

American Heart Association: Hemorrhagic (ICH) Initiative

Upstate RUSH Virtual Conference Series 2023

May 24th, 2023

Topics

- What is GWTG
- Why ICH
- Hemorrhagic Stroke Initiative
- Get With The Guidelines® ICH Layer
- Measures and Rationale
- Resources



www.heart.org/quality

Our suite of healthcare quality improvement programs helps ensure consistent application of the most recent scientific guidelines for heart disease and stroke treatment at more than 2,600 hospitals nationwide as well as in outpatient settings.



To date, more than 7.1 million patient records have been entered into the Get With The Guidelines® - Stroke database. Improved patient outcomes attest to a quality impact as impressive as the quantity of lives touched by the program.



This inpatient quality program strives to improve outcomes for heart failure patients. The program is aligned with the 2022 Guideline for the Management of heart failure including the latest evidence based guideline-directed medical therapies.



Atrial fibrillation (AFib) affects millions of Americans, often leading to heart-related complications as well as increasing the risk for stroke fivefold. Get With The Guidelines® - AFib is designed to help hospitals align patient treatment including AFib ablation tracking and outcomes with the latest scientific guidelines.



Get With The Guidelines® - CAD tracks AMI process data and supports both hospital quality improvement, as well as regional system of care work between EMS, Referring and Receiving Hospitals.



Get With The Guidelines® - Resuscitation facilitates the efficient capture and analysis of data for in-hospital cardiac arrest. All hospitals collect Code Blue data – and reporting on this data through the registry allows hospitals to use that data to make effective quality improvements. The built in Code Blue bundle makes meeting prep extremely simple.

Why ICH?

- ICH accounts for \approx 10% to 15% of all strokes and carries a disproportionately high risk of early death and long-term disability
- Evidence for optimal treatment of ICH has lagged behind that for ischemic stroke
- **Translation of guidelines into actionable metrics for data collection will further enhance outcomes for ICH patients**



Applying Class of Recommendation and Level of Evidence to Clinical Strategies, Interventions, Treatments, or Diagnostic Testing in Patient Care

CLASS (STRENGTH) OF RECOMMENDATION	
CLASS 1 (STRONG) Risk	Benefit >>>
Suggested phrases for writing recommendations: <ul style="list-style-type: none"> • Is recommended • Is indicated/useful/effective/beneficial • Should be performed/administered/other • Comparative-Effectiveness Phrases†: <ul style="list-style-type: none"> – Treatment/strategy A is recommended/indicated in preference to treatment B – Treatment A should be chosen over treatment B 	
CLASS 2a (MODERATE) Risk	Benefit >>
Suggested phrases for writing recommendations: <ul style="list-style-type: none"> • Is reasonable • Can be useful/effective/beneficial • Comparative-Effectiveness Phrases†: <ul style="list-style-type: none"> – Treatment/strategy A is probably recommended/indicated in preference to treatment B – It is reasonable to choose treatment A over treatment B 	
CLASS 2b (Weak) Risk	Benefit ≥
Suggested phrases for writing recommendations: <ul style="list-style-type: none"> • May/might be reasonable • May/might be considered • Usefulness/effectiveness is unknown/unclear/uncertain or not well-established 	
CLASS 3: No Benefit (MODERATE) Risk	Benefit =
Suggested phrases for writing recommendations: <ul style="list-style-type: none"> • Is not recommended • Is not indicated/useful/effective/beneficial • Should not be performed/administered/other 	
CLASS 3: Harm (STRONG) Benefit	Risk >
Suggested phrases for writing recommendations: <ul style="list-style-type: none"> • Potentially harmful • Causes harm • Associated with excess morbidity/mortality • Should not be performed/administered/other 	

LEVEL (QUALITY) OF EVIDENCE‡	
LEVEL A	
<ul style="list-style-type: none"> • High-quality evidence‡ from more than 1 RCT • Meta-analyses of high-quality RCTs • One or more RCTs corroborated by high-quality registry studies 	
LEVEL B-R	(Randomized)
<ul style="list-style-type: none"> • Moderate-quality evidence‡ from 1 or more RCTs • Meta-analyses of moderate-quality RCTs 	
LEVEL B-NR	(Nonrandomized)
<ul style="list-style-type: none"> • Moderate-quality evidence‡ from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies • Meta-analyses of such studies 	
LEVEL C-LD	(Limited Data)
<ul style="list-style-type: none"> • Randomized or nonrandomized observational or registry studies with limitations of design or execution • Meta-analyses of such studies • Physiological or mechanistic studies in human subjects 	
LEVEL C-EO	(Expert Opinion)
<ul style="list-style-type: none"> • Consensus of expert opinion based on clinical experience. 	

