TURNING THE TIDE ON NEUROPATHY

EVERYTHING YOU NEED TO UNDERSTAND TO REVERSE YOUR NEUROPATHY

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For the neuropathy sufferer with the heart of a warrior
and the feet of a fire walker!

INTRODUCTION

You never forget your important "first times". Your first car, your first kiss, the first time you held your newborn child. Not all memorable first times are good. It had been a great day. Incredibly busy, but great! I had finally made it to my bed, and almost immediately fell into a deep slumber. I was blissfully dreaming.

I dream quite often. Usually, my dreams involved some grand adventure with me as the hero. Don't judge me, I'll bet you do it too! There I was saving the world when suddenly I was awakened by a lightning bolt of pain shooting through my right foot. It felt as if electric sparks would shoot out of my toes and catch the bed on fire! In a flash I was out of bed and slapping my foot on the

floor. My wife is accustomed to me doing odd things, but this even got her attention! I flapped around the room for a few minutes and finally left the room so my wife could sleep. It was three hours before I got back into bed that night. I was in my early fifties, owned and managed a busy multidisciplinary practice in Northern Utah, and I had ignored my neuropathy way too long.

My neuropathy began a few years earlier with some strange sensations in my right foot. Noticeable but not really a big deal. I woke one morning feeling like I had a wadded-up foil gum wrapper stuck to the bottom of my foot. It was annoying but I was busy and as long as it didn't interfere with my activities, I chose to ignore it.

The symptoms progressed slowly at first, but as momentum built, I began having more and more issues until that fateful night of "foot-lightning". Those nights of terrible pain began to come more and more frequently, and I am ashamed to admit, I waited until I was completely miserable before I decided to do something about my neuropathy…but what was I to do? Neuropathy is regarded by most doctors as irreversible. I refused to live on medications to cover up my pain and other annoying symptoms, so I went to work to figure this thing out.

Our healthcare system evolved from a serious need for crisis care. Preventing death from a host of acute illnesses, injuries and infections was what we needed. The acute or crisis care model served us well for many years and continues to serve us well for acute healthcare needs. But, our world has changed. With an expanded life span and too many environmental factors to list, we now have a major problem with chronic illness.

Chronic illness is rising in our country at an unprecedented rate. A crisis care model, or an acute care approach does not work well for chronic conditions. Instead of getting to the root cause of chronic illnesses, our current, mainstream approach is to chase symptoms with prescription medications—attempting to suppress the symptoms. The patient may feel improved, but the illness continues to worsen unhindered. With time, more and more prescriptions are given. The patient endures their condition, often losing function and activities that make life joyful until, in many cases, surgery is warranted or death occurs. The result? Many years of poor quality of life, restricted activity and a whole lot of discomfort.

Drugs and surgery are the two hallmarks of our crisis care system. The old paradigm used to be "First, do no harm." Now it seems that senti-

ment has been replaced with "If drugs and surgery don't cure a condition, nothing can be done". "Learn to live with it" they say, while prescribing an endless number of drugs to mask the symptoms of the condition, followed by masking the symptoms caused by the drugs themselves. Crisis care does not work for chronic conditions.

If you are reading this book, chances are you or someone you love is experiencing the painful symptoms of peripheral neuropathy. You may have been suffering for many years. If you are like many of the people we work with, you may even be on the verge of giving up.

Before I go any further, I want to tell you in the strongest possible words: **Don't give up! There is hope!** You can regain the feeling in your feet and hands. You can return to normal activities without all the intense pain and without the fear of falling. You can live the life you have always dreamed of! Hang with me as we progress through this little book about a big problem. If you do, I can promise you that you will have a greater understanding of what is happening in your body and more importantly what you can do about it!

So, if you're ready, buckle up and let's get moving. **You have a whole new life ahead of**

you! It will take some work and dedication, as all good things do. But after all, *YOU'RE WORTH IT!*

CHAPTER 1
THE BEAST WE CALL PERIPHERAL NEUROPATHY

HAVING LIVED through the pain of peripheral neuropathy, the kindest word that came to my mind to describe the condition was "beast", and a beast it is! In order to slay this beast (reverse your neuropathy) it is important to understand what is happening in your feet and hands, what is driving the destruction, and what is causing the incredible discomfort. In this chapter we are going to add to your knowledge and understanding, so that you can begin to get the upper hand on the Beast!

Let's begin by getting some basics out of the way. In order for you to fully embrace the pathway to your new life you need to understand some **"sciency stuff"**. Yes, I made that word up. "Sciency"

is not found in the dictionary but we're going to use it anyway. Mostly because I like it—it makes understanding how neuropathy is damaging your body more whimsical and less daunting. I want you to have fun with this! Life with neuropathy is serious enough—so let's have a good time while we work together to plot the pathway to your new life.

As I have done in other books, I will **"bold"** the most important concepts. For those of you that would rather shove a stick in your eye than read about human physiology, I have put the most important points in **bold type** so you can choose to read only those parts—just don't stop reading!

Definition

Your nervous system is basically broken down into two main parts. The central nervous system (CNS) and the peripheral nervous system (PNS). Your brain and spinal cord make up your central nervous system. **Nerves outside of the brain and spinal cord are considered to be peripheral nerves,** and as you've already guessed, they make up the peripheral nervous system. Medical terminology is primarily taken from Latin and Greek, so the old phrase "it's all Greek to me", is appro-

priate here! Don't get thrown by these new words. It's easier than you might think. The *neuro* part of neuropathy means nerve, and the *pathy* is from the Greek word *pathos* for suffering, disease, or damage. So, the term **peripheral neuropathy, is used to describe nerves outside the brain and spinal cord that are suffering, diseased or damaged.**

You will notice that the term peripheral neuropathy does not differentiate between the area affected, the specific symptoms you are having or the particular cause of your disease. It just tells us that one or more peripheral nerves are damaged and suffering. We will talk more about the importance of understanding the cause or causes of your neuropathy later in the chapter.

The peripheral nervous system makes up the grand interconnected communication network relaying messages to and from the brain via the spinal cord. That communication is responsible for the well-being of every tissue and organ in your body. With this understanding, it is easy to see that **while the damage of peripheral neuropathy usually starts in the hands and feet, it can have debilitating effects in other areas of your body including your internal organs. This**

damage is most often seen in the bladder, sex organs, heart, kidneys and eyes.

Neuropathy can be categorized as mononeuropathy (affecting only one nerve) or polyneuropathy (affecting more than one nerve). An example of mononeuropathy is carpal tunnel syndrome. Carpal tunnel syndrome damages the median nerve as it passes through the wrist. The pain and other symptoms are usually felt in the thumb, index and middle finger, and sometimes into the ring finger. A good example of polyneuropathy is the beast that we're talking about in this book and it is generally what we are referring to when we use the term "neuropathy" or "peripheral neuropathy". It involves multiple nerves being damaged at the same time. Clear as mud, right? Let me say it another way.

Even though the term "peripheral neuropathy" is a vague term and can be used to describe damage to any nerve outside the spinal cord, we generally use it only to describe the malady that is the subject of this book—the one you likely are suffering from if you're reading these pages —the chronic, degenerative disease that attacks the nerves of your feet, lower legs, hands and sometimes internal organs.

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Symptoms

The symptoms experienced by people with peripheral neuropathy are as varied as the people who suffer from it. No two people are alike, and neither are the symptoms they experience.

Some people suffer from multiple excruciating and debilitating symptoms and others simply have loss of sensation with no discomfort of any kind. More often however, people with neuropathy experience something in between these two extremes. Some of the most common symptoms are:

- Numbness
- Tingling
- Burning pain
- Cold sensation
- Hot sensation
- Aching pain
- Stabbing pain
- Sharp pain
- Tiredness
- Pins and needles
- Heavy feeling
- Dead feeling
- Throbbing pain

- Cramping in the feet and/or legs
- Electric shock-like pain
- Hypersensitivity
- Swelling
- Stocking feeling
- Balance problems
- Coordination problems
- Discoloration of the skin
- Overly dry and cracking skin
- Thin shiny skin
- Other: (Write your unique experience here)

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You may experience any one or all these symptoms. The symptoms and intensity often change from day to day and are frequently worse at night preventing sleep. My personal experience was that of mild tingling, and moderate burning pain throughout the day. Sometimes it felt like I had something small stuck to the bottom of my feet. With time I began to experience balance and coordination problems, and it was uncomfortable to have the bedsheets touching my feet. I was quite the sight with my size 12's hanging outside the covers all night! I'm ashamed to admit that I let this go on for several years before I took it seriously. The final straw for me was when I began to

experience lightning bolts of pain shooting through my feet after I had fallen asleep at night. Those lightning bolts would often keep me up at night for several hours at a time.

Statistics

According to *the Foundation for Peripheral Neuropathy*, **30 million Americans suffer from peripheral neuropathy.** I believe that number to be grossly understated due to poor understanding of the condition by many doctors. It is not uncommon for people to come into our office, who after describing their symptoms to their primary care doctor, were told they did not have neuropathy. When upon proper examination, it was evident that they not only had neuropathy, but was many times in an advanced state.

Remember that no two people experience the exact same symptoms. Far too often, when the patient's description doesn't fit what their PCP (primary care provider) believes is a classic presentation of the condition, the patient is misdiagnosed.

Something that should bother everyone with or without neuropathy is that fact that **there are**

86,000 amputations per year in America due to neuropathy. If you do the math, more than 235 people per day are having a part of their body cut off and thrown into the medical waste basket every day! That is a most troublesome statistic to me.

Having a foot or leg removed is an emotionally traumatic and life altering event. One study showed **nearly 30% of people attempted suicide after the amputation.** Most, if not all of these amputations were avoidable if proper intervention would have been given early on.

Diabetes is considered to be the most common cause of peripheral neuropathy. The research varies on percentages so we will give you the ranges reported. **20%-60% of the people with neuropathy are diabetics. Studies show that 51%-60% of diabetics have peripheral neuropathy,** so if you are a diabetic you need to pay close attention to your feet.

23%-30% of neuropathy cases are considered to be idiopathic, meaning no cause for the disease can be found for that person. When I was in grad school, I was taught that 'idiopathic' meant the doctor was an idiot and the patient was pathetic… that always makes me laugh!

30%-40% of cancer patients are affected by neuropathy.

33% of HIV/AIDS patients suffer from neuropathy.

Nearly **40% of people over the age of 60 suffer from peripheral neuropathy.** That is a significant number when you consider there are over 55 million Americans over the age of 65!

Causes of Peripheral Neuropathy

There are many causes for neuropathy. We have listed below a small list of the known causes. Put a check mark next to all the potential causes that may be affecting you:

- Diabetes
- Poor circulation
- Toxic exposure
- Infections
- Alcohol
- Post-surgical trauma
- Autoimmune disease
- Liver disease
- Kidney disease
- Under-active thyroid

- Prescription medications
- Physical Trauma
- Neurological diseases
- Celiac disease
- Repetitive physical stress
- Vitamin deficiency
- Nutritional imbalances
- Infections
- Metabolic problems
- Tumors
- Poisoning

You may have one of these causes driving your neuropathy, but many people have multiple things stacked against them.

Consider the average diabetic. Not only does diabetes itself cause neuropathy, but many people with type 2 diabetes are taking Metformin (which increases your likelihood of neuropathy by 84%), a blood pressure drug like Lisinopril and a cholesterol lowering drug like Simvastatin. All three of these drugs have been shown to cause or worsen peripheral neuropathy.

And to make things worse, many of the medications that are given to reduce the symptoms of neuropathy, are known to cause or worsen…**neu-**

ropathy! This "stacking" of the causes of neuropathy accelerates the deterioration of the disease and increases the painful symptoms experienced.

Most doctors have little to no working knowledge of the medications that cause neuropathy, and those drugs are the only tools they have at their disposal. Is it any wonder that they think that there is no hope and nothing that can be done to help you? Does it surprise you that they think there is no way to reverse it?

If you learn nothing else from reading this book, know this; **peripheral neuropathy is absolutely reversable!** We help people do it every day in our office!

By the way, after you read this book, you will know more about peripheral neuropathy than most doctors on the planet! That's gonna feel good, don't you think?

CHAPTER 2
MYTHS, MISUNDERSTANDINGS AND MISREPRESENTATIONS

WORKING with hundreds of people suffering from peripheral neuropathy, we have discovered that there is a great deal of confusion and also myths regarding the condition. In the last chapter you probably learned many things about neuropathy that you didn't know before. Sadly, you now know more about the condition than many healthcare practitioners!

Some of the myths regarding neuropathy evolved out of ignorance, but I am convinced that a few of them were by design, promoted by less than honest industries (like big pharma) in an attempt to create lifetime customers. Whatever the case, we should address some of the more common myths so we can help you understand how your neuropathy can be reversed.

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Myth #1

Only People with Diabetes get Neuropathy.

It is true that diabetics are more at risk, and is in fact the most common cause of neuropathy affecting an estimated 51-60%% of all adults with diabetes. There are however, more non-diabetics with neuropathy than there are diabetics with neuropathy. The latest research suggests that about 4 out of 5 people (80%) with peripheral neuropathy do not have diabetes.

