



Rediscover
your freedom

NEURAVIVE

SPERLING NEUROSURGERY
ASSOCIATES

UNPRECEDENTED BENEFITS

TREMOR IMPROVEMENT

In clinical studies, patients reported an immediate, significant reduction of tremor.*

NON-INVASIVE

Focused ultrasound is capable of penetrating the skull *without* making an incision.

QUICK RECOVERY

Performed as an outpatient procedure requiring minimal hospitalization—normal activity can be resumed within days.

FDA APPROVED

Safe and effective, with minimal down time and side effects.*

TRANSFORMATIVE RESULTS

Patients who have undergone Neuravive have shown significant reduction in tremor. Neuravive can improve the ability to perform activities like eating, drinking, and writing* and dramatically increase quality of life.

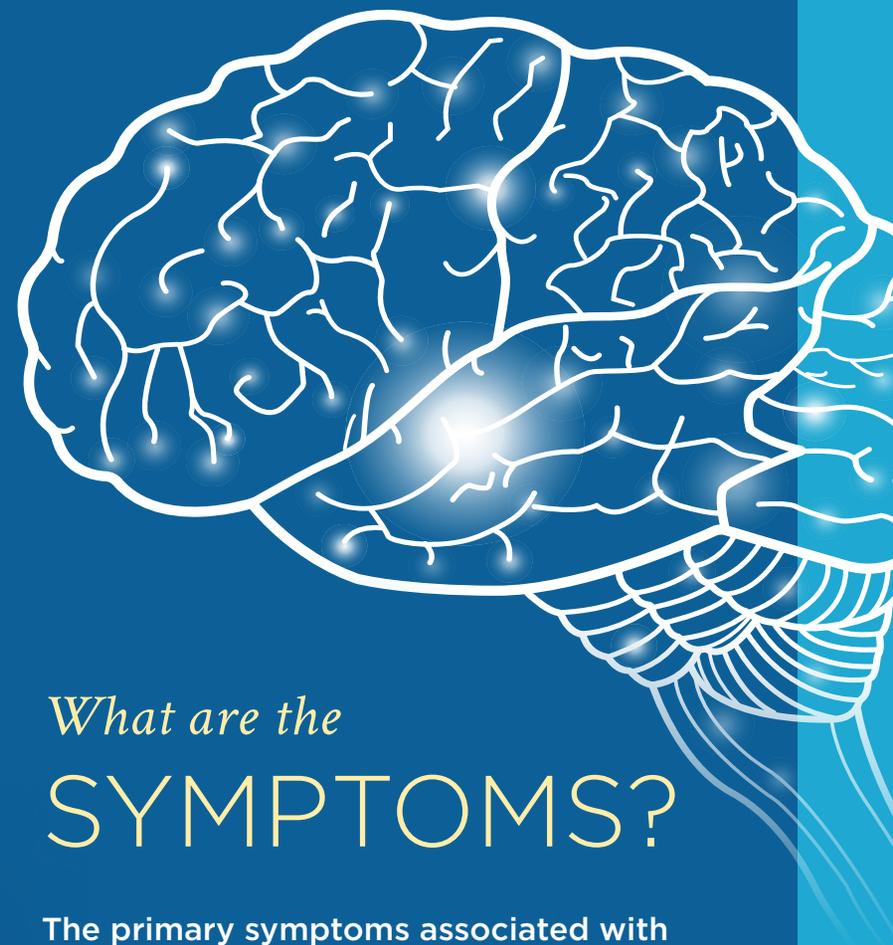
What is

ESSENTIAL TREMOR?

Essential Tremor (ET) is a neurological condition that causes shaking of the hands, head, and voice. In some cases people experience lower body shaking and even the feeling of internal tremor. The cause of Essential Tremor is still not fully understood, but targeting the Vim nucleus of the thalamus—a structure deep in the brain that coordinates and controls muscle activity—is proven to alleviate the tremor quickly and non-invasively.

DID YOU KNOW?

ET affects as many as 41 million people worldwide.



What are the

SYMPTOMS?

The primary symptoms associated with Essential Tremor include:

- Onset is gradual, beginning on one side of the body
- Occurs in the hands first, affecting one hand or both
- Can include a shaking voice or a tremor or nodding of the head
- Tremor worsens during emotional stress or purposeful movement
- Balance problems (in rare cases)

What is the

NEURAVIVE TREATMENT?



