

Sutter Health



Vidyo Helps Sutter Health Stroke Specialists Save Lives

When someone suffers a stroke – the leading cause of disability worldwide – immediate action is critical. From the moment symptoms first appear, physicians have only three hours to safely administer tissue plasminogen activator (tPA), the FDA-approved treatment for stroke. As a result, fast assessment and diagnosis by a neurologist can make all the difference in a patient's chance of recovery.

Sutter Healthcare, a network of more than 5,200 physicians and 24 hospitals serving 100+ Northern California cities and towns, has a handful of top-notch neurologists and a reputation as a leader in stroke treatment. But Sutter's broad geographic reach makes it impossible to ensure that a specialist can be on hand wherever and whenever a stroke occurs.

CHALLENGE:

Deliver telestroke video conferencing technology that enables stroke neurologists to conduct one-on-one consultations across a geographically huge service area, to diagnose and assess patients for stroke within a critical three-hour window for treatment.

SOLUTION:

VidyoGateway
VidyoPortal
VidyoDesktop

RESULTS:

Sutter Health's Vidyo-powered telestroke system offers low-latency, HD quality, reliable and simple video conferencing. It's HIPAA-compliant security features allow stroke neurologists to conduct detailed medical assessments within an average of 10 minutes after a patient arrives at any Sutter-affiliated emergency room. The telestroke system can literally save the lives of patients who would otherwise be unable to be seen by a stroke specialist within the critical three hours after stroke onset, minimizing the impact of stroke for countless other patients.

"I needed a way to be able to treat more patients during that critical early time window when stroke treatment is effective," said Dr. David Tong, Medical Director of Sutter Health's California Pacific Medical Center (CPMC) Comprehensive Stroke Care Center and Director of the CPMC Center for Stroke Research (CCSR).

In response to this need, Sutter Health became an early user of video conferencing for stroke assessment, as part of its larger telemedicine program. Telemedicine extends the reach of medical providers to distant and rural areas. Telestroke, the subset of telemedicine devoted to stroke diagnosis and treatment, allows a small number of stroke specialists to essentially be in more places at once.

Not all video conferencing technology is ideally suited for telestroke applications. Sutter Health evaluated many video conferencing providers before choosing the Vidyo[®] platform. It was selected based on its high-definition (HD) and low-latency video quality, ease of use, flexibility in working with different device types, and its security features.

Sutter Health installed parallel VidyoPortal[™] and VidyoGateway[™] systems (for redundancy) to support portable, cart-based telestroke video conferencing systems that are deployed in Sutter-affiliated community and rural hospital emergency rooms. The VidyoPortal provides a complete Web-based video conferencing environment with flexibility and control over the entire VidyoConferencing system by administrators at all levels. VidyoGateway links traditional systems with next-generation VidyoConferencing[™] and extends HD-quality multipoint conferencing from room systems to desktops and mobile devices. Dr. Tong and his team of stroke neurologists use VidyoDesktop[™] on their laptops or desktop computers to connect live with the cart-based systems located in hospital emergency rooms at Sutter-affiliated hospitals throughout Northern California.

Vidyo Quality Enables Fast, Accurate Telestroke Diagnosis

Within minutes of a suspected stroke patient's arrival at a Sutter-affiliated emergency room, Dr. Tong or another CPMC on-call stroke neurologist can work directly with the local emergency physician to examine the patient. Vidyo technology provides two-way HD, low-latency video conferencing, enabling the neurologist to direct an examination: by using the far-end camera control in VidyoDesktop to pan, tilt, or zoom to assess the



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patient; by asking the ER physician to point the cart-mounted camera in a particular direction; or by conversing directly with the patient. Treatment recommendations might include tPA administration or, if a higher level of care is required or an aneurysm is suspected, immediate transport to a specialized facility.

Stroke is challenging to diagnose because typically there is no pain associated with it, and it's easy for patients to overlook stroke symptoms or assume they will go away on their own.

"To accurately diagnose and treat a stroke, I need to be able to see and hear the patient very clearly, to assess important but often subtle symptoms such as facial weakness or numbness, slurred speech, weakness in an arm or leg, and other neurological symptoms," said Dr. Tong. "Vidyo's HD images let me see and hear patients as well as if I am in the same room. There is no doubt that our Vidyo-powered telestroke system has saved or improved the outcome of countless stroke patients."

With the Vidyo-quality telestroke system, Sutter's CPMC stroke neurologists can evaluate a patient in an average of 10 minutes or less.

Ease of Use, Cost Make Vidyo Technology Accessible

To be practical, the technology behind a telestroke system must also work in all kinds of environments, easily and cost-effectively.

"Vidyo is simple to use and reliable, and it is able to traverse different kinds of endpoints and handle different resolutions very well," said David Razavi, Director, Media Services, for Sutter Health. "We can put Vidyo in the hands of physicians and they can take advantage of its features, without those of us in IT having to show them multiple times how to use it. This ease of use is especially crucial for hospitals with limited IT staff that would be lost trying to use complex video conferencing technology from some other providers."

In addition to ease of use, cost is an issue for all businesses, including medical facilities. "Vidyo offers all the features we need for telestroke at a reasonable price, which means Sutter Health is able to extend Vidyo-based telestroke capabilities more widely throughout our system of healthcare facilities," said Greg Anderson, IT Telestroke Tech for Sutter Health.

Securing Telestroke Operations

"I can use my laptop to see telestroke patients from home or wirelessly wherever I am," said Dr. Tong. "I can easily gain access to any of our affiliated hospitals with a telestroke video cart, with the confidence that all the communications are HIPAA compliant."

Vidyo products work over virtual private networks (VPN) allowing medical professional to uphold HIPAA regulations for maintaining the confidentiality of patient records and communications.

"With VidyoPortal, we can easily control the security of the telestroke system: who comes and goes, who uses the network," said David Razavi. "Vidyo's security standards are extremely high, so we can deliver the level of security that's required for our hospital settings. From a technological standpoint, it's uncommon to combine ease of use and security as well as Vidyo does." Stroke patients assessed by Sutter Health's Vidyo-based telestroke system can receive fast and effective diagnoses.

"When you put it all together, Vidyo's quality of video, ease of use, reasonable cost, and security mean Sutter Health's stroke specialists can use the telestroke system to diagnose stroke patients more quickly, which saves lives," said Greg Anderson.