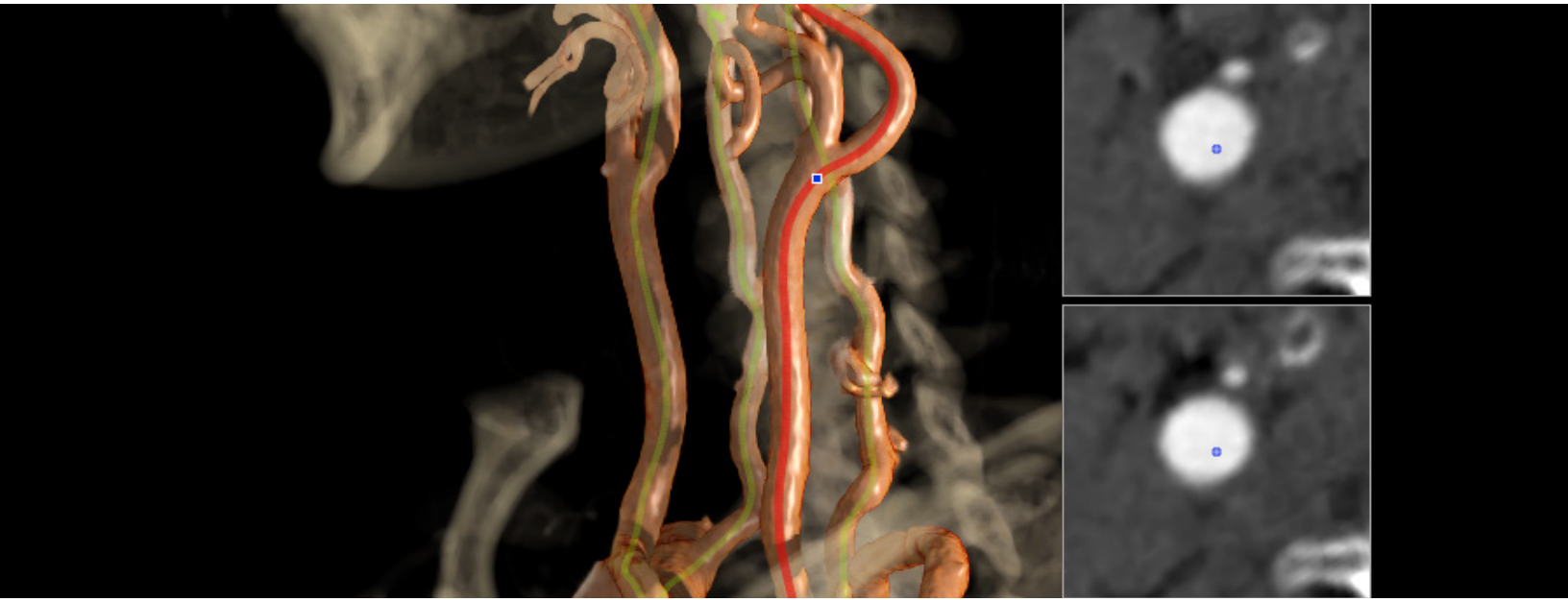
ENHANCE YOUR CAROTID IMAGING EFFICIENCY

A Case Study Outlining Impacts of the Vitrea® CT Carotid Auto Vessel on the 3D Lab



