

# Virtual Resident Workflow

Who has time to teach in the middle of the night?  
You do, with vRad.



# Virtual Resident Workflow

Improving quality, lowering cost, and expanding access do NOT need to conflict with your educational mission.

vRad has been at the forefront of teleradiology since 2001, giving residency Program Directors access to a deep bench of subspecialty trained radiologists – supporting residents and attending physicians 24/7 with Final or Preliminary Interpretations.

## Big benefits for your residency program

Residency programs across the country are turning to vRad's Virtual Resident Workflow solution to solve their challenges by:

- Addressing increasing volume and study complexity with on-demand access to vRad's 500+ radiologists, the majority are subspecialty trained
- Relieving overloaded attending physicians and providing much-needed reading capacity with a lower, variable-cost solution
- Improving referring physician confidence and satisfaction by helping your program meet quality expectations
- Maintaining your educational mission by keeping the residents involved
- Addressing arising medicolegal issues
- Improving patient throughput and eliminating morning prelim overreads with Final Reports from vRad



*“Independent decision making and image interpretation while on call is one of the most important learning experiences for a radiology resident.”*

**Radiology (Journal of the RSNA)**

# How it Works

## Resident Interpretation

After your resident interprets a study, the report and images are automatically sent to vRad via HL7.



## vRad Radiologist Interpretation

The vRad board-certified radiologist reviews the resident report and images and provides a vRad Final or Preliminary Report back to the client for patient care.



## Resident Education

The vRad Final or Preliminary Report that is sent to the client system is available for educational comparison to the resident report. Discrepancy follow-up is available via vRad's Quality Assurance Portal.



## Critical Findings

If the vRad radiologist determines there is a critical finding or significant discrepancy, a call is placed to the ordering physician so verbal notification can be made by the vRad radiologist.



# Residency Program Education from vRad

## Resident Educational Analytics

Receive interpretation analytics providing a summary of each resident's performance.

- Statistical summary comparison of the resident prelim reports and the vRad reports
  - Radiologist agreed
  - Radiologist disagreed
  - Radiologist determined there were additional findings
- The various types of study modalities and body part will be noted, where disagreements or additional findings can also be analyzed to assess certain weaknesses in a particular resident's training (i.e. PE studies, neck CT, etc.).
- Use the insight provided in this complimentary tool to monitor resident performance and as a guide to direct educational training as needed.



## Online Board Review Course Attendee Comments

*"That was really awesome! Great cases, great presentation and great course!"*

*"I will recommend to others."*

*"Unlike [other online resources] these cases are really well prepared and presented with authority. Bravo!"*

## Online Teaching Files

Your residents will have complimentary access to hundreds of online resident teaching files.

## Complimentary Online Board Review Course

- Presented live each September by vRad Chief Medical Officer, Benjamin W. Strong, MD
- Four, 2-hour evening sessions featuring full cross-sectional image sets and findings review by Dr. Strong

# Stroke Protocol

Patent-pending workflows and 75+ subspecialty-trained neuroradiologists deliver rapid, high-quality reports for your stroke patients.

**Urgency Automatically Escalated** – Patented workflows automatically process stroke cases with our fastest turnaround target of under 20 minutes.

- Cases assigned automatically to all credentialed radiologists online at time of study.
- Orders escalated to the very top of the radiologists' worklists with a requirement to be read next.

**Critical Finding and Critical Test Calls Auto-Dialed** – vRad is able to use Natural Language Processing to “listen” for critical finding statements in real-time during the radiologist dictation.

- If a critical finding is dictated, and you have registered your contact numbers with vRad, a call to the referring physician is automatically triggered – reducing critical finding relay times to as little as 2 minutes.
- Want calls to go right to the ED physician's cell phone? No problem. A unique phone number can be designated on each order and calls can be configured to include both positive and negative findings.
- A critical findings summary is included in monthly Teleradiology Metrics Reporting – and other standard/custom vRad reports.

## Stroke Protocol Fast Facts

- *< 7 minutes = Average stroke protocol turnaround time*
- *75+ subspecialty-trained neuroradiologists*
- *73,000+ stroke studies performed annually and nearly 14,000 total CT cerebral perfusion studies read*
- *10 minutes = Average critical finding and critical test relay time, including calls facilitated by the vRad Operations Center*



## Artificial Intelligence Research

vRad is conducting research on machine-learning powered workflow to get radiologists' “eyes on images” more quickly for better patient care. One powerful example of how artificial intelligence could be used in the care of critical patients is for the identification of potential Intracranial Hemorrhage (ICH). vRad's research utilizes a real-time, algorithm-based review of images to identify a potential ICH which could be used to automatically escalate a study for priority interpretation by the radiologist, reducing average reporting time by as much as 65%.

# Trauma Protocol

Patent-pending workflows designed specifically to increase the speed of high-quality radiology reports for trauma patients – up to 40% faster.<sup>1</sup>

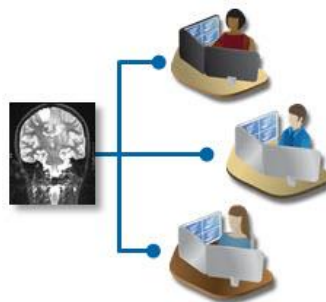
## Unique Solution – Studies Read by Multiple Radiologists

- Patent-pending technology automatically “unbundles” trauma cases, assigning each body region to the appropriate radiologist to read concurrently:

**Neuro:** head, face, orbits, cervical spine, and neck

**Body:** chest, abdomen and pelvis, thoracic and lumbar spine

**Upper and lower extremities**



- Cases automatically prioritized at the top of our radiologists’ worklists, required to be read next
- Radiologists automatically notified which colleagues are reading the other body regions for the same patient, enabling real-time collaboration