There are many causes of peripheral neuropathy. These include diabetes (of course), exposure to toxins or chemicals, prescription medications, vitamin deficiencies, injury, poor circulation, post-surgical damage, liver damage, alcohol abuse, infections, gut health issues and autoimmune disease just to list a few.

It is estimated that 30% of peripheral neuropathy cases are idiopathic, meaning that the cause cannot be identified. Considering only the small list of causes above, it is easy to see that some people have more than one of those situations in their life, making the potential cause of neuropathy very complex. In my experience, many patients have multiple issues driving their neuropathy requiring a multifaceted approach to

improving or reversing the condition. Here is just one example. We recently had a patient come into our clinic who is dealing with type 2 diabetes, taking multiple prescription medications (that promote neuropathy) and has both gut issues and an autoimmune disease. If we don't look at the person as a whole, we might miss crucial pieces of their peripheral neuropathy puzzle.

Truth #1: Diabetes is not the only cause of peripheral neuropathy.

Myth #2

Neuropathy only affects the hands and feet.

Even though the symptoms most often begin in the hands and the feet, the damage can move up the lower leg and the forearms. This damage often feels like a heaviness, weakness, cramping, a bug like crawling sensation or even discoloration of the skin.

In some advanced cases neuropathy can affect your speech and cause damage to organs within your body like the liver, the kidneys, the eyes and the brain.

Much of the damage done to organs and tissues occurs when the small blood vessels called capillaries are compromised. Capillaries are tiny blood vessels that play a crucial role in the de-

livery of oxygen and nutrients to tissues and organs throughout the body. Improving the function of capillaries can have a range of benefits for overall health and well-being. That is very important to understand when working to undo the damage done by neuropathy. We will discuss capillaries in greater detail later on in the book.

Truth #2: Peripheral Neuropathy can affect organs and tissues throughout the body, not just hands and feet.

Myth #3

Damaged nerves cannot be repaired. Once they're damaged it's all over.

Extensive research has been done proving nerves absolutely have the ability to regenerate as long as the damage has not progressed to death of the nerve cell. In a publication regarding the subject of nerve health the National Institute of Health (NIH) stated that "Peripheral nerves have the ability to regenerate as long as the underlying nerve cell has not been killed".

Some nerves regenerate so well, that they are surgically removed and implanted in other areas of the body where nerve damage was too extensive to heal on its own.

Our own experience has shown that even in advanced cases of neuropathy, much of the function and sensitivity can be returned to the patient. If you are feeling pins, needles, pain hot and cold, shocking pain etc, your nerves are very much alive and can likely be repaired. Most of our patients receive complete or nearly complete resolution of their neuropathy symptoms.

Truth #3: Damaged nerves can be repaired in many, if not most cases.

Myth #4

Neuropathy doesn't get worse over time.

Neuropathy is in fact a chronic and progressive condition that worsens over time and can become debilitating. The damage often progresses slowly at first, then deteriorates at an ever-increasing rate. One study showed that once numbness and tingling begin, most people will be experience pain and even disability in some cases within 12 months.

Early intervention is important for best results. Letting neuropathy progress without addressing the underlying cause can become disabling and lead to a loss of function and the ability to do many favorite activities. If allowed to progress, the next step is life in a wheel chair

and even amputation of the damaged body parts.

Other health considerations include balance and coordination issues leading to falls, difficulty sleeping, depression, anxiety and a sense of hopelessness.

Truth #4: Neuropathy is a chronic, progressive and often debilitating condition.

Myth #5

My neuropathy symptoms are well managed with prescription or OTC pills so I'm doing just fine.

Prescription and over the counter medications don't "manage" your neuropathy, they cover up symptoms. They might even cover up the symptoms so well that you have no discomfort at all.However, pain and other symptoms is not a good indicator of health, but they do serve a very important purpose.

Pain and other symptoms are an alarm or signal telling you something is wrong in your body. Covering up the symptoms might give you relief but does nothing to slow or stop the progression of your disease. Ignorance is not bliss!

Let's look at it this way—suppose that after

you climb into bed tonight and fall into a deep slumber, you are awakened by the smoke alarm in the hallway outside your door chirping loudly.

Let's suppose you don't feel like dealing with the situation because its inconvenient and you're tired, so instead of putting out the little fire causing the alarm to blare, you choose to simply take the batteries out of the thing, and get back into bed. The noise is gone, but the fire rages on; unimpeded, it gets worse and worse until your house is in ashes and you are severely burned or dead.

No one would do that. It is a crazy scenario, yet it is exactly what we're doing when we rely on medication to "manage" the condition. Taking medications to cover up symptoms might feel good in the moment, but they allow the real problem to worsen and progress until we are permanently damaged or dead.

Let's talk a little bit more about this concept by giving you some history. In 1981 Boots Pharmaceutical Company became the first drug company to ever use print and television to market their drug, a prescription pain reliever, directly to the public.

Up to that point, the marketing of pharmaceu-

ticals had been exclusively to physicians. Over the last 40 plus years, pharmaceutical companies have evolved and perfected their craft of brainwashing the general public into believing the answer to all your ailments lies inside one pill or another.

Much of the airtime in any drug commercial is spent describing the many side-effects their "symptom cover-upper" brings into your life. But hey, no worries! We have another drug for each of those side-effects, so we're good to go!

It is estimated that today's young adults have seen over 20,000 hours of drug commercials in their lifetimes! Prescription and over-the-counter drugs in most cases are designed to suppress a particular symptom or set of symptoms, rarely having any positive impact upon the root cause of illness.

There are times that covering up symptoms is helpful, such as covering up pain following surgery. These benefits are for temporary situations, and are never a good long-term approach, because they lull the patient into a false sense of security and comfort while the condition is allowed to progress and worsen.

Truth #5: Prescription and over-the-counter drugs do not manage your neuropathy. They cover up symptoms, doing nothing to slow or stop the progression of the disease.

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Myth #6

Prescription drugs will cure my neuropathy.

This myth is related to the myth number 5, and much of what you read above could be restated here. Most doctors prescribe drugs as the primary treatment for peripheral neuropathy. Some of the most commonly prescribed are:

- Gabapentin (Neurontin), an anti-seizure medication
- Pregabalin (Lyrica), an anti-seizure medication
- Duloxetine (Cymbalta), an anti-depressant
- Nortriptaline, an anti-depressant
- Tramadol, an opioid pain killer. Used less commonly today due to its addictive properties.

Anyone paying attention to this list can quickly see that none of those drugs were created for the use of curing, stopping or even slowing the progress of peripheral neuropathy. We will speak more about medications later in the book, but for now I want you to know that all of these drugs were designed for other ailments, and some of

them actually make your problem worse. You read that right! A number of prescription drugs, including those most used to "treat" neuropathy have been shown to cause or make neuropathy worse!

Truth #6: No drugs can cure or even slow the progression of peripheral neuropathy, and many worsen the condition!

Myth #7

Neuropathy is a normal part of getting older.

In our clinic, people often ask us if a certain health condition is "normal". That is a bit of a loaded question, but let's answer it by making the distinction between the words "normal" and "common". While it is ***common*** to find neuropathy in the older generation, it is certainly not ***normal***!

Neuropathy is caused by many things, but old age is not one of them. We talked earlier in this chapter about some of the many causes of peripheral neuropathy, and old age is not found on that list! Age comes into play only in the fact that an older person has had more time to be exposed or had more opportunities to develop the condition. In my own situation, I was in my mid 30's when I noticed the first symptoms of neuropathy.

As we age our body does go through some changes. Things like our hair might go gray, and start growing in inconvenient places, your ears and nose might get a little larger, but neuropathy at any age is not normal!

Truth #7: There are many changes that take place in the body due to age, but peripheral neuropathy is not one of them!

Myth # 8

All Neuropathy feels the same

As Chiropractic Physicians board certified in neuropathy, we see a lot of neuropathy cases. Adults of all ages, sizes, races and genders walk through our doors and one thing I can promise you is that no two people have the same experience with neuropathy.

Some people have very little discomfort while others come to us in such pain that they are wanting out of this life, stating that if we can't help them they are hoping for death. Still other people have intermittent pain and tingling, while others are in almost constant pain. Some people don't experience much discomfort during the day but suffer greatly at night, longing for sleep that won't come to them due the lightning bolts of pain coursing through their feet.

Additionally, most people have days that are horrifyingly bad and others that are not so difficult. The symptoms experienced by people with neuropathy are as varied and unique as they are. This is due to the various causes of the condition, combined with lifestyle, the type of nerves that are damaged and so on.

Truth #8: Everyone has a unique and different experience with neuropathy. No two people are the same—often the two feet on the same person don't feel exactly the same!

Myth #9

I don't have much pain so my neuropathy can't be very advanced

One of our recent and favorite patients is a lovely woman in her late 60's. She still works as a flight attendant and is completely in love with her job. She had not experienced any discomfort or unusual sensations in her feet, but she had noticed a decrease in sensitivity so she came in for an evaluation. Wanting to continue working for another decade she wanted to make sure her feet would be healthy and allow her to achieve that goal. Upon evaluation, this lovely woman was unable to feel many of the sensations we were testing and in fact ended up having advanced pe-

ripheral neuropathy and had already lost 55% of the feeling in her right foot and a whopping 61% in her left! Keep in mind she had no discomfort of any kind. We started her care right away and she is improving rapidly! Pain and discomfort are terrible indicators for how advanced your neuropathy may or may not be! As a sidetone to the story above, our flight attendant recently received a 90 day examination. Her feet showed much improvement, now with only 7% and 14% loss respectively. This stuff works!

Truth #9: Lack of discomfort is not an indicator that your neuropathy is not advanced!

Myth #10

Nothing can be done for my neuropathy, so I just have to live with it.

Of all the myths out there, none is more common or more destructive to people's lives than the idea that nothing can be done for neuropathy. Unfortunately, doctors are the biggest offenders in the spreading of this myth. I would personally like to call this myth a blatant lie, but to tell a lie requires an intent to deceive.

The fact is, medical doctors just don't know any better. It's tragic, but the people we most trust to help us with our health are the ones most igno-

rant of the current research and understanding of the root causes of neuropathy.

Most doctors are under an incredible amount of pressure to see more and more patients each day. It is extremely difficult to keep up on everything new, so most doctors rely on pharmaceutical reps to educate them and keep them up to date on new research. Pharmaceutical reps have one job—sell drugs. Additionally, it is the AMA, in conjunction with the pharmaceutical companies that create the standards of care to which every doctor must adhere. Therefore, everything is treated with drugs first, followed by surgery, if applicable.

Current research has shown that there is much that can be done to improve or even reverse the hell that is peripheral neuropathy. Our clinic and other clinics similar to ours across the country have helped thousands of people to greatly improve and even reverse their peripheral neuropathy. The science, understanding and pathway to the successful treatment of peripheral neuropathy has been established.

Truth #10: There is a great deal that can be done to improve, or even reverse peripheral neuropathy. There can be an end to your suffering!

CHAPTER 3
DRUGS, DAMAGE AND DISASTERS

WHY ISN'T MY TREATMENT WORKING?

WE HAVE TALKED a bit about the problems of our mainstream approach to chronic conditions. A little deeper understanding of those problems is important for you to know why the things you're doing for your neuropathy aren't working.

Here in America, we have the best hospitals in the world, and we spend almost twice as much money on healthcare as any other country on the planet. But in a study ranking the overall health of the top 38 industrialized nations, the US ranked dead last. Something is not adding up.

Let's discuss one of the reasons we rank so poorly against other nations when it comes to our health. Consider this fact: America makes up only about 5% of the world's population and yet we consume 75% of the world's medications! Some of

the people we work with are taking more than 20 prescription drugs! In case you have a different notion, I would like to state something of importance. Are you ready? ***Medications are not good for you!*** They are certainly necessary in the right situation, and sometimes they can even keep you alive. But they are not good for you overall. Not one of them. They all have side effects. They all change the way your body functions on a chemical and often cellular level. They seek to up-regulate, down-regulate, or suppress some biological function that is normal to your body.

Let me give you an example so you know what I am trying to say. In 2012 I received a life-saving kidney transplant. The kidney that has kept me alive for the last 12 years was given to me by my sister. It was an unspeakably generous gift.

Because the kidney is not really mine, my body would recognize this, and my immune system would attack the *foreign object* inside me and try to kill it. In order to prevent this, I take a medication that suppresses my immune system, making it too weak to hurt my borrowed kidney. That part is very good. I need my borrowed kidney. It keeps me alive.

However, because I am taking a medication to suppress my immune system, I am now susceptible to infections that otherwise would not be

dangerous to me. I am at high risk for skin cancer because my immune system is weakened. And there is a very long list of other side effects the medication causes that I'm stuck with. The medication is necessary for me to stay alive today, but it is harming my body in the long run.

Most medications don't keep us alive. Their job is nothing more than to suppress symptoms to make us more comfortable.

I prefer to look at medications as a doughnut. Not the pastry from heaven that makes us fat, but rather the one most of us have in our car.

Picture yourself on a long drive in the middle of the desert, when one of your tires blows out. Pulling over, you open the trunk, pull out the jack and the tiny tire hidden under the mat. The tiny tire is the *doughnut*. Putting it on your car, you are now able to drive to safety. The tire is not designed to allow you to drive very fast or very far, but it keeps you going until you can get the "real tire" repaired. It is a short-term solution. That's what medications are. They are your doughnut and are designed to get you to safety but are not good choices long term. Medications are best as a short-term solution.

