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Neurology Care 7 days a Week. Because Your Brain Matters.

Encephalitis (Brain Inflammation/Infection)

Patient education guide · Infections · Madison Neurology LLC

What is it?

Encephalitis is inflammation of the brain itself, causing fever, headache, confusion, seizures, and neurological deficits. Infectious causes (viruses, most commonly herpes simplex) and autoimmune causes (such as anti-NMDA receptor encephalitis) can look identical at first — both require urgent hospital treatment, and distinguishing them guides therapy.

How does it happen?

Herpes simplex virus is the most important treatable cause of sporadic encephalitis; other viruses include varicella-zoster, enteroviruses, and mosquito-borne viruses (West Nile, others). Autoimmune encephalitis — the immune system attacking brain proteins — is now recognized as equally common. In some patients no cause is found despite extensive testing.

Common symptoms

- Fever and headache with altered thinking — confusion, memory loss, disorientation
- Seizures, sometimes subtle
- Personality and behavior change, hallucinations, or agitation
- Weakness, speech difficulty, or movement problems depending on brain regions involved
- Reduced consciousness in severe cases — an ICU-level illness

How is it diagnosed?

MRI shows characteristic brain inflammation patterns; spinal fluid shows inflammatory cells and is tested for viruses and autoimmune antibodies; EEG monitors for seizures. The workup runs in parallel with treatment — herpes encephalitis is treated on suspicion, not on proof.

How is it treated?

Intravenous acyclovir is started immediately when herpes is possible — early treatment dramatically improves outcomes. Autoimmune encephalitis is treated with immunotherapy (steroids, IVIG, plasma exchange; rituximab or cyclophosphamide as second line). Seizures, brain swelling, and supportive ICU care run alongside. After the acute illness, rehabilitation — cognitive, physical, psychological — is a core part of recovery, often for months.

What does the future hold?

Outcomes range from full recovery to lasting memory, cognitive, or seizure problems — early treatment of the cause is the biggest controllable factor. Recovery continues for a year or more, particularly cognitive recovery. Some patients develop post-encephalitic epilepsy requiring long-term medication. Follow-up neurology care and neuropsychological rehabilitation optimize the outcome.

Questions patients commonly ask

Q: Will my memory recover?

A: Cognitive recovery continues for 12-18 months; many regain substantial function with rehabilitation, though lasting memory gaps are common after temporal-lobe injury.

Q: Can encephalitis come back?

A: Infectious encephalitis rarely recurs; autoimmune forms can relapse and are watched for; herpes encephalitis can occasionally trigger a delayed autoimmune encephalitis — new symptoms after recovery warrant prompt review.

Q: Could it have been prevented?

A: Vaccination prevents some causes (e.g., some mosquito-borne and childhood viruses); mosquito protection reduces arbovirus risk; most sporadic cases are simply bad luck.

National support groups & resources

- **Encephalitis Society** — encephalitis.info
- **American Academy of Neurology — Brain & Life patient resources** — brainandlife.org
- **Centers for Disease Control and Prevention** — cdc.gov

(Organization contact details were current at the time of compilation; please verify online.)

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