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 antigens, 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

Consider:
- Varicella-zoster virus PCR

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
- VDFS / VDRL, Spinal Fluid

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
  - VDFS / VDRL, Spinal Fluid
  - Fungal and mycobacterial testing
    - FGDN / Fungal Culture, Routine
    - FS / Fungal Smear, Varies
    - CTB / Mycobacteria and Nocardia Culture, Varies
    - SAFB / Acid-Fast Smear for Mycobacterium, Varies
    - MTB / Mycobacterium tuberculosis Complex, Molecular Detection, PCR
    - HBPR / Histoplasma capsulatum/Blastosomyces species, Molecular Detection, PCR, Varies
    - HICBL / Histoplasma/Blastosomyces Panel, Spinal Fluid
    - SHSTO / Histoplasma Antibody, Serum
    - FUNSF / Fungal glycoprotein (1,3-beta-D-glucan)
    - BLAST / Blastomyces Antibody by Enzyme Immunoassay, Serum
    - COXIS / Coccioidiodes Antibody with Reflex, Serum
    - COCD / Coccioidiodes Antibody, Spinal Fluid
    - CIMRP / Coccioidiodes immitis/posadashi, 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 Reflex, Serum and Spinal Fluid (see Lyme Neuroborreliosis Diagnostic Algorithm)
    - LYMPV / Lyme Disease, Molecular Detection, PCR, Varies
    - POWV / Powassan Virus, Blood
    - POWVC / Powassan Virus, CSF

- Parasitic testing
  - FLARP / Free-Living Amebae, Molecular Detection, Spinal Fluid, Fresh and Paraffin Tissue
  - TTXMGP / Toxoplasma gondii, Molecular Detection, PCR, Serum

- Neuroimmunology testing (consider if antibody prevalence in epilepsy and encephalopathy [APEG score is ≥4])
  - ENIS2 / Encephalopathy, Autoimmune Evaluation, Serum
  - ENC2 / Encephalopathy, Autoimmune Evaluation, Spinal Fluid

- Other considerations
  - BRBPS / Broad Range Bacterial PCR and Sequencing, Varies
  - HIVDX / HIV-1 and HIV-2 Antigen and Antibody Diagnostic Evaluation, Plasma
  - JCPCR / JC Virus, Molecular Detection, PCR, Spinal Fluid

If CSF parameters do not suggest infection

- Reevaluate patient

If CSF parameters suggest infection

- Pathogen-specific infection management
- Ordering: CSFME / Meningitis/Encephalitis Pathogen Panel, PCR, Spinal Fluid

- If 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)
    - LYMPV / Lyme Disease, Molecular Detection, PCR, Varies
    - POWV / Powassan Virus, Blood
    - POWVC / Powassan Virus, CSF

- Parasitic testing
  - FLARP / Free-Living Amebae, Molecular Detection, Spinal Fluid, Fresh and Paraffin Tissue
  - TTXMGP / Toxoplasma gondii, Molecular Detection, PCR, Serum

- Neuroimmunology testing (consider if antibody prevalence in epilepsy and encephalopathy [APEG score is ≥4])
  - ENIS2 / Encephalopathy, Autoimmune Evaluation, Serum
  - ENC2 / Encephalopathy, Autoimmune Evaluation, Spinal Fluid

- Other considerations
  - BRBPS / Broad Range Bacterial PCR and Sequencing, Varies
  - HIVDX / HIV-1 and HIV-2 Antigen and Antibody Diagnostic Evaluation, Plasma
  - JCPCR / JC Virus, Molecular Detection, PCR, Spinal Fluid

- 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
  - VDFS / VDRL, Spinal Fluid
  - Fungal and mycobacterial testing
    - FGDN / Fungal Culture, Routine
    - FS / Fungal Smear, Varies
    - CTB / Mycobacteria and Nocardia Culture, Varies
    - SAFB / Acid-Fast Smear for Mycobacterium, Varies
    - MTB / Mycobacterium tuberculosis Complex, Molecular Detection, PCR
    - HBPR / Histoplasma capsulatum/Blastosomyces species, Molecular Detection, PCR, Varies
    - HICBL / Histoplasma/Blastosomyces Panel, Spinal Fluid
    - SHSTO / Histoplasma Antibody, Serum
    - FUNSF / Fungal glycoprotein (1,3-beta-D-glucan)
    - BLAST / Blastomyces Antibody by Enzyme Immunoassay, Serum
    - COXIS / Coccioidiodes Antibody with Reflex, Serum
    - COCD / Coccioidiodes Antibody, Spinal Fluid
    - CIMRP / Coccioidiodes immitis/posadashi, 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 Reflex, Serum and Spinal Fluid (see Lyme Neuroborreliosis Diagnostic Algorithm)
    - LYMPV / Lyme Disease, Molecular Detection, PCR, Varies
    - POWV / Powassan Virus, Blood
    - POWVC / Powassan Virus, CSF

- Parasitic testing
  - FLARP / Free-Living Amebae, Molecular Detection, Spinal Fluid, Fresh and Paraffin Tissue
  - TTXMGP / Toxoplasma gondii, Molecular Detection, PCR, Serum

- Neuroimmunology testing (consider if antibody prevalence in epilepsy and encephalopathy [APEG score is ≥4])
  - ENIS2 / Encephalopathy, Autoimmune Evaluation, Serum
  - ENC2 / Encephalopathy, Autoimmune Evaluation, Spinal Fluid

- Other considerations
  - BRBPS / Broad Range Bacterial PCR and Sequencing, Varies
  - HIVDX / HIV-1 and HIV-2 Antigen and Antibody Diagnostic Evaluation, Plasma
  - JCPCR / JC Virus, Molecular Detection, PCR, Spinal Fluid