Because, in our country, we treat chronic illness with symptom suppressing medications, and because the average American consumes a very

poor diet full of chemicals, unhealthy fats, and tons of sugars, chronic illnesses such as heart disease, diabetes, and neuropathy are rising at an alarming rate. The current treatment of neuropathy falls into this mess.

Let's talk about some of the most commonly prescribed medications helping to cause the mess. You may be taking one of these for your neuropathy.

Gabapentin (Neurontin)

Hands down the most commonly prescribed medication among the patients we see in our office is Gabapentin. Gabapentin is a medication created to help prevent seizures. In simple terms, it slows down the function of your brain activity. Research showing how Gabapentin helps decrease pain has not been done.

However, the maker of the drug (Pfizer) thinks that it stops the messages from your feet from reaching your brain. Some people may get relief of symptoms with this medication, so what's the problem with taking it, you may ask? While Gabapentin helps decrease symptoms for some people, it brings with it a long list of potential side effects and does nothing to slow or stop the progression of your neuropathy! **You will see in a page or two that Gabapentin is on the list of drugs that cause or make neuropathy worse.**

In an article published in the medical journal *Pain Practice*, the author Mark Russo, MBBS states "We caution against leaving patients with high neuropathic pain levels on long term Gabapentin as more harm than good may be occurring."

In the report ***Gabapentin For Off Label Use: Evidence Based Or Cause For Concern?*** published in the medical journal *Substance Abuse: Research and Treatment*, the author Alyssa M. Peckham states, "Despite the lack of robust data for off label indications, Gabapentin was aggressively and illegally marketed for numerous unapproved uses, including indications that were reviewed and rejected by the FDA".

A quick internet search on the reported side effects of Gabapentin shows:

- Vision changes
- Clumsiness
- Unsteadiness
- Dizziness
- Drowsiness
- Trouble thinking
- Nausea
- Swelling
- Fever

- Headache
- Anxiety
- Jerky movements
- Tremors
- Diarrhea
- Difficulty breathing
- Itching
- Constipation
- Restlessness
- Weight gain
- Aggression
- Dry mouth
- Dementia
- Uncontrolled eye movements
- Depression
- Swollen glands
- Anorexia
- Hallucinations

All this and it does not even slow down the progression of your neuropathy!

Lyrica

The second most common drug we see prescribed to our patients for neuropathy is Lyrica. Like Gabapentin, this drug is an anti-seizure drug and may decrease your symptoms by slowing

down or blocking the messages traveling to the brain from your damaged nerves. By the way, **Lyrica is on the list of drugs that cause or makes neuropathy worse.** The side effects look a lot like that of Gabapentin:

- Constipation
- Blurred vision
- Anxiety
- Shallow breathing
- Drowsiness
- Weight gain
- Memory problems
- Swelling in the hands and feet
- Nausea
- Loss of consciousness
- Dry mouth
- Abdominal pain
- Confusion
- Clumsiness
- Joint pain
- Sores, ulcers, or white spots in the mouth or on the lips
- Cough
- Chills
- Bloating
- Difficulty swallowing
- Seizures

All this, and the drug does nothing to stop or even slow the progression of your neuropathy.

Duloxetine

Created to treat depression and anxiety. It is thought that Duloxetine helps with depression and anxiety by increasing the amount of mood-enhancing chemicals in your brain. These same chemicals are thought to decrease the brain's perception of pain. Some of the most common side effects of Duloxetine are:

- Skin rash
- Decreased appetite
- Nausea
- Liver damage
- Orthostatic hypotension
- Abdominal pain
- Suicidal thoughts
- High blood pressure
- Sexual dysfunction
- Headache
- Dizziness
- Insomnia
- Frequent urination

- Constipation
- Fatigue

All this and yet, it does nothing to stop or even slow the progression of your neuropathy.

Tramadol

Tramadol is a powerful painkiller much like morphine. It is believed that Tramadol decreases pain by inhibiting the function of certain chemicals in the spinal cord, stopping the nerve signal from reaching the brain. Being an opioid it his highly addictive. Some of the most common side effects of Tramadol are:

- Dizziness
- Coma
- Constipation
- Vomiting
- Headache
- Tachycardia
- Fainting
- Confusion
- Anxiety
- Hallucinations
- Depression
- Fever

- Difficulty urinating
- Difficulty swallowing
- Psychomotor agitation

All this and yet, it does nothing to stop or even slow the progression of your neuropathy!

Are you seeing a pattern here? As long as the method to treat neuropathy is prescription drugs like the ones listed above, there is no hope of getting better.

Suppose you are driving your car (again) and the check engine light comes on. What do you do? Most people get to a mechanic as soon as possible to **get the problem diagnosed and fixed.** Now let's suppose that when you take the car in to the mechanic, instead of fixing the problem he reaches in with a pair of plyers and cuts the wire to the check engine light, immediately turning it off. With a smile and hefty bill, he tells you "All fixed!".

Would you put up with that for even one second? Of course not. The very idea is ridiculous. But isn't that exactly what we're doing when we take drugs to cover up the symptoms, but not fix the problem? We're shutting off the thing that tells us we have a problem, leaving the condition to

get worse and worse, until there is no hope of repair.

Drugs that Cause or Make Neuropathy Worse

We have just discussed briefly, some of the drugs that cause or make neuropathy worse. The following is a short list of those drug classifications that have been shown to cause or make neuropathy worse, with a few examples of each. Note that many of these drugs are very commonly used, and you might be taking several of them.

A few of the drugs known to cause or worsen neuropathy:

- **Anti-seizure:** Gabapentin, Lyrica, Phenytoin
- **Anti-anxiety:** Ambian, Xanax, Diazepam
- **Antidepressants:** Celexa, Cymbalta, Zoloft
- **Antibiotics:** Cipro, Flagyl, Levaquin
- **Blood Pressure:** Lisinopril, Amlodipine, Atenolol
- **Chemotherapy:** Cisplatin, Vincristine

- **Cholesterol lowering drugs:** Atorvastatin, Simvastatin, Rosuvastatin
- **Dental Creams:** Polygrip, Fixodent
- **Diabetes:** Metformin
- **Proton Pump Inhibitors:** Prilosec, Nexium, Prevacid
- **Immuno-suppressants:** Cellcept, Tacrolimus, Enbrel

Keep in mind, this is only a small list of the drugs known to cause or worsen neuropathy.

Between the drugs that only cover up the symptoms and the drugs that cause or make neuropathy worse, the traditional treatment method is a pathway to misery, with the only possible outcome: a worsening of the condition leading to more drugs, leading to more symptoms, leading to more drugs, then on to canes, walkers, wheelchairs and for 86,000 people each year—amputation. Can it get any bleaker than that? No wonder so many of our patients are on the verge of giving up when they come into our office.

Now we know the reasons why the things you are currently doing aren't working. I think it's about time to learn what is actually happening in

your feet and what you can do to reverse the damage!

CHAPTER 4
WHAT IS REALLY GOING ON?

IF YOUR BODY WERE A FACTORY

TO BETTER UNDERSTAND peripheral neuropathy and how to reverse your condition, it is helpful to picture your body like a factory. I know that sounds a little silly, but bear with me! If your body were a factory, the most important and primary product that it produces is new ***cells***. Skin cells, blood cells, kidney cells, liver cells, brain cells, nerve cells, and so on. Your body is actually in a constant state of renewal.

Individual cells have a lifespan, and in order to keep you going your body is constantly re-creating…you! It's a truly amazing and remarkable process. Your liver is completely new every 60-90 days. Your kidneys take about 6 months. The rods and cones inside your eyes that help you see, are

brand spanking new every 24 hours! I'll say it again, *your body is in a constant state of renewal.*

Some years ago, I suffered from a very rare and serious kidney condition. I was diagnosed in March of 2003. At that time, I was told that if I did not go on dialysis and/or get a kidney transplant I would be dead by the end of the year. Just like you've probably been told there is nothing that can be done for your neuropathy; when I asked what I could do to improve my kidney health I was told that there was nothing that could be done.

I was told my kidneys were just too damaged, and that my disease cannot get better. As scary as that was, it did not set well with me. How could there be nothing to help me improve my condition? From my very core I knew there was something I could do. Applying the same basic principles that we use to figure out a treatment approach to any chronic condition, I went to work creating a treatment plan for myself. I was able to improve my damaged kidneys to the point that 2 years after my initial diagnosis I competed in 5 triathlons.

Improving my kidney disease was supposedly "impossible", but there I was in my spandex shorts and running shoes proving the medical world wrong. Even though I had improved my

kidneys, I still had kidney disease and that bothered me. I often pondered about this idea of constant renewal of my body. If my body was making brand new kidneys every 6 months, why did I still have kidney disease? Why wasn't my body able to make new healthy cells and get rid of the sick ones? That's when the concept of the factory hit me.

If a factory brings in poor quality materials to make their product, it can only create a poor quality product. It can be no other way. Furthermore, if some of the machines inside the factory are operating poorly, mis-calibrated or just broken down—again, it can only make a poor-quality product. Picturing your body like a factory makes it obvious to see that providing poor materials to your body (unhealthy foods and nutrition) to make new cells, your body will only be able to make unhealthy cells.

Crummy materials make crummy products. And if some of the machinery inside your body is not working correctly, you won't be able to make enough healthy cells to keep up with the destruction the disease is causing, therefore, your feet get worse and worse and worse. The key to reversing neuropathy is to replace the poor materials your factory needs with good ones. We do this by cleaning up your diet, and by providing a thera-

peutic dose of the nutrition your feet need in order to heal.

Then we need to re-calibrate the machinery inside your feet (blood vessels and nerves) to help them do their job so that your body can make new, healthy cells faster than they are being damaged by the disease. It's a very simple but powerful concept. Speaking specifically about neuropathy, we know that a couple of things are happening in your feet. One: you are experiencing a high level of cellular inflammation in your feet, and Two: some of the cells in your feet are dying faster than your body can repair or replace them. We also know that the blood supply is damaged and failing to provide your nerves with oxygen and nutrients they need to be healthy, and failing to take away the cellular trash that occurs with normal cell function.

The byproducts of normal cell metabolism are very toxic to the nerves and other tissues. Picture a big city like New York when the sanitation workers go on-strike, almost overnight, the trash builds up and the streets are quickly ravaged by rats and disease. When you have neuropathy, your damaged vascular system is causing a sanitation strike, and your nerves are being damaged!

We will talk in more detail about the ways to reverse your neuropathy in later on. For now,

what you need to understand is that you have three areas or systems that are in trouble. First, is what we call the metabolic system. This involves the materials you are giving your body to make new cells. We need to give your factory what it needs to make healthy cells.

Next is the damaged vascular system. The blood vessels in your feet need help so they can bring in the oxygen and important nutrients the nerves in your feet need to heal and stay healthy. The last system involved is the nervous system. The nerves in your feet are being damaged and need help to heal and re-habilitate. If we can accomplish these three things (and we can!) we can help you heal your damaged feet and, in many cases, completely reverse your condition. Don't stop reading…there is more exciting, and life changing information to come!

CHAPTER 5
HOPE, HAPPINESS AND A NEW TOMORROW

AT THIS POINT, we wanted to give you a little boost to keep you reading. Many of the people we work with are on the verge of losing all hope to ever live normal lives again. In our office we have what we call the "Wall of Fame". These are people who want to share their story so that others can have confidence in our program, and have a life changing experience of their own. We have included a few of those testimonials so you can have renewed hope, and know that you can get back to living the life you always dreamed you would. Above the pictures on the wall of fame it says (we stole this from Barb) is written the words: ***"You're Worth It!"***

"It's A Time & Financial Commitment, But I'm WORTH It!"

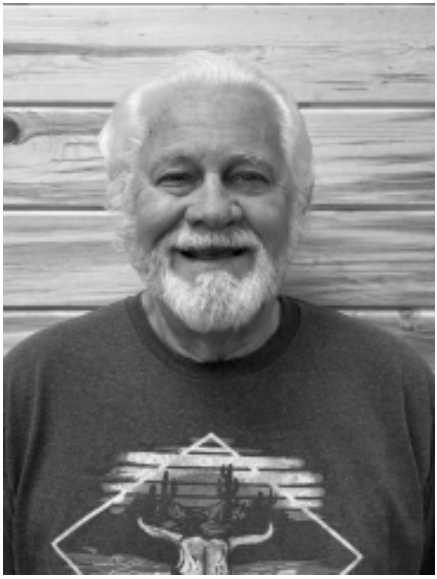
"When I came to Wellspring for the Seminar, I was already suffering with extreme diabetic peripheral neuropathy. And I knew if I didn't do something I would be in a wheelchair in a month or so. I staggered really badly when I walked. I also had to drive bare footed, because I couldn't feel the pedals. After the very first treatment I could walk straight and now I can drive with my socks on and maybe a thin sole shoe. I highly recommend Wellspring to all my friends and family. It's a time and financial commitment, but I'm worth it!"

- Barb

"My Wife Is In AWE Of How I Am Doing!"

