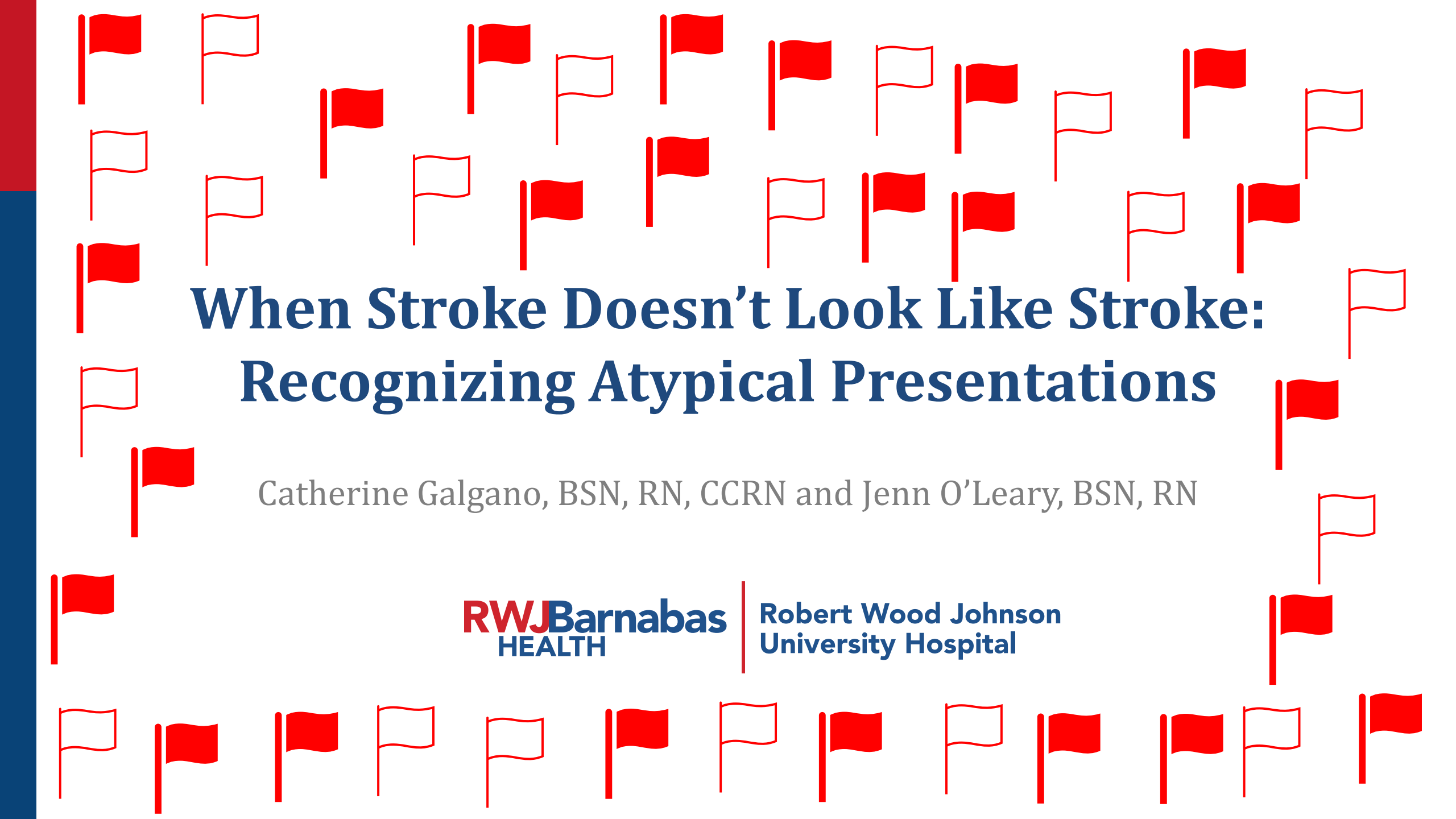


A decorative border of red flags, some solid red and some outlined, surrounds the central text.

When Stroke Doesn't Look Like Stroke: Recognizing Atypical Presentations

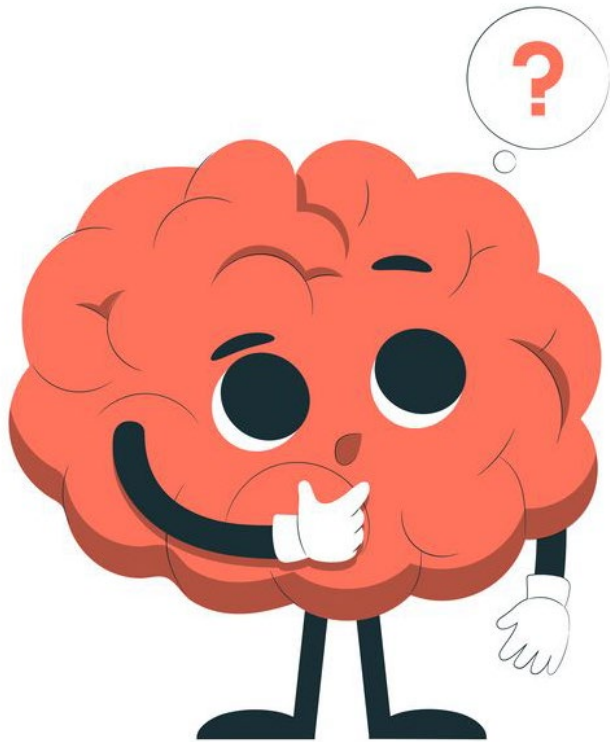
Catherine Galgano, BSN, RN, CCRN and Jenn O'Leary, BSN, RN

RWJBarnabas
HEALTH

Robert Wood Johnson
University Hospital

Case Review-Presentation

Would you have activated
a code stroke???



