

# Natural Ways to Eliminate Restless Leg Syndrome Symptoms & Enjoy Long Lasting Relief



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## What Is Restless Legs Syndrome?

We aren't going to spend a great deal of time talking about what Restless Legs Syndrome (RLS) is. We're going to assume that if you are reading this book you are already dealing with this awful condition.



However, we are going to assume that some of you may suspect that you have Restless Legs Syndrome but you aren't quite sure, and so we are going to spend just a little time talking about what Restless Legs Syndrome.

Restless Legs Syndrome is an uncomfortable, neurological movement disorder. It is generally categorized in the sleep disorders known as parasomnias. Sometimes you will hear Restless

Legs Syndrome referred to as Kborn's syndrome, Wittmaack Ekbom syndrome or anxietas tibialis.

But for most of us, it is simply known as Restless Legs Syndrome, Restless Leg Syndrome, or RLS. Throughout the book we will refer to it as Restless Legs Syndrome or RLS.

Those who have Restless Legs Syndrome generally describe it as having a "creepy crawly" or "prickly crawling" sensation that is deep in the legs and occasionally in the arms too. Typically, this feeling tends to worsen in the evening and specifically when sleeping.

To reduce the symptoms a person will often feel compelled to move their legs, which temporarily eases the tingling or prickly feelings. Having Restless Legs

Syndrome can be very frustrating. Not only do most doctors completely misunderstand this condition, many completely miss the diagnosis.

As a result, getting the type of treatment or help you need can be very difficult. This book's goal is to do just that.

Our focus is to give you a better understanding of Restless Leg Syndrome and to also give you tools to help you reduce or eliminate your symptoms.



## Recent Studies on Restless Legs Syndrome

According to research Restless Legs Syndrome is one of the most under reported medical conditions in the entire world.

### Study #1 Misdiagnosis

"Despite the high prevalence of Restless Legs Syndrome (RLS) reported, little information is available about this disorder. A recent Spanish study shows that many patients with classical RLS symptoms frequently see their [primary care practitioner] without being adequately diagnosed and treated."

### Study #2 Misdiagnosis

The numbers showed that 7.6% of a group of 10,564 people in six European countries reported clinically significant symptoms of RLS (Denmark, Germany, Ireland, The Netherlands, Spain, and the UK).

The problem is that this study found is that over 80% of patients with RLS symptoms are not being diagnosed nor treated for their symptoms by their physicians.

In other words, doctors are still routinely not recognizing that many of their patients have this disorder, which can negatively impact their lives.



## The Science Behind Restless Legs Syndrome

Let's also look at what some of the recent studies are showing relating to the treatment of Restless Leg Syndrome.

## Study #3 RLS

In spite of drugs that are thought to be effective at relieving the symptoms of Restless Legs Syndrome, studies have shown that they do not improve sleep outcomes and only treat the restless legs and in some cases they do not even effectively treat the restless legs symptoms.

A research team led by Dr. Richard Allen, Associate Professor of Neurology at John Hopkins University School of Medicine, has looked into solving the sleep anomaly, using an MRI to image the brain in a group of 28 RLS patients and 20 non-RLS patients. Glutamate, the neurotransmitter involved in arousal, was found in abnormally high levels in the RLS group. The higher the level of glutamate recorded in the brain of those with RLS, the worse the patient's sleep.

The research team recorded MRI images and glutamate activity in the thalamus - the part of the brain involved with the regulation of consciousness, sleep and alertness. RLS patients included in the study had severe symptoms:

- On six or seven nights a week
- Persisting for at least six months
- With an average of at least 20 involuntary movements a night.

The second stage of the experiment involved a two-day sleep study. RLS patients were reported to have received 5.5 hours sleep on average. The researchers identified a direct link in this group between glutamate levels in the thalamus and the number of hours of sleep. There was no such association in the non-RLS control group. Dr. Richard Allen is hopeful that the team may have discovered the reason why restless legs syndrome also affects sleep.

He says, "We may have solved the mystery of why getting rid of patients' urge to move their legs doesn't improve their sleep. We may have been

looking at the wrong thing all along, or we may find that both dopamine and glutamate pathways play a role in RLS."

The results of the study could lead to developments in the way RLS is treated, potentially helping to eradicate sleepless nights for people with restless legs syndrome. Dopamine-related drugs do work for many people with RLS, yet some lose benefit and require ever-higher doses. If the dose is too high, medication can aggravate symptoms to a state worse than prior to treatment.