"I decided to come to the seminar, because my balance was horrible, and my feet and half way up my calves were numb. My wife and I are both in the medical field, and although we were a bit skeptical, we were excited too. We decided to invest in the program, because we had nothing to lose. My experience after three and a half weeks is that my neuropathy is 70% better. My balance is much better; I can walk without losing my balance. My wife is in awe of how much better I am doing! I highly recommend Wellspring to my friends and family.

- Wayne



"I'm Looking Forward To Playing BOCCE Again!"

"No one wants to be the old guy that can't walk, especially me! However since being diagnosed with neuropathy, little by little I saw my life slipping away. I couldn't walk very far, and my balance was terrible. I had a constant fear of falling. The worse part was that I stopped doing the things I love to do; like traveling and playing bocce - which I'm pretty good at :) I'm thrilled I came to the seminar, and decided to join the program. 'Nothing ventured, nothing gained.' Although I was a bit skeptical, the educational-based seminar, examination, and testing gave me confidence in the treatment process. The results have

been incredible! Now I'm looking forward to doing what retired people are supposed to do... especially playing Bocce!

- Ron

"I Was Skeptical to Come To The Seminar, But I'm So Glad I Did!"

"Before coming to Wellspring, I had constant sharp pains in both feet, and I couldn't sleep at night. I had to sleep with a blanket between my feet, because if my feet touched, I would feel sharp electric shock pain. I was also noticing a

great decrease in my walking, and I really like to walk.

Although I was skeptical to come in because you get emails and stuff like that all the time, and you think it might be snake oil. But once I came to the seminar, and went through the information process, I thought there was hope and that this might just work! I was so miserable, that I truly had to try something else; and I am so glad I did! I can sleep at night, and my feet don't bother me that way before. Before treatment here, I couldn't walk barefoot anywhere, and now I can walk around the house without shoes on!

- Glenn

Are you starting to see that there is a reason to hope? The things you are reading in this book have the power to change your life forever! It will take a commitment and work on your part, but the results are worth it.

The next two people you will hear from have been married a long time and they share everything—even neuropathy!

"Our Confidence Was Based On SCIENCE!"

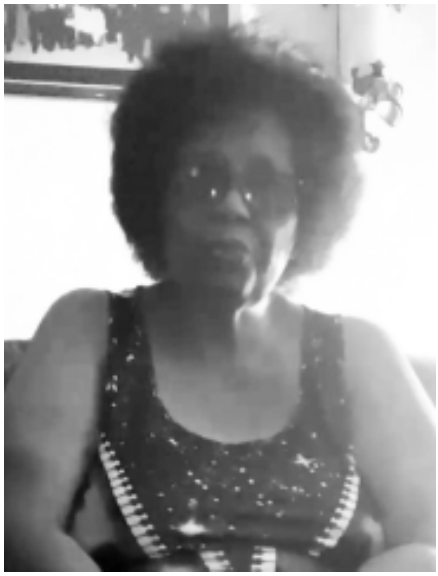
"I had a lot of neuropathy from chemotherapy —all the way up to my ankles. The skin was very red and it really affected my balance. We had confidence in their plan because it's based on science. We signed up right away, which is not normally like us. We've experienced tremendous results. If you have chemo or anything that's affecting you...It's a no brainer! Don't question it—try it!"

- Margie R.

"My Legs Were Dead, Now I Have Spring In My FEET!"

"I couldn't feel my toes when I got into bed at night. My legs were pretty much dead, now I have spring in my walk! My legs were like stumps but now they're alive. I'm feeling my toes. I'm feeling the bottom of my feet. I feel objects under my feet on the road and on the trails. I've just seen tremendous improvement! If You have a neuropathy problem, give it a try. You can't go wrong!"

- Tom R.



"Before I Suffered So Much, Now I Can SLEEP!"

"Dr. Jeff has done wonders for my feet. My Progress has been really great. I'm really pleased. Before I suffered with so much pain, I didn't get any sleep. Now I get lots of sleep. It's been a great experience and it really works!"

- Mary D.

CHAPTER 6
THE 7 DEADLY SINS OF NEUROPATHY

OF ALL THE things to consider eliminating from your lifestyle, I wish to discuss seven things that cause or make your neuropathy worse, that may not be on your radar. As with other *sciency* information you might not enjoy reading, feel free to read only the parts I've bolded.

There just might be one or more of these in your daily routine that are making your symptoms way worse, and making your neuropathy harder to reverse. Some of these items might be among your favorite things in the world! My advice is to read each one and eliminate them as much as possible. Just do your best.

I. SUGAR

Most Americans eat more than 17 teaspoons of

sugar per day, which is more than double the amount considered to be safe. Limiting or even eliminating sugar is a big help in reversing neuropathy. Sugar makes neuropathy worse for many reasons. Here are just a few.

1. Inflammation: Sugar triggers inflammation in the body, including in the nerves. **Chronic inflammation damages nerves and increases your neuropathy symptoms.**

2. Advanced Glycation End Products (AGEs): When sugar levels are high in the blood stream, excess sugar molecules can attach to proteins in the body, forming harmful compounds called AGEs. **These AGEs accumulate in nerve tissues, damaging them and causing symptoms like the ones you are feeling.**

3. **Oxidative Stress:** Sugar causes oxidative stress in the body, **damaging nerve cells.** Oxidative stress occurs when there is an imbalance between the production of harmful free radicals and the body's ability to neutralize them with antioxidants.

4. Blood Sugar Spikes and Crashes: Sugary foods can cause spikes in your blood sugar levels followed by sudden drops. **These rollercoaster fluctuations damage nerves and worsens symptoms.**

5. **Impaired Blood Flow:** High sugar intake

damages blood vessels and impairs blood flow to the nerves, **causing a lack of oxygen and nutrient supply. This damages the nerves and increases the symptoms you're having.**

Overall, reducing sugar intake and maintaining stable blood sugar levels are essential for managing neuropathy, preventing further nerve damage, and reversing your neuropathy. A balanced diet rich in whole foods, low in processed sugars, and incorporating anti-inflammatory nutrients will help alleviate neuropathic symptoms and support nerve health.

II. Alcohol

Alcohol damages nerve tissue in the peripheral nerves, but also in the brain and spinal cord. Here are a few of the ways that occurs:

1. **Nutritional Deficiencies:** Chronic alcohol consumption leads to nutritional deficiencies, particularly in vitamins such as B vitamins (thiamine, niacin, folate and vitamin B12), which are crucial for nerve health. Deficiencies in these vitamins contributes to nerve damage and will exacerbate your neuropathy symptoms.

2. **Toxic Effects:** Alcohol itself is toxic to nerve tissues. Prolonged alcohol exposure can directly damage nerve cells, causing neuropathy.

3. **Peripheral Neuropathy:** Chronic alcohol use

is a common cause of peripheral neuropathy, particularly in individuals who also have poor nutrition.

4. **Nerve Inflammation:** Alcohol use creates inflammation in the body, including the nerves and blood vessels. Chronic inflammation is one of the root causes of neuropathy, and worsens neuropathy symptoms.

5. **Interaction With Medications:** Alcohol interacts with certain medications prescribed for neuropathy, often increasing their side effects.

III. Artificial Sweeteners

Artificial sweeteners, despite being marketed as healthier alternatives to sugar, are far worse for you and will worsen your neuropathy in a number of ways!

1. **Inflammation:** Studies show that artificial sweeteners, particularly those containing aspartame, saccharin, or sucralose trigger massive inflammation in the body. As you have read many times in this book, chronic inflammation is one of the root causes of your neuropathy.

2. **Nerve Toxicity:** Although they are promoted as safe, artificial sweeteners have toxic effects on nerve tissues. Aspartame for example is made up of two neurotoxins that when combines have a

very sweet taste, but are known to damage nerve cells throughout the body.

3. **Dysbiosis:** Artificial sweeteners can alter the composition of the community of microorganisms in your gut leading to a condition known as dysbiosis. Dysbiosis has been linked to chronic inflammation and metabolic disturbances directly worsening nerve health and exacerbating neuropathy.

4. **Blood Sugar Dysregulation:** Although artificial sweeteners are low or calorie free and do not directly spike blood sugar levels, research has shown that they affect other areas of blood sugar regulation and insulin sensitivity. Dysregulated blood sugar levels cause nerve damage and worsen your neuropathy symptoms.

5. **Migraine Triggers:** Some artificial sweeteners, such as aspartame, have been shown to trigger migraine headaches. Migraines are associated with neurological symptoms and often exacerbate existing neuropathy symptoms.

6. **Individual Sensitivities:** Some people have sensitivities or intolerances to specific sweeteners, leading to adverse reactions that worsen neuropathy symptoms.

The bottom line here is that artificial sweeteners are just bad for you. They impact your

health in more ways than just neuropathy, so try your best to avoid them!

IV. Grains

Grains, especially refined grains, are damaging to nerve tissue and will worsen your neuropathy in several ways:

1. **Blood Sugar Spikes:** Refined grains, such as white bread, white rice, and pasta made from white flour, have a high glycemic index. This means they cause a rapid increase in blood sugar levels soon after you eat them. Frequent consumption of refined grains can lead to repeated spikes and drops in blood sugar, and contribute to nerve damage and exacerbate your neuropathy symptoms.

2. **Inflammation:** Most grains, especially those containing gluten like wheat, barley, and rye, will trigger inflammation in your body. Chronic inflammation is implicated in various health condition, including neuropathy and will worsen nerve damage and neuropathy symptoms.

3. **Nutrient Deficiencies:** Relying heavily on refined grains in the diet often displaces nutrient-rich foods, leading to deficiencies in essential vitamins and minerals that are important for nerve health. For example, deficiencies in B vitamins

(such as B1, B6 and B12), and magnesium can contribute to neuropathy.

4. **Impaired Gut Health:** Some people have sensitivities or intolerances to certain components of grains, such as gluten or lectins. These sensitivities can lead to gastrointestinal problems and disrupt gut health. Gut health problems exacerbate inflammation and contribute to many health issues, including neuropathy.

5. **Advanced Glycation End Products (AGEs):** As we discussed earlier, processed and refined grains are often subjected to high-temperature cooking methods, which leads to the formation of advanced glycation end products (AGEs). AGEs have been implicated in various health conditions, including neuropathy, as they contribute to high levels of oxidative stress and inflammation.

6. **Insulin Resistance:** Diets high in refined grains have been associated with insulin resistance. Insulin resistance leads to elevated blood sugar levels and contribute to nerve damage over time.

It is important to note that many whole grains contain essential nutrients and fiber that support overall health. However, most products that claim to be whole grain are highly processed and full of other ingredients like sugar, or artificial sweeteners.

As a good rule of thumb; if you didn't cook it from scratch, it's probably a bad choice and has a high risk of making your neuropathy worse.

V. High Fructose Corn Syrup

High Fructose corn syrup (HFCS) is a sweetener commonly used in processed foods and beverages. It is estimated that 74% of all products in the grocery store contain HFCS! It has been marketed as a healthy sweetener. Nothing could be further from the truth. HFCS will worsen your neuropathy in many ways. Here are just a few:

1. **Blood Sugar Dysregulation:** HFCS is very high in fructose, which bypasses normal sugar metabolism and leads to rapid spikes in blood sugar levels causing weight gain, excess hunger, liver damage, and nerve damage. It will exacerbate your neuropathy symptoms.

2. **Insulin Resistance:** Consumption of HFCS causes insulin resistance, a condition in which your cells become less responsive to the effects of insulin. Insulin resistance leads to elevated blood sugar levels, type II diabetes, and increased inflammation all of which are linked to neuropathy.

3. **Advanced Glycation End Products (AGEs):** Are you seeing a pattern with AGEs? I'll say it again. AGEs are harmful compounds

formed when sugars react with proteins in the bloodstream and lead to oxidative stress, inflammation, tissue damage and damage to nerves.

4. **Obesity and Metabolic Syndrome:** HCFS has been linked to obesity and metabolic syndrome, both of which are known to contribute to neuropathy. Obesity-related factors such as chronic inflammation, insulin resistance, and abnormal levels of fat in the blood all can cause and worsen neuropathy.

5. **Nutritional Imbalances:** Consuming foods and beverages with HFCS may displace nutrient-dense foods from your diet, leading to deficiencies in vitamins and minerals essential for nerve health, and crucial for nerve function.

6. **Gut Health:** HFCS consumption damages gut health by promoting the growth of harmful gut bacteria and disrupting the balance of the gut microbiome. Gut health is increasingly recognized as an important factor influencing systemic inflammation and neurological health, including neuropathy.

Eliminating foods and beverages containing high fructose corn syrup helps to mitigate the risk of heart disease, stroke, type 2 diabetes, liver damage, gut problems, erectile dysfunction, dementia, Alzheimer's disease and of course, neuropathy!

VI. Unhealthy Fats and Oils

Fats and Oils are extremely important for our health. Unfortunately, in America, we have been misinformed for nearly 40 years about what oils are good for us and which ones are bad. The healthy oils are basically olive oil, avocado oil, and coconut oil. Basically, every other commercially made oils are bad for you and they will worsen your neuropathy! Here are a few of the things bad oils do to us:

1. Inflammation: Oils high in unhealthy fats, such as trans fats and certain saturated fats, promote inflammation in the body. Chronic inflammation is a big driver of neuropathy, and as you already know, very damaging nerve tissue and increasing symptoms.

