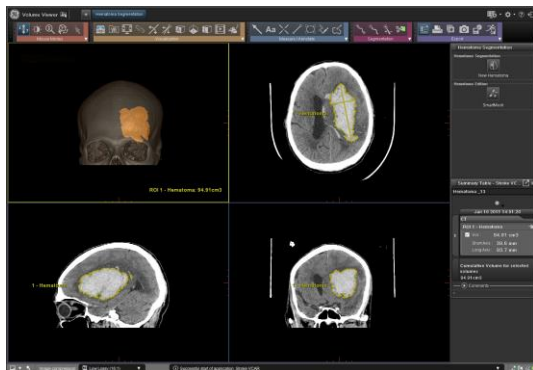
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## Features Detail

### Hematoma

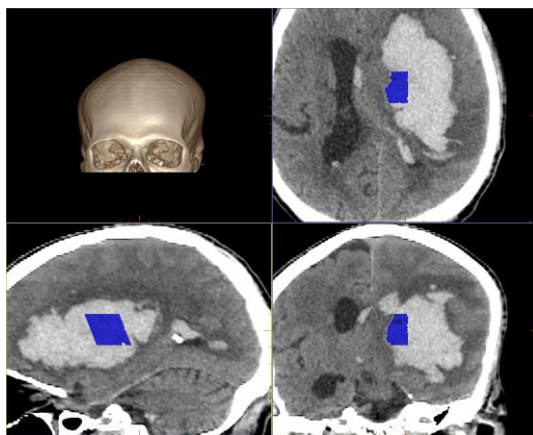
#### Segmentation

The Stroke VCAR hematoma tool uses an intelligent user guided algorithm for semi-automated segmentation of all types of hematomas in the brain. These segmentations can be converted into volume of interest to measure and assess their density.



#### SmartMesh editing

In cases when the semi-automated segmentation does not fully meet a user's expectation, SmartMesh allows for innovative editing capability to quickly complete the segmentation. A novel feature of the editing tool is to provide users with immediate visual feedback on what is included or excluded from the edition.



#### Reporting

Simple and intuitive reporting enables users to confidently manage and share hematoma findings in a consistent and standardized manner.

#### Follow up

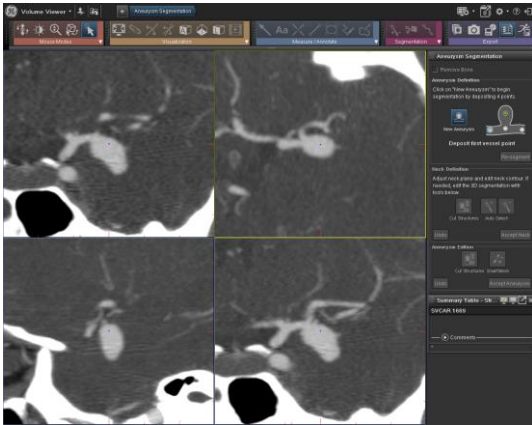
Load repeat scans in Stroke VCAR Hematoma protocol and use its longitudinal analysis capability to track changes, both visually and quantitatively, due to progression or therapy response.

Jan 10 2011 14:51:20		Jan 12 2011 14:51:20	
CT - ANONYMIZED		CT - ANONYMIZED	
1 - Finding 1	ROI 1 - Hematoma	ROI 2 - Hematoma	
<input checked="" type="checkbox"/>	Vol.: 94.91 cm <sup>3</sup>	<input checked="" type="checkbox"/>	Vol.: 99.48 cm <sup>3</sup> (+5%)
	Short Axis: 39.6 mm		Short Axis: 40.9 mm (+3%)
	Long Axis: 93.7 mm		Long Axis: 94.4 mm (+1%)
	Cumulative Volume for selected volumes		Cumulative Volume for selected volumes
	94.91 cm <sup>3</sup>		99.48cm <sup>3</sup> (+5%)
Comments		Comments	

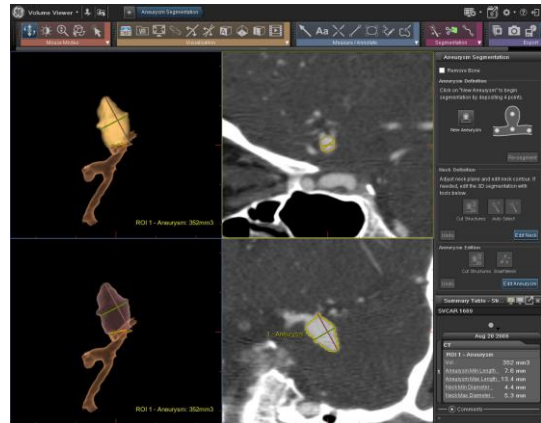
## Aneurysm

### Detection Workflow

A simple and intuitive workflow that helps users with a fast and easy assessment for the detection and treatment planning of aneurysms.

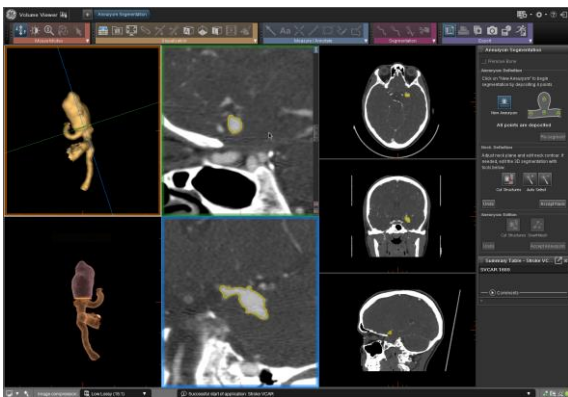


Define visualization planes to better see how the aneurysm is connected to the feeding vessel. Once the segmentation is complete, the user is able to interactively review 3D images of the segmented aneurysm and measurements.



### Segmentation

A simple guided workflow for the segmentation of an aneurysm. Fast initial segmentation is done with four guided clicks.



### Reporting

Simple and intuitive reporting enables users to share images and measurements of aneurysms in a consistent and standardized manner.

### Summary

Stroke VCAR provides workflow benefits using semi-automated hematoma and aneurysm segmentation tools enabling a standardized approach to your facilities review & analysis of these exams.



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