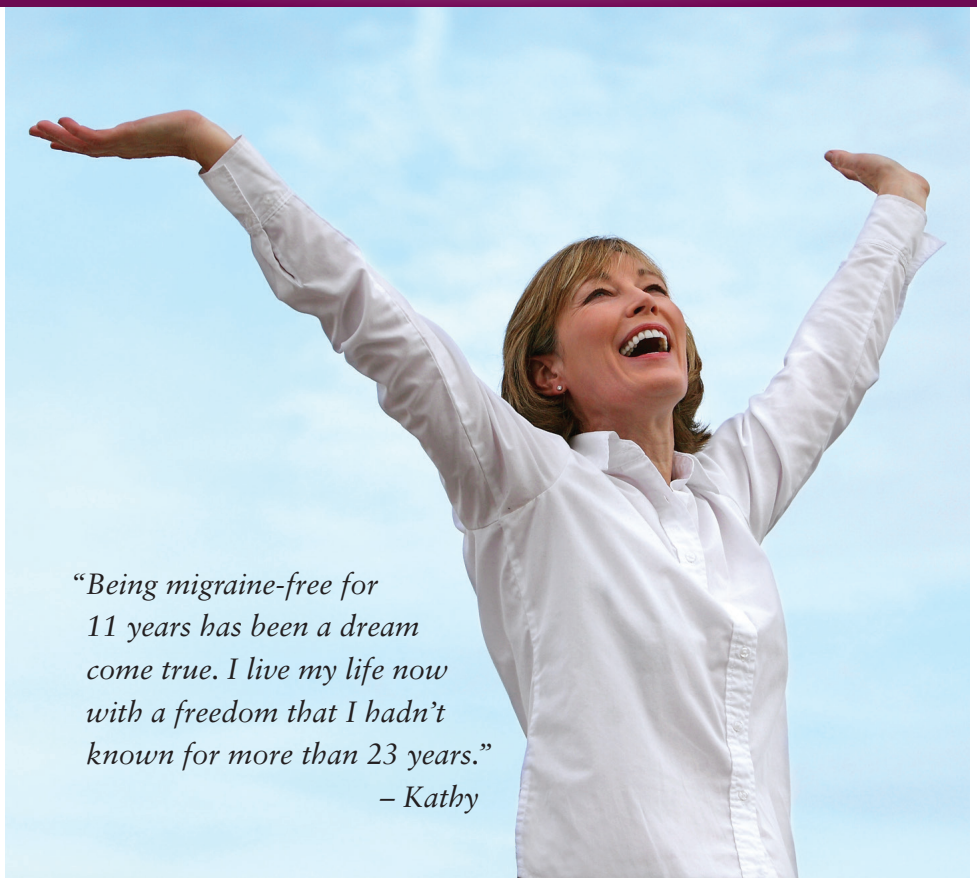
Zeeba

Reflect the Beauty Within

The Surgical Treatment of Migraine Headaches



Where is the surgery performed?

The surgery is usually performed as an outpatient operation in a facility adjacent to Dr. Guyuron's office.

What type of anesthesia is used?

The majority of the procedures are done under general anesthesia and usually the patient spends about half a day in the facility.

What kind of postoperative care is needed?

The patient is often discharged home with one or two drain tubes under the scalp that are connected to a small vacuum tube that will be removed in a few days. Someone has to stay with the patient the first night to assist in changing the vacuum tubes and call for assistance in case of an unlikely emergency. There will be a need for application of some ointment on the incisions periodically during the first week. All of the stitches are dissolvable and they do not need to be removed. After a septum surgery, Dr. Guyuron places two tubes inside the nose, instead of packing, that are not visible from the outside. These tubes will be removed in four to seven days after surgery, depending on the type of surgery.

Who is a candidate for surgery?

Anyone who has at least two or three severe migraine headaches per month that would not respond to over-the-counter medications, those who are tired of taking migraine medications, and those who experience migraine headaches that interfere with their personal and professional lives would be good candidates for this surgery. This is especially true for those who have frequent migraine headaches, do not tolerate migraine medications, or have experienced side effects from medications.

What kinds of tests are needed?

Patients will undergo standard testing as outlined in the anesthesia policy. In addition, for patients who have pain behind the eye, a CT scan may be required to document the abnormalities inside the nose and sinuses which are not easily visualized by simple inspection of the inside of the nose.