2. **Oxidative Stress:** Unhealthy fats increase oxidative stress on the body. And as I keep telling you, oxidative stress damages nerve cells and worsens neuropathy symptoms!

3. **Impaired Blood Flow:** Consuming unhealthy fats and oils can lead to a buildup of plaque in the arteries, narrowing them and reducing blood flow to the nerves. This deprives the nerves of oxygen and nutrients, contributing to nerve damage and worsening your neuropathy symptoms.

4. **Insulin Resistance:** Unhealthy fats, especially trans fats, have been linked to insulin resistance. And we have already discussed that insulin resistance is a risk factor for neuropathy, as it increases blood sugar levels and metabolic disturbances that cause nerve damage.

5. **Nerve Conduction:** Bad fats impair nerve conduction, affecting the speed and efficiency of nerve signaling. This will exacerbate such neuropathy symptoms as tingling, numbness, and pain.

6. **Nutrient Absorption:** Consuming unhealthy fats interferes with the absorption of essential nutrients, such as, vitamins and minerals that are important for nerve health. Deficiency in these nutrients contributes to nerve damage and worsens your neuropathic pain.

Decreasing or completely eliminating unhealthy fats and oils in has a powerfully positive affect on your neuropathy. To do this you must read food labels and avoid commercially fried foods, fast foods, processed snacks and commercially baked goods.

Since it is really hard to remember all the oils that are bad for you, I recommend that you focus on the more common, three healthy oils. It is much easier to remember it this way—cook exclusively with avocado oil and coconut oil, use

olive oil for your dressings and non-cooked items.

Olive oil is very good for you but denatures when you cook with it. Healthy fats can also be found in avocados, nuts, fatty fish, and flaxseeds. There you go! Super easy. We will discuss this a bit more later on.

VII. Tabacco

The last on our list of 7 top things to avoid, is the most obvious. If you don't already know that smoking is bad for you, you might have bigger problems than neuropathy! Sorry, that was mean. Smoking causes or worsens neuropathy in the following ways:

1. **Reduced Blood Flow:** Smoking constricts blood vessels, decreasing blood flow to peripheral nerves. Since nerves require adequate blood flow to function properly, reduced circulation can worsen neuropathic symptoms.

2. **Oxidative Stress:** Cigarette smoke contains numerous harmful chemicals that generate oxidative stress in the body. This oxidative stress can damage nerves and exacerbate neuropathy.

3. **Inflammation:** Smoking triggers inflammation throughout the body, including in nerve tissues. Chronic inflammation can contribute to nerve damage and increase neuropathic pain.

4. **Toxicity:** The toxic chemicals in cigarettes, such as nicotine, tar, and carbon monoxide, can directly damage nerves and interfere with nerve signaling, worsening neuropathic symptoms.

5. **Impaired Healing:** Smoking interferes with the body's ability to repair damaged tissues, including nerves. This can prolong and intensify neuropathic pain and other symptoms.

Smoking not only increases the risk of developing neuropathy but also worsens existing neuropathic symptoms by reducing blood flow, promoting oxidative stress and inflammation, and directly damaging nerves. Quitting smoking can significantly improve nerve health and alleviate neuropathic pain over time.

CHAPTER 7
THREE SYSTEMS DAMAGED, THREE SYSTEMS TO HEAL

THIS CHRONIC, progressive, debilitating beast we call peripheral neuropathy comes down to three major systems that are damaged. Three systems that are at the root cause of your neuropathy and must be dealt with if we hope to not only stop the progression but reverse the condition. Those three systems are:

· The metabolic system
· The vascular system
· The nerve system

It is important that you have at least a basic knowledge of each system and how we address the function and healing of each one. Understanding these three systems will make you an

honorary expert in peripheral neuropathy, so let's get started!

Metabolic System Defined

Your metabolic system seems really complicated, and in truth it is. But for our purposes a simple definition works. Metabolic activity consists of the chemical processes necessary for the tissues, blood vessels, and nerves in your feet to stay alive. It involves the way the cells in your feet make energy, function, and maintain themselves. If your feet are struggling *metabolically*, they will function poorly and will not be able to repair themselves from the damage that diabetes, toxins, prescription drugs, (or whatever is causing your neuropathy) is doing to your nerves and blood vessels.

The Metabolic system is heavily influenced by the materials you give your factory, i.e., your diet and nutrition!

Food: Medicine or Poison?

Let's just get it out of the way right now**. Diet** is a four-letter word, but it is very important when it comes to your neuropathy. **Food can be medi-**

cine and it can be poison. What you do and don't put into your pie-hole matters! A problem we all face is that It's not easy to eat healthily in our country. I know I make words up sometimes, but yes, *healthily* is a word! There is a term known as the **Standard American Diet or *SAD*** and sad it truly is!

It describes the eating pattern most people in our country follow. It is characterized by high amounts of heavily processed foods, fast food, lots of added sugars both (natural and artificial), and high in sodium and preservatives, artificial colorings and chemical flavor enhancers (all of which are toxic).

The Standard American Diet is also low in fruits and vegetables—what we like to call "living foods". In chapter four we talked about visualizing your body as a factory. The things you eat and drink make up the materials you provide for your factory to make its product. The Standard American Diet is a perfect example of what not to eat.

So here is the "diet" that will help improve virtually any chronic illness you are dealing with, including (of course), neuropathy. Are you ready?

You should eat:

1) Fresh meats, vegetables, and fruits

2) Lots of healthy oils: avocado oil, olive oil, and coconut oil

3) Drink lots of water, filtered if possible

You should avoid:

1) Processed foods

2) Sugar, high fructose corn syrup, and artificial sweeteners

3) Almost anything commercially packaged

Now I fully acknowledge that it is hard to live 100% on the above every single day and never stray, but taking care of your body is a marathon not a sprint. We don't fix everything overnight, but over time! Just do your best. Some days your best will be better than other days. That's okay. *Just do your best* every day, and your best will be good enough.

Nutrition

I remember as a kid, staying the night at my cousin's house. I always marveled at my Uncle Bob. At the breakfast table each morning he was surrounded by big bottles of supplements that he would ritualistically open and pour into his hands. Lining up just the right amount of each on

the table he would swallow them one by one. It was quite the ceremony. Uncle Bob knew something that would take me many years to learn. If you want your body to function at its best, if you want to be healthy, and if you want to reverse damage that is occurring with things like neuropathy—you must take some supplements.

The tissues, blood vessels and nerves in your feet are being damaged faster than your body can repair them. In order for us to get ahead of the damage being done, your body requires a therapeutic dose of very specific things to make that happen!

Trying to heal without supplements is like trying to put out a house fire all by yourself with a garden hose. It ain't gonna work! You need a team of firefighters working together for a short time to put out that fire (in case you missed it, the firefighters are the supplements)!

Here are some of the extra nutrients that if taken in a therapeutic dose, for just a while, will help you get ahead of the damage and get your metabolic system back in good shape.

L-Carnitine: 500-1500 mg/day

L-carnitine is an amino acid that plays an important role in energy production within the body. Some studies suggest that L-carnitine may be ben-

eficial for individuals with neuropathy. Here are some ways in which L-carnitine may help with neuropathy:

1. Improved nerve function: L-carnitine helps improve nerve function in individuals with neuropathy by promoting the regeneration of damaged nerves and reducing oxidative stress. This helps reduce symptoms as well as improve function.

2. Pain relief: L-carnitine has been shown to have analgesic (pain-relieving) effects, which helps alleviate the pain associated with neuropathy.

3. Reduced inflammation: L-carnitine has been shown to have anti-inflammatory effects, which helps reduce inflammation and damage to the affected nerves.

4. Improved blood flow: L-carnitine has been shown to improve blood flow to the affected nerves, which helps reduce symptoms and promote healing.

Alpha-Lipoic Acid: 200-600 mg/day

Alpha-lipoic acid (ALA) is a naturally occurring antioxidant that has been studied for its potential benefits in treating neuropathy. Here are

some ways in which ALA helps with neuropathy:

1. **Antioxidant effects:** ALA has strong antioxidant properties, which reduces oxidative stress and damage to the nerves that can contribute to neuropathy.

2. **Improved nerve function:** ALA helps improve nerve function by reducing inflammation and promoting the regeneration of damaged nerves.

3. **Pain relief:** ALA has been shown to have analgesic (pain-relieving) effects, which helps to alleviate the pain associated with neuropathy.

4. **Improved blood sugar control:** ALA has been shown to help improve blood sugar control in individuals with diabetes, which helps prevent or slow the progression of neuropathy.

Vitamin B6, Riboflavin and Vitamin D

Vitamin B6, riboflavin (vitamin B2), and vitamin D are all important vitamins that play a role in maintaining nerve health and function. Here are some ways in which these vitamins may help with neuropathy:

1. **Vitamin B6:** Vitamin B6 is essential for nerve health and function. It helps produce neurotrans-

mitters that carry messages between nerve cells, and it also helps regulate the metabolism of certain amino acids that are important for nerve function. Deficiencies in vitamin B6 have been linked to neuropathy, and supplementation helps improve nerve function and reduce symptoms.

2. **Riboflavin:** Riboflavin is another B vitamin that is important for nerve health and function. It is involved in the production of energy within nerve cells and also helps protect nerve cells from damage. Deficiencies in riboflavin have been linked to neuropathy, and supplementation helps improve nerve function and reduce symptoms.

3. **Vitamin D:** Vitamin D is important for overall bone and muscle health, but also plays a role in nerve health. Studies have shown that low levels of vitamin D may be associated with an increased risk of neuropathy, and supplementation helps improve nerve function and reduce symptoms.

Muira Puama

Muira puama is a plant native to the Amazon rainforest that has been used traditionally as an aphrodisiac and general tonic. Scientific research studies have suggested that muira puama has neuroprotective and anti-inflammatory effects that could be beneficial for nerve health. Here are

some ways in which muira puama helps with neuropathy:

1. **Neuroprotective effects:** Muira puama has been shown to have neuroprotective effects, which helps prevent nerve damage and improve nerve function. This is due in part to its antioxidant properties, which help reduce oxidative stress and inflammation that can contribute to nerve damage.

2. **Anti-inflammatory effects:** Muira puama has also been shown to have anti-inflammatory effects, which helps reduce inflammation in the nerves and improve nerve function. This is particularly beneficial for individuals with neuropathy caused by autoimmune or inflammatory conditions.

3. **Improved blood flow:** Some studies have shown that muira puama helps improve blood flow, which can help deliver nutrients and oxygen to the nerves and improve nerve function.

Research on the effects of muira puama specifically for neuropathy, show that it has neuroprotective, anti-inflammatory, and blood flow-improving effects making it a wonderfully beneficial supplement for nerve health.

Evening primrose oil and celery seed are two natural supplements that have benefits for neuropathy. Here are some ways in which these supplements may help with neuropathy:

1. **Evening primrose oil:** Evening primrose oil is rich in gamma-linolenic acid (GLA), an omega-6 fatty acid that is important for nerve health and function. Studies have shown that supplementation with evening primrose oil helps reduce inflammation and oxidative stress in the nerves, which can contribute to nerve damage and neuropathy.

2. **Celery seed:** Celery seed is a natural anti-inflammatory and has been traditionally used to treat a variety of conditions, including neuropathy. Studies have shown celery seed helps reduce inflammation and oxidative stress in the nerves, which contributes to nerve damage and neuropathy.

Cayenne Fruit

Cayenne fruit has been shown to have potential benefits for neuropathy

1. Pain relief: Cayenne fruit is known to have a pain-relieving effect by reducing the amount of a neuropeptide known as substance P that travels to the brain to signal pain.

2. Anti-inflammatory: Cayenne fruit also has

anti-inflammatory properties, which helps reduce inflammation in the nerves that contribute to nerve damage and neuropathy.

3. Improved circulation: Cayenne fruit is known to improve circulation and blood flow to the nerves. Improved circulation can help deliver more oxygen and nutrients to the nerves, which can promote nerve health and function.

Here are a few more for your consideration :

Curcumin

Curcumin, the active compound found in turmeric, has gained attention in recent years. Its anti-inflammatory and antioxidant properties play a crucial role in mitigating nerve damage and reducing pain associated with neuropathy. By inhibiting inflammatory pathways and scavenging free radicals, curcumin can help protect nerves from oxidative stress and inflammation, thereby potentially slowing down the progression of neuropathy. Moreover, curcumin has been shown to modulate various molecular targets involved in neuropathic pain, providing relief to individuals suffering from this condition.

. . .

Zinc

Zinc, an essential trace mineral, is crucial for nerve health, including neuropathy. Its involvement in nerve function, neurotransmitter regulation, and antioxidant defense mechanisms helps in mitigating neuropathy symptoms. Zinc's antioxidant properties help combat oxidative stress, a key contributor to nerve damage and neuropathy pain. Additionally, zinc plays a role in nerve signaling and regeneration, aiding in the repair of damaged nerves.

Magnesium

Magnesium's role in nerve function, muscle contraction, and regulation of neurotransmitters makes it particularly helpful for neuropathic conditions. It helps to modulate nerve signaling pathways and block certain pain receptors reducing neuropathic pain and discomfort. Magnesium also possesses anti-inflammatory properties, helping your body repair damage. Magnesium improves blood flow and nerve conduction, aiding in the regeneration of damaged nerves.