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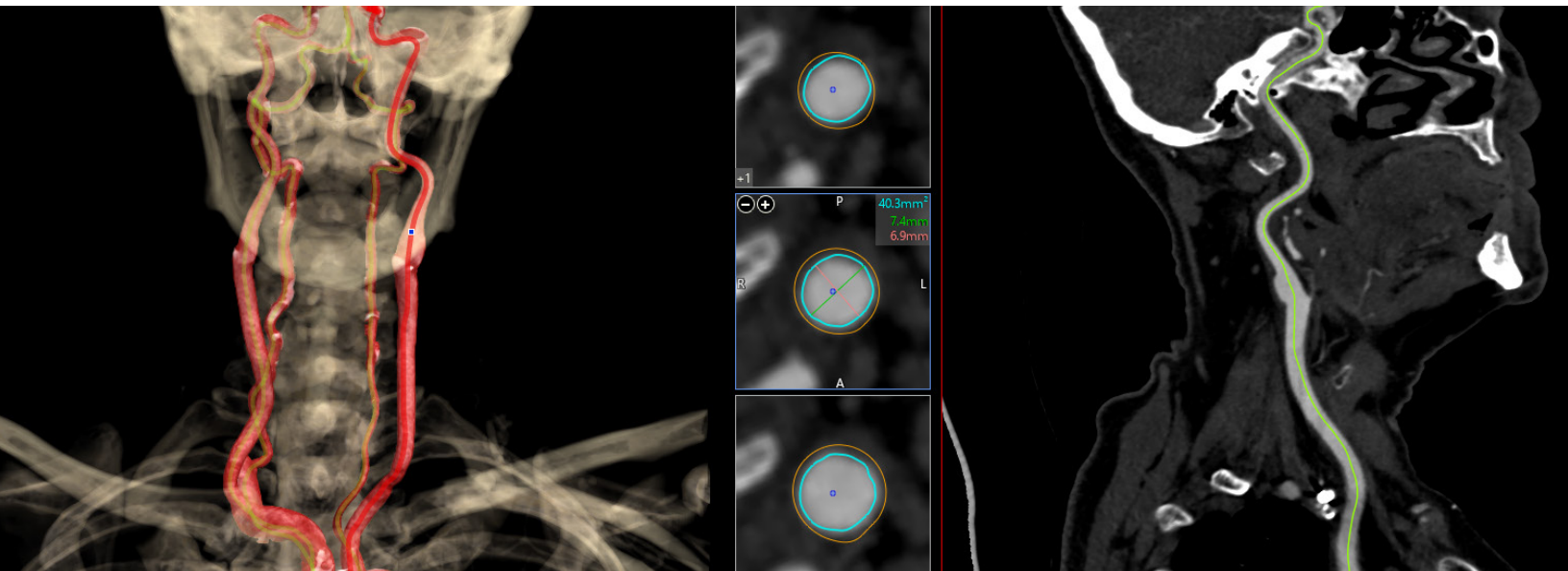
Abstract

The growing volume of imaging studies, coupled with workforce shortages, has placed significant pressure on radiology departments to enhance both speed and accuracy. The CT Carotid Auto Vessel feature, available as an option on the Vitrea CT Carotid application, automates the visualization of major head and neck vessels from CT Angiography exams, offering a powerful solution to these challenges.

This case study examines a real-world implementation at a major Midwest-based health system where the application was integrated seamlessly into existing post-processing workflows, resulting in a notable time savings of at least 2–3 minutes per study.

To better understand the impact of these time savings on a radiology department, Canon Medical consulted with Michelle Kohanski, 3D Operations Manager at a major hospital system in the Northeast. Although her hospital did not participate in the study, she noted “Saving 2–3 minutes per case would save [each of] my technologists approximately 30–40 minutes per day, allowing for two additional exams. This impacts turnaround times, with images becoming available for dictation sooner.” With the potential to increase throughput by up to 10 studies per day, the Vitrea CT Carotid Auto Vessel application empowers radiology departments to efficiently handle growing caseloads while maintaining clinical excellence.



Enhance Your Carotid Imaging Efficiency: A Case Study outlining impacts of the Vitrea CT Carotid Auto Vessel on the 3D lab

Canon Medical's Vitrea CT Carotid application is used extensively by customers to create visualizations and measurements of the major vessels of the head and neck from routine CT Angiography exams. By providing a comprehensive set of tools, such as bone and vessel segmentation, vessel tracking, and advanced lesion quantification tools, it provides a robust foundation for accurate and efficient imaging. However, as radiology departments face the dual challenges of significant workforce shortages and an ever-increasing number of imaging studies that need to be processed by 3D labs and interpreted by radiologists, the optional CT Carotid Auto Vessel feature adds visualization automation to the workflow to help speed it up and save valuable time. This case study evaluates the impact of the CT Carotid Auto Vessel feature on a major health system's 3D lab that does post-processing workups across 17 sites. The results are described in detail with data from 101 Carotid CTA exams across 11 users.