Dr. Richard Allen points out that despite drugs already being available that can reduce glutamate levels in the brain, such as the anti convulsive drug gabapentin (Neurontin), enacarbil (Horizant); they have not been given as a first-line treatment for RLS patients. Dr. Allen adds that, as more is understood about the neurobiology; his findings could apply to some forms of insomnia well as Restless Legs Syndrome.

## **Study #4 – Research on Men with Restless Legs Syndrome**

A recent study showed that men who suffer from Restless Legs Syndrome may not live as long as those without the condition. The study found that men with Restless Legs Syndrome (RLS) were nearly 40 percent more likely to die over the eight-year study, compared to men without Restless Legs Syndrome RLS. When the researchers excluded from their analysis men with major chronic conditions such as cancer, heart disease and high blood pressure, those with Restless Legs Syndrome were 92 percent more likely to die over the study period.

"The results of this study indicate that men with RLS had a higher overall mortality," the researchers wrote in their study.

However, the study shows an association, not a cause-and-effect link between having Restless Legs Syndrome stand an increased risk of dying, and the researchers said that it is not known how Restless Legs Syndrome might increase the mortality risk.

In the study, deaths among men with Restless Legs Syndrome were frequently due to respiratory disease, endocrine disease, metabolic disease and immunologic disorders.

Further research is needed to understand the relationship between these diseases and RLS, the researchers said.



Restless Legs Syndrome is a bothersome chronic condition that affects 5 to 10 percent of adults. Patients have an irresistible urge to move the legs, and often experience burning and creeping sensations that are described as "an itch you can't scratch," or "like insects crawling inside the legs."

In the study, researchers looked at 18,425 men, whose average age was 67, including 700 who were diagnosed with Restless Legs Syndrome. During an eight-year follow-up, 2,765 of the men died. Among the men with RLS, 25 percent died during the study, compared with 15 percent of those who did not have RLS.

The researchers also found that men with Restless Legs Syndrome were more likely to use antidepressant drugs, had more insomnia complaints, and were more likely to have high blood pressure, cardiovascular disease and Parkinson's

disease. However, controlling for these factors didn't change the results, they said.

The link between Restless Legs Syndrome and higher risk of death was not related to other common risk factors such as smoking, older age, low physical activity and lack of sleep. Moreover, men who had conditions such as high blood pressure, cancer or insomnia, had a further increased risk of death if they had RLS too, according to the study.

The study was published online in June 2012 in the journal *Neurology*. (Some of the researchers who worked on the study have received money from pharmaceutical companies that make drugs used to treat restless legs syndrome.)

"Increasing awareness of RLS, especially training for health professions, should be encouraged if our findings are confirmed by future studies," the researchers said.

## **Study #5 Research Women with Restless Legs Syndrome**

Prospective Study of Restless Legs Syndrome and Coronary Heart Disease Among Women

Previous cross-sectional studies suggested a positive association between Restless Legs Syndrome (RLS) and coronary heart disease (CHD). This observation was not confirmed by subsequent prospective studies. However, these prospective studies did not take into account the duration of RLS symptoms. We thus prospectively examined whether Restless Legs Syndrome was associated with an increased risk of CHD in women who participated in the Nurses' Health Study taking into account the duration of RLS symptoms.

A total of 70,694 women (mean age 67 years) who were free of CHD and stroke at baseline (2002) were followed until 2008. Physician-diagnosed RLS was collected via questionnaire. CHD was defined as nonfatal myocardial infarction or fatal CHD. Women with RLS at baseline had a marginally higher risk of developing CHD (multivariable-adjusted hazard ratio (HR), 1.46; 95% confidence interval (CI), 0.97-2.18) as compared with women without RLS.



The risk was dependent on the duration of symptoms-0.98 (95% CI, 0.44-2.19) for women with RLS less than three years and 1.72 (95% CI, 1.09-2.73) for women with RLS for three years or longer ( $P$  trend=0.03).

The multivariable-adjusted HRs of women with RLS for three years or longer were 1.80 (95%CI, 1.07-3.01) for nonfatal myocardial infarction and 1.49 (95%CI, 0.55-4.04) for fatal CHD, relative

to women without RLS.

We observed that women with RLS for at least three years had an elevated risk of CHD. These results suggest that RLS or RLS associated conditions may contribute to the etiology of cardiovascular disease.<sup>39</sup>

## **Study #6 Magnesium Deficiency Could Be the Cause of Restless Leg Syndrome**

In one study from the Romanian Journal of Neurology and Psychiatry, researchers conducted biochemical and neurological tests in 10 cases of restless leg syndrome. The investigators reported important disorders of sleep organization. They found agitated sleep with frequent periods of nocturnal

awakenings, and a decrease of the duration and percentage of the deeper rapid eye movement sleep - also found in other forms of insomnia caused by magnesium deficiency.

