

3 East Stroke RN Annual Refresher Course

Stroke Process Improvement Team

Angela James, MSN, RN, PCCN

Dana Jorgensen, MSN, RN, PCCN

Outcomes

- By the end of this course, you will...
- Have a better understanding about GWTG and Stroke Requirements
- Know what needs to be charted every shift for Stroke patients
- Have a deeper understanding of our Stroke Program goals and accomplishments
- Be more confident in your patient and family teaching points
- Know what resources are available to support your nursing practice

What is Stroke GWTG?

- The Get With The Guidelines (GWTG) - Stroke Program was developed by the American Heart Association/American Stroke Association (AHA/ASA) as a national stroke registry and performance improvement program with the primary goal of improving the quality of care and outcomes for stroke and TIA by promoting consistent adherence to the latest scientific treatment guidelines as well as serve as a scientific resource for new information.
- **The primary goal of GWTG-Stroke program is to improve the quality of care and outcomes for patients hospitalized with stroke and transient ischemic attack (TIA).**

Why is it Important for me to Know?

As a Stroke RN, it is very important that you know the requirements for care of stroke patients.

Our compliance of these requirements are monitored closely and audited by our Stroke Process Improvement Team (SPIT) and reflect our excellence in care.

Completion of all Get with the Guidelines (GWTG) tasks leads to better outcomes for stroke patients. This means less disability after suffering their stroke, less likelihood of having another one, and a better chance of getting back to their normal way of life when leaving Hoag.



- Compared to other hospitals, Hoag's Stroke program is 91% compliant with all 10 stroke metrics where other hospitals average 78%
- This is nationally published information and not only displays the great work we do but makes us a more desirable hospital for members of our community.
- Hoag patient outcomes indicate that 50% of all our ischemic stroke patients return to independence after their CVA. (measured by modified Rankin Scales at 90 days)
- For those stroke patients that are treated with IV Alteplase 76% have a favorable functional outcome at 90 days.

Stroke Process Improvement Team

- On 3 East, we have a team of 4 experienced nurses who meet monthly with other representatives from the neurosurgery, neurology, and emergency medicine departments, the stroke program director, a nurse navigator, a data collections specialist, an EMS liaison, as well as other registered nurses from the ED, ICU, and IR, and their department directors.
- We discuss progress, challenges, fallouts, trends and work together to keep our stroke program running smoothly and maintain our impressive outcomes.
- Our representatives communicate important points to the floor RNs via email, in person follow ups and a communication board in the hallway near the conference room.
- Angela, Dana, Lauren, and Patricia are great resources for Stroke care and are always available in person or via email for any questions 😊

Admitting a Stroke Patient

- Emergency Department Expectations
 - ED Stroke Order Set in place
 - Normal saline bolus then NS @100ml/hr
 - HOB requirements enforced, ≥ 30 for bleeds, flat for infarcts and TIAs. Bedrest.
 - Bedside Swallow Screen performed and charted. (Pass or Fail- not deferred)
 - NIHSS assessment in ED and NIHSS assessment during handoff.
 - 3e RN to go to ED during EST, ED RN to accompany transport to 3e otherwise.

Admitting a Stroke Patient

- Telemetry – monitor for Afib
- VS and neuro check performed Q2h x 4 or until stable
- Blood pressure parameters enforced.
 - ~140/90 for bleeds
 - ~220/110 for infarcts that have not received IV TPA or had IA thrombectomy and TIAs
- Dysphagia Screen aka Bedside Swallow Screen. Make sure documentation matches BSS was performed before PO meds administered on the EMAR
- Place SCDs
 - GWTG requires SCDs by hospital day 2 (the day after presenting to the ER)

Admitting a Stroke Patient

- Lipitor 40mg if pass BSS for all strokes
- GWTG requires an Antithrombotic by hospital day 2 (the day after presenting to the ER)
Aspirin PO or PR (*if failed BSS*) for all infarcts and TIAs
Other antithrombotics include Plavix/clopidigrel and the anticoagulants
- Stroke Education- open appropriate care plan, chart on care plan and education on admission and Q shift
 - Every stroke patient gets a Stroke Book. Individualize by filling out pages 5, 25, 41, and adding notes on page 69
 - Mark irrelevant risk factors as **not applicable**
- Enforce bedrest
- All stroke admits receive speech, physical and occupational therapy evaluations
 - Neurologist must clear patient before working with Physical and Occupational Therapy

