Mosquito-borne Disease Laboratory Testing

Clinical suspicion of a mosquito-borne disease (MBD) based on the following:
- Symptoms including, but not limited to:
  - Fever
  - Headache
  - Meningitis
  - Encephalitis
  - Meningoencephalitis
  - Time of year (e.g., during active mosquito seasons)
- Exposure history (refer to the following for potential exposure guidance):
  - https://wwwn.cdc.gov/travel/destinations/list
- Testing should be tailored based on clinical presentation, exposure history, and known endemic mosquito-borne pathogens

If any of the following are suspected, contact your local public health department or the CDC for testing options:
- Bourbon virus
- Heartland virus
- Jamestown Canyon virus
- Powassan virus

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**Malaria suspected**
- Refer to the Malaria Laboratory Testing Algorithm for information

**Filaria suspected**
- Order:
  - FIL / Filaria, Blood
  - FFAG4 / Filaria, IgG4
- Specimen collected:
  - ≤7 days after symptom onset
  - Specimen collected >7 days after symptom onset

**Arbovirus infection suspected**
- Specimen collected
  - ≤7 days after symptom onset
  - >7 days after symptom onset

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**Meningoencephalitis**
- Encephalitis
- Meningitis
- Headache
- Fever

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**Arbovirus infection**

- Real-time reverse transcription PCR and serologic testing are recommended
- Serologic testing of spinal fluid (CSF) should be performed concurrently with or following serologic testing of serum
- If mosquito exposure occurred within the United States (US), consider the following tests:
  - ARBOP / Arbovirus Antibody Panel, IgG and IgM, Serum
  - ABOPC / Arbovirus Antibody Panel, IgG and IgM, Spinal Fluid
  - CAVC / California Virus (La Crosse) Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - CAVP / California Virus (La Crosse) IgG and IgM, Serum
  - EEPC / Eastern Equine Encephalitis Antibody Panel, IgG and IgM, Serum
  - STLPC / St. Louis Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - STLPC / St. Louis Encephalitis Antibody, IgG and IgM, Serum
  - WEEPC / Western Equine Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - WEEP / Western Equine Encephalitis Antibody, IgG and IgM, Serum
  - WEEPC / Western Equine Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - WEEP / Western Equine Encephalitis Antibody, IgG and IgM, Serum

- If mosquito exposure occurred outside of the US, consider the following tests:
  - CHIKV / Chikungunya IgM and IgG Antibody, Serum
  - CHIKC / Chikungunya Virus, PCR, Molecular Detection, Serum
  - DENG / Dengue Virus Antibody, IgG and IgM, Serum
  - DENV / Dengue Virus Antigen Panel, Serum
  - DNSAG / Dengue Virus NS1 Antigen, Serum
  - MZIKV / Zika Virus IgM Antibody Capture MAC-ELISA, Serum
  - RZIKU / Zika Virus, PCR, Molecular Detection, Random, Urine
  - RZIKS / Zika Virus, PCR, Molecular Detection, Serum

If mosquito exposure occurred in any region, consider the following tests:
- WNVP / West Nile Virus (WNV), Molecular Detection, PCR, Plasma
- WNS / West Nile Virus Antibody, IgG and IgM, Serum
- WNC / West Nile Virus Antibody, IgG and IgM, Spinal Fluid
- LCWNV / West Nile Virus, Molecular Detection, PCR, Spinal Fluid

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Serologic testing is recommended
- If mosquito exposure occurred within the United States (US), consider the following tests:
  - ARBOP / Arbovirus Antibody Panel, IgG and IgM, Serum
  - ABOPC / Arbovirus Antibody Panel, IgG and IgM, Spinal Fluid
  - CAVC / California Virus (La Crosse) Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - CAVP / California Virus (La Crosse) IgG and IgM, Serum
  - EEPC / Eastern Equine Encephalitis Antibody Panel, IgG and IgM, Serum
  - STLPC / St. Louis Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - STLP / St. Louis Encephalitis Antibody, IgG and IgM, Serum
  - WEEPC / Western Equine Encephalitis Antibody Panel, IgG and IgM, Spinal Fluid
  - WEEP / Western Equine Encephalitis Antibody, IgG and IgM, Serum

- If mosquito exposure occurred outside of the US, consider the following tests:
  - CHIKV / Chikungunya IgM and IgG Antibody, Serum
  - CHIKC / Chikungunya Virus, PCR, Molecular Detection, Serum
  - DENG / Dengue Virus Antibody, IgG and IgM, Serum
  - DENV / Dengue Virus Antigen Panel, Serum
  - DNSAG / Dengue Virus NS1 Antigen, Serum
  - MZIKV / Zika Virus IgM Antibody Capture MAC-ELISA, Serum
  - RZIKU / Zika Virus, PCR, Molecular Detection, Random, Urine
  - RZIKS / Zika Virus, PCR, Molecular Detection, Serum

- If mosquito exposure occurred in any region, consider the following tests:
  - WNS / West Nile Virus Antibody, IgG and IgM, Serum
  - WNC / West Nile Virus Antibody, IgG and IgM, Spinal Fluid