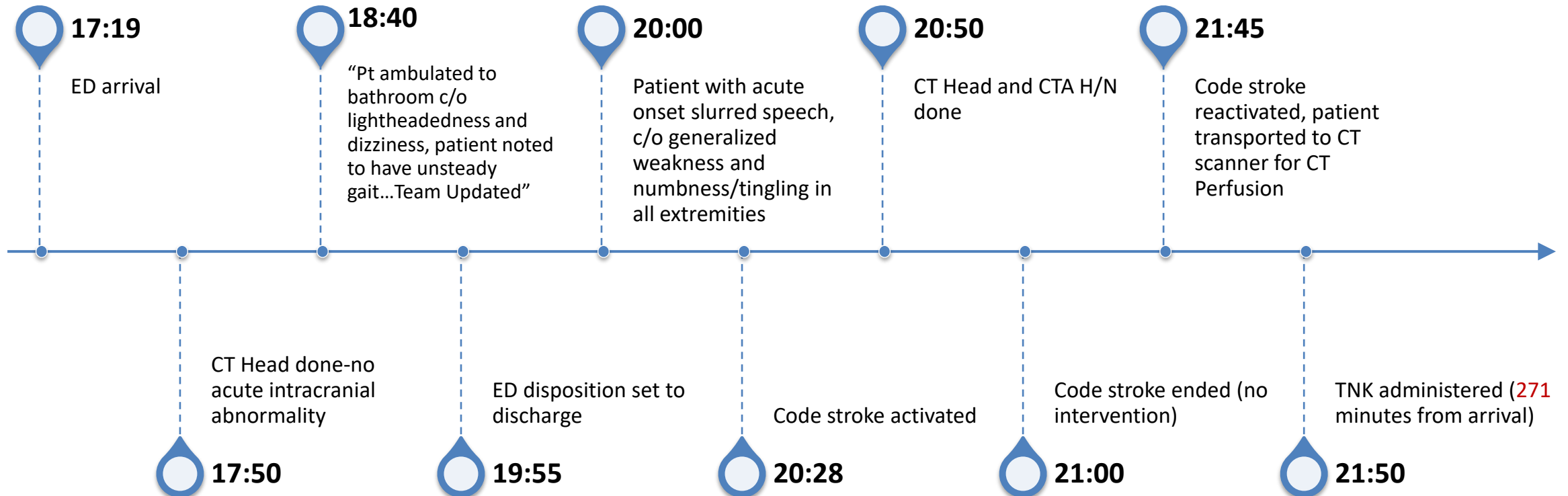
HPI: 28 y/o presents to the ED after syncopal episode followed by c/o chest pain/pressure and full body tingling

PMH: Anxiety, PCOS, pre DM, cold anti-inflammatory syndrome, morbid obesity

Arrival Complaint: “chest pain and fainting”

ED Triage Note: “Pt brought in by wife in private vehicle, pt was unresponsive. Pt became responsive while wife is getting pt registered. But not answering questions, then suddenly started screaming and crying. Pt pale and diaphoretic to touch. Pt sent to resus for immediate evaluation”

Case Review-Timeline



Were there any opportunities for earlier Code Stroke Activation?

Case Review-Diagnosis



MRI revealed acute small **right pontine** and acute multiple small **bilateral cerebellar infarcts**



MRA of neck revealed acute **left vertebral artery dissection**

Is this a **RED** flag for possible stroke?

- Dizziness
- Double Vision
- Weakness
- Numbness
- Nausea/Vomiting*
- Headache*
- Altered Level of Consciousness
- Slurred Speech
- Dyscoordination
- Confusion*
- Nystagmus*
- Tingling*

- Chest pressure
- Sweating
- Chills
- Leg pain
- Heart burn
- Shortness of Breath
- Generalized Abdominal Pain
- Malaise
- Urinary retention
- Epistaxis
- Tingling*