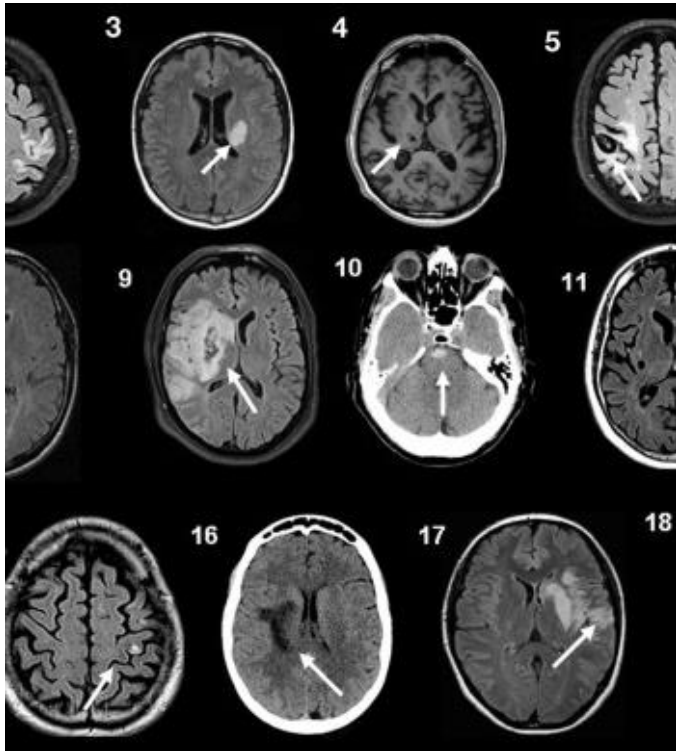
Receiving an ICU Transfer: Ischemic Stroke Patient

- All IV Alteplase patients and Thrombectomy patients are admitted to the Neuro ICU for at least 24 hours post treatment.
- BP parameters are $\leq 180/105$ and strictly adhered to.
- The Ischemic Stroke/ TIA order set needs to be entered upon transfer to 3e
- Stroke Education for these patients also includes the **“CLOT DISSOLVING OR CLOT REMOVAL FOR ISCHEMIC STROKE” form.**

Receiving an ICU Transfer Stroke Patient :ICH/SAH

- BP parameters are $\leq 140/90$ and strictly adhered to.
what & how often have BP PRNs been given
was Nicardipine drip used? When was it turned off?
- SAH:
Strict I&O is required
Did they have an EVD (External Ventricular Drain) in ICU for hydrocephalus
When was it removed
Did they require a VP shunt and when was that placed