Neuravive is a breakthrough, non-invasive treatment that reduces the symptoms of ET. It combines Magnetic Resonance Imaging with high intensity focused ultrasound—known as MR-guided focused ultrasound or MRgFUS.

Ultrasound is a form of energy that can pass harmlessly through the body and is non-ionizing, meaning there is no radiation exposure during the procedure. High intensity focused ultrasound energy, when focused on a small target, raises the tissue temperature of that target area enough to create a lesion, thereby providing a healing effect.

During the Neuravive procedure, ultrasound waves pass through the brain without the need for an incision, focusing on a specific point in the brain associated with tremors (Vim of the thalamus). This focused thermal energy creates a tiny ablation or lesion, thereby assisting in controlling ET.

The procedure is conducted with the patient laying inside the MR scanner, enabling the physician to plan, guide, and target the area easily. The MRI also enables precise measurement of the temperature to verify that only the intended tissue is targeted and ablated.

A GROUNDBREAKING NEW
SOLUTION FOR THE STRUGGLES
OF ESSENTIAL TREMOR

What to expect

BEFORE, DURING, & AFTER TREATMENT

BEFORE

Your head is shaved and cleaned, and you will be given a local anesthetic. Your head is then placed into a frame to keep it secure and immobilized during the procedure. You may be given additional medication to keep you comfortable, though you will be conscious, so you can communicate with the physician and clinical staff throughout the treatment.

DURING

First, a series of MRI images is taken to plan the treatment. The physician will mark the area to be treated on the Neuravive software and light doses of ultrasound energy will be administered to ensure the proper area in the brain has been located. During this time, cool water circulates in the helmet around the top of your head and you will be kept warm in case you get chilled.

You will also be given a “stop sonication” button to indicate to your doctor that you want to stop the procedure for any reason.

During treatment, your physician will have you answer questions and perform tasks to confirm target accuracy. Tasks may include touching your nose with your finger and/or drawing circles on a board. Once your physician is confident of the proper location, focused ultrasound waves will make the permanent lesion of the treatment location. Your heart rate, blood pressure, and blood oxygen levels will be monitored throughout the procedure.

POST TREATMENT

After the treatment you will move to the recovery room for a brief period of observation, and the frame is removed from your head. Your physician and clinical staff will provide post-treatment instructions including a plan for follow-up visits.



IS NEURAVIVE RIGHT FOR ME?

As part of the evaluation process, your physician will determine the severity of your tremor and perform a full medical assessment of your overall condition. Patients must also undergo a CT scan to verify that Neuravive is suitable for them.

The entire procedure is conducted inside the MRI, and the patient remains awake to give feedback during the procedure. If you are uncomfortable inside an MRI bore please discuss this with us.

If you have metallic implants (e.g. pacemakers, neuro-stimulators, spine or bone fixation devices, total joints, metal clips, or screws) you must consult with us to see if Neuravive is right for you. Any metallic implants must be MRI safe to prevent injury from the MRI's strong magnetic field.

Additionally, if you are experiencing any of the following, you may not be a good candidate for this procedure:

- Extensive scarring on the scalp
- Tumors inside the skull
- Certain heart conditions
- Dialysis treatment
- An active infection
- Pregnancy
- Hematological, neurological, or other uncontrolled disease

RISKS & SIDE EFFECTS

Side effects of Neuravive are generally minimal, but as with any medical procedure, there are some risks:

- You may experience brief dizziness, pain, or other sensations during the treatment.
- There is a possibility that your tremor may return months or years after treatment.
- Neuravive does not treat the underlying disease nor prevent the progression of the disease.
- It is possible that your tremor may not improve.
- There is a small risk that you could develop temporary or permanent muscle weakness, imbalance, and/or gait disturbance, sensory effects (tingling, numbness) in your fingers or elsewhere in your body.

“I always loved baking, so I decided to open my own bakery. One day, my right hand started to shake. Gradually I couldn't do daily activities like drink or eat, not to mention baking or serving coffee to my customers. I became completely dependent on my staff. The doctors prescribed drugs, but they didn't work for me.

Finally they suggested the MRI-guided focused ultrasound procedure. After a couple of hours or so on the MRI bed, my hand didn't shake anymore.”

HAYA MENDLEBAUM,
NEURAVIVE PATIENT

It is important to discuss all your medical conditions and treatment risks with your physician to properly evaluate your suitability for Neuravive.

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