Digestive Enzymes

Digestive enzymes aid in the breakdown and absorption of nutrients essential for nerve health,

such as vitamins B12 and B6, which are important to the health and healing of nerves. By improving nutrient absorption, digestive enzymes address underlying deficiencies that contribute to nerve damage and neuropathic pain. They also possess anti-inflammatory properties, which can help reduce systemic inflammation, a key factor in neuropathy progression.

Probiotics

Probiotics, beneficial bacteria that promote gut health, help alleviating neuropathy symptoms in many ways. Disruptions in gut microbiome often seen in people with neuropathy, can contribute to inflammation, oxidative stress, and impaired nerve function. Probiotics help restore microbial balance, reducing inflammation and promoting gut barrier integrity, which may indirectly alleviate neuropathic symptoms.

The next paragraph is super important so read it slowly and digest it well:

There are almost as many companies making nutritional products as there are products to be made. Not all nutritional products are equal. It is

safe to say that when it comes to supplements, you get what you pay for! **Bargain basement supplements should stay in the basement and not go into your body.** Know this—high quality ingredients are expensive. Marketing is also expensive.

Therefore, heavily marketed products are generally of lower quality because the manufacturer spends their money on marketing instead of making high quality products. Buyer beware! Talk to your neuropathy expert for advice on which products to spend your money on.

Your Damaged Blood Vessels

As we discussed in chapter four, a key component of your neuropathy lies in the compromised blood vessels within your feet. Blood vessels bring oxygen, nutrients, and healing factors your body needs to repair damaged tissues; like nerves. When the blood vessels are damaged in your feet, less blood flows to the area. Less blood means less nutrition, less oxygen and less healing. Thus, the problem becomes a tiny bit worse every day, as the tissues and nerves are slowly starved to death. Nerves need blood just like

plants need water. Without it, they dry up, and die.

On occasion, we see a patient who has been told they do not have neuropathy because their doctor can feel an arterial pulse in their ankle, or higher up in the leg. This is a very poor and inaccurate way to diagnose blood vessel damage in the feet. All the doctor has really done, is establish that the blood is getting to the ankle, he or she has no clue what is happening further down in the foot and into the toes, where most symptoms begin. A pulse felt at the ankle, does not tell you the health of the distal *capillaries* of the feet and toes.

Capillaries

Capillaries are small blood vessels that are responsible for delivering oxygen and nutrients to the tissues of your body, including nerves. Capillaries are so small that the microscopic red blood cells must pass through them single file in order to fit! Although they are tiny, they are the main source of delivering the oxygen and nutrition to your cells, as well as the equally important removal of the toxins and biproducts of cell function…capillaries take out the trash!

Remember the image of a major city like New

York…If the sanitation workers go on strike, it only takes a matter of days before trash piles up, the rats come, and almost overnight the city smells rancid. Sickness and disease multiply when trash and refuse is not removed regularly, making the city a difficult and unhealthy place to live. This is similar to what's happening in your body right now. When capillaries are damaged, the tissues and nerves become starved for oxygen and nutrients. The trash builds up bringing sickness and disease making your body a difficult and unhealthy place to live.

In neuropathy, damage to the nerves can impair blood flow through the capillaries, leading to decreased oxygen and nutrient delivery and resulting in further nerve damage…a vicious cycle! Therefore, improving the function of capillaries will help improve the symptoms and tissue damage of neuropathy.

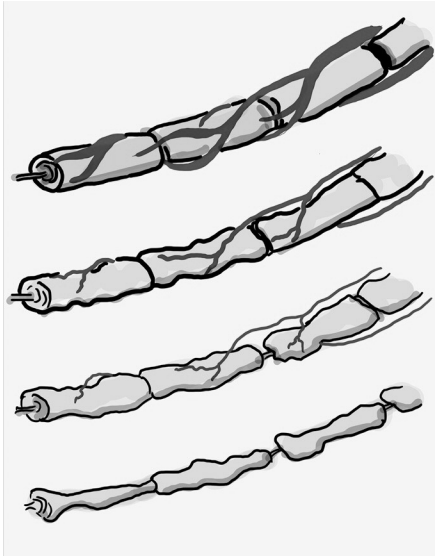
A change in blood flow changes body temperature in the area. Our examination for neuropathy includes taking multiple temperature measurements of the foot using a special laser style thermometer. We also use an advanced thermal image camera that gives us an amazing visual of the problem and allows us to track your progress.

Some ways to improve capillary function include regular exercise, a healthy diet, avoiding smoking and excessive alcohol consumption, and managing underlying condition such as high blood pressure and diabetes. At the end of this chapter, we will discuss in greater detail other things that we use with our patients to help them dramatically improve the capillaries and the flow of blood to the nerves.

Nerves: The Shocking Truth

The nerves are made up of an axon (that looks like a tiny electrical wire), a myelin sheath (that looks like little white tootsie rolls wrapped around the axon and lined up end to end) and a dendrite (that looks like a hand with many tiny fingers).

A healthy nerve has a rich blood supply with many capillaries, and the myelin sheath looks nice and smooth. As damage occurs, the blood vessels become fewer and visibly damaged, and the myelin sheath becomes irregular and wavy. This process continues until the nerves begin to look dried up and desiccated.



This drawing shows the progression of vascular and nerve damage in neuropathy. By the way, yes, I drew this. I'm a doctor not an artist—stop laughing!

The nerve endings involved in peripheral neuropathy can be sensory, motor and/or autonomic nerves. You may be experiencing damage to one, two or all three types of these nerves.

Sensory nerve endings are responsible for transmitting sensory information from the extremities (such as the fingers and toes) to the spinal cord and up to the brain. These nerve

endings are located at the very ends of the nerves and are responsible for detecting sensations such as touch, temperature, pressure, and pain.

For example, when we touch a hot stove, nerve endings in our fingers transmit a signal of pain to our spinal cord, and brain. The brain then sends messages back down to the **motor nerves** to create some sort of movement or action. In this case, they cause us to quickly remove our hand from the stove.

Without healthy, well-functioning distal nerve endings, we would not be able to sense or respond to the world around us in the same way. Damage to motor nerves makes it difficult to move and to perform everyday tasks such as walking or grasping objects, or keep our balance.

Damage to **autonomic nerves** usually shows up as things like extreme incontinence, erectile disfunction, changes in how we sweat, creepy-crawly sensations on the skin all over the body, etc.

A Three-Pronged Approach

We've already talked about some of the many ways top quality nutrients and a good diet can help you reverse neuropathy, but in our office, we

use a couple of other *gizmos* to help ensure that our patients get amazing results.

When I say gizmos, I mean FDA regulated, prescription only, durable medical devices that are used at home. One utilizes photon (near infrared light) therapy in the 890 nm range, and the other is electro-biomodulation therapy (at a frequency of 7.83 Hz). These two devices are specifically made for treating neuropathy and they are amazing.

Near Infrared Light Therapy

It is common for our patients to bring in red light equipment they purchased on the internet, that claims to have magical powers asking if we think it will work in place of the unit we prescribe. The short answer is no. The long answer is, well, longer…

Light therapy can provide many benefits and has been used for decades to treat medical conditions. A quick search over the past 50 years revealed nearly 1,000 clinical trials on light therapy alone and 3,000 published analyses and reviews.

However, **all light is not created equal.** They have different healing and therapeutic effects, and it is important to understand the various charac-

teristics of light. Just like there are different strengths of medication, there are different strengths of light. The factors that impact light therapy are: wavelength, power density, pulse frequency, and duty cycle

- Wavelength, which is measured in nm, determines the depth that the light will penetrate into the body.
- Power density is a measurement of how much light is being delivered to a specific area.
- Pulse frequency refers to how many times the light turns on and off per second.
- Duty cycle is a measurement of the percentage of time the light is on versus the time it is off.

In order for light therapy to penetrate the tissues deep enough to elicit healing, it must be at a wavelength of 800 nm to 1,000 nm. This allows the light to penetrate the tissues at a depth of 4-6-inches. This depth promotes the release of nitric oxide (NO) which is involved with increasing circulation and delivering nutrients and oxygen to nerves and tissues. NO also promotes the stimulation of endorphin release, which is beneficial for decreasing pain signals. In addition, NO stimu-

lates nerve transmission, promotes collagen production, cellular reproduction, and wound healing.

Over-the-counter light devices found online are not powerful enough to penetrate the tissues and stimulate nitric oxide production or repair of the nerves and blood vessels. They cannot stimulate angiogenesis (the formation of new blood vessels). Most red-light devices have a wavelength between 600 nm and 780 nm and may feel warm and snuggly, but they cannot help you reverse your neuropathy!

Electro-biomodulation

We prescribe a type of electrical device that is designed specifically for treating neuropathy. The device delivers electrical impulses to the affected nerves in a very specific frequency and pulse rate combined with a biomodulation effect that creates a one of kind, healing impact on damaged nerves. It provides pain relief, improves circulation, nerve regeneration, re-education, and re-polarization, and improves muscle function. This device was the key to ending the nighttime misery of lightning bolt pain in my own feet! We prescribe it for our patient's daily use.

By addressing each of the three major systems involved in your neuropathy, you can do the "impossible". You can improve or even reverse your condition, you can sleep through the night again, and you can get back to doing all the activities your neuropathy has stolen from you!

CHAPTER 8
BALANCE, FALL PREVENTION AND YOUR STINKING FEET!

PERIPHERAL NEUROPATHY CAN CAUSE serious impairments in balance, coordination and strength. It can also damage your reflexes and ability to react quickly. Other aspects of neuropathy that can impact your balance are the loss of sensation in your feet, impaired vision, and large joint issues.

Improved balance leads to a better life! Improving your balance improves your athletic performance, helps prevent falls and makes all the activities of life easier

Dr. Peter Wayne, PhD of Harvard Medical School stated "Balance is key to a healthy, full life. In older people, balance prevents falls and provides confidence to sustain physical and social activities. For younger people, better balance often

translates into better performance in sports. For everyone, balance contributes to a grounded sense of well-being."

Balance is a complex thing. It involves multiple systems including your vision, inner ears, muscles and joints, brain and nervous system. Neurological pathways develop connecting and coordinating all these systems together.

Your balance is key to all aspects of your coordination and physical performance. Whether you are a high-level athlete or a grandparent who wants to spend quality time with your grandchildren; an avid golfer or someone who wants to live in your own home as you age—balance should be high on your list of priorities, especially considering the fact that *more than 85% of all adults fail balance testing!*

Toddlers just learning to stand and walk seem to be invincible to injury; they fall and fall again as their neuro-pathways develop. Falls for these tiny people rarely cause noticeable injuries. But as we age, our neuro-pathways degrade. This occurs for a number of complex reasons.

Simply stated, our decrease in balance comes as a result of:

1) Illness (like neuropathy)

2) Injury

3) Inactivity (that comes with neuropathy)

4) Medications (that are prescribed for neuropathy)

5) Diet (The Standard American Diet)

These compromised neuro-pathways interfere with our balance and agility, significantly increasing our risk of falling. And as you well know, falling for an adult is a big deal.

Here are some important things you should know about falling:

•1/3 of adults over the age of 65 fall each year, and neuropathy increases your chances of a fall by 45%!

•Every 11 seconds an older person is treated in an emergency room for fall related injuries.

•20% of falls result in serious injury: broken bones, traumatic brain injury, etc.

•Every 30 minutes an older person dies due to injuries sustained in a fall.

•95% of hip fractures are due to falling.

•50% of people suffering hip fractures never return to their own home. They either pass away in the hospital from complications or they are sent to assisted living facilities for the remainder of their lives.

•Falling results in more than 800,000 hospitalizations each year at a cost of over $50 billion.

•The fear of falling has surpassed cancer and Alzheimer's as the #1 fear of the elderly.

•Just one fall increases the fear of falling. This increased fear results in decreased physical activity, which in turn actually causes more falls…a vicious cycle!

•The benefits of improved balance include decreased falls, increased longevity and performance, increased coordination, improved ability to perform activities such as self-care, hobbies, travel, sports, and time with family. Improved balance leads to a better life!

In early 2021 a significant study was published in the British Journal of Sports Medicine. The study boiled down to just one thing. If you cannot stand on one foot for 10 seconds, you're twice as likely to die in the next 10 years as someone that can do it. Standing on one foot is a biomarker, a serious indicator of your overall health. This might be a good time put down the book and test yourself—go ahead, I'll wait.

How did you do? If you're like many people in America, you fell far short of the 10 seconds, and

you have got some work to do if you want to increase your chances of being around for the important things in the lives of your children and grandchildren!

No matter how old or young, how rich or poor, how healthy or sick you are—there are only 24 hours in a day. As Human creatures we use that 24-hours like currency—spending our moments like dollars on the things that are on the forefront of our minds; not because those things are the most important, but because they're the most convenient, the most comfortable or the ones making the most "noise".

However, unlike money, time flows like water in a stream and no matter how we try to hold onto it, it slips through our fingers. It cannot be saved up, hidden under a mattress or multiplied. It can only be spent wisely or wasted.

