

Weak cry

Full, tense, and bulging fontanel may appear late in course of illness

Neck usually supple

Nonspecific Signs That May Be Present

Hypothermia or fever (depending on the infant's maturity)

Jaundice

Irritability

Drowsiness

Seizures

Respiratory irregularities or apnea

Cyanosis

Weight loss

Diagnostic Evaluation

A lumbar puncture is the definitive diagnostic test for meningitis. The fluid pressure is measured, and samples are obtained for culture, Gram stain, blood cell count, and determination of glucose and protein content. These findings are usually diagnostic. Culture and sensitivity testing are needed to identify the causative organism. Spinal fluid pressure is usually elevated, but interpretation is often difficult when the child is crying. Sedation with fentanyl and midazolam can alleviate the child's pain and fear associated with this procedure. If there is evidence or suspicion of increased ICP (papilledema, focal neurologic deficits, bulging fontanel), a CT scan of the head may be warranted before the procedure ([Bamberger, 2010](#)). Lumbar puncture is contraindicated in any patient with imaging to suggest that the procedure is not safe (e.g., midline shift, mass effect, transependymal migration of CSF).