COR and LOE are determined independently (any COR may be paired with any LOE).

A recommendation with LOE C does not imply that the recommendation is weak. Many important clinical questions addressed in guidelines do not lend themselves to clinical trials. Although RCTs are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

*The outcome or result of the intervention should be specified (an improved clinical outcome or increased diagnostic accuracy or incremental prognostic information).

†For comparative-effectiveness recommendation (COR 1 and 2a; LOE A and B only), studies that support the use of comparator verbs should involve direct comparisons of the treatments or strategies being evaluated.

‡The method of assessing quality is evolving, including the application of standardized, widely-used, and preferably validated evidence grading tools; and for systematic reviews, the incorporation of an Evidence Review Committee.

COR indicates Class of Recommendation; EO, expert opinion; LD, limited data; LOE, Level of Evidence; NR, nonrandomized; R, randomized; and RCT, randomized controlled trial.



Hemorrhagic Stroke Initiative

Goals and Objectives

Phase I

- 20 Hospitals participated in a 3-year learning collaborative
- Initiative built on existing quality improvement stroke work hospitals were already engaged in
- Promote ICH specific education, model share events, policy and protocol contribution, hospital- system level improvements, testing of new Get With The Guidelines® data elements
- These hospitals informed feasibility, created national education all to improve stroke outcomes for ICH patients



*Hemorrhagic stroke accounts for about 10% of all strokes.
But this is what pushes us forward, because even 10% is too much.*

Phase II Launch: ISC 2023

- Genius Bar demonstrations, teachings about the ICH Layer
- Headquarters Theatre ICH Presentations



Early Adopters Recognized

Hemorrhagic Stroke Initiative

The hemorrhagic stroke initiative aims to extend and improve patients' lives.

Contact Us to Enroll

View Early Adopters



Details and Participation

- The ICH Measure Set, including 10 Performance Measures and 4 Descriptive Measures
- The measures are based on the 2018 publication: Clinical Performance Measures for Adults Hospitalized With Intracerebral Hemorrhage: Performance Measures for Healthcare Professionals From the American Heart Association/American Stroke Association
(linked in resource section)
- Any active Get With The Guidelines®-Stroke hospital may request the ICH Measure set be added to their registry
- No additional fees or contracting involved
- Reach out to your AHA Program Consultant-Health Care Quality OR email:
 - GWTGSupport@heart.org



Get With The Guidelines® ICH Layer

AHA/ASA Performance Measures

Clinical Performance Measures for Adults Hospitalized With Intracerebral Hemorrhage

Performance Measures for Healthcare Professionals From the American Heart Association/American Stroke Association

J. Claude Hemphill III, MD, MAS, FAHA, Chair; Opeolu M. Adeoye, MD, MS, FAHA;
David N. Alexander, MD, FAHA; Anne W. Alexandrov, PhD, AGACNP-BC, ANVP-BC, CCRN;
Sepideh Amin-Hanjani, MD, FAHA; Mary Cushman, MD, MSc, FAHA;
Mary G. George, MD, MSPH, FAHA*; Peter D. LeRoux, MD; Stephan A. Mayer, MD;
Adnan I. Qureshi, MD; Jeffrey L. Saver, MD, FAHA; Lee H. Schwamm, MD, FAHA;
Kevin N. Sheth, MD, FAHA; David Tirschwell, MD, MSc, FAHA;
on behalf of the AHA/ASA Stroke Performance Oversight Committee

Hemphill III, J. Claude, et al. "Clinical performance measures for adults hospitalized with intracerebral hemorrhage: performance measures for healthcare professionals from the American Heart Association/American Stroke Association." *Stroke* 49.7 (2018): e243-e261. <https://www.ahajournals.org/doi/10.1161/STR.000000000000171>

ICH Layer= Existing GWTG-Stroke & CSTK elements + New ICH elements


- **24 new ICH elements** related to the evaluation and treatment of ICH patients
- Form logic enables and requires capture of pertinent ICH elements based on “**Final Clinical Diagnosis of Stroke**” = Intracerebral Hemorrhage

Intracerebral Hemorrhage (ICH)

^Was an initial ICH score done at this hospital? Yes No

^^If yes, ICH score:

^What is the date and time that the ICH score was first performed at this hospital?