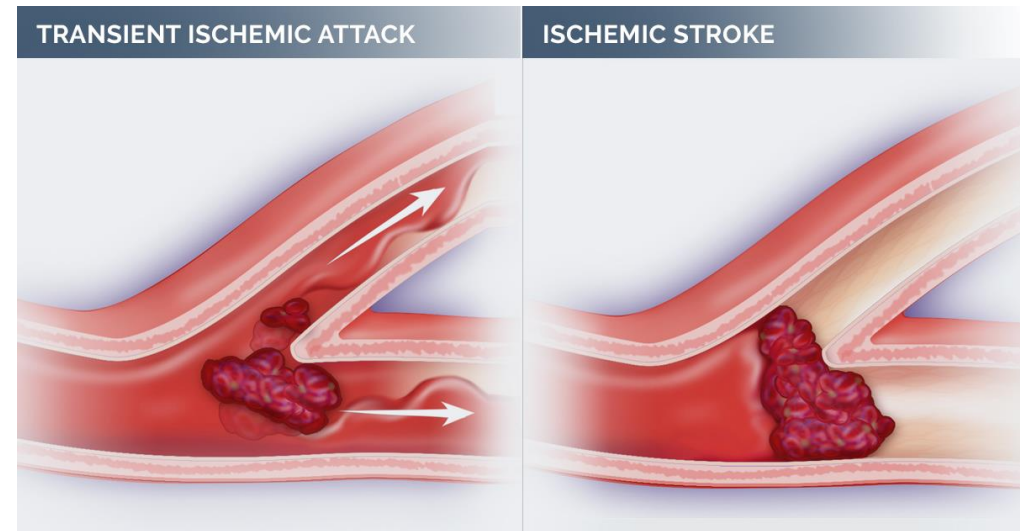
Types of Imaging



- CT
- CTA- CT Angiogram of head & neck
- CTP – CT Perfusion of brain
- MRI
- MRA
- Carotid Ultrasound – all strokes
- Transcranial Doppler
 - For SAH- looking for vasospams
 - For IS – TCD with bubble looking for PFO
- Echo – all strokes
 - Bubble study

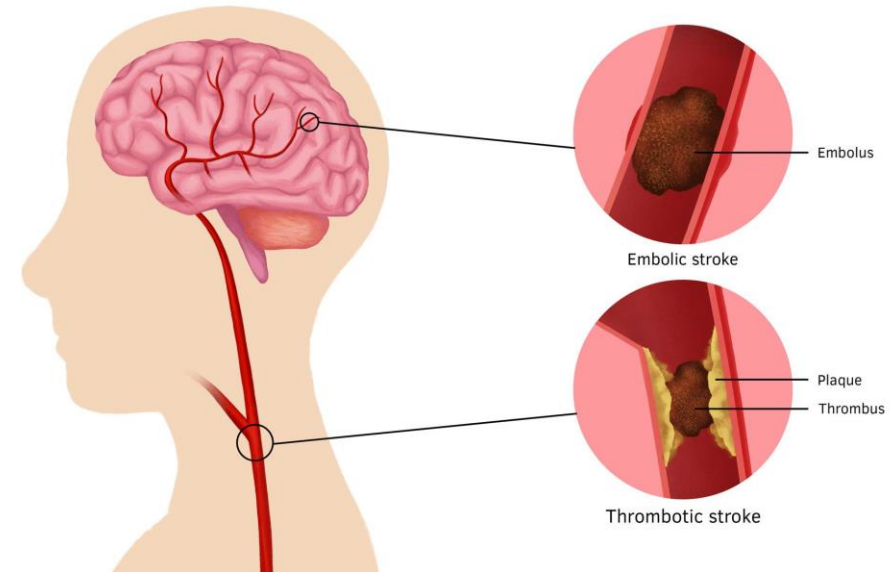
Transient Ischemic Attacks (TIA)

- TIAs are treated the same way as ischemic strokes. Symptoms are the same but resolve. CT and MRI are negative for stroke.
- Also known as "mini strokes" and can be a precursor to an ischemic stroke.
- An artery in the brain or an artery that leads to the brain is blocked for a short time. The artery either becomes unblocked or a collateral circulation perfuses the ischemic area
- Symptoms are sudden and may include
 - B – Loss of balance
 - E – Eyesight changes
 - F – Facial droop
 - A – Arm/leg weakness or ataxia or numbness
 - S – Speech slurring or aphasia
 - T – Time to recognize the TIA/CVA!