CT Carotid Auto Vessel: A Vital Tool in Meeting Growing Demands

In 3D labs, where technologists manage the post-processing of large volumes of imaging data, demands continue to rise due to multiple factors. Significant increases in the volume of imaging studies are driven by an aging population and greater diagnostic options. Technologists are often tasked with handling more studies per day while maintaining precise and high-quality outputs. Referring physicians and patients also demand faster results, adding to the pressure to reduce turnaround times for imaging reports. These demands create challenges for 3D lab technologists, who are asked to balance speed with the accuracy required for detailed vessel analysis and segmentation.

There are often different levels of expertise within a large 3D lab - seniority, experience with workflows, speed to results and accuracy can be challenging to set standards with great variance within a team. During this study of the 101 exams across 11 users, it's impactful to note that the average years of experience amongst these 11 users is 5 years varying from 1 to 17 years. The team providing results during this study around speed, usefulness and their opinions on the CT Carotid Auto Vessel as a starting point, are relatively in their mid-level career as part of the post-processing. This is to suggest that CT Carotid Auto Vessel feature could have a reduced learning curve for newer 3D lab technologists.

The optional Vitrea CT Carotid Auto Vessel feature stands out as a key tool to support the growing demands of radiologists to the 3D lab by building on the core CT Carotid application and automating the initialization of internal carotid arteries and vertebral arteries. Seamlessly integrated into the broader Canon Medical CT Carotid solution, this feature is designed to help radiology departments cope with the growing volume of studies by streamlining workflows and improving speed in carotid vessel analysis. The optional CT Carotid Auto Vessel feature automates repetitive tasks, such as the segmentation of carotid and vertebral arteries, and reduces the manual workload on technologists, freeing them to focus on more complex tasks. This automation supports technologists in processing more studies with greater efficiency, improving throughput without sacrificing quality.

Save Time, Create Efficiencies, Improve Throughput

- Boosts Efficiency and Throughput: Proven to save at least two minutes per study, increasing daily case capacity by 5-10.
- Minimizes manual variability: consistency in your workflows means more time spent on complex cases
- Simplifies Workflows: Eases workloads, enhancing the overall clinical experience.
- Seamless Integration: Integrates smoothly with existing workflows, requiring minimal training.
- Supports High-Volume Operations: Tailored for high-volume settings, efficiently managing a growing number of imaging studies.
- Reduces learning curve for new users: Time savings validated across a variety of CT scanners.

Proven Success at a Leading Health System

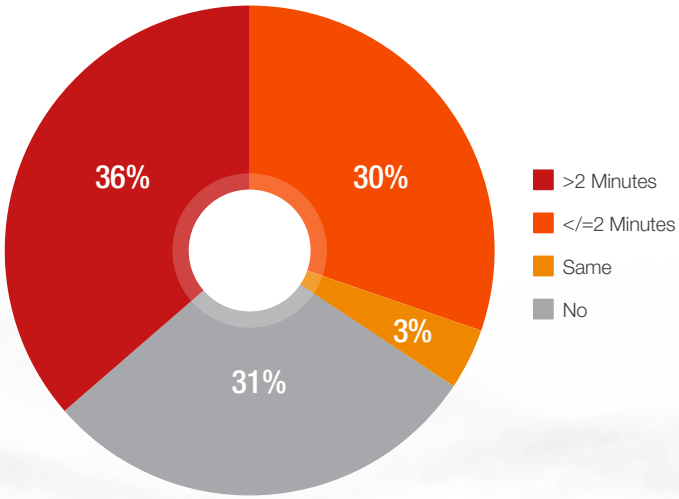
In a recent collaboration, Canon Medical partnered with a major health system in the Midwest, renowned for its high-volume carotid CTA imaging, to evaluate the impact of the CT Carotid Auto Vessel feature on workflow efficiency. This multi-site health system, known for its advanced technology and patient care, processes at least 10 Head and Neck CTA acquisitions per day, among other various protocols, and operates with a dedicated on-site 3D laboratory.

The focus of this partnership was to gather key metrics and assess the performance of Canon Medical's automated CT Carotid Auto Vessel as part of an institution's clinical ecosystem. The primary goals were to understand the impact on automated initialization, quantify time savings per study, and identify areas for workflow improvement—all critical factors in addressing the growing demands on radiology departments.