/ / : 

MM DD YYYY HH MM

ICH Volume:

ICH Volume Not Documented

IVH Present Not present

Lobar Hemorrhage present on imaging? Yes No

Was the ICH etiology documented in the patient medical record? Yes No





Documented ICH etiology (select all that apply) :

- Hypertension
- Anticoagulant-associated (warfarin, DOACs)
- Coagulopathy (liver cirrhosis hemophilia, sickle cell anemia, DIC, thrombocytopenia)
- Vascular malformations (cerebral aneurysms, AVM, dural AV fistula, capillary telangiectasia, cavernous malformation)
- Tumor
- Substance use (cocaine, stimulants)
- Amyloid angiopathy
- Spontaneous/idiopathic
- Cortical vein thrombosis and venous sinus thrombosis
- Other determined cause

Expanded Elements in ICH Form Group:

Admission	<ul style="list-style-type: none"> ○ Antiplatelet or Anticoagulant medications prior to admission ○ Initial Admitting Service ○ In which settings were care delivered ○ PT/aPTT ○ Anti-factor Xa level ○ Initial ICH Score
Dysphasia	<ul style="list-style-type: none"> ○ Was initial dysphasia screen performed ○ Was first oral intake consistent with any recommended dietary modifications?
VTE Prophylaxis	<ul style="list-style-type: none"> ○ What was the date and time IPC device was placed? ○ Is there physician/ APN/ PA documentation why IPC was not used for VTE prophylaxis?
Reversal	<ul style="list-style-type: none"> ○ Reversal agent administered (at this hospital and prior facility) ○ Was Vitamin K administered? ○ Repeat dose of procoagulant reversal ○ Date/time of procoagulant redosing
Treatment	<ul style="list-style-type: none"> ○ Lobar hemorrhage present on imaging? ○ Date/Time of surgical procedure? ○ Was the patient treated with corticosteroid? ○ Documentation of neurology or other medical reason for prescribing corticosteroid? ○ Did the patient receive any antihypertensive medication on the day of or day prior to discharge? ○ Discharge Blood Pressure ○ Antihypertensive medication prescribed at discharge

Tabs

-   Demographics
- Admin
- Clinical Codes
- Admission
-  Hospitalization
- Time Tracker
-  **Advanced Stroke Care**
- Discharge
- Optional
- Custom Fields
- Certification
- Measures

Performance Measures (Rate Based)

- **AHASTR155:** Admission Unit
- **AHASTR296:** Anticoagulant Reversal (DOACs)
- **AHASTR156:** Assessed for Rehabilitation
- **AHASTR157:** Avoidance of Corticosteroid Use
- **AHASTR158:** Baseline Severity Score
- **AHASTR159:** Blood Pressure Treatment at Discharge
- **AHASTR160:** Coagulopathy Reversal (Warfarin)
- **AHASTR161:** Dysphagia Screening within 24 Hours
- **AHASTR163:** Passed Dysphagia Screen Before First Oral Intake
- **AHASTR164:** Venous Thromboembolism (VTE) Prophylaxis

Descriptive Measures

- **AHSTR162:** ICH Records with Missing Times
- **AHASTR299:** Anticoagulant Reversal Agents
- **AHASTR300:** Reasons No Anticoagulant Reversal was Administered
- **AHASTR301:** Time to Anticoagulant Reversal

GWTG-Stroke Library

Test Facility

- Patients
- Upload
- Form Management
- Notifications
- ANALYTICS**
- Operational Reports
- RESOURCES**
- Library
- ACCOUNT**

- GWTG Stroke Performance Measure Logic and Rationale
- GWTG ICH Initiative Measure Descriptions
- GWTG Stroke Post Discharge Follow-up Measure Descriptions
- GWTG-Stroke Program Measures & Definitions
- GWTG-Stroke Comprehensive Measures
- GWTG-Stroke Composite and Defect-Free Measures

▼ Coding Instructions

GWTG-Stroke Coding Instructions May 2023

GWTG-Stroke ICH Measure Descriptions

Updated January 2022

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Baseline Severity Score

Percentage of patients with Intracerebral hemorrhage in whom a baseline severity score is measured and a total score recorded as part of initial evaluation on arrival at the hospital

Rationale

- ✓ Baseline clinical evaluation is part of the standard care of every patient with ICH. Measurement of a validated standardized severity score is important for prioritizing interventions, such as intensive care unit admission and surgical intervention, is the main determinant of short-term and long-term prognosis.

