**Adult Acute Bacterial Meningitis In The United States: 2009 Update**  
Sadoun T, Singh A. September 2009; Volume 11, Number 9  
*This issue of Emergency Medicine Practice reviews the ED approach to and treatment of community-acquired ABM in adults. 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.*

<table>
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<th>Key Points</th>
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<td>Consider acute bacterial meningitis (ABM) in the differential.</td>
<td>The initial presentation of ABM can resemble that of an acute viral illness. Indeed, an Internet search of meningitis and sent home yields numerous cases of both children and adults who presented with nonspecific illnesses and were subsequently discharged from the ED.</td>
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<td>The classic triad of fever, neck stiffness, and altered mental status is present in 44% of patients with ABM.³⁹</td>
<td>Headache appears to be much more common on presentation. One report found that nearly 90% of adults with community-acquired meningitis complained of headache.³⁹ The presence or absence of Kernig and Brudzinski signs is of little diagnostic value.⁴⁴</td>
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<td>Do not delay antibiotic administration pending the results of a cranial computed tomography (CT) scan or lumbar puncture (LP) analysis in patients strongly suspected of having bacterial meningitis.</td>
<td>The initial choice of antibiotics in immunocompetent adults typically includes ceftriaxone and vancomycin.¹⁰</td>
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<td>Administer corticosteroids to immunocompetent adults with ABM prior to or concurrent with the first dose of antibiotics.¹¹³</td>
<td>Giving a single dose of dexamethasone to patients who turn out to have a nonmeningitis diagnosis will not likely cause significant morbidity.</td>
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<td>Administer fluids to patients with bacterial meningitis. Both overresuscitation and underresuscitation with IV fluids have been associated with adverse outcomes.¹¹⁵</td>
<td>A combined analysis of 3 randomized controlled trials demonstrated no overall mortality difference between the use of maintenance fluid administration and restricted fluid administration.¹¹⁵ Additionally, no difference was seen in the patient care outcomes of severe neurologic sequelae or mild to moderate neurologic sequelae. Compared with the use of restricted fluid, the use of maintenance fluid was associated with improved outcome in individual neurologic analysis of spasticity, seizures at 72 hours, seizures at 14 days, and chronic neurologic sequelae at 3 months’ follow-up.</td>
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<td>Avoid recombinant human activated protein C (rhAPC) in patients with meningitis.¹²⁶</td>
<td>An industry-sponsored retrospective analysis of placebo-controlled, open-label compassionate-use trials found an 18% mortality rate in 106 adult patients and an 8% mortality rate in 48 pediatric patients diagnosed with meningitis who were concomitantly treated with rhAPC.¹²⁶ Although overall rates of serious bleeding were low, 6% of the adult patients with meningitis experienced an intracerebral hemorrhage within 28 days of the administration of rhAPC.</td>
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<td>Do not overlook contraindications to LP;⁴⁵ and consider that alternative diagnoses (e.g., brain abscess, toxoplasmosis) will be picked up by cranial CT scan.</td>
<td>Findings on CT scan generally accepted as contraindications to LP include: (1) a lateral shift of midline structures; (2) loss of the suprachiasmatic and basilar (circummesencephalic) cisterns; (3) obliteration or shift of the fourth ventricle; and (4) obliteration of the superior cerebellar and quadrigeminal plate cisterns with sparing of the ambient cisterns.⁴⁶</td>
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*See reverse side for reference citations.*
REFERENCES

These references are excerpted from the original manuscript. For additional references and information on this topic, see the full text article at ebmedicine.net.


46. Gower DJ, Baker AL, Bell VO, Ball MR. Contraindications to lumbar puncture as defined by computed cranial tomography. J Neurol Neurosurg Psychiatry. 1987;50(8):1071-1074. (Review article)


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