## Rapid Communications – Reports Sent and Critical Findings Called

- Radiology reports for each body region sent as soon as they are completed allowing treatment to begin as quickly as possible
- Critical finding calls made to any designated number, priority placed on Head/Cervical Spine studies
- Calls can be configured to include both positive and negative findings



### Trauma Protocol Fast Facts

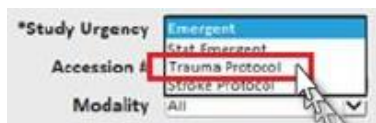
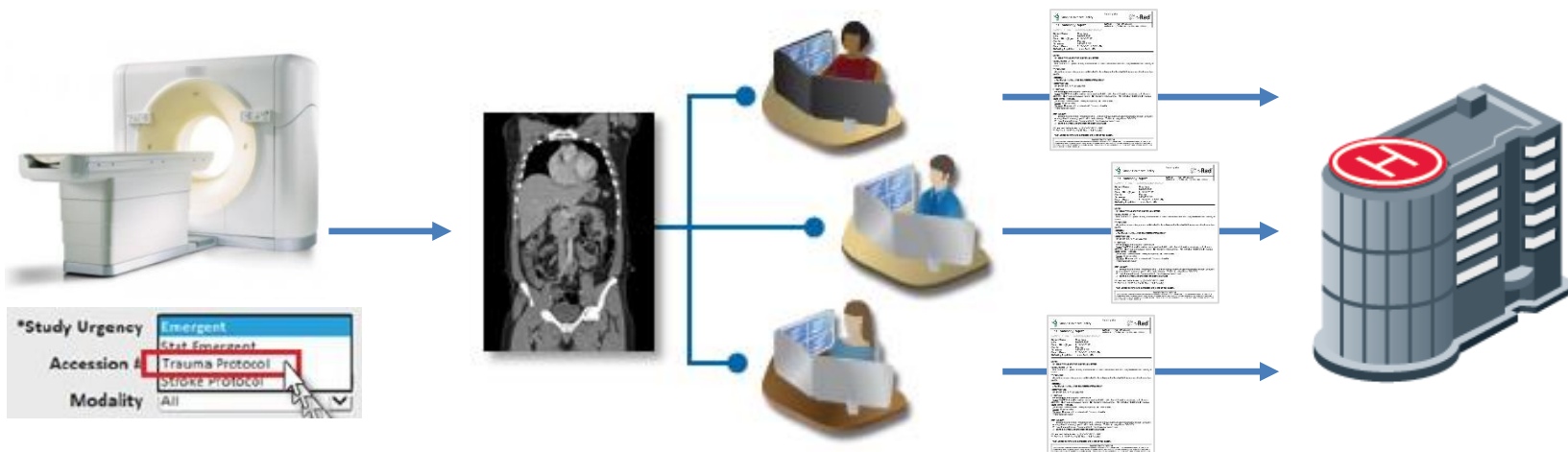
- 4 minutes: “Eyes on the Images” – Radiologist begins reading
- <12 minutes: Turnaround time

“The average time from when our imaging department receives the order to when the ED receives the final reports from vRad dropped by almost 20 minutes since implementing vRad’s trauma protocol. That’s a big improvement and our emergency physicians have definitely noticed.”

**Laura Murney, M.Ed., BS, RT(R)**  
Assistant Administrative Director  
Radiology Services, CoxHealth

<sup>1</sup>Turnaround time statistic compares cases designated as trauma protocol following launch of the vRad Trauma Protocol to comparable cases for the 12-month period prior to launch.

# Trauma Protocol



- Patient scanned
- Technologist designates order as trauma in vRad's Order Management System
- Cases read concurrently, multiple radiologists
- Cases required to be read next
- Radiologists notified which colleagues reading other body regions, real-time collaboration
- Radiology reports for each body region sent as soon as they are completed



### Critical Finding Calls

- Made to any designated number
- Configurable for both positive and negative findings

# Who We Are

vRad is the leading **teleradiology practice** and **telemedicine company**.

We deliver access to **subspecialty radiologists**, **next-generation technology**, and **evidence-based imaging analytics solutions** to measure and improve quality, value and performance.

We enable our partners to make **better decisions** for the health of their **patients** and the **practice of radiology**.



# A vRad Snapshot

## Helping clients make better decisions for the health of their patients and the practice of radiology



*“Moving up the value chain... vRad has become a center of excellence in the radiology field, rivaling major academic centers in its contribution to the future of radiology.”*



Founded 2001 – a MEDNAX Company (NYSE: MD)

500+ U.S. board-certified and eligible radiologists, the majority whom are subspecialty trained

2,100 hospital, health system and radiology group facilities served in all 50 states; connected to over 50k imaging devices at our client locations

6M+ patient studies interpreted annually, 2.1 billion images processed on the world’s largest and most advanced PACS


U.S.-based, 24/7 operations and technical support center

The largest — 52 million+ normalized imaging studies — radiology patient care benchmarking platform (vRad RPC<sup>SM</sup> Indices) for statistically significant national and peer performance comparisons

**>75% of new business is for final reports**

18 issued patents for innovation in telemedicine workflows and data normalization; additional patent pending on deep learning applications for computer assisted diagnostics

Frost & Sullivan Visionary Innovation Award Winner: Medical Imaging Analytics – North America



Contact us today to learn more about  
vRad's Virtual Resident Workflow.

 Contact Us

For a PowerPoint version of this information, please  
contact [education@vrad.com](mailto:education@vrad.com)

