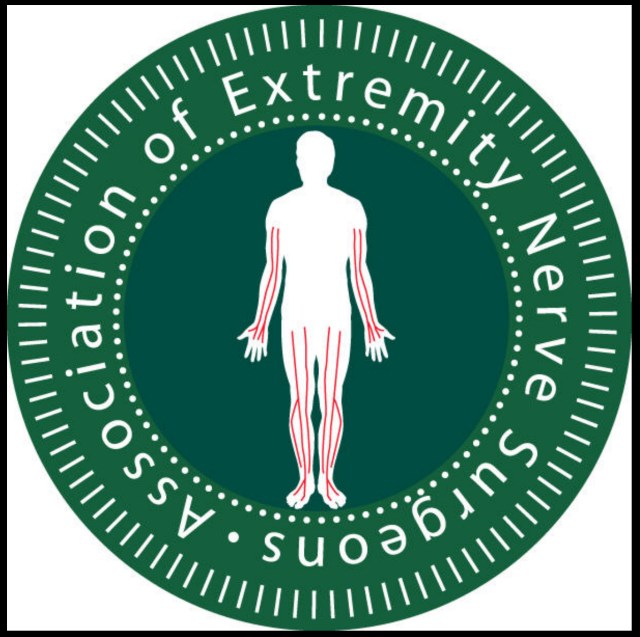
Peripheral Nerve Surgery

Informed Consent



AENS: Association of Extremity Nerve Surgeons

Informed Consent

Peripheral Nerve Surgery

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Peripheral Nerve Surgery

Goals of this presentation:

1. To give you a better understanding of the risks and benefits associated with peripheral nerve surgery
2. To insure that you communicate fully with your surgeon and their staff to assure you are completely educated about the procedures which are planned for you
3. To help you understand peripheral nerve physiology, on a basic level, which will give you an understanding of what you are experiencing during the post-operative phase of your treatment
4. To provide, in combination with your surgeon and staff, that you have been provided complete "INFORMED CONSENT"

Some of the following sections may NOT apply to your situation, and therefore may conflict with your treatment plan.

Peripheral Nerve Surgery

GOALS OF SURGERY:

1. To improve the patient's quality of life and function
2. To decrease pain to a tolerable and manageable level or eliminate it
3. Increase strength
4. Increase sensation

The patient must understand that rarely is all pain completely eliminated and perfectly normal function is restored!

Peripheral Nerve Surgery

RISKS OF SURGERY:

1. Bleeding
2. Worsening Pain
3. Numbness
4. Complex Regional Pain Syndrome
5. Infection
6. Loss of function
7. Foot Drop
8. Nerve Damage
9. Need for additional surgery
10. Muscle weakness
11. DVT (Deep Vein Thrombosis)
12. Poor or slow wound healing

Peripheral Nerve Surgery

POST OPERATIVE EXPECTATIONS

1. Swelling
2. Discomfort
3. Limited walking capability for several weeks
4. Scars
5. Small bulge at surgery sites

These are almost always temporary

Peripheral Nerve Surgery

Virtually all peripheral nerve surgery is ELECTIVE!

This means that you—THE PATIENT, must decide if the benefits of surgery outweigh the risks of the planned procedure(s).

Peripheral Nerve Surgery

Virtually all peripheral nerve surgery is ELECTIVE!

Conservative Treatments:

1. Steroid Injections
2. Orthotics
3. Shoe modifications
4. Physical Therapy

May be very beneficial in situations where the nerve is already injured

May actually decrease the potential outcome in cases where the nerve is already compressed and decompression surgery is required

Peripheral Nerve Surgery

What is an "INFORMED CONSENT"

An "INFORMED CONSENT" means that you as a patient have been educated and understand what is going to take place before, during, and after the surgery which is planned and are aware of the potential risks of surgery.

Realistic expectations by the patient increase the success of the surgery!

Peripheral Nerve Surgery

What is an "INFORMED CONSENT"

An "INFORMED CONSENT" also means that you understand that there may be ALTERNATIVES to having the planned procedure(s)

Realistic expectations by the patient increase the success of the surgery!

Peripheral Nerve Surgery

ALTERNATIVES to peripheral nerve surgery may include:

1. Doing nothing and learn to live with the present condition
2. Desensitization, deep scar massage, psychological/psychiatric consultation
3. Pharmacological treatment with neuromodulating drugs like Lyrica, Neurontin, or drugs such as Cymbalta, Xoloft, or Desiprimine
4. Referral to pain management/sleep specialist

Frequently most surgeons will recommend continuing on with pharmacological treatment concurrently with surgery, and for those patients with chronic pain a combination of all these can be recommended.