For Consideration

- ✓ Training in ICH score calculation may be needed to produce the most reliable results.
- ✓ Measuring an intracerebral-specific score, such as the ICH score, within 6 h of arrival may be challenging for hospitals without an on-site stroke team
- When hematoma volume is measured as part of a baseline severity score, a validated measure (such as the ABC/2 calculation method) should be used. This requires training.

Coagulopathy Reversal (Warfarin)

Percentage of patients with Intracerebral hemorrhage and an INR > 1.4 resulting from warfarin treatment who receive therapy to replace vitamin K-dependent clotting factors within 90 minutes of emergency department (ED) presentation and who also receive intravenous Vitamin K

Rationale

- ✓ Coagulopathy, specifically that resulting from the vitamin K antagonist warfarin, is a significant risk factor for hematoma expansion in ICH, and outcome is worsened in these patients.
- ✓ Time to correction of an elevated INR caused by warfarin has been related to amount of hematoma expansion.
- ✓ Prothrombin complex concentrates and fresh-frozen plasma decrease the INR and quickly reverse the anticoagulant effect of warfarin.
- ✓ Vitamin K is needed to ensure that coagulopathy does not return after the effect of initial reversal has passed.

For Consideration

- ✓ Documentation of time of symptom onset or last known well is not always recorded for ICH (included pop., LKW within 12 h of ED presentation)
- ✓ Initiation of coagulopathy reversal agent does not necessarily guarantee adequate INR correction

Venous Thromboembolism (VTE) Prophylaxis

Percentage of patients with Intracerebral hemorrhage who receive lower limb pneumatic compression on hospital day 0 or 1

Rationale

- ✓ Pulmonary embolism from DVT accounts for nearly 10% of deaths after stroke. DVT is common in patients with ICH because of decreased mobility.
- ✓ The CLOTS trials demonstrated that pneumatic compression is superior to the use of graduated compression stockings and that DVT occurrence is reduced, especially in patients with ICH, if pneumatic compression was started as early as the day of hospital admission.

For Consideration

- ✓ Documentation variability in the description of whether pneumatic compression was used
- ✓ Documentation of contraindication to pneumatic compression

Percentage of patients with Intracerebral hemorrhage who are admitted to an intensive care unit or dedicated stroke unit with physician and nursing neuroscience acute care expertise

Rationale

- ✓ Patients with ICH are frequently medically and neurologically unstable particularly at the time of initial presentation. Care of patients with ICH in a dedicated neuroscience intensive care unit is associated with a lower mortality rate.
- ✓ Stroke units have demonstrated improved long-term outcome in randomized trials.

For Consideration

- ✓ Measure would require hospitals that do not have such an intensive care unit or dedicated stroke unit to transfer the patient with ICH from the ED to a hospital that has this type of intensive care unit or stroke unit

Dysphagia Screening within 24 Hours

Percentage of patients with Intracerebral hemorrhage for whom there is documentation that a dysphagia screening was performed within 24 hours of admission using a dysphagia screening tool approved by the institution in which the patient is receiving care

Rationale

- ✓ Dysphagia is present in up to 67% of patients with acute stroke, and of these, almost 50% have aspiration, a prerequisite for aspiration pneumonia. Up to one third of patients who aspirate develop pneumonia.
- ✓ Pneumonia is a serious complication of stroke and is associated with increased mortality.
- ✓ Several studies have demonstrated a reduction in pneumonia after implementation of dysphagia screening protocols but without randomized control groups.

For Consideration

- ✓ Documentation of timing of dysphagia screen may be difficult to locate in chart review.
- ✓ Requires that institutional dysphagia screening protocols be developed and that adherence to these protocols can be abstracted from the chart

Passed Dysphagia Screening Before First Oral Intake

Percentage of patients with Intracerebral hemorrhage who were documented to have passed* the most recent dysphagia screen before oral intake of fluids, nutrition, or medications

Rationale (same as previous slide)

- ✓ *"Passed" indicates that an oral dysphagia screening protocol was performed according to institutional protocol and that the results of the screen indicated that oral intake, with or without modifications or restrictions (e.g., for consistency of liquids or solid food, or supervision during oral intake), was recommended.
- ✓ In cases in which the most recent screening before first oral intake recommended a modified diet or restrictions, the first oral intake should have been consistent with the recommended modifications; if the first oral intake was not consistent with the recommended dietary modification (e.g., the patient was provided thin liquids, although the recommendation was for thickened liquids), then the patient should be excluded from the numerator.