Positive Survey Results and Significant Time Savings

To gather comprehensive insights, a straightforward survey strategy was employed. Users processed carotid imaging as part of their regular workflow, utilized the CT Carotid Auto Vessel feature, and documented their experiences. Feedback was collected via a questionnaire resulting in data from 101 Carotid CTA exams and 11 users. The survey results were overwhelmingly positive, revealing that **nearly 70% of users reported saving at least two minutes per study with the CT Carotid Auto Vessel feature**. This time savings could potentially increase study throughput by 5-10 studies per day in a typical high-volume setting, significantly enhancing overall efficiency and helping radiology departments manage the increasing number of imaging studies.

Do you believe this automated vessel initialization helps in reducing your manual effort directly linked to the vessel workups? If yes, by how many minutes for this study?



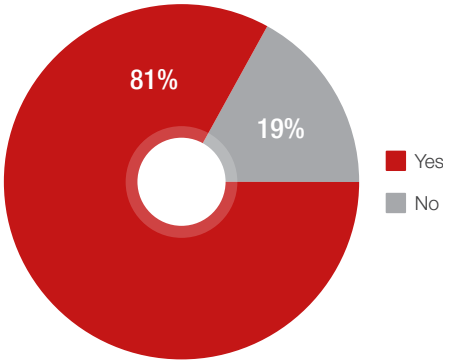
> "Saving 2 – 3 min per case would save my technologists about 30 – 40 min on average per day, or 2 more exams (CTA Head and Neck). This is impactful because turnaround times would decrease per exam & images would be available sooner for dictation."

Michelle Kohanski | 3D Operations Manager

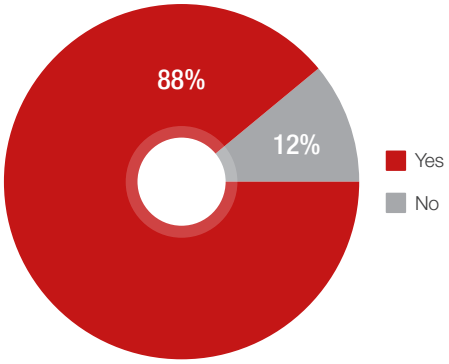
Addressing Workforce Challenges with Innovative Solutions

With radiology departments facing increasing workloads and staffing challenges, the CT Carotid Auto Vessel feature offers a valuable solution. **Over 80% of surveyed users reported that the automated initialization feature serves as an effective starting point for both carotid and vertebral vessel workflows, and potentially reduced learning curve for new users.**

Does the automated initialization act as a good starting point for your vertebral vessel workflow?



Does the automated initialization act as a good starting point for your carotid vessel workflow?



Conclusion

By enhancing workflow efficiency and reducing the time burden on staff, the optional Vitrea CT Carotid Auto Vessel feature helps mitigate the effects of burnout and supports radiologists and 3D lab technologists in maintaining high standards of care.

With measurable improvements in study throughput - up to 10 additional studies per day - and the ability to reduce manual workload by saving at least 2–3 minutes per case, the optional Vitrea CT Carotid Auto Vessel feature proves its value in supporting overburdened staff. By automating key processes, the feature ensures consistent, high-quality outputs while freeing up valuable time for staff to focus on more complex tasks.

The additional positive feedback from 3D Operations Manager Michelle Kohanski underscores the tangible benefits the Vitrea CT Carotid Auto Vessel feature could bring to any 3D lab. It allows radiology departments to cope with increasing caseloads without sacrificing standards of care. With its seamless integration into existing workflows, this optional feature offers a solution that empowers radiology teams to meet today's demands with confidence.

Experience the difference that CT Carotid Auto Vessel can make in your department, enabling you to meet today's demands while ensuring excellence in patient care.

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Made For life

Canon Medical offers a full range of diagnostic medical imaging solutions including CT, X-Ray, Ultrasound, Vascular and MR, as well as a full suite of Healthcare IT solutions, across the globe. In line with our continued Made for Life philosophy, patients are at the heart of everything we do. Our mission is to provide medical professionals with solutions that support their efforts in contributing to the health and wellbeing of patients worldwide. Our goal is to deliver optimum health opportunities for patients through uncompromised performance, comfort and safety features.

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