



THE UNIVERSITY OF KANSAS HEALTH SYSTEM  
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# Highlights on the 2022 AHA/ASA Guideline for the Management of Patients with Spontaneous Intracerebral Hemorrhage

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**American  
Heart  
Association.**



**American  
Stroke  
Association.**  
*A division of the  
American Heart Association.*

# Top Takeaways from the new 2022 Guidelines release May 17th

- ICHs are the deadliest form of acute stroke with mortality between 30-40%.
- Approximately 10% of strokes in the U.S. are ICHs.
- ICH disproportionately affects lower-resourced populations.
- ICH can affect anyone, but incidence increases with age. This affect is attributed to the increased incidence of hypertension and anticoagulant use with advanced age.

# 1. Rapid transport is key.

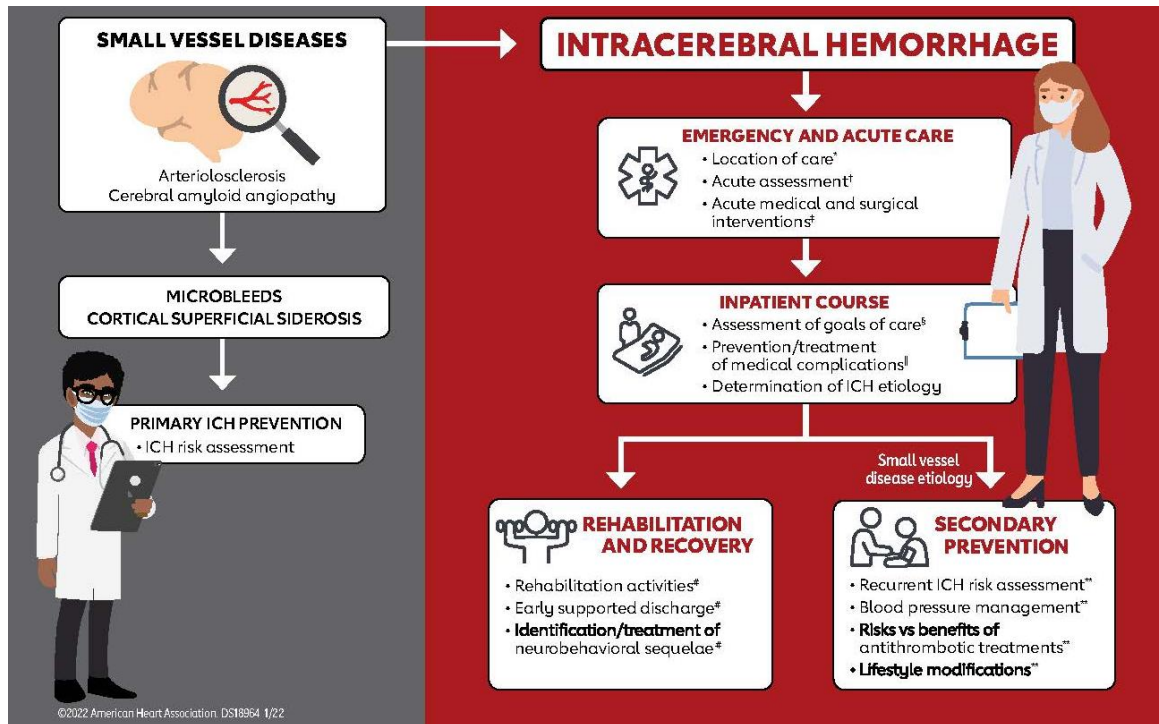
Early symptom recognition is critical for ICH care. As no current stroke screening tool can differentiate between ICH and AIS, transport to the nearest stroke ready facility is key. Further readiness for rapid transport to a Comprehensive Stroke Center is then critical.

## 2. Hemorrhage expansion management using neuroimaging biomarkers is considered useful.

An initial NCCT is the readily available standard to diagnosis an ICH and serial head CTs can be useful in the first 24 hours to assess for hemorrhage expansion, especially in the presence of low GCS.

# 3. Identifying pathology is key

ICH occur as a consequence of vascular pathologies. Identifying both microvascular and macrovascular etiologies are vital. Small vessel disease with arteriolosclerosis and cerebral amyloid angiopathy are the main causes of ICH. Hypertension is the main risk factor.