Because the "squeaky wheel gets the grease", it is easy to get caught up spending our time on things of lesser importance because they happen to be making more noise than things that really matter.

When it comes to taking care of ourselves, it's human nature to ignore the things that contribute

to overall health until we are sick, injured or hurting. Waiting to do something about your balance until you fall is like waiting to brush your teeth until you have cavities. It just doesn't make sense. All it takes is one trip, one stumble, one fall, and like my mother, your life can change for the worse in an instant.

Stephen Covey taught us to "put first things first". My hope is that by reading this chapter you will be able re-prioritize and put the most important things first in your day, and become proactive in improving your balance and performance abilities before it's too late.

Home Balance Exercises (Beginner)

Performing balance exercises at home will compliment your neuropathy reversal program. The exercises in this section are for beginners… those that are currently less stable on their feet and at higher risk of falling. You should wear comfortable clothes that allow you to move freely. Be sure to wear shoes that are flat and stable such as those meant for walking or exercising.

Be focused and deliberate with your balance exercises, taking care not to push yourself too far. Performing the exercises with good form is more important than how many reps you can do. Only

perform the exercises that you can safely do based upon your current abilities, past surgeries, etc. Be careful and do not put yourself at risk for falling.

1. TIPPY-TOE WITH CHAIR SUPPORT

Starting position: Stand behind a chair, holding the back of it with both hands. Position your feet shoulder-width apart.

Action: Lift your heels off the floor, shifting your weight to the balls of your feet. Try to balance evenly without allowing your ankles to roll inward or outward. Tighten your stomach and buttocks as you

stand on the balls of your feet. Hold for the count of 5. Lower your heels to the floor. Repeat 10 times

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2. THE STORK WITH CHAIR SUPPORT

Starting position: Stand behind a chair, holding the back of it with both hands.

Action: Bend your right knee lifting your heel toward your buttock. Hold for the count of 2. Slowly lower your foot to the floor. Repeat 10 times with each leg.

3. SIDE LEG FLARE WITH CHAIR SUPPORT

Starting position: Stand behind a chair, holding the back of it with both hands. Put your feet together.

Action: Slowly lift your right leg straight out to the side aa far as is comfortable. Hold for the count of 2. Return to starting position. Repeat 10 times on each side.

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4. BOTTOMS UP!

Starting position: Sit in a chair with your hands crossed on your chest and your feet flat on the floor.

Action: Leaning slightly forward, slowly stand for the count of 4. Pause briefly, then slowly sit back down to the count of 4. Repeat 10 times.

NOTE: Extend your hands out in front of you or to the side if keeping them across your chest is too difficult in the beginning.

• • •

5) SQUEEZIN' YER BLADES

Starting position: Sit up straight in a chair. Push out your chest, and tighten your stomach muscles. Bending your arms at the elbow, place your hands in front of you with your palms facing each other.

Action: Rotate your arms outward and squeeze your shoulder blades together as if holding a pencil between them. Hold for the count of 5. Return to the starting position. Repeat 10 times.

Note: The exercise instruction listed above was

adapted from Harvard Medical School's "Better Balance" publication.

Home Balance Exercises (Intermediate)

The exercises in this section are designed for those who are fairly stable on their feet, but not yet able to safely perform more complex activities.

As with all of the exercises listed in this chapter, you should wear comfortable clothes that allow you to move freely and be sure to wear shoes that are flat and stable such as those meant for walking or exercising.

As you progress through the balance exercises in this section, remember to use a chair or countertop to steady yourself. Remember that good form is more important than the number of reps you can do. Above all, you need to stay safe. Falling and/or getting injured is simply not allowed in this program!

1. TIPPY-TOE

Starting position: Stand up, feet shoulder-width apart. Place your arms by your sides.

Action: With your stomach muscles tightened, slowly lift your heels off the floor, shifting your weight to the balls of your feet. Hold for the count of 2. Slowly lower your heels back down to the floor. Repeat 10 times.

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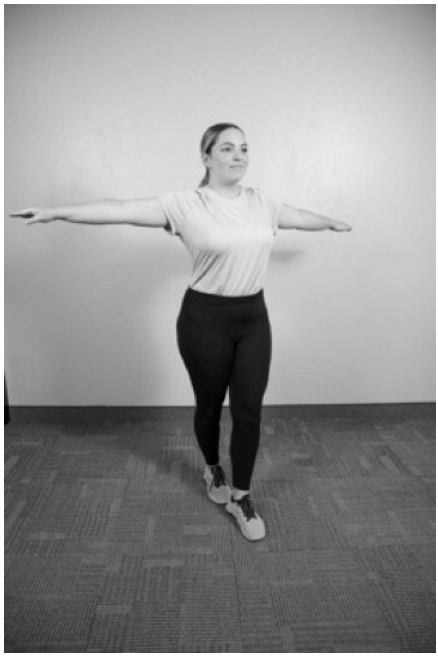
2. HEEL-TO-TOE-STANDING



Starting position: Stand up, feet shoulder-width apart. Raise your arms out sideways and tighten your stomach muscles.

Action: Place your left foot directly in front of your right foot, heel to toe, and squeeze your thighs together. Hold for the count of 10. Return to the starting position. Repeat 5 times with each foot in front.

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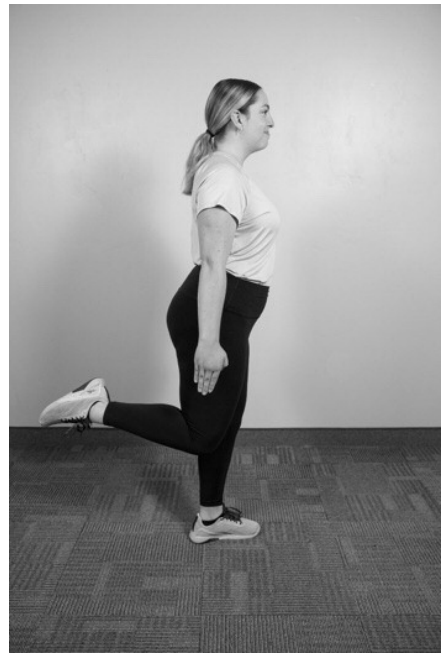
3. THE STORK



Starting position: Stand up, feet shoulder-width apart. Place your arms by your sides.

Action: Bend your right knee lifting your heel toward your buttock. Hold for the count of 10. Slowly lower your foot to the floor. Repeat 10 times with each leg.

Note: Put your hands on your hips our raised out to the side if your balance is shaky.

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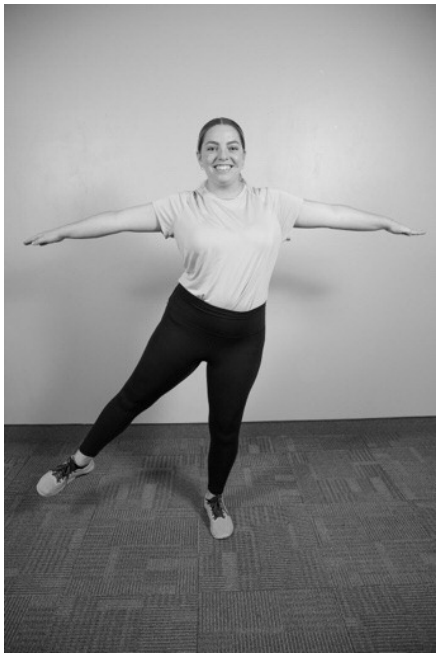
4. SIDE LEG FLARE



Starting position: Stand up straight, feet together. Tighten your stomach muscles and raise your arms out to the side.

Action: Lift your right foot out to the side as far as is comfortable and stable, with your weight over to your left leg. Hold for the count of 10. Return to the starting position. Repeat with each leg 5 times.

• • •

5. ONE LEGGED "KING OF THE WORLD"

Starting position: Stand up tall, feet together with your arms raised to the side.

Action: Lift and extend your right foot straight behind you a few inches off the floor, shifting your weight over to your left leg. Hold for the count of 10. Return to the starting position. Repeat with each leg 5 times.

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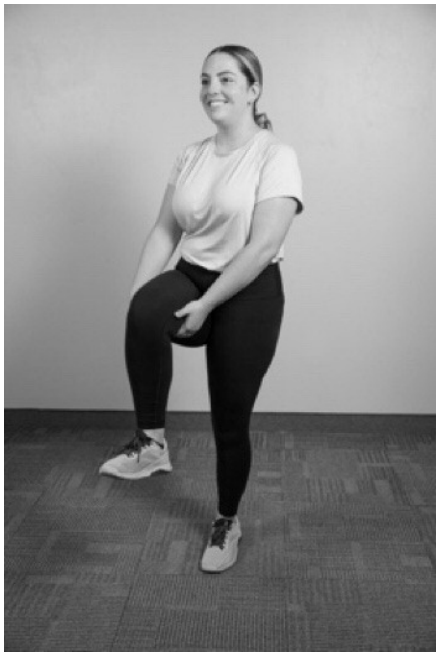
6. "CAPTAIN MORGAN" WITH ANKLE CIRCLES



Starting position: Stand up tall with your feet together, and your arms resting at your sides.

Action: Bend your right knee, and lift it up in front of you. Holding onto your leg, rotate your ankle/foot in small circles 5 times in each direction (clockwise then counterclockwise). Return to the starting position. Repeat with each leg 5 times.

Note: The exercise instruction listed above was adapted from Harvard Medical School's "Better Balance" publication.

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Home Balance Exercises (Advanced)

The exercises in this section are designed to be more difficult and should not be attempted until you feel strong and steady.

The exercises are more complex and will put you at risk of falling if you attempt to perform them before you are ready.

Once again, let me remind you to wear comfortable clothing that will allow you to move freely and be sure to wear shoes that are flat and stable such as those meant for walking or exercising.

Using good form with these exercises is extremely important to minimize your risk of falling.

As the motions are more complex, those people with arthritic joints or who may have had joint replacement surgeries may not be able to perform them exactly as shown.

Feel free to modify any of these activities to better suit your individual needs and abilities.

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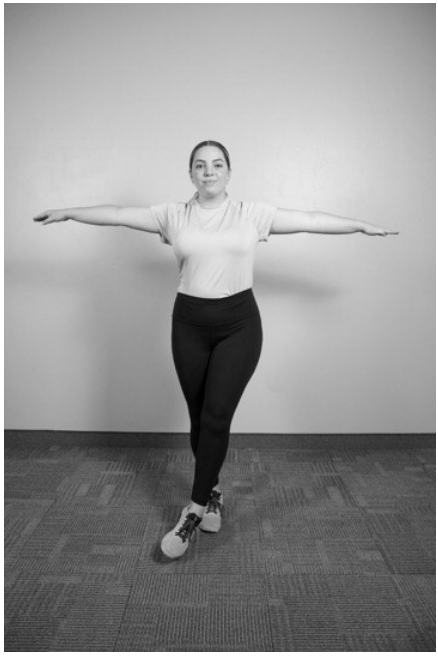
1. SOCCER SIDE KICK



Starting position: Stand with your feet together and your arms raised to the side.

Action: Tightening your stomach muscles, use your left foot and slowly swing it diagonally in front of you as if kicking a soccer ball with the inside of your foot. Hold for the count of 2. Slowly bring your foot back to the left side. Repeat 10 times with each leg.

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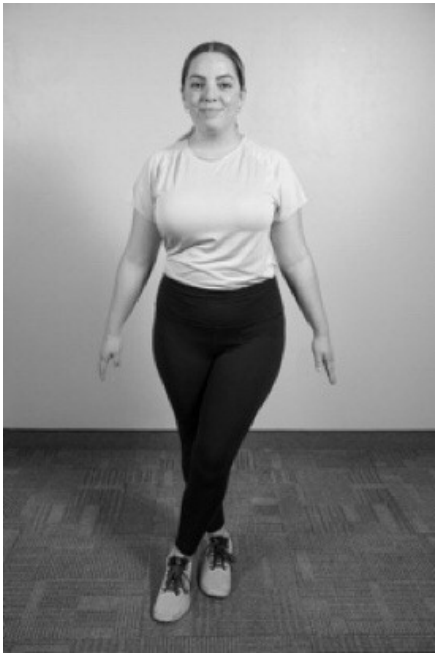
2. SCISSOR STEP



Starting position: Stand with your feet together and your arms comfortably resting at your sides.

Action: Step sideways to the left with your left foot. Next, step the left with your right foot, crossing it in front with your left foot. Then step to the left again with the left foot. Step sideways again with the right foot, this time crossing it behind the left foot creating a "side-ways scissor walk".

Repeat this process for 10 steps sideways across the room. Then repeat back the other way

starting with a side step with the right foot and your left foot crossing in front and behind the right.

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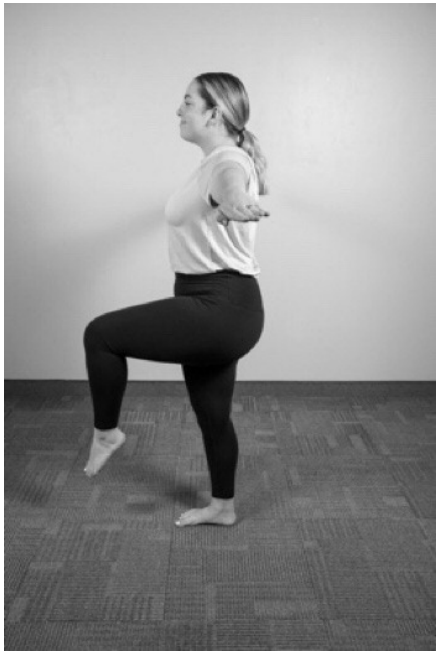
3. THE ROCKETTE



Starting position: Stand with your feet together and your arms raised to the side..

