

Epilepsy surgery and neuropsychological evaluation

Jessica Chapin, PhD

All patients considering surgery to treat epilepsy will complete a neuropsychological evaluation as part of their presurgical work-up. This is a formal assessment of your cognition, or thinking abilities, such as language, memory, attention, and problem-solving. We will also assess emotional functioning. You will meet with a clinical neuropsychologist, who is a licensed psychologist with expertise in how different parts of the brain are related to thinking abilities and behavior.

There are several reasons that your doctors have recommended this evaluation. First, it will help to determine if your thinking skills have been affected by epilepsy, medications, or other factors. It will provide information to help the epilepsy treatment team determine where your seizures are coming from. Finally, and most importantly, it will help determine your risk for cognitive changes following surgery.

During the neuropsychological evaluation, the neuropsychologist will meet with you, and possibly your family members, for 30 minutes to an hour. He or she will ask about your thinking skills, mood, and medical history to understand how epilepsy may be affecting your life. The majority of your evaluation will include working one-on-one with a technician on tasks to assess all different types of thinking abilities.

A typical neuropsychological evaluation will involve assessment of:

- General intellect
- Attention and concentration
- Language
- Visual-spatial skills
- Learning and memory
- Higher level executive skills, such as problem-solving, reasoning, and shifting from one idea to another
- Motor abilities, and
- Mood and personality.

For example, you may be shown a picture of an object and asked to provide the name of the object. Or, you may be shown a picture and asked to recall it later. We will also ask if you have experienced any symptoms of depression, anxiety, or other emotional distress, as these have been associated with epilepsy and can affect thinking skills.

Your evaluation will take place in P57 on the main campus, where our front desk staff will greet you when you check in. Your day will start at 8:30 in the morning, and you will get a break for lunch at about noon. The testing portion of the evaluation usually takes between 3-5 hours. Most patients finish testing at about 2 or 3:00 in the afternoon, although this varies.

If you have had neuropsychological testing in the past, please bring a copy of the report from that evaluation. Also bring your eyeglasses and any other assistive devices, such as hearing aids. Get a good night's sleep before your appointment, and be sure to take your medications as prescribed.

The results of your neuropsychological evaluation will be shared with your neurologist and the other members of the epilepsy treatment team when discussing surgical options. Your neurologist will share results of the evaluation with you after you have completed all of your presurgical evaluations. The neuropsychologist will also be available to answer any questions you may have about results of your neuropsychological evaluation.

Patients who undergo surgery at the Cleveland Clinic will undergo a second neuropsychological evaluation about 6 months following surgery, in order to monitor any cognitive changes. Later follow-up evaluations, at 2 years and 5 years after surgery, may also be conducted to monitor changes in your thinking skills over time.

We look forward to meeting you during your upcoming visit with one of our four neuropsychologists:

- **Robyn Busch, Ph.D.**
- **Jessica Chapin, Ph.D.**
- **Richard Naugle, Ph.D., ABCN**
- **Michael Parsons, Ph.D., ABCN**