According to the U.S. Dept. of Agriculture's Human Nutrition Research Center in North Dakota, "Magnesium plays a key role in the body's chemistry that regulates sleep. This may be why persons with long-term lack of sleep, or abnormal brain waves during deep sleep, often have low magnesium in their blood."

"Magnesium treatment increased deep sleep and improved brain waves during sleep in 12 elderly subjects. Magnesium treatment also decreased time to fall asleep and improved sleep quality of 11 alcoholic patients who often have a low magnesium status."

The original research on this recommended ratio appeared in 1935 in the Journal of Physiological Reviews and is made based on long-term metabolic studies in men and women. Many people suffer from RLS and some sources have called it an incurable disease. However, it is believed that the use of the right kind of mineral supplement could provide the necessary relief.

**Great so we have the science that shows the seriousness of Restless Legs Syndrome now let's look at some stats on Restless Leg Syndrome.**

## Restless Legs Syndrome Stats

- The prevalence of Restless Legs Syndrome is at least 5 to 10 percent in adults in North America and Europe <sup>[1-4]</sup>. Estimates vary significantly depending upon the severity of symptoms required for inclusion.
- Women are twice as likely to develop Restless Legs Syndrome as men.
- Among women with RLS, increasing parity may be associated with an increased risk of RLS <sup>[5-6]</sup>.
- Several neurophysiologic changes have been identified in patients with Restless Legs Syndrome. <sup>[7]</sup>
- **Magnesium and Vitamin B12 Deficiency** – Many studies are indicating there is a deficiency in both magnesium and Vitamin B12 that leads to insomnia, sleep disorders, and Restless Legs Syndrome.
- **Iron deficiency** — Restless Legs Syndrome has been reported in 30 to 40 percent of patients with iron deficiency anemia <sup>[10-13]</sup>.
- **End-stage renal disease** — RLS is common among dialysis patients, with a reported incidence of 12 to 23 percent in studies using International Restless Legs Study Group criteria <sup>[14-16]</sup>.
- **Diabetes mellitus** — The prevalence of Restless Legs Syndrome is increased in patients with diabetes compared with the general population <sup>[17-18]</sup>.
- **Multiple sclerosis** — Many studies have found that Restless Legs Syndrome is associated with multiple sclerosis <sup>[19-23]</sup>.
- **Parkinson disease** — Both Restless Legs Syndrome and Parkinson disease appear to involve disturbances in the dopaminergic neurotransmitter system, suggesting a common mechanism <sup>[24]</sup>.
- **Pregnancy** — Pregnancy appears to be a risk factor for the occurrence or worsening of Restless Legs Syndrome. <sup>[25-28]</sup>.
- **Rheumatic disease** — The relationship between Restless Legs Syndrome and rheumatic disease is unclear. Several observational

studies have found a higher than expected incidence of RLS in patients with rheumatoid arthritis <sup>[29]</sup>.

- **Drugs** — A variety of drugs can induce or exacerbate Restless Legs Syndrome. These include commonly used substances such as nicotine, caffeine and alcohol, and several classes of medications, including serotonergic antidepressants, antipsychotics, dopamine-blocking antiemetics such as metoclopramide and centrally acting antihistamines <sup>[30]</sup>.

These stats are alarming – it's no wonder that those that suffer from Restless Legs Syndrome find themselves worried and desperately looking for a cure. Thankfully, some of the more recent research has shown that it may be as simple as taking **Magnesium and Vitamin B12**. But more about that later.

## Symptoms

The most common symptoms seen with Restless Legs Syndrome include:

- Aching
- Antsy
- Burning
- Crawly Feeling In Leg (As If From Bugs Or Spiders)
- Creeping
- Creepy-Crawling Sensations
- Discomfort
- Electrical Shocks
- Itching
- Jittery
- Jumpy Legs
- Painful
- Restlessness
- Pins And Needles
- Prickling
- Pulling
- Throbbing
- Tingling
- Twitching

Restless Legs Syndrome can create an irresistible urge for you to move your legs or arms when you are lying down or even sitting. It can make falling asleep or staying asleep difficult because of the sensations in your legs or arms.

It's common for a person to ignore the symptoms of RLS and think they are just muscle contractions. Because of this Restless Legs Syndrome is often

misdiagnosed goes untreated causing insomnia, daytime sleepiness and restlessness.