Action: Step forward with your right foot and lift up your left knee with your thigh parallel to the floor. Hold for the count of 2. Step down with your left foot and lift up your right knee. Repeat 10 times each side.

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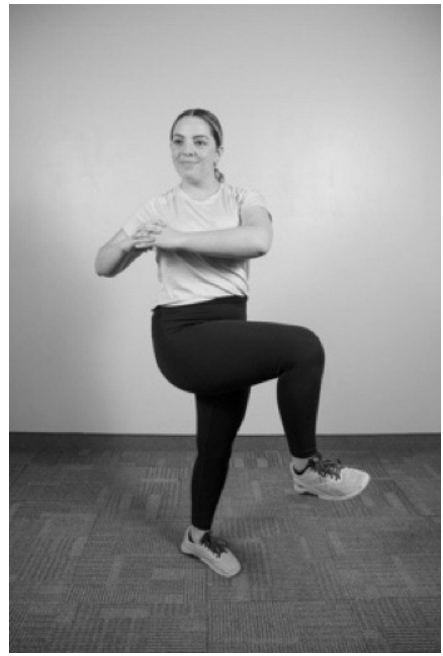
4. SQUAT AND TWIST



Starting position: Stand with your feet wide apart and your hands clasped in front of your chest.

Action: Bend your knees and squat down to a comfortable level with your back, knees and balance in mind. Stand back up gently raising your right knee across your body, rotating your pelvis. Hold for the count of 2. Return to the squat position. Repeat the movement alternating between the right and the left knee 10 times.

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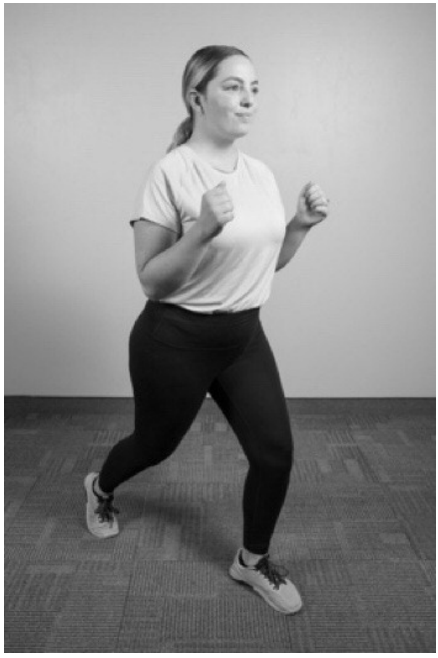
5. BACK STEP LUNGE



Starting position: Stand with your feet together and your hands up at chest level.

Movement: Step back with your right foot. Bending both knees lower yourself into a reverse lunge position. Go as far down as is comfortable, keeping your back, knees and balance in mind. Hold for the count of 2. Return to the starting position. Now step back with the left foot and repeat the process. Repeat 10 times each leg.

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Note: The exercise instruction listed above was adapted from Harvard Medical School's "Better Balance" publication.

As you work to reduce the damage in your feet, your balance will improve. By adding a daily balance exercise routine, your balance will improve even more, and you will improve your odds of staying on your feet, in your own home and out of the nursing home…or worse, the funeral home.

CHAPTER 9
THINGS THAT CAN HELP YOUR SYMPTOMS TODAY!

THIS SHORT CHAPTER discusses a few of the things that can help to reduce your pain and discomfort while you work to reverse your condition. Individually, these things aren't expected to heal your neuropathy, but they make your day so much better!

Reducing your immediate symptoms is helpful and should not be overlooked. Healing takes time, and using some of the things listed in this chapter, can help you walk the healing pathway in more comfort (pun intended).

Physical activity can provide several benefits for individuals with neuropathy:

1. Improved Blood Circulation: Exercise increases blood flow to all parts of the body, in-

cluding the extremities where neuropathy often occurs. Better circulation helps deliver essential nutrients and oxygen to nerve cells, promoting their health and function.

2. Nerve Regeneration: Research shows that regular exercise may stimulate nerve regeneration or prevent further nerve damage in individuals with neuropathy. Although all the reasons are not fully understood, physical activity appears to have a positive impact on nerve health.

3. Pain Relief: Exercise releases endorphins, which are natural painkillers produced by the body. These endorphins can help alleviate neuropathic pain and improve overall well-being. While pain relief does not mean the condition is any better, feeling better without drugs is a very good thing!

4. Weight Management: Maintaining a healthy weight through regular exercise can reduce pressure on nerves and improve your symptoms of neuropathy, especially if your condition is related to things like diabetes or obesity.

5. Reduced Risk of Complications: Regular physical activity can help manage underlying conditions that contribute to neuropathy, such as diabetes and cardiovascular disease. By improving overall health, exercise may reduce the risk of

complications and slow the progression of neuropathic symptoms.

6. Improved Balance and Coordination: Neuropathy often affects balance and coordination, increasing the risk of falls and injuries. Certain types of exercise, such as balance training and low-impact activities like swimming or tai chi, can help improve balance and reduce the risk of falls.

7. Reduced Insulin Resistance: Regular exercise helps increase insulin sensitivity, allowing cells to more effectively take up glucose from the bloodstream. By reducing insulin resistance, physical activity helps to stabilize blood sugar levels and decrease your neuropathy symptoms.

8. Stress Reduction: Physical activity is known to reduce stress and anxiety levels, which can exacerbate your neuropathy symptoms. By promoting relaxation and improving mood, exercise can help you better cope with neuropathy while you work towards reversing your condition.

Incorporating regular physical activity into a comprehensive treatment plan can be beneficial for managing neuropathy symptoms and improving quality of life while you work to reverse the condition. However, it's essential to consult with a healthcare professional before starting any exercise program, especially for individuals with

underlying health conditions or significant mobility limitations.

Compression Socks

Compression socks can help decrease symptoms of neuropathy in several ways:

1. Improved Blood Circulation: Compression socks apply gentle pressure to the legs and feet, which helps improve blood circulation. By enhancing blood flow, these socks can reduce swelling and alleviate symptoms such as numbness, tingling, and pain associated with poor circulation in individuals with neuropathy.

2. Reduced Edema: Neuropathy can cause fluid retention and swelling in the lower extremities. Compression socks can help reduce edema by preventing fluid buildup and promoting the movement of excess fluid back toward the heart, which can relieve discomfort and improve mobility.

3. Supportive Effect: Compression socks provide support to the muscles and tissues of the legs and feet, which can help reduce strain and fatigue, especially during prolonged periods of standing or walking. This supportive effect can improve overall comfort and reduce the risk of aggravating neuropathic symptoms.

4. Prevention of Complications: Neuropathy can increase the risk of complications such as ulcers and wounds, particularly in individuals with diabetes. Compression socks can help prevent these complications by promoting better circulation and reducing pressure on vulnerable areas of the feet, thereby decreasing the risk of skin breakdown and injury.

5. Temperature Regulation: Some compression socks are designed with moisture-wicking materials that help regulate temperature and keep the feet dry. Maintaining a comfortable temperature can improve comfort and reduce the likelihood of exacerbating neuropathic symptoms, such as burning or tingling sensations.

It's essential to choose compression socks that fit properly and provide the right level of compression for individual needs. Compression socks can be a wonderful addition to your comprehensive neuropathy management plan.

Electric Stimulation Massaging Pad

Electric stimulation massager pad, can help decrease neuropathy symptoms through several mechanisms:

1. Pain Modulation: Electric stimulation can

interfere with pain signals traveling along nerve pathways, effectively blocking or reducing the perception of pain. This is thought to occur through various mechanisms, including the gate control theory of pain, which suggests that non-painful stimuli (such as the sensation of electric stimulation) can close the "gate" to pain signals, preventing them from reaching the brain. Sort of like Gabapentin without any of the terrible side effects.

2. Promotion of Endorphin Release: Electrical stimulation can stimulate the release of endorphins, which are natural pain-relieving substances produced by the body. They help by dampening pain signals and producing feelings of well-being and relaxation.

3. Improved Blood Circulation: By contracting the muscles of the feet and lower legs, these pads can increase blood flow to affected area. This just might deliver more deliver oxygen and nutrients to damaged nerves, promoting healing and reducing symptoms such as numbness and tingling.

4. Muscle Strengthening and Rehabilitation: The pads can be used to activate and strengthen muscles that may be weakened or atrophied due to neuropathy-related motor nerve damage. By improving muscle strength and function, electric stimulation can enhance stability, mobility, and

overall functional capacity, thereby reducing the risk of falls and improving quality of life.

Electric stimulation massaging pads can be a valuable adjunctive therapy for managing neuropathy symptoms, particularly pain and sensory disturbances and can be a nice addition to help manage symptoms while you work to reverse your condition.

Neuropathy Shoes

Neuropathy shoes are designed to provide comfort, support, and protection for individuals experiencing neuropathy-related foot problems. Here's how they can help decrease neuropathy symptoms:

1. **Padding and Cushioning:** Neuropathy shoes often feature extra padding and cushioning in the insole and midsole to provide shock absorption and reduce pressure on sensitive areas of the feet. This can help alleviate pain and discomfort associated with neuropathy-related foot conditions, such as diabetic neuropathy or peripheral neuropathy.

2. **Wider Toe Box:** Neuropathy shoes typically have a wider toe box to accommodate foot deformities, such as bunions or hammertoes, which are common in individuals with neuropa-

thy. A wider toe box helps prevent friction and rubbing, reducing the risk of developing blisters, calluses, and other skin problems that can exacerbate neuropathic symptoms.

3. **Seamless Interior:** Many neuropathy shoes have a seamless interior lining to minimize irritation and friction against the skin. This can help prevent abrasions and blisters, which are particularly problematic for individuals with reduced sensation in their feet due to neuropathy.

4. **Supportive Arch:** Proper arch support is crucial for individuals with neuropathy to maintain stability and prevent foot strain. Neuropathy shoes often feature built-in arch support or the option to insert custom orthotic inserts to provide additional support and alignment for the feet.

5. **Breathable Materials:** Neuropathy shoes are typically made from breathable materials, such as mesh or leather, to promote airflow and reduce moisture buildup inside the shoe. This helps prevent bacterial and fungal infections, which can be more challenging to detect and treat in individuals with neuropathy-related sensory loss.

6. **Roomy and Adjustable Fit:** Neuropathy shoes are designed to accommodate swelling, which is common in individuals with neuropathy. They often have adjustable closures, such as hook-

and-loop straps or elastic laces, to accommodate changes in foot size throughout the day.

By providing a combination of comfort, support, and protection, neuropathy shoes can help alleviate neuropathic symptoms and improve overall foot health and mobility.

While the things listed above don't, by themselves, have the ability to reverse your neuropathy, they are able to lend a helping hand and often can give you a great deal of relief in the moment. That's why we love them!

CHAPTER 10
CREATING YOUR NEUROPATHY TEAM

CONGRATULATIONS! You made it to the end of the book, and you now know more about neuropathy than the majority of people in the world…and that includes most doctors—most healthcare providers know very little about neuropathy. And to make things worse, many of them were indoctrinated with the idea that if they get presented with something they did not know, it must not be true. Many doctors are willfully ignorant. Not being wrong is more important to them than learning something new so they can be right. Think about that for a second, I'll wait.

This willful ignorance is the worst form of ignorance, and if you seek care from one of these, you're going to get the "there's nothing that can

be done" answer, and you're right back were you started. Our goal is to help you navigate the crazy rough waters of willful ignorance so you can get the help you need.

We thought the best way to do that is to give you a list of questions to ask the doctor before you put your feet in his or her hands!

Does this doctor:

1) Have advanced training in the area of peripheral neuropathy?
2) Perform a thorough, "hands on" examination allowing him or her to make a detailed diagnosis included percentage of nerve damage?
3) Create a treatment plan designed to address the root causes of neuropathy, including the metabolic, vascular and neurologic components?
4) Focus on decreasing systemic inflammation?
5) Have an approach that includes lifestyle modifications and nutrition designed to provide a therapeutic dose of the proper nutrients necessary for healing the tissues?
6) Utilize home treatments that stimulate angiogenesis (creation of new blood vessels) and repair damaged circulation in the affected area?

7) Include the rehabilitation and reeducation of damaged nerves and restore normal communication with the brain?

If you find a doc that can answer yes to each of these questions, you've got a winner, and you will likely be in very good hands!

FINAL THOUGHTS

ARMED with the knowledge you gained by reading this book, and by working with a health care provider that measures up to the questions in the last chapter, you are now ready to ***Turn the Tide on Your Neuropathy!***

We wish you all the best as you begin the process of reversing your own neuropathy. It is time for you to be the hero in your own story, so don't shy away from the work or the investment in time and money. Your new life is just around the corner, so get moving, because—***You're worth it!***

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You can find us on Facebook, and instagram, or visit one of our several websites:

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