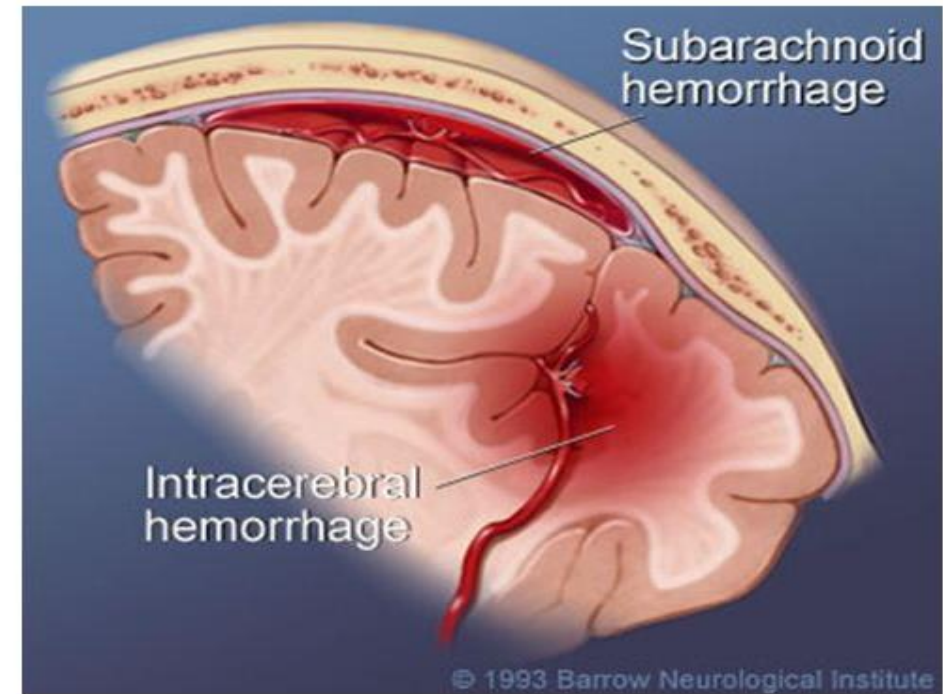
Ischemic Stroke

- The most common type of stroke
- Embolic – A blood clot or plaque fragment forms in the body, usually in the heart or large arteries leading to the brain. It dislodges, travels to the brain, and blocks blood flow to cerebral tissue
- Thrombotic – a blood clot forms in an artery inside the brain and interrupts blood flow to cerebral tissue



Hemorrhagic Stroke

- A blood vessel in the brain bursts and spills blood into or around the brain
- Usually caused by high blood pressure and/or aneurysms
- ICH or SAH caused by trauma is not a stroke.
- ICH-Intracerebral Hemorrhage- A burst blood vessel bleeds into the brain tissue. Usually caused by HTN. Also known as IPH- Intraparenchymal Hemorrhage
- SAH-Subarachnoid Hemorrhage- A blood vessel bursts near the surface of the brain between the brain and skull and puts pressure on brain tissue causing vasospasm. Usually caused by an aneurysm.
- ICH pathway includes NIH assessments q4 hrs x48 hrs.



Hemorrhagic Stroke

- Subarachnoid Hemorrhages caused by strokes are usually on Nimodipine Q4h to prevent vasospasm
- Nimodipine is a calcium channel blocker and is **time critical**. It must be given within 30 minutes of scheduled time
 - Ordered in a capsule or liquid
 - Ordered for 00:00, 04:00, 08:00, 12:00, 16:00, 20:00 (Regardless of first dose time, give second dose based on this schedule)
 - Administered between 23:30-00:30, 03:30-04:30, 07:30-08:30, 11:30-12:30, 15:30-16:30, 19:30-20:30. **NO exceptions.**
 - If patient is NPO, notify MD about need for NG tube and order for liquid



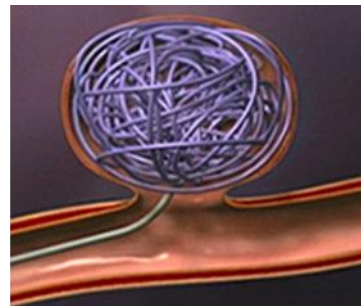
Neuro IR Procedures

Aneurysm Treatment

Unruptured –these patients can go to 3 East post procedure

Ruptured with SAH- these patients go to the Neuro ICU post procedure before coming to 3 East

- Coiling or flow diverters



Thrombectomy for LVO (large vessel occlusion)

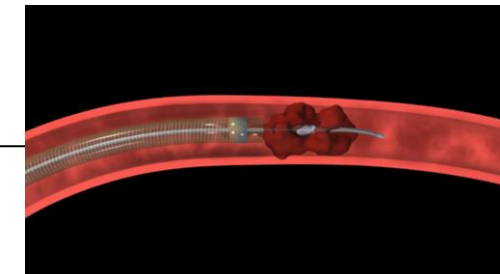
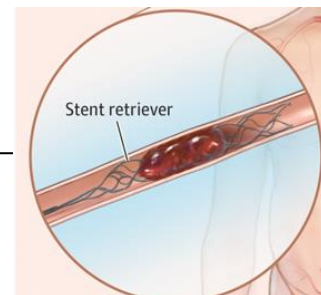
Mechanical removal of blood clot in a large brain artery