What is the recovery like?

After recovering in the facility, the patient will be transferred home, to a condominium close to the outpatient setting, or to a hotel room close to the surgical facility. The drains are usually removed in two to four days. The patient will experience some swelling and bruising which will get worse within 48 hours and then gradually disappear, on average, in eight to 10 days. The patient will appear presentable in about one to two weeks after surgery and can resume social activities at this time, depending on the trigger site. It is recommended that patients avoid heavy exercise for about three weeks. Usually there are no limitations after this period. On patients who undergo septum and turbinate surgery, it may be necessary to irrigate the nose once or twice a day for a period of three to six weeks.

How does the patient prepare for surgery?

The patient will be asked to avoid aspirin or aspirin-type medications for three weeks before and one week after surgery and will be provided with a list of medications and food products to avoid. Strict adherence to the instructions from the surgical team will ensure a safer operation and quicker recovery.

When does the patient notice the improvement?

Depending on the trigger sites, the results could be immediate or may take several weeks or months to observe the improvement, especially when the surgery involves the nose.

About Dr. Guyuron

Bahman Guyuron, MD, FACS

Throughout his career, he has served in leadership roles in numerous local, regional and national organizations for plastic surgery, including presidency of six different organizations.

- Dr. Guyuron has been extremely involved in the education of plastic surgeons through his participation in over 1,000 presentations at conferences around the world, as well as lectures in 22 countries as a visiting professor.
- Dr. Guyuron has published over 200 articles in peer-reviewed journals, 50 book chapters and four textbooks.
- He is consistently ranked among the Best Doctors in Cleveland and the Best Doctors in America.

Background on Migraine Surgery

Dr. Guyuron discovered migraine surgery in 2000. It began as mere serendipity when patients who had undergone forehead rejuvenation informed Dr. Guyuron that their headaches had ceased. These reports prompted him to activate his research team. Initial investigation of 314 patients who had undergone forehead rejuvenation revealed that 31 of 39 who had migraine headaches had either complete elimination or significant improvement. This encouraging study led to a pilot study involving patients who underwent surgery for treatment of migraine headache and 21 out of 22 patients experienced either complete elimination or a significant improvement of migraine headaches. Compelled with the results of this study, his research team, including three neurologists, has conducted 24 evidence-based research studies to prove that this surgery not only works, but the results are enduring.

How does surgery work?

It was stated by a neurologist over 30 years ago that migraine headaches are triggered by stimulation of terminal end branches of the trigeminal nerve (a nerve that provides sensation to the entire face and head). What the neurologist was unable to explain at the time is what irritates these nerve branches. This theory was pushed aside for decades. Dr. Guyuron, through his research and clinical observations, was able to put the pieces of the puzzle together and demonstrate that the nerve branches are stimulated by the surrounding structures such as muscles, vessels, bones and cartilage, elimination of which will stop or reduce migraine triggers. Irritation of these branches results in the release of substances that begins a cascade of events, leading to inflammation of the nerves and membranes around the brain that causes symptoms similar to meningitis, thus the migraine headaches. These include nausea, vomiting, and sensitivity to lights and sounds, in addition to the severe headaches. This is why patients usually retreat to a dark and quiet room and try to sleep off this debilitating condition.

Over the years and as a result of the anatomical and clinical research studies, Dr. Guyuron has identified four very common

