

Cerebral Venous Sinus Thrombosis (CVST):

Post-diagnosis imaging and anticoagulation guidance (birth-21 years)

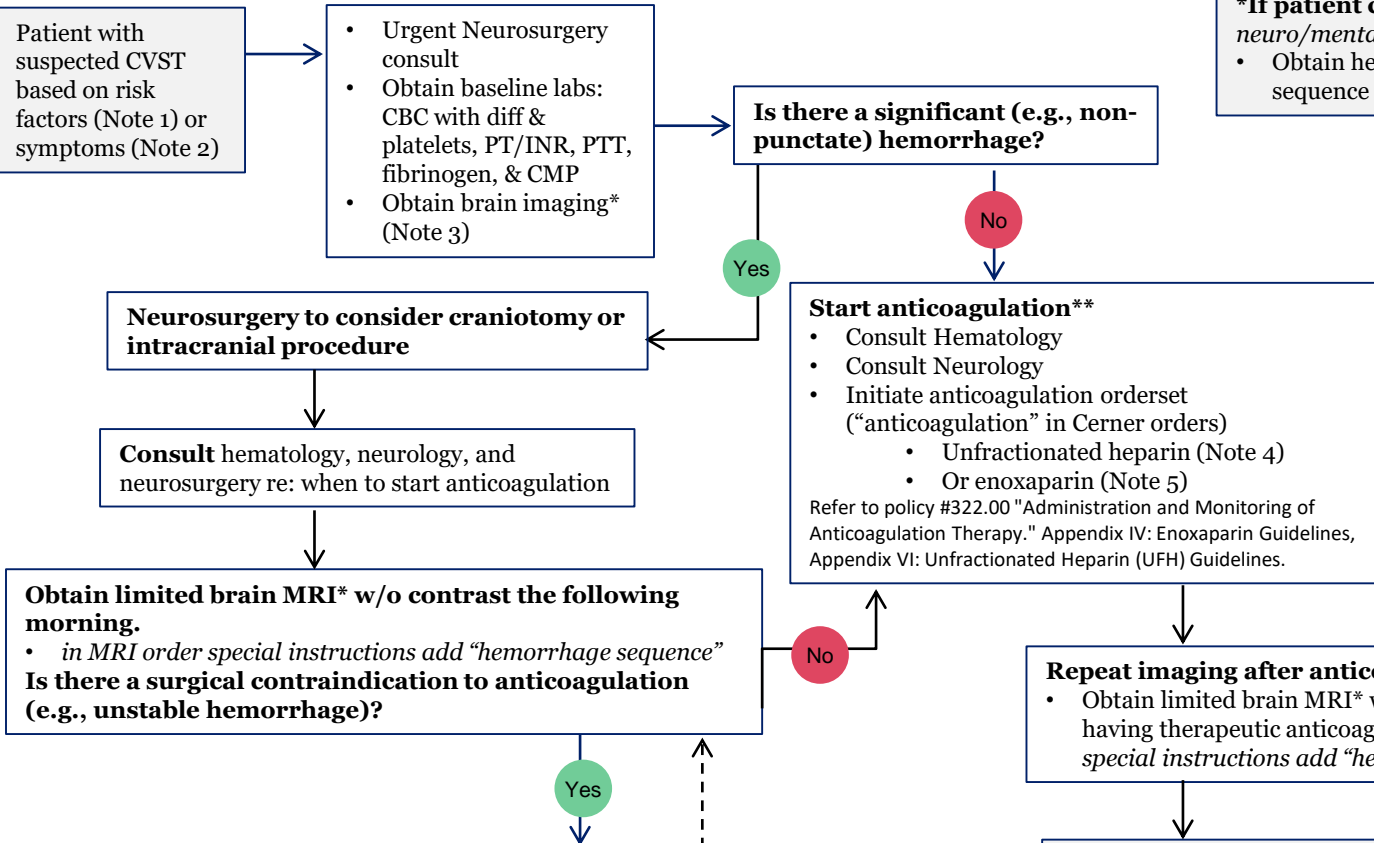
Aim: To reduce variation in management of CVST specific to imaging and anticoagulation.

***If patient clinically unstable** (*worsening neuro/mental status, or symptoms*)

- Obtain head CT or limited brain MRI with hemorrhage sequence to quickly evaluate for catastrophic bleed

****If acute bleeding** (for example, epistaxis, prolonged bleeding with labs/IV, GI bleeding) while on anticoagulation.

- Urgently notify in the following order:
 - Hematology
 - Neurosurgery
 - Primary surgeon/attending
- Begin anticoagulation reversal process via policy 322.00 "Administration and Monitoring of Anticoagulation Therapy" [Policy pdf](#)



EXCLUSION GUIDELINES
Patients **excluded** from this guideline:

- Patients with Sickle Cell disease
- Cortical vein thrombus (in setting of non-accidental trauma)

Disclaimer: This guideline is designed for general use with most patients; each clinician should use their own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.

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Note 1. Risk factors for CVST-There is a wide spectrum risk factors and causes. Neonatal risk factors include placental lesions, birth hypoxia, premature rupture of membranes, maternal infection, cranial molding during birthing process, dehydration. Other childhood/young adult risk factors include head and neck disorders, head injury, infections, chronic systemic diseases, prothrombotic disorders, malignancy, pregnancy, oral contraceptives, lumbar puncture, and obesity.

Note 2. Symptoms of CVST are highly variable. Patients may present with new or different headache (e.g., worsening frequency or severity), visual problems, focal deficits (e.g., hemiparesis), seizures, or encephalopathy (mental status changes). Presentation may be acute, subacute, or chronic.

Note 3. Optimal imaging strategy to diagnose CVST is full brain MRI with and without contrast (in order comments specify “include hemorrhage sequence”) plus contrast-enhanced MRV. However, definitive therapy should not be delayed in setting of difficulties obtaining advanced imaging. Head CT may be normal in ~30% of CVST. Note different MR sequences or scanners may not have comparable images to trend size of findings.

Note 4. Unfractionated heparin “anticoagulation heparin” order in Cerner, includes consult to pharmacy to monitor levels

- Loading dose of 75 units/kg IV infused over 10 minutes, rounded to the nearest 20 unit increment. Alternate loading dose may be used at discretion of physician. Max loading dose is 5000 units.
- Initial maintenance dose:
 - Less than or equal to 1 year of age: 28 units/kg/hr
 - Greater than 1 year of age: 20 units/kg/hr
- Baseline labs to obtain prior to start of anticoagulation: CBC with diff and platelets, CMP, PT/INR, PTT, and fibrinogen

Note 5. Enoxaparin “anticoagulation enoxaparin” orderset in Cerner, includes consult to pharmacy to monitor levels

- Baseline labs to obtain prior to start of anticoagulation: CBC with diff and platelets, CMP, PT/INR, PTT, and fibrinogen
- Treatment Dosing
 - Preterm neonate (up to 28 days of age): 2 mg/kg/dose SubQ Q12h
 - Term neonates and infants age <3 months: 1.7 mg/kg/dose SubQ Q12h
 - Age 3 months to 2 years: 1.2 mg/kg/dose SubQ Q12h
 - Age >2 years: 1 mg/kg/dose SubQ Q12h

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