Intra-arterial TPA can be given during thrombectomy

Can be combined with IV TPA

These patients go to the Neuro ICU post procedure before coming to 3 East

- Stent Retrievers or Suction



NIR Imaging: Radial or Femoral Arteriogram

Nursing Responsibilities Post IR

- Frequent assessments of insertion site and CSM (Circulation, Sensation, Movement)
- Pulse oximeter placed on affected limb
- Recorded on Pink Sheet (audit EPIC charting)
- **For Radial:** Q15 minutes x 4, q30 minutes until TR band is removed, Q1 hour until at least 6 hours of monitoring is completed
- **For Femoral:** Q15 minutes x 4, q30 minutes x 2, Q1 hour x 4
- These patients are Sub-ICU status due to frequency of checks



Rapid Response Code 20

- If you notice new stroke symptoms in patient call a Rapid Response immediately and perform a NIHSS
- When the RRT RN arrives Inform them of the new focal deficit, Last time patient was seen normal, diagnosis and meds
- The RRT calls the Code 20 and directly calls the neurohospitalist on call
- Ensure IV access
- Prepare for transport to CT



Stroke Patient Education

Stroke book

- Please fill out important pages throughout hospital stay!
- Physical Therapy envelope
- Document that it was provided to the patient in the free text area of patient education
- Provide post-TPA / IA therapy education handout if applicable



Stroke Patient Education Workbook

A Guide to Understanding Stroke

This workbook is designed to help you better understand stroke, its causes, symptoms, and treatment. It also provides information on how to prevent stroke and what to do if you have a stroke.

Learning Objectives



Young Stroke Workup

- Additional workup for patients under the age of 65
- Bubble echocardiogram to assess for PFO (Patent Foramen Ovale)
- Hypercoagulation lab Studies – (including Factor V Leiden)
- Autoimmune workup – (including Lupus)

Discharging a Stroke Patient

- Always perform discharge NIHSS, no matter the destination
- Pt leaves with 2 education hand outs
 - 1. Stroke workbook – fill out Lipid panel results and other blank pages
 - 2. Stroke Education Instruction Sheet – patient initials each section verifying education was performed
- EPIC Stroke Checklist should be all **green**
 - Ensures required medications were given and testing was completed, i.e., intensive statin prescription and lipid panel
- Provide information on Stroke Support Group
- **Close out all education in EPIC – This often gets missed. This gets audited.**
- Discharge sheet
- Add .strokeDC smart phrase to **AVS**



Care of Stroke Patients on Other Floors

Though we prefer for our Stroke patients to come to 3 east, there are special circumstances when patients need to be on other floors.

As a resource RN, when visiting another floor to do an NIHSS please be sure to:

- Check in with the primary RN and educate them about this patient's stroke
- Make sure stroke education is documented q shift
- Perform NIHSS and notify Neurologist and primary RN if NIH increase >3 pts or for any concerning change
- Ensure correct documentation completed if patient discharging
- Provide and chart Stroke Book given

Useful Info

- **Peak swelling time** (cerebral edema) after stroke is typically 24-48 hours post-stroke
- **Reasons we give Lipitor** – Not only for hyperlipidemia, Lipitor at higher doses has been shown to improve cerebral blood flow, enhance neural repair, and have antiplatelet, anti-inflammatory, and antioxidant effects.
- How to confirm that the Stroke Pathway ordered correctly - Look for "**Hoag Stroke Management**" Order
- Which **post-TPA pathway** should ICU transfers be on once on 3 east – Hoag Stroke Management orderset (Ischemic)



Quiz questions

Question #1

What is the primary goal of GWTG-Stroke program?

