Neuroinvasive Lyme disease should be considered in patients, with exposure to ticks in a Lyme-endemic region, who present with 1 or more of the following symptoms:
- Cranial neuropathy (eg, facial nerve palsy)
- Radiculoneuritis (motor and/or sensory)
- Lymphocytic meningitis
- Bannwarth syndrome

Order LNBAB / Lyme CNS Infection IgG with Antibody Index Reflex
Cerebrospinal fluid (CSF) and serum are both required:
CSF and serum should be collected within 24 hours of each other

CSF specimen is screened first, using an anti-\textit{Borrelia} IgG ELISA*

- No anti-\textit{Borrelia} IgG detected
- Reflex testing of serum specimen not indicated

POSITIVE

- Anti-\textit{Borrelia} IgG detected in CSF**
- Reflex testing of paired CSF and serum initiated

Paired CSF and serum specimens tested by reflex for:
- Anti-\textit{Borrelia} IgG
- Total IgG
- Albumin
Results will be used to determine the Lyme CNS Antibody Index (AI)***

INVALID
Lyme CNS AI value <0.6
Result is due to abnormally elevated total IgG levels in CSF. This may be due to passive diffusion through the blood-brain barrier or contamination of the CSF with blood during a traumatic lumbar puncture.
Repeat testing may be considered.

NEGATIVE
Lyme CNS AI value 0.6-<1.3
Results indicate lack of intrathecal antibody synthesis to Lyme disease-associated \textit{Borrelia} species. This suggests the absence of neuroinvasive Lyme disease.
The initial screen-reactive result may be due to anti-\textit{Borrelia} species antibodies present in the CSF due to increased permeability of the blood-brain barrier or transient introduction during lumbar puncture.

EQUIVOCAL
Lyme CNS AI value 1.3-1.5
Low level of intrathecal antibody synthesis to Lyme disease-associated \textit{Borrelia} species detected.
Results should be correlated with exposure history and clinical presentation to establish a diagnosis of neuroinvasive Lyme disease.

POSITIVE
Lyme CNS AI value >1.5
Results indicate the presence of intrathecal antibody synthesis to Lyme disease-associated \textit{Borrelia} species, suggesting neuroinvasive Lyme disease.
Results should be correlated with exposure history and clinical presentation to establish the diagnosis.

* Anti-\textit{Borrelia} IgG ELISA detects IgG-class antibodies to the \textit{Borrelia burgdorferi} sensu lato genospecies.
** Patient management decisions should not be made based on a screen-reactive result alone.

See Acute Tick-Bourne Disease Testing Algorithm for more information.