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**
- **POSITIVE**
  - Pathogen-specific infection management
  - Order: CSFME / Meningitis/Encephalitis Pathogen Panel, PCR, Spinal Fluid
  - CSF parameters suggest infection
  - Reevaluate patient

- **NEGATIVE**
  - Pathogen-specific infection management
  - CSF parameters do not suggest infection
  - Reevaluate infection

**TESTING NOT AVAILABLE**
- Immunocompromised patient or patient with current/recent antibiotic treatment
- Order: CSFME / Meningitis/Encephalitis Pathogen Panel, PCR, Spinal Fluid
  - CSF parameters suggest infection
  - CSF parameters do not suggest infection
  - Reevaluate patient

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, 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
    - CCOCC / Coccidioides Antibody, Spinal Fluid
    - CIMRP / Coccidioides immitis/posadasii, Molecular Detection, PCR

- 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
    - LYMPV / Lyme Disease, Molecular Detection, PCR, Varies
    - POWV / Powassan Virus, IgM, Enzyme-Linked Immunosorbent Assay, Serum
    - POWWW / Powassan Virus, RNA, Molecular Detection, PCR, Urine
    - POWWB / Powassan Virus, RNA, Molecular Detection, PCR, Blood
    - POWMP / Powassan Virus, RNA, Molecular Detection, PCR, Spinal Fluid
    - HRTVS / Heartland Virus, RNA, Molecular Detection, PCR, 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 Amoeba, Molecular Detection, PCR, Spinal Fluid, Fresh and Paraffin Tissue
  - PTOX / Toxoplasma gondii, Molecular Detection, PCR
  - TMOGP / 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
  - JCPOR / JC Virus, Molecular Detection, PCR, Spinal Fluid