Peripheral Nerve Surgery

General Types of Surgery:

Decompression "Neurolysis"	Denervation Removal or Destruction of the Nerve

Peripheral Nerve Surgery

General Types of Surgery:

Decompression
"Neurolysis"

Denervation
Removal or Destruction of the Nerve

There are usually greater risks associated for this category of procedures!

Peripheral Nerve Surgery

Denervation

Denervation means to remove or interrupt the function of the peripheral nerve by either cutting it out, freezing it, sclerosing it, or other means such as with the use of Radiofrequency Ablation

Peripheral Nerve Surgery

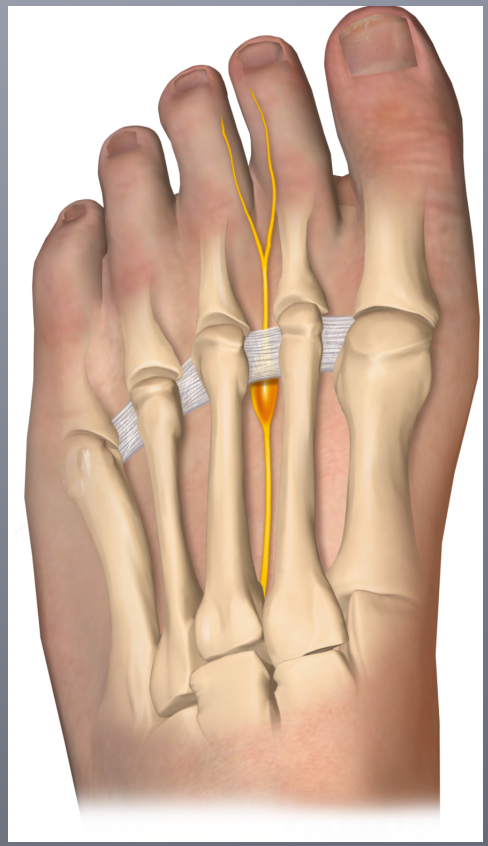
Decompression/Neurolysis

Decompression or Neurolysis means that the surgeon "frees" the entrapped peripheral nerve from the surrounding tight tissues. There is no damage to the nerve.

Peripheral Nerve Surgery

Mortons's Entrapment (Morton's Neuroma)

This is a peripheral nerve entrapment, where the problem or symptoms are caused by compression on the nerve. It is the opinion of AENS, and based on not only the clinical results of decompression but the extensive amount of literature, that this condition should be initially treated via decompression.



Peripheral Nerve Surgery

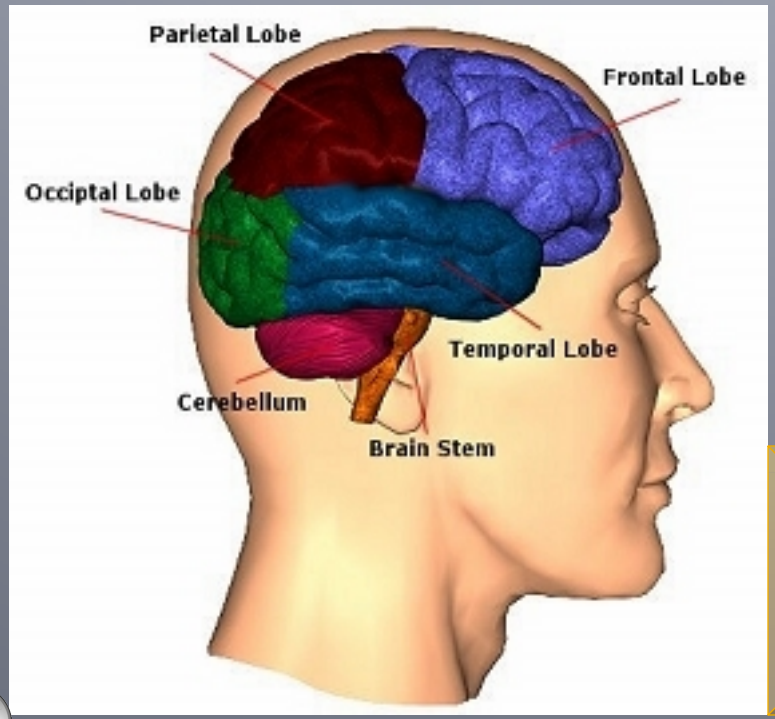
Decompression

1. Morton's Entrapment
2. Tarsal Tunnel Syndrome
3. Common Peroneal Nerve
4. Superficial Peroneal Nerve
5. Deep Peroneal Nerve
6. Medial Calcaneal Nerve

These peripheral nerve entrapments are common in patients with Diabetic Peripheral Neuropathy

Central Nervous System

What or How a patient perceives external stimuli is determined by the way the signal from the peripheral nerve is processed by the brain.