For Consideration

- ✓ Documentation of timing of dysphagia screen in relation to oral intake may be difficult to locate in chart review.

Percentage of patients with Intracerebral hemorrhage who are prescribed an antihypertensive medication OR who have a documented blood pressure OFF medications less than 130/80 at the time of hospital discharge

Rationale

- ✓ Hypertension is the single most important modifiable risk factor for recurrent stroke among patients who survive ICH.
- ✓ Long-term BP control reduces the risk of recurrent ICH.
- ✓ Randomized clinical trials have found early lowering of BP to be safe after spontaneous ICH.

For Consideration

- ✓ Prescription of an antihypertensive agent at hospital discharge does not guarantee long-term BP control.
- ✓ Documentation is required because an antihypertensive medication is not prescribed at hospital discharge if the BP at that time is $\geq 130/80$ mm Hg.

Assessed for Rehabilitation

Percentage of patients with Intracerebral hemorrhage who were assessed for, or who received, rehabilitation services

Rationale

- ✓ ICH often results in severe long-term disability. Comprehensive stroke units that include rehabilitation services demonstrate improved outcomes compared with other models of stroke unit care
- ✓ Most studies of rehabilitation in stroke have included patients with ICH and ischemic stroke

For Consideration

- ✓ Compliance to the measure is already quite high.
- ✓ The association between assessment and initiation of an appropriate rehabilitation plan is unmeasured, leaving uncertainty about the impact of the measure on improved outcomes.
- ✓ Documentation may be challenging to identify if rehabilitation services are delayed based on anticipated institution of care limitations (e.g., DNR, hospice, comfort measures only) or acute care hospital transfer.

Avoidance of Corticosteroid Use

Percentage of patients with Intracerebral hemorrhage who DO NOT receive Corticosteroids for elevated Intracranial pressure or brain edema during acute hospitalization

Rationale

- ✓ Corticosteroids may be used for the treatment of cerebral mass effect and elevated intracranial pressure if vasogenic edema is present from brain tumors or cerebral abscess.
- ✓ A prior randomized clinical trial in ICH found increased complications and no outcome benefit.
- ✓ This has also been found in traumatic brain and spinal cord injury, and corticosteroids are not recommended in these conditions.

For Consideration

- ✓ Determining indication for corticosteroid administration
- ✓ 0% Administration of corticosteroids is the desired result.


Post Discharge Follow-Up

Follow-up short form available to all sites


All Forms			Stroke Form			Follow-Up Form			
Action	Patient ID	Form Title	Discharge Date	Arrival Date	Last Modified Date	Record Creation Date	Status	Stroke Diagnosis	Thrombolytic Used
Action ▾	112223A	Stroke Form			03/30/2023	12/19/2022	Incomplete	Ischemic Stroke	
Open Form									
Print Form	est	Stroke Form			04/19/2023	12/19/2022	Incompl		
View Audit Trail									
Delete		Stroke Form			01/06/2023	01/06/2023	Incompl		
Add New Stroke Form									
Add New Follow-Up Form		Stroke Form			01/10/2023	01/10/2023	Incompl		

Outcome


Outcome

Date of Hospital Admission: / / 


MM DD YYYY


Date of Hospital Discharge: / / 

MM DD YYYY


Date Follow-Up Completed: / / 


MM DD YYYY

Post Discharge Modified Rankin Scale Yes No/ND 

Date Post Discharge Modified Rankin Scale Performed / / 

MM DD YYYY

Modified Rankin Scale - Total Score 

Is patient deceased? Yes No 

GWTG-Stroke Reports

Configurable Reports

Get With The Guidelines®-Stroke Measures Report

This report provides the ability to select your own parameters for the GWTG-Stroke measures report.

Get With The Guidelines®-Stroke Time Tracker Report

This report provides time intervals between various points of care pertaining to acute stroke

EMS Feedback Log

Provides the feedback details of the patient entered for the study

List of Patients Expected to Have a Follow-Up

This report provides a listing of patients that require a follow up form entered

Get With The Guidelines®-Stroke Advanced Analytics

This report provides the ability to select your own parameters for the Mission:Lifeline® regional report.