Restless Legs Syndrome itself is not life threatening; however, people have been known to become depressed as a result of the pain and lack of sleep. This can lead to thoughts of suicide.

## **Imagine that you have an itch...**



This is like a fresh mosquito bite you just have to scratch – you simply cannot stop yourself. With Restless Legs Syndrome that’s about the same effect, unless you get up and move around. This urge happens at night when you lie down to sleep, which is why author Robert Yoakum called those suffering from RLS ‘nightwalkers.’

These feelings aren’t always at bedtime. You might be sitting or just resting and it can trigger the creepy crawly sensations. When you get up and walk around the feelings subside. If this sounds like you and you have not yet had an official diagnosis of Restless Legs Syndrome, you are likely suffering from this troubling condition.

## Underlying Causes of Restless Leg Syndrome

In most cases of Restless Legs Syndrome, no cause can be found. With Primary Restless Legs Syndrome, studies have shown it tends to run in families. This could indicate that there is a genetic link that increases the risk of developing this condition. Secondary Restless Legs Syndrome can be caused by underlying conditions that you should be checked for.

- Anemia
- Diabetes
- Iron deficiency
- Kidney failure
- Narcolepsy
- Nerve disorders
- Obesity
- Parkinson's disease
- Peripheral neuropathy
- Pregnancy
- Rheumatoid arthritis
- Sleep Apnea
- Stress
- Thyroid problems
- Varicose veins

If your doctor does not find any of these underlying medical reasons for your Restless Legs Syndrome, then you will be diagnosed with Primary Restless Legs Syndrome, in which case you should try one or more of the natural treatments we're about to discuss.

## Natural Treatments for Restless Legs Syndrome

For centuries, natural relief for Restless Legs Syndrome has been used. A combination of herbal remedies, homeopathic remedies, Chinese remedies, and home remedies have all been used to still the legs and arms of those suffering from Restless Legs Syndrome. While there are a number of prescription drugs that doctors try, they are not always tolerated well nor are they always effective.

There is a better option for many suffering from Restless Legs Syndrome – that's to combine one or more of the natural treatments for results. We're going to look at many different options. Don't become discouraged if one option doesn't work. It's really about finding what works for you. Keep trying!

However, that said two of the easiest treatments have seen some of the best results – Vitamin B12 and Magnesium. Therefore, let's look at these first.

## Vitamins and Minerals for Treating Restless Legs Syndrome

### Vitamin B12

Taking your multivitamin is great, but those suffering from Restless Legs Syndrome need more. You should take Vitamin B12. Many sufferers are finding an increase in B12 and magnesium (more about that next) have brought significant relief and in some cases cessation of symptoms.



Many experts say that a B complex that includes sufficient B12 is a good choice. With the Vitamin B, family more is not always better. Too much B and you'll

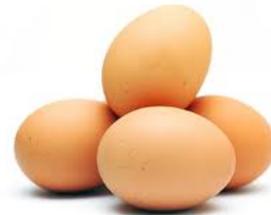
find your palms look orange. Your body is not able to store Vitamin B so you'll eventually just pee the excess out.

Vitamin B12 is a water-soluble vitamin, which plays an important role in brain and nervous system function. It plays a role in the formation of the red blood cells. B12 is naturally present in some foods. **Top Tip: One way to receive all of the Vitamin B12 you need is to get a Vitamin B12 shot from your doctor every 3-6 months**

We need Vitamin B12 for numerous vital body functions. B12 is involved in the metabolism of every cell in your body. Vitamin B12 combines with Folate in the formation of DNA. It is necessary for the synthesis and regulation of the fatty acids, as well as energy production. B12 helps in maintaining the health of the nerve cell and the nervous system and that's why it can help with Restless Legs Syndrome.

### **Foods Rich in Vitamin B12**

Vitamin B12 is primarily found in animal products like dairy products, meat, fish and eggs. A few plants like algae and seaweed contain B12 and many foods are fortified with Vitamin B12. In addition to food sources, a quality Vitamin B12 supplement is a good idea.



### **Study Links the Use of B12 in Treating Restless Legs Syndrome**

A 1993 study published in the *Journal of Postgraduate Medicine* is worth mentioning. This study looked at the prevalence of Restless Legs Syndrome among elderly patients and noted both iron and vitamin B12 deficiencies as common and treatable causes of the syndrome.

