Recommended testing for patients with findings suggestive of acute (<8 days of symptoms) meningitis or encephalitis.

**NOTE:** Not intended for patients with cerebrospinal fluid (CSF) shunts or possible central nervous system surgical site infections. Infectious Diseases and/or Neurology specialty consultation is recommended.

- Lumbar puncture to obtain CSF. Order the following tests and retain CSF for additional testing:
  - Opening pressure (may not be indicated in neonates/infants)
  - Cytology, cell count and differential
  - Protein and glucose
  - Gram stain
  - Bacterial culture (aerobic with antimicrobial susceptibility testing)
  - Cryptococcal antigen, if indicated per patient risk factors
  - Blood cultures

If CSF testing available on-site

**Perform:**
- Streptococcus pneumoniae antigen
- Herpes simplex virus (HSV) PCR
- Enterovirus PCR
- Varicella-zoster virus PCR

**Consider:**
- Syphilis testing
  - SYPH1 / Syphilis IgG with Reflex, Enzyme Immunoassay, Serum
  - VDSF / VDRL, Spinal Fluid
- Fungal and mycobacterial testing
  - FGEN / Fungal Culture, Routine
  - FS / Fungal Smear, Varies
  - CTB / Mycobacteria and Nocardia Culture, Varies
  - SAFB / Acid-Fast Smear for Mycobacterium, Varies
  - MTBRP / Mycobacterium tuberculosis Complex, Molecular Detection, PCR
  - HBRP / Histoplasma capsulatum/Blastomyces species, Molecular Detection, PCR, Varies
  - HICBL / Histoplasma/Blastomyces Panel, Spinal Fluid
  - SHSTO / Histoplasma Antibody, Serum
  - FUNSF / Fungitell, CSF (1,3-beta-D-glucan)
  - BLAST / Blastomyces Antibody by Enzyme Immunoassay, Serum
  - COXIS / Coccidioides Antibody with Reflex, Serum
  - GCCOC / Coccidioides Antibody, Spinal Fluid
  - GIMRP / Coccidioides immitis/posadasii, Molecular Detection, PCR

Pathogen-specific infection management

If CSF parameters do not suggest infection

If CSF parameters suggest infection

Reevaluate patient

Order: CSFME / Meningitis/Encephalitis Pathogen Panel, PCR, Spinal Fluid

**POSITIVE**
- Pathogen-specific infection management

**NEGATIVE**
- Reevaluate patient
- CSF parameters do not suggest infection
- CSF parameters suggest infection

**TESTING NOT AVAILABLE**
- Additional testing should be tailored based on clinical presentation, risk factors, CSF parameters, and exposure history.
  - If not previously performed, consider:
    - CLFA / Cryptococcus Antigen Screen with Titer, Spinal Fluid
    - HSVC / Herpes Simplex Virus (HSV), Molecular Detection, PCR, Spinal Fluid
    - Syphilis testing
      - SYPH1 / Syphilis IgG with Reflex, Enzyme Immunoassay, Serum
      - VDSF / VDRL, Spinal Fluid
    - Fungal and mycobacterial testing
      - FGEN / Fungal Culture, Routine
      - FS / Fungal Smear, Varies
      - CTB / Mycobacteria and Nocardia Culture, Varies
      - SAFB / Acid-Fast Smear for Mycobacterium, Varies
      - MTBRP / Mycobacterium tuberculosis Complex, Molecular Detection, PCR
      - HBRP / Histoplasma capsulatum/Blastomyces species, Molecular Detection, PCR, Varies
      - HICBL / Histoplasma/Blastomyces Panel, Spinal Fluid
      - SHSTO / Histoplasma Antibody, Serum
      - FUNSF / Fungitell, CSF (1,3-beta-D-glucan)
      - BLAST / Blastomyces Antibody by Enzyme Immunoassay, Serum
      - COXIS / Coccidioides Antibody with Reflex, Serum
      - GCCOC / Coccidioides Antibody, Spinal Fluid
      - GIMRP / Coccidioides immitis/posadasii, Molecular Detection, PCR

**POSITIVE**
- Vector-borne testing
  - Mosquito-borne pathogens
    - Refer to the Mosquito-borne Disease Laboratory Testing Algorithm for information
  - Tick-borne pathogens
    - LNBAB / Lyme Central Nervous System Infection IgG with Antibody Index Reflex, Serum and Spinal Fluid (see Lyme Neuroborreliosis Diagnostic Algorithm)
    - PBORR / Lyme Disease, Molecular Detection, PCR, Varies
    - POWV / Powassan Virus, IgM, Enzyme-Linked Immunosorbent Assay, Serum
    - For emerging vector-borne diseases (eg, Jamestown Canyon virus) contact your local public health laboratory for more information
- Neuroimmunology testing (consider if antibody prevalence in epilepsy and encephalopathy [APE2] score is ≥4)
  - ENS2 / Encephalopathy, Autoimmune Evaluation, Serum
  - ENC2 / Encephalopathy, Autoimmune Evaluation, Spinal Fluid
- Parasitic testing
  - FLARP / Free-Living Amebae, Molecular Detection, PCR, Spinal Fluid, Fresh and Paraffin Tissue
  - PTOX / Toxoplasma gondii, Molecular Detection, PCR
  - TXMGP / Toxoplasma gondii Antibody, IgM and IgG (Separate Determinations), Serum
- Other considerations
  - BRBPS / Broad Range Bacterial PCR and Sequencing, Varies
  - HIVDX / HIV-1 and HIV-2 Antigen and Antibody Diagnostic Evaluation, Plasma
  - LCJC / JC Virus, Molecular Detection, PCR, Spinal Fluid