ICH Measures

AHASTR155:Admission Unit

AHASTR296:Anticoagulant Reversal (DOACs)

AHASTR299:Anticoagulant Reversal Agents

AHASTR156:Assessed for Rehabilitation

AHASTR157:Avoidance of Corticosteroid Use

AHASTR158:Baseline Severity Score

AHASTR159:Blood Pressure Treatment at Discharge

AHASTR160:Coagulopathy Reversal (Warfarin)

AHASTR161:Dysphagia Screening within 24 Hours

AHASTR162:CH Records with Missing Times

AHASTR163:Passed Dysphagia Screen Before First Oral Intake

AHASTR300:Reasons No Anticoagulant Reversal was Admin

AHASTR164:Venous Thromboembolism (VTE) Prophylaxis

AHASTR301:Time to Anticoagulant Reversal

Updates Coming...

Blood Pressure Control Data Collection

- New elements to capture data relating to time to BP treatment and time to BP control

Inappropriate Platelet Transfusion Data Collection and Measures

- New elements to capture data relating to platelet transfusion
- New measures for Inappropriate Platelet Transfusion and Antithrombotics Prior to Platelet Transfusion

ICH Form Group Benchmark

- Benchmark group including all sites enrolled in the ICH Form Group



Resources

ICH Resources

<https://www.heart.org/en/professional/quality-improvement>

Healthy Living ▾ Health Topics ▾ **Professionals ▾** Get Inv



Professional Resources

Professional Heart Daily

Research

Guidelines & Statements

Quality Improvement

Get With The Guidelines®

International Quality Care

Target: Aortic Stenosis™

Professional Membership

Journals

Mission: Lifeline®

Research and Publications

Hemorrhagic Stroke Initiative

Hemorrhagic Stroke Initiative

The hemorrhagic stroke initiative aims to extend and improve patients' lives.

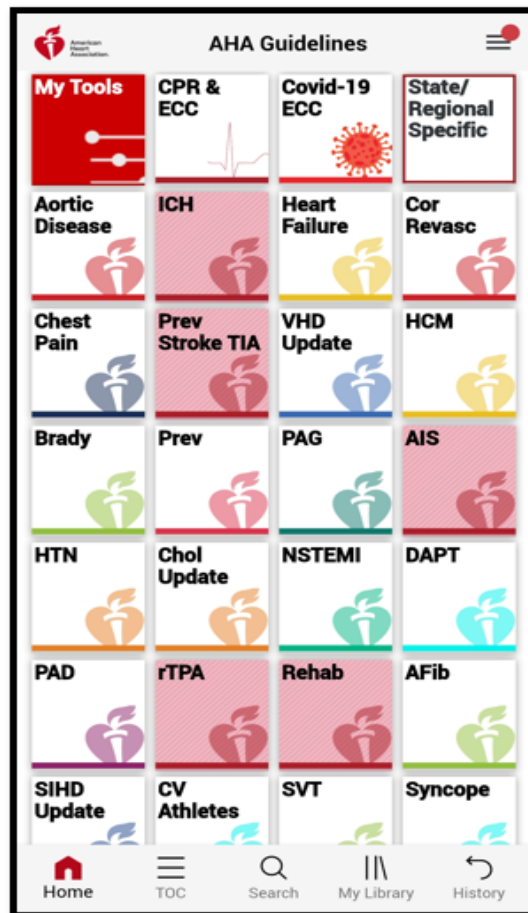
Contact Us to Enroll

View Early Adopters



AHA-Guidelines On-The-Go: Mobile App

Download available on iOS or Android



Clinical Performance Measures for Adults Hospitalized With Intracerebral Hemorrhage- Performance Measures for Healthcare Professionals From the American Heart Association/American Stroke Association

- <https://www.ahajournals.org/doi/10.1161/STR.0000000000000171>

2022 Guideline for the Management of Patients With Spontaneous Intracerebral Hemorrhage: A Guideline From the American Heart Association/American Stroke Association

- <https://www.ahajournals.org/doi/epdf/10.1161/STR.0000000000000407>

Get With The Guidelines ICH Measure Descriptions

- [GWTG_ICH_Measures_1.4.2022 \(22\).pdf](#)



American
Heart
Association.

Thank You!

susan.abelt@heart.org



American Heart Association.
Get With The Guidelines.
Stroke