In fact, in the patients where marked vitamin B12 deficiency was known to cause Restless Legs Syndrome, a complete resolution of symptoms was observed **1 month after starting on vitamin B12 supplementation.**

## Magnesium

Magnesium is very effective at relaxing the muscles. Magnesium also interacts with calcium, which helps to regulate the nerves and muscles. It is a 'chemical gate blocker' in the nerve cells. Magnesium relaxes the nerves by preventing calcium from rushing into the nerve cells to activate them.

**When magnesium levels in the body are too low, you land up with overactive nerve cells that are firing off too many messages to the muscles. As a result, your muscles constantly contract. This is also why a magnesium deficiency can cause muscle soreness, muscle tension, muscle cramps, muscle spasms, and muscle fatigue, which are also characteristics of Restless Legs Syndrome.**

Many Restless Legs sufferers are deficient in magnesium, which is easy to address by simply and taking a quality magnesium supplement and adding magnesium-rich foods into your diet.

### Foods Rich in Magnesium

Dark leafy vegetables, nuts, seeds, halibut, beans, lentils, whole grains, brown rice, avocados, low fat dairy, plain yogurt, bananas, dried fruit, figs and dark chocolate are all great sources of magnesium.



In addition, you could take a magnesium supplement.

## **Magnesium Recommendations**

The recommended dosage of magnesium is 350-400 milligrams per day. However, Dr. Carolyn Dean, an expert in the field of magnesium recommends that you take twice that dosage.

**Top Tip: Some find that they suffer from side effects from Magnesium supplements such as diarrhea. Taking Magnesium oil or Magnesium transdermal spray can be very beneficial. This can be found in any good health food shop and sprayed or rubbed on for quick relief from RLS.**

## **About Dr. Carolyn Dean**

Dr. Dean has an informative and witty newsletter (uncensored by any third-party commercial interests) that you can access via her website at <http://Leap202.drfuturo.hop.clickbank.net> . Make sure you sign up to receive the latest issues of the newsletter via email.

When she's not serving as medical director for The Nutritional Magnesium Association, writing books (she's got 18 out now) and helping clients with her telephone consultation practice - she's busy developing Future Health Now! - Her 48-week total wellness program.

As a member of Future Health Now! every 7 days you receive a new password which allows you to download a new module in the program. There are 48 modules in total.

Each module contains a 12-page PDF document written by Dr. Dean detailing four simple action-items you can take (from her Seven Pillars of Health model) for increasing your energy, sleeping better and improving your mental acuity. It's not about giving you more "health information overload" it's about helping you

change your lifestyle so you see permanent improvements in your health. For more information about Future Health Now! [Go Here](#)! It's worth the visit!

### **Study Romanian Journal**

In one study from the Romanian Journal of Neurology and Psychiatry, researchers conducted biochemical and neurological tests in 10 cases of restless leg syndrome. The investigators reported important disorders of sleep organization. They also found that forms of insomnia were caused by **magnesium deficiency**.<sup>33</sup>

### **Effective Magnesium Study**

Another open pilot study published in the journal, *Sleep*, looked at how effective magnesium therapy was for Restless Legs Syndrome. The results of the study<sup>34</sup> showed that the symptoms of restless leg syndrome in all the patients were significantly improved by magnesium supplementation. The results of this study showed patients completely recovered after treatment. In some cases, symptoms were reported as improved from the first day of treatment.

### **U.S. Department of Agriculture Research**

The U.S. Department of Agriculture Human Nutrition Research Center in North Dakota reported that magnesium plays key role in the chemistry necessary for proper sleep. Low magnesium is thought to cause abnormal brain waves during sleep and getting enough magnesium increases healthy brain waves and decreases the time it takes to fall asleep.

### **Vitamin E**

Vitamin E should be used carefully as it works really fast on your muscles. Vitamin E improves overall circulation. Start with a low dosage of 100 IU and every two weeks you can increase it. If you take too much too fast you'll get

dizzy. If you have heart problems, you should check with your doctor. Some sufferers have found that 400 IU of Vitamin E at bedtime helps.

One study looked at the use of Vitamin E and C in treating Restless Leg Syndrome in Hemodialysis Patients. In a randomized double-blind placebo controlled trial by Sagheb, et al., Vitamin E and Vitamin C, and their combination were found to be effective in the treatment of Restless Legs Syndrome in hemodialysis patients compared to the placebo.

### **Foods Rich in Vitamin E**

Sunflower seeds, red chili powder, paprika, almonds, pine nuts, peanuts, dried apricots, pickled green olives and cooked spinach are all good sources of Vitamin E.



### **Folic Acid**

Some restless leg sufferers are finding relief from folic acid.<sup>35</sup> Others find just taking a dosage of folic acid daily brought no relief, but if it was taken when the Restless Legs Syndrome started, it would shorten the duration of the episode significantly. It may be something you wish to explore further.

