Review: The physical examination can exclude the diagnosis of meningitis in low-risk adults


**Question**
What is the sensitivity of specific features of the clinical history and physical examination for diagnosing meningitis in immunocompetent adults?

**Data sources**
Studies were identified by searching MEDLINE (1966 to July 1997) using terms related to physical examination, meningitis, and diagnostic test properties and scanning bibliographies of relevant articles.

**Study selection**
English and French studies of adults were selected if they assessed the sensitivity of various features of the clinical history or physical examination for the diagnosis of meningitis and if most of the patients had objectively confirmed bacterial or viral meningitis.

**Data extraction**
Data were extracted on the clinical setting, years of data collection, number and characteristics of the patients and patient episodes, how patients were identified, type of meningitis, clinical history (headache, nausea and vomiting, and neck pain), and physical examination (fever, neck stiffness, altered mental status, focal neurologic findings, rash, Kernig sign, and jolt accentuation of headache).

**Main results**
10 studies of 824 patients (845 episodes) met the inclusion criteria. 9 of these studies used data from retrospective chart reviews. Age range was 16 to 95 years. Data were combined to calculate pooled sensitivities (Table). Clinical history items had low sensitivities. Physical examination features, especially fever and neck stiffness had higher sensitivities (Table). In 1 study of patients with headache and fever, the jolt accentuation of headache had a sensitivity of 97% and specificity of 60%.

**Conclusions**
Among patients at low risk, meningitis can be ruled out by absence of fever, neck stiffness, or altered mental status. All studies, however, are of relatively poor quality.

**Reference**