Factors that can lead to pain syndromes include imbalances in neurotransmitters such as serotonin, which could be manifested as depression in one person or anxiety in another.

It is IMPOSSIBLE to treat a peripheral nerve without having some effect to and from the brain!

PAIN

Acute Pain

Chronic Pain

Patients who have chronic pain syndromes have a complex disorder which has central nervous systems changes in addition to the injury to the peripheral nerve. Your surgeon may also recommend a psychiatric/psychological consultation in order to treat any co-existing problems; this can often benefit your overall outcome.

REMEMBER: it is virtually impossible to have a serious peripheral nerve injury without some changes in the brain's CHEMISTRY!

Indications for Denervation Surgery

When should the nerve be taken out or its function interrupted?

When there is an amputation neuroma, which means that there has already been an injury to the nerve itself.
This injured nerve is often the "pain generator";
Nerves that are simply compressed, or "pinched" are usually not subjected to treatment which would be classified as "denervation"
There are greater risks associated with surgery which take out the nerves.

Collateral Sprouting and Nerve Regeneraton

When a nerve is cut, the distal (away from the body) part makes a chemical called nerve growth factor, which signals other intact nerves to attempt to grow connections to the remaining segment of nerve. This is called Collateral Sprouting, and can be the reason why the numbness goes away, after a period of time, when you have had a nerve removed.

Unlike nerves in the brain and spine, peripheral nerves do regenerate after they have been decompressed. This can give the patient some pain or hypersensitivity after surgery, but is almost always temporary and is gone by the 12 week.

Nerve Denervation

Permanent Numbness

You will likely have permanent numbness, but you may get some feeling back, and you may get hypersensitive in some other areas!

Surgery is not finished at the time of the operation and the patient must apply desensitization scar massage while the nerves heal. This can take up to several months to achieve, and can ultimately determine the overall success of the surgery.

RSD
CRPS

Reflex Sympathetic Dystrophy
Chronic Regional Pain Syndrome

The key symptom of RSD or CRPS is continuous, intense pain out of proportion to the severity of the injury, which gets worse rather than better over time. CRPS most often affects one of the arms, legs, hands, or feet. Often the pain spreads to include the entire arm or leg

While there is still uncertainty in what causes this, many times it is due to a single pain generator in which a small nerve is hurt or entrapped, and this can be successfully treated by experienced peripheral nerve surgeons

RSD
CRPS

Reflex Sympathetic Dystrophy
Chronic Regional Pain Syndrome

If your surgeon has determined that your CRPS is due to an isolated injury or entrapment of a peripheral nerve, then it is safe to operate on the condition, provided that the surgery is done with prior regional blockade, and your surgeon has recommended surgery.

Peripheral Nerve Decompression in the patient with Neuropathy

Diabetic Peripheral Neuropathy

Patients with diabetes have more susceptibility to develop peripheral nerve entrapment; as a result, some of their symptoms may be due to peripheral nerve entrapment—not their systemic disease! THESE are the symptoms which can be improved with nerve decompression. Nerve decompression, for diabetic peripheral neuropathy, provides patients with symptomatic relief in approximately 80% of all cases.

Peripheral Nerve Decompression in the patient with Neuropathy

Idiopathic Neuropathy

Patients with idiopathic neuropathy may have nerves that are compressed in addition to the disease of the nerve itself. If your surgeon determines that you have signs of localized nerve entrapment, you may be a surgical candidate. However, the degree of symptomatic relief which can result, with nerve decompression, is lower than in those patients with diabetic peripheral neruopathy.

Most Importantly, your surgeon is NOT operating on your neuropathic disease, but is simply decompressing the nerve

Seek further consultation with your surgeon

Peripheral Nerve surgery is different in every patient.

Outcomes from peripheral nerve surgery vary depending on the patient and what type of surgery they are undergoing. Usually, with decompression procedures there can be a very high and predictible outcome; however, this still depends on the compliance of the patient, and their willingness to move the extremity post-operatively.

REMEMBER: nerves need to slide and glide just like tendons, so under the direction of your surgeon begin movement as soon as possible. Long periods of immobilization can lead to scar tissue formation around the nerve which can compromise surgical results.

Further Patient Education:

Association of Extremity Nerve Surgeons

www.aens.us