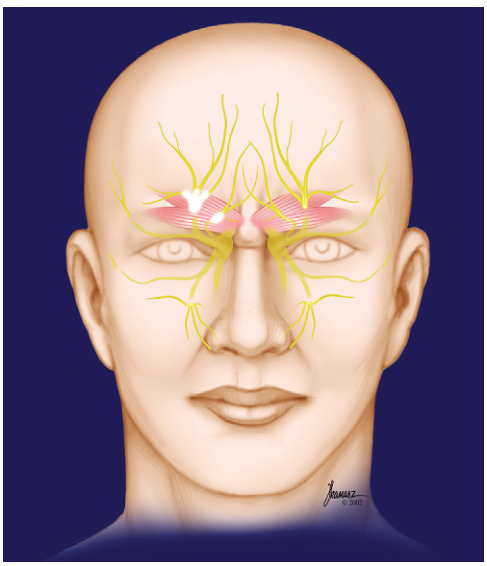


Figure 1

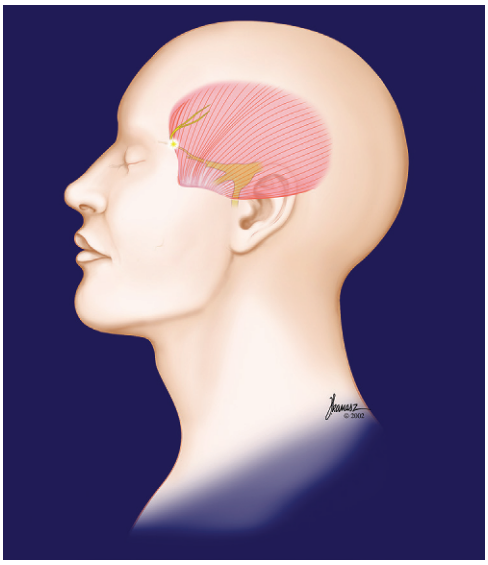


Figure 2

and some uncommon trigger sites. He has developed surgical techniques to deactivate each of these trigger sites and alleviate the migraine headaches. His surgical techniques have been designed to cause the least amount of physiological change locally. In fact, in three sites, the surgery has some side benefits. For example, surgery for migraine headaches in the forehead area involves removal of the frowning muscles *(Figure 1)* which irritate two nerve branches on each side and cause forehead migraine headaches. In addition to stopping the migraine headaches, this surgery results in improvement in the forehead appearance by elimination of the frown lines. In the temple area, the tissues are pulled sideways which results in a gentle lift of the eyebrows and causes rejuvenation of the temples. The surgery in the temple trigger site involves removal of a tiny branch of the trigeminal nerve that provides feeling to this site *(Figure 2).* Detachment of this nerve has been done routinely for other procedures, including surgery around the eye socket or even for cosmetic forehead procedures. Removal of this nerve may often cause temporary or rarely permanent numbness of the temple. Patients do not find the reduced sensation or loss of feeling in this area disturbing since this is not a highly sensitive area. In fact, removal of this nerve, which exits from the site in the temple that most patients commonly rub while having tension or migraine headaches, takes away or reduces migraine and other headaches arising from this area.

Another trigger site is the septum, the partition inside the nose that divides the interior nose into two spaces. The septum can have a varying degree of deviation. Enlargement of the projections inside the nose, called the turbinates, can be the source of migraine headaches. When there is contact between the turbinates and the deviated portion of the septum or the irregularities within the septum that are called spurs, migraine headaches can trigger *(Figure 3)*. After the surgery on the septum and turbinates, which includes straightening the septum and reduction of the size of the turbinates, not only do the patients observe improvement or elimination of the migraine headaches, they also experience improved breathing (the third example of a side benefit).

The fourth most common site is the back of the head where several nerves can be the source of migraine headaches *(Figure 4)*. The most common nerve involved in migraine headaches in this site is called the greater occipital nerve, which is a nerve that originates from the upper portion of the cervical spine (neck). This nerve can be irritated by the surrounding muscles or vessels. During the surgery, a small piece of muscle is removed from around the nerve and replaced with fatty tissues from underneath the skin to shield the nerve and separate it from the muscles. The chance of recurring pain will be extremely remote. Additionally, this nerve is decompressed (released) in several sites along its course through the same incision. If the greater occipital nerve is irritated frequently, it