### **Foods Rich in Folic Acid**

Dark green veggies offer an excellent source of folic acid, especially broccoli.



You can also take a folic acid supplement. Other foods include asparagus, spinach, collard greens, turnip greens, Romaine lettuce, citrus fruits, lentils, pinto beans, black beans, navy beans, kidney beans, split peas, lima beans, avocado, okra, brussels sprout, cauliflower, beets, and all kinds of seeds and nuts.

You could have your doctor do a blood test to determine whether you are low in folic acid. There has been no folic acid dosage established to treat restless legs.

While some doctors prescribe upwards of 20,000 micrograms a day, most will prescribe 5,000 to 7,000 micrograms a day. It's important to note that taking higher dosages of Folic Acid can mask the symptoms of a B12 deficiency, so it's a good idea to have a B12 blood test at the same time.

### **Research Looks at Benefits for Restless Legs Syndrome**

For 30 years, researchers have been hypothesizing that taking a folic acid supplement, which is so important to a healthy nervous system, may alleviate restless legs, especially in genetic episodes of RLS.

“People who respond best to high doses of folic acid are people who have a family history of RLS,” says Naturopathic doctor Dean Neary, who is the chair of the physical medicine department at Bastyr University in Seattle. Perhaps there is some deficiency that gets passed from gene to gene that causes malabsorption on the folic acid end.”

Start at 5 mg daily, and if symptoms persist, you can work your way up to as much as 30 mg. Keep in mind that these dosages are very high (the RDA for folate is 300 to 600 micrograms), so work under the supervision of a health care provider.

### **Niacin (Vitamin B3)**

For years, many Restless Leg Sufferers have used ‘Non Flush’ Niacin to reduce the symptoms of Restless Legs Syndrome. Sufferers say they have found that it calms the legs. B3 is the same as Niacin but because it is not ‘non flush’, you are

likely to get the flushing effect. **Top Tip: Naturopaths recommend Non Flush Niacin often for RLS.**

There are no studies relating to Niacin and its effectiveness in treating Restless Legs Syndrome. However, there are many cases that can be found where sufferers have found excellent relief using Niacin. These sufferers swore by its use. This is one natural remedy that might be worth a try – it may or may not work for you, but it is worth a try.

### **Foods Rich in Niacin**

Foods that contain Niacin include fish (swordfish, tuna, and anchovies), bran (wheat and rice), liver, peanuts, veal, chicken, bacon, and sun dried tomatoes.



### **Iron**

Even when anemia isn't present, an iron deficiency can cause or even worsen Restless Legs Syndrome. You can take an iron supplement; however, an easy way to increase your iron intake is through the foods you eat.

Iron supplements should not be taken without a doctor's prescription and instructions because Iron supplements need to be monitored. However, if you believe you may be anemic, you should see your doctor, because he/she can test to see if you are iron deficient.

### **Foods Rich in Iron**

Foods rich in iron include clams, mussels, oysters, liver, pork, chicken, lamb, beef, turkey, squash, pumpkin seeds, cashews, pine, peanuts, almonds, beans.



A number of studies have linked Restless Legs Syndrome to low levels of iron in the blood. In one analysis of the medical records, there were 27 people with Restless Legs Syndrome, those who had the severest symptoms had below average levels of serum ferritin, one measure of iron deficiency.

### **Iron Deficiency Study in Elderly With RLS**

In a study conducted at the Department of Geriatric Medicine of the Royal Liverpool University in Liverpool, U.K.,<sup>36</sup> levels of ferritin in the blood were found to be lower in the eighteen patients who had restless-legs syndrome than in the eighteen control subjects. Ferritin levels were inversely correlated with the severity of restless-legs syndrome symptoms.

What the study found is that the lower the ferritin level, the more severe the restless legs were. Blood levels of Iron, Vitamin B12, Folic Acid, and Hemoglobin did not differ between the two groups. 15 of the patients who had Restless Legs Syndrome were treated with iron (ferrous sulfate) **at a dosage of 200 mg three times daily for two months, and the results seen were excellent.**

As a result, researchers concluded that an Iron deficiency, with or without anemia, is an important contributor to the development of Restless Legs Syndrome in elderly patients, and iron supplements can produce a significant reduction in symptoms.

