### Evidence-Based Practice Recommendations

#### Evidence-Based Approach To Diagnosis And Management Of Aneurysmal Subarachnoid Hemorrhage In The Emergency Department

Thomas LE, Edlow J, Goldstein JN. July 2009; Volume 11, Number 7

This issue of Emergency Medicine Practice focuses on the challenge of diagnosing and managing SAH, using the best available evidence from the literature. For a more detailed discussion of this topic, including figures and tables, clinical pathways, and other considerations not noted here, please see the complete issue at [www.ebmedicine.net/topics](http://www.ebmedicine.net/topics).

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<th>Key Points</th>
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<td>Evaluate all patients with classic “worst-of-life” sudden-onset headache as well as those with suspicious changes in usual headache history for SAH.</td>
<td>Only 10% to 16% of patients who present with worst-of-life headache will have serious pathology such as SAH. A thorough clinical history and physical examination will help determine which patients require more rigorous diagnostic evaluation.</td>
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<td>Begin the diagnosis with a noncontrast head CT. If the head CT is negative, perform LP.</td>
<td>Both noncontrast CT and LP have limitations in interpretation. Alert patients with SAH are more likely to have negative CT scans than are patients with neurologic deficits.</td>
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<td>If patients suspected of having SAH have a fully negative workup, including negative CT and negative LP, they can be safely discharged.</td>
<td>There is sufficient prospective evidence (Class II, Level B recommendation by the American College of Emergency Physicians) showing that there are no missed cases of SAH with this strategy. Angiography or other additional testing is not needed, but outpatient follow-up should be arranged.</td>
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<td>Once SAH is diagnosed, collaborate with neurosurgical colleagues and perform cerebral angiography to detect the underlying cerebral aneurysm.</td>
<td>This is a Class I, Level B recommendation from the American Heart Association. Consider magnetic resonance angiography and computed tomographic angiography when conventional angiography cannot be performed in a timely fashion.</td>
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<td>Transfer patients with SAH early to a high-volume hospital with advanced endovascular, neurosurgical, and ICU services.</td>
<td>Even with transfer to specialized, neurosurgical ICU care in high-volume centers, in-hospital mortality after SAH is still &gt; 30%. Outcome in surviving patients depends on several factors, including age, grade at time of presentation, comorbidities, and perioperative complications during hospitalization.</td>
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<td>Perform continuous cardiorespiratory monitoring, including blood pressure monitoring, in patients with SAH.</td>
<td>There are no set protocols for specific management of blood pressure in SAH. Elevated blood pressure should be controlled to balance the risk of stroke and rebleeding as well as to maintain cerebral perfusion pressure. This is a Class II, Level B recommendation from the American Heart Association.</td>
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<td>Give oral nimodipine to patients with SAH.</td>
<td>This is a Class I, Level A recommendation from the American Heart Association and has been proven to decrease poor outcome from vasospasm. If a patient is unable to tolerate oral intake, the nimodipine should be crushed and given by nasogastric tube.</td>
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<td>Discuss the need for anticonvulsant treatment with the treating neurosurgeons.</td>
<td>Prophylactic anticonvulsant therapy in the immediate posthemorrhage period is a Class III, Level B recommendation from the American Heart Association and may be considered useful in some patients.</td>
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<td>Reverse coagulopathy in anticoagulated patients by providing emergent clotting factor and vitamin K.</td>
<td>Rapid reversal is recommended to prevent hematoma expansion, regardless of indication for anticoagulation.</td>
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*See reverse side for reference citations.*

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