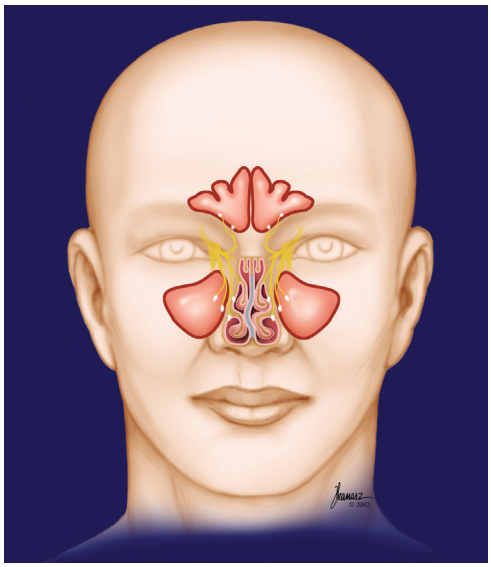


Figure 3

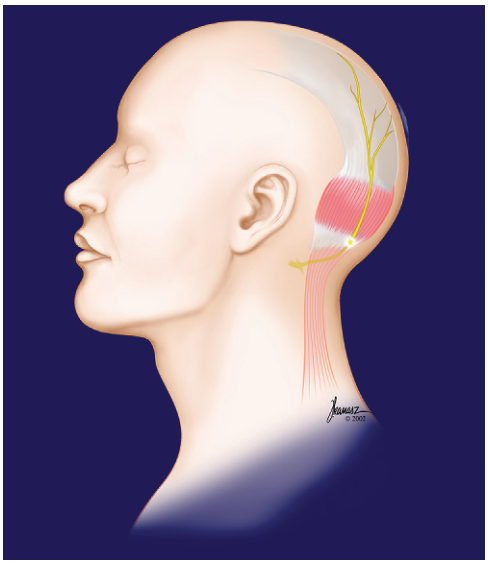


Figure 4

can become chronically inflamed. This is called occipital neuritis. The treatment is essentially the same. A small percentage of patients may have headaches from irritation of another small nerve branch in the upper neck which is called the lesser occipital nerve. Dr. Guyuron has developed a surgical treatment for this site as well.

There are other less common trigger sites which include the area above or behind the ear. The pain in this site is eliminated or reduced by removal of a vessel that is compressing and irritating the nerve or by removal of the nerve.

Where are the incisions?

The surgery is done using minimally invasive techniques. For deactivation of the forehead and temple trigger sites in combination, five or six small incisions are made, each approximately one-half inch long. All of the incisions are placed within the hair-bearing skin so that they are not often visible after they heal, as long as the patients heal normally. For isolated forehead migraine headaches, which are extremely rare, the incision can be made in the upper eyelid crease, the incision that is commonly used for cosmetic eyelid surgery. This area heals very favorably on most patients. For the patients with isolated temple headaches, two incisions, each one-half inch long, will be in the temple hair. Surgery in the back of the head is done through an incision about one-and-a-half inches long located in the middle of the scalp right above the neck within the hair-bearing skin. The surgery on the septum and turbinates is done through the nostrils and there are no incisions related to the surgery that can be visible.

What are the risks of the surgery?

Any surgery has potential risks and this operation is no exception. However, complications are usually minimal and rare. Infection and bleeding may occur, but these are highly unlikely.
Every patient will experience some numbness in the surgery site. This is an expected part of the surgery and is not considered a complication. There is a chance that the numbness can be long-lasting or permanent. Rarely, minimal hair loss around the incision can occur. This is often temporary.
Another possible, but extremely rare, complication is the development of a neuroma (scar tissue around the nerves) that may cause continuous pain. This may require additional surgery. The nose can become drier after the surgery. If this occurs, it is usually temporary, but in rare cases, this can become permanent. Damage to the nerves that move the muscles may occur, although this is also extremely rare and often temporary.
There is a small chance that additional trigger sites may be discovered after deactivating the most prevalent trigger sites. Blood clots can form in the legs and may travel to the lungs, but this is exceedingly rare. Life-threatening complications can occur, but are also exceedingly rare.

What are the chances of success from the surgery?

Dr. Guyuron's studies have demonstrated a success rate of between 83 – 92 percent, depending on the type of condition and the nature of the surgery. Success is defined as at least a 50 percent reduction in migraine headache frequency, intensity or duration. However, more and more, Dr. Guyuron is achieving complete elimination because of his experience in detecting the trigger sites and some refinements in the techniques that he has implemented over the years since he began this surgery.

What happens if my migraine headaches do not go away?

This commonly is the consequence of a trigger site that was not identified because it was dormant or was overshadowed by other, more dominating trigger sites. It is always possible to have surgery on the other trigger sites that were not detected earlier. It is extremely rare for the surgery to totally fail. The pain in the operative site may go away completely and you may develop pain somewhere else, which can be treated.

Can I take my migraine medications after the surgery?

If you have migraine headaches, you can continue with your migraine medications, as long as they do not contain aspirin or aspirin-type medication. However, the need for these medications becomes extremely small.

Does insurance cover this type of surgery?

It depends on the type of insurance you have. Approximately 50 percent of insurance companies currently cover this surgery. Dr. Guyuron's office staff will assist you in obtaining the answer from the insurance company.

For an individual consultation, call **440-461-7999**.

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