## **Study Links Restless Legs Syndrome to Poor Iron Uptake in the Brain**

The first-ever autopsy study of brains from people with Restless Legs Syndrome suggests that this disorder may result from inefficient processing of iron in certain brain cells. The findings provide a possible explanation for this disorder and may lead to new ways of treating the disease.<sup>40</sup>

The researchers found no evidence of lost or damaged cells in the Restless Legs Syndrome brains. What they did find was that receptors, which help cells absorb iron, are abnormally regulated in cells that produce the nerve-signaling chemical dopamine. The study, led by James R. Connor, Ph.D., of Penn State University College of Medicine in Hershey, Pennsylvania, was funded in part by the National Institute of Neurological Disorders and Stroke (NINDS) and appears in the August 12, 2003, issue of *Neurology*.<sup>40</sup>

In this new study, the researchers obtained autopsied tissue from 7 Restless Legs Syndrome patients who had donated their brains to the RLS Foundation Collection at the Harvard Brain Tissue Resource Centre in Belmont, Massachusetts. The researchers compared the Restless Legs Syndrome brains to autopsied brains of 5 people with no history of neurological disease. They found no evidence of brain damage in any of the brains they studied. However, the amount of iron in brain cells from a region called the substantia nigra was extremely low, and there were very few receptors for transferrin, a protein that binds to iron and transports it into cells. Levels of several other proteins linked to iron storage and transport were also low.<sup>40</sup>

The lack of iron in the cells may cause them to malfunction, leading to the symptoms of RLS, Dr. Connor says. "This may explain why treatment strategies tend to work," he adds. "In RLS, we just need to tweak the system to improve cell function, rather than replacing lost cells."

The results do not mean that people with Restless Legs Syndrome have an iron deficiency, Dr. Connor says. Instead, the iron in their bodies is not being delivered to specific brain cells in an effective way. The findings help to confirm that RLS is a neurological problem and not a psychological disorder, as many people have suspected, he adds.

**“People shouldn't start taking iron supplements without a physician's advice,” Dr. Connor cautions.**

In the future, Dr. Connor wants to study how iron supplementation works in people with RLS. He also wants to find medical techniques or drugs that can target the problem with iron uptake in the brain.

“This type of therapy should be more effective and less dangerous than injecting high doses of iron in the blood. I feel this is an area that's ripe for new therapeutic approaches,” he says.

The NINDS is a component of the National Institutes of Health within the Department of Health and Human Services and is the nation's primary supporter of biomedical research on the brain and nervous system.

## **Potassium**

**Top Tip: Some Restless Leg sufferers have found that drinking a glass of freshly squeezed orange juice helps a lot.** It's thought that this is because of the high amount of Potassium in the orange juice that helps control muscle contraction and it maintains the correct electrolyte, water balance in the body.

Potassium is also important because it sends nerve impulses, and it releases energy from fat, protein, and carbohydrates during metabolism. It's believed that when the body is low on Potassium it triggers Restless Legs Syndrome.

According to the Linus Pauling Institute, potassium deficiencies contribute to a number of common diseases. There is considerable evidence, says Jane Higdon, Ph.D, of the Pauling Institute, that a potassium intake of at least 4.7 grams a day helps reduce the risk of stroke, hypertension, osteoporosis and kidney stones. Because of this, the Linus Pauling Institute recommends that all adults, including those over the age of 65, increase their daily intake of potassium to at least 4.7 grams a day.

Low potassium contributes to both muscle spasms and 'restless leg syndrome'. Potassium plays a major role in regulating smooth muscle contractions, and low potassium levels are linked with muscle twitches and spasms. These include Restless Legs Syndrome. Increasing potassium intake to optimal levels has been shown to eliminate muscle spasms and contractions that interrupt one's sleep and contribute to a general feeling of restlessness and discomfort.

Taking too much potassium at once can lead to dangerous side effects. High potassium intake can cause hyperkalemia, which can damage tissue and cause a heart arrhythmia that can lead to cardiac arrest. Because of potassium toxicity dangers, the best way to get most of your potassium is from a high potassium diet.



### **Foods Rich in Potassium**

There are many foods high in potassium. We already mentioned orange juice and bananas. There are also dark leafy greens, white beans, baked potatoes, dried apricots, baked acorn squash, yogurt, fish (especially Salmon), avocados, and mushrooms. Fresh whole vegetables and

fruits will all contain some level of potassium. Avoid processed foods to get your potassium, as they can also be high in sodium.

