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MADISON NEUROLOGY LLC

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

Brain Abscess

Patient education guide · Infections · Madison Neurology LLC

What is it?

A brain abscess is a pus-filled infection within the brain tissue — effectively a walled-off pocket of infection that acts both as an infection and as a space-occupying mass. It causes headache, fever (sometimes absent), and neurological deficits, and requires urgent treatment: antibiotics, often plus surgical drainage.

How does it happen?

Bacteria reach the brain by spreading from nearby infections (sinuses, middle ear, dental infections) or through the bloodstream from distant infections (heart valve infection, lung infections, dental work in susceptible patients). Risk factors include congenital heart disease, immunosuppression, and chronic ear/sinus disease.

Common symptoms

- Progressive headache, often severe
- Fever (present in only about half — its absence doesn't exclude an abscess)
- Weakness, numbness, speech or vision problems depending on location
- Seizures
- Confusion, nausea, drowsiness as pressure rises

How is it diagnosed?

MRI with contrast shows the characteristic ring-enhancing lesion. Blood cultures and a search for the infection source (dental, ear, sinus, heart) follow. The abscess is usually sampled or drained surgically to identify the organism and target antibiotics precisely.

How is it treated?

Treatment typically combines surgical drainage (stereotactic aspiration through a small burr hole, or removal for larger abscesses) with 6-8 weeks of intravenous antibiotics tailored to the cultured organisms. Seizures and brain swelling are managed concurrently. The infection source — teeth, sinuses, heart — must be treated to prevent recurrence.

What does the future hold?

With modern imaging, drainage, and antibiotics, most patients survive and many recover well; outcomes are best when treatment starts before consciousness declines. Seizures can persist as a long-term effect (requiring ongoing anti-seizure medication), and some patients have residual weakness or cognitive effects that improve with rehabilitation. Follow-up imaging tracks resolution.

Questions patients commonly ask

Q: How did bacteria get into my brain?

A: Usually by spreading from a nearby infection (sinus, ear, teeth) or through the bloodstream; finding and treating the source prevents recurrence.

Q: Why do I need surgery for an infection?

A: Antibiotics penetrate abscess walls poorly; draining the pus both treats the infection and identifies the exact organism so antibiotics can be targeted.

Q: Will I have seizures afterward?

A: Some patients do — scar tissue from the abscess can be seizure-prone; anti-seizure medication is often continued for a period, and sometimes long-term.

National support groups & resources

- **American Academy of Neurology — Brain & Life patient resources** — brainandlife.org
- **Centers for Disease Control and Prevention** — cdc.gov
- **National Organization for Rare Disorders** — rarediseases.org — 1-800-999-6673

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

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