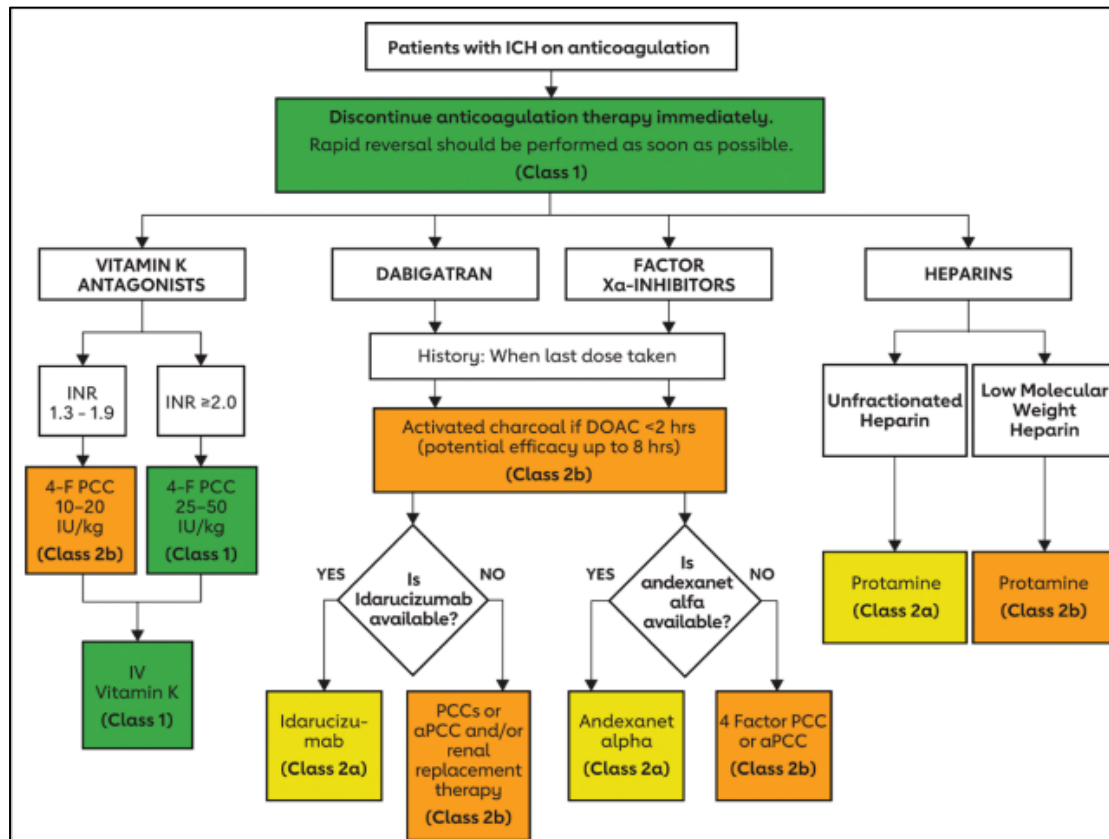


## **4. Smooth, sustained blood pressure control leads to reduced hematoma expansion and better functional outcomes.**

Initiating blood pressure reduction as soon as possible with careful titration to ensure continuous smooth and sustained control of BP is recommended. Lowering SBP to a goal between 130 and 150 mm Hg is safe and may be reasonable, however lowering of SBP to <130 mm Hg is potentially harmful and should be avoided.

# 5. Anticoagulation reversal recommendations.

Risk of hemorrhage expansion, poor outcomes, and death is increased in patients on anticoagulation therapy. Emergency reversal management via protocols and processes should be in place.



## 6. Historic treatments that that offer no benefit or cause harm

- Prophylactic corticosteroids or continuous hyperosmolar therapy appear to have no benefit for outcomes.
- Platelet transfusions, outside of emergency surgery or severe thrombocytopenia, appear to worsen outcomes.
- Compression stockings alone appear to offer no benefit in VTE prevention.
- Prophylactic antiseizure medications, in the absence of seizure-like activity, do not improve long term seizure control and do not improve functional outcomes.

# 7. Minimally invasive surgical options have demonstrated reduced mortality (over medical management alone).

Clinical trial evidence for improved functional outcomes is neutral however. MIS versus craniotomy benefits must be based on clinician and center skill and experience.

## **8. Palliative care and DNAR decisions are complex and should be made collaboratively.**

Emphasis on differentiating between DNAR and palliative care is made. An initial ICH score to measure hemorrhage severity is recommended, but using this score as the sole decision making tool for forecasting the patient's prognosis is not. A shared decision-making model with the patient or patient surrogate is recommended to align with the patient wishes.

## **9. Rehab is important, but should be held until after 24 hours or harm has been demonstrated.**

Rehabilitation is an important determinant of ICH outcome and quality of life, however early aggressive mobilization within the first 24 hours appears to worsen 14 day mortality. Additionally, earlier suggestions of adding fluoxetine to improve functional recovery have failed to confirm any benefit and have increased the incidence of fractures.

# 10. The home caregiver is an important part of the ICH team.

This guideline recommends psychosocial education, practical support, and training for the caregiver to improve the patient's balance, activity level, and overall quality of life.

## Reference:

Greenberg SM, Ziai WC, Cordonnier C, Dowlatshahi D, Francis B, Goldstein JN, Hemphill JC 3rd, Johnson R, Keigher KM, Mack WJ, Mocco J, Newton EJ, Ruff IM, Sansing LH, Schulman S, Selim MH, Sheth KN, Sprigg N, Sunnerhagen KS; on behalf of the American Heart Association/American Stroke Association. [2022 Guideline for the management of patients with spontaneous intracerebral hemorrhage: a guideline from the American Heart Association/American Stroke Association](#) [published online ahead of print May 17, 2022]. *Stroke*. doi: 10.1161/STR.0000000000000407