- A. To improve the quality of care and outcomes for patients hospitalized with stroke and transient ischemic attack (TIA).
- B. To standardize documentation of care for patients hospitalized with stroke and transient ischemic attack (TIA).
- C. To provide assessment guidelines for patients hospitalized with stroke and transient ischemic attack (TIA).
- D. To help identify stroke symptoms in patients not hospitalized with stroke and transient ischemic attack (TIA).

Question #1

What is the primary goal of GWTG-Stroke program?

- A. To improve the quality of care and outcomes for patients hospitalized with stroke and transient ischemic attack (TIA).
- B. To standardize documentation of care for patients hospitalized with stroke and transient ischemic attack (TIA).
- C. To provide assessment guidelines for patients hospitalized with stroke and transient ischemic attack (TIA).
- D. To help identify stroke symptoms in patients not hospitalized with stroke and transient ischemic attack (TIA).

Question #2

- What nursing intervention must be completed and documented prior to passing oral medications
 - A.NIHSS
 - B.BSS
 - C.SCD
 - D.Review Stroke Book

Question #2

- What nursing intervention must be completed and documented prior to passing oral medications
 - A. NIHSS
 - B. **BSS**
 - C. SCD
 - D. Review Stroke Book

Question #3

- Which is not a typical order in the stroke pathway
 - A. NS infusing at 100ml/hr
 - B. Neuro checks and vital signs q1h
 - C. Telemetry monitoring x 48 hours
 - D. Place sequential compression device on bilateral lower extremities

Question #3

- Which is not a typical order in the stroke pathway
 - A. NS infusing at 100ml/hr
 - B. Neuro checks and vital signs q1h
 - C. Telemetry monitoring x 48 hours
 - D. Place sequential compression device on bilateral lower extremities

Question #4

- Which statements are true regarding administering aspirin to ischemic stroke patients
 - A. Do not give any form of aspirin if patient is NPO, wait until patient has speech eval.
 - B. Aspirin must be administered by the end of hospital day 3.
 - C. All stroke patients must receive aspirin despite etiology of stroke, this includes TIAs, ischemic strokes and hemorrhagic strokes.
 - D. The accurate dose is 324mg, give PO or PR

Question #4

- Which statements are true regarding administering aspirin to ischemic stroke patients
 - A. Do not give any form of aspirin if patient is NPO, wait until patient has speech eval.
 - B. Aspirin must be administered by the end of hospital day 3.
 - C. All stroke patients must receive aspirin despite etiology of stroke, this includes TIAs, ischemic strokes and hemorrhagic strokes.
 - D. The accurate dose is 324mg, give PO or PR

Question #5

- True or False: Your SAH patient has Nimodipine scheduled at 12:00. Giving it within one hour is acceptable. You administer the medication at 12:31 and do not create a fallout.
 - A.True
 - B.False

Question #5

- True or False: Your SAH patient has Nimodipine scheduled at 12:00. Giving it within one hour is acceptable. You administer the medication at 12:31 and do not create a fallout.
 - A. True
 - B. False

Question #6

- Which of these treatable risk factors is the leading cause of stroke?
 - A.High blood pressure
 - B.Atrial fibrillation
 - C.Obstructive sleep apnea
 - D.High cholesterol

Question #6

- Which of these treatable risk factors is the leading cause of stroke?
 - A. High blood pressure
 - B. Atrial fibrillation
 - C. Obstructive sleep apnea
 - D. High cholesterol

Question #7

In which of the following situations can a stroke admit transfer from the ED to the floor without a bedside NIH handoff.

- A. NIH 0
- B. Scans are negative
- C. Code EST
- D. None of the above

Question #7

In which of the following situations can a stroke admit transfer from the ED to the floor without a bedside NIH handoff.

- A. NIH 0
- B. Scans are negative
- C. Code EST
- D. None of the above

Question #8

- What is the appropriate action to take with the stroke education tab in EPIC at discharge?
 - A. Print it and have the patient sign in
 - B. Close out the stroke education when the patient discharges
 - C. Leave the education open in case the patient comes back to the hospital

Question #8

- What is the appropriate action to take with the stroke education tab in EPIC at discharge?
 - A. Print it and have the patient sign in
 - B. **Close out the stroke education when the patient discharges**
 - C. Leave the education open in case the patient comes back to the hospital