B

E

F

A

S

T



BALANCE

Sudden
loss of balance,
or sudden
onset dizziness

EYES

Sudden
change in
vision in one
or both eyes

FACE

Sudden
numbness or
drooping on one
side of the face

ARMS

Sudden
numbness or
weakness in
the arms

SPEECH

Sudden
difficulty or
slurring of
speech

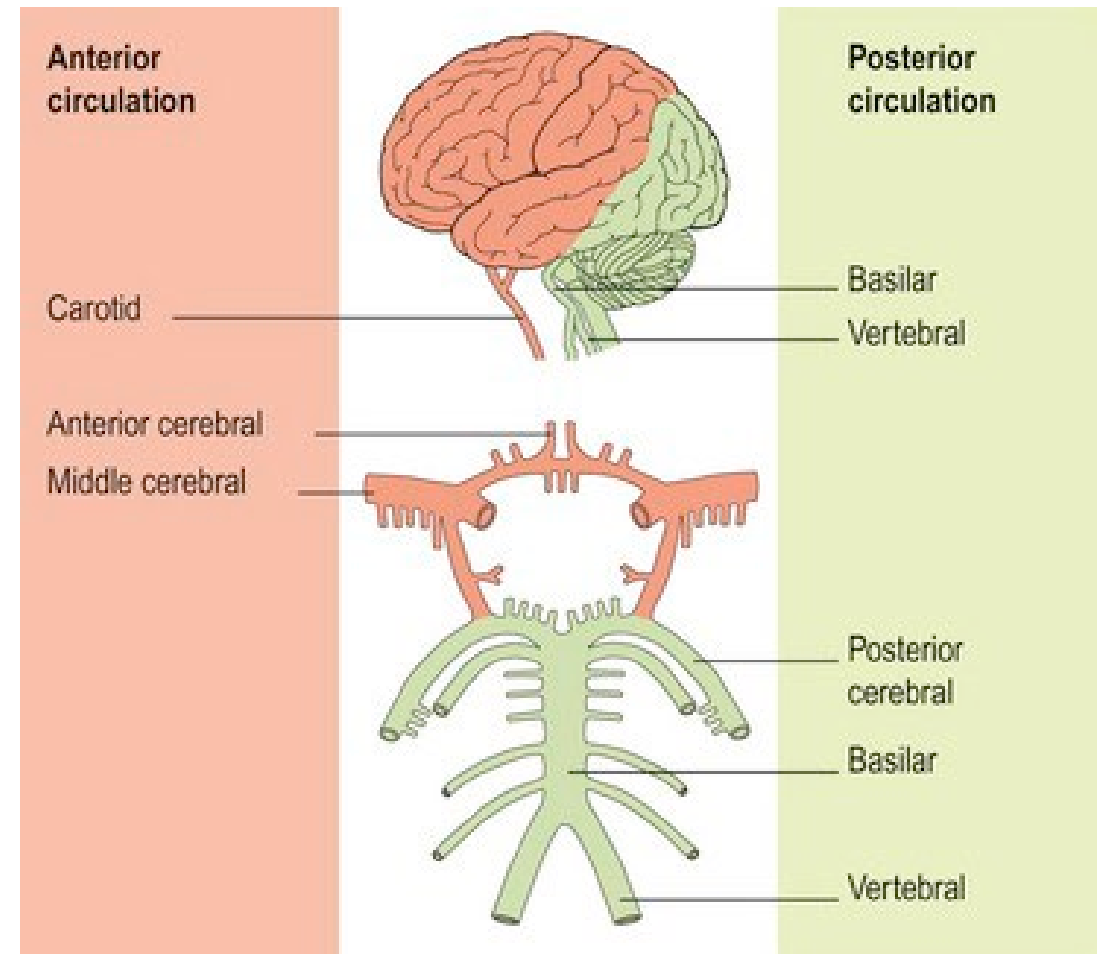
TERRIBLE HEADACHE

*Sudden terrible
or “thunderclap”
headache with
no known cause*

Posterior Circulation/Brainstem Stroke Symptoms

- Sudden dizziness or vertigo
- Ataxia or difficulty walking
- Diplopia or abnormal eye movements
- Dysarthria
- Facial weakness or numbness
- **Limb weakness or sensory changes**
- Nausea/vomiting
- Altered level of consciousness
- **“Crossed” neurological findings**
- Fluctuating presentations

NIHSS does not always tell the full story!



If things were different...would you have called it?

- If numbness/tingling was one-sided?
- If they were in their 60s-80s?
- If they weren't having "panic attack" like symptoms (i.e., screaming and crying)?
- If their arrival complaint was logged different?
- If the provider agreed with you?



Nursing Considerations

Nurses are accurate!

- RNs and physicians/APPs activated code strokes with similar percentage of correct stroke diagnosis (62.7% vs 58.8%, $p=0.82$)
- RNs activated significantly earlier [median 2 hours vs 4.9 hours ($P=.0096$)] from last known well time

Nurses are often first to recognize stroke symptoms/neurological deterioration

- Posterior circulation strokes may present atypically
- Strokes can occur in young patients
- Sudden or unexplained neurologic change from baseline warrants further evaluation
- BE-FAST and NIHSS does not capture every stroke symptom

References

George, P., Wisco, D. R., Gebel, J., Uchino, K., & Newey, C. R. (2017). Nurses are as specific and are earlier in calling in-hospital stroke alerts compared to physicians. *Journal of Stroke and Cerebrovascular Diseases*, 26(5), 917–921.
<https://doi.org/10.1016/j.jstrokecerebrovasdis.2016.10.003>