## L-theanine

Studies have shown that this amino acid, found in green tea, promotes the brain wave activity associated with deep relaxation. It's also a critical precursor to the relaxing neurotransmitter GABA (gamma amino butyric acid). Even though there's little research specifically on the use of L-theanine for restless legs, Jacob Teitelbaum, MD, medical director of the Fibromyalgia and Fatigue Centers, says it has proven itself as "one of the best natural remedies for sleep." **Top Tip: He recommends 200 mg of Sun Theanine one hour before bedtime for a great sleep.**

## Iodine Potassium Iodide Supplement

Some Naturopaths recommend an Iodine Potassium Iodide supplement. The starting dosage is usually low, and then increased until results are seen, then reduced to a maintenance level again. Talk to a Naturopath about the right dosage for you.

## Herbs to Treat Restless Legs Syndrome

Herbs are medicine and while we are sharing some herbs that others have found useful, you should always consult your doctor, naturopath, or other trained medical professional before starting a new herb to ensure it does not interfere with other medications or medical conditions you may have. If you are pregnant or breastfeeding you should never take herbal remedies without first consulting your doctor.

## Valerian Root



Valerian Root has been beneficial to some Restless Leg Sufferers. Valerian is an herb and is a mild sedative that aids with sleep, insomnia, and nervous tension. It can be purchased over the counter and it is readily available. Be warned that this is a terrible tasting herb and if you burp, it has an awful after taste. In fact, this is the most common complaint users have about Valerian, although it has a reputation of being highly effective in aiding with sleep.

### **Valerian Study Improves Symptom Restless Legs Syndrome**

A prospective, triple-blinded, randomized, placebo-controlled, parallel design was used to compare the efficacy of Valerian with placebo on sleep quality and symptom severity in patients with RLS. 37 participants were randomly assigned to receive 800 mg of valerian or placebo for 8 weeks. The primary outcome of sleep was sleep quality with secondary outcomes including sleepiness and RLS symptom severity.

**Top Tip: The results of this study suggest that the use of 800 mg of Valerian for 8 weeks improves symptoms of RLS and decreases daytime sleepiness in patients that report an Epworth Sleepiness Scale (ESS) score of 10 or greater. Valerian may be an alternative treatment for the symptom management of Restless Legs Syndrome with positive health outcomes and improved quality of life.**

## Ginkgo Biloba



Ginkgo Biloba is often used for circulation and some restless leg sufferers have found once they take a

quality Ginkgo Biloba supplement that they have fewer episodes.

There has even been some research done on whether Ginkgo Biloba helps, and as the study below shows, it definitely has been beneficial for many who suffer from Restless Legs Syndrome.

## **Ginkgo Biloba and Restless Legs Syndrome**

The study analyzes the time on Ginkgo Biloba when people have Restless leg syndrome, gender and age of these people, the severity of Restless leg syndrome, how they recovered, and common conditions and drugs used besides Ginkgo Biloba. In total 346 Ginkgo Biloba users are studied. The study is created by eHealthMe based on reports from FDA saw Ginkgo Biloba improve symptoms in 71, 43% of the females and 28.57% of the men.

## **Horse Chestnut**



Horse Chestnut helps promote healthy blood circulation throughout the body, including the legs and can relieve both Restless Leg Syndrome and Periodic Limb Movement by keeping the blood flowing smoothly even during and sleep and rest.

In Europe Horse Chestnut bark, seeds and leaves are used to promote good vein health.

According to Dr. Hauser,<sup>37</sup> "Horse chestnut is unique in its ability to stabilize vascular membranes. This may give restless legs extra blood flow that can prevent sensations of itchiness or burning."

The theory is that Horse Chestnut increases the blood flow, which can lead to the prevention of the burning and itchiness sensations. **Top Tip: Dr. Hauser**

**recommends 400 mg of standardized Horse Chestnut, but he also recommends that if symptoms aren't better in a month to stop taking it.**

**Caution:** Those on blood thinners, gastrointestinal tract issue, pregnant, or breastfeeding should not use this herb.

### **Horse Chestnut and Restless Legs Syndrome Study**

This is a study of Restless Legs Syndrome among people who take Horse Chestnut. The study analyzes the time on Horse Chestnut when people have Restless Legs Syndrome, gender and age of these people, the severity of Restless Legs Syndrome, how they recovered, and common conditions and drugs used besides Horse chestnut. In total 16 Horse chestnut users are studied. **Those using Horse Chestnut saw a significant improvement.**

### **Kava**



Kava relaxes skeletal muscles and sedates the nervous system. Kava has helped with Restless Legs Syndrome. Kava-lactones, the active compounds in Kava, are believed to have mild analgesic, muscle-relaxing, anti-anxiety and anticonvulsant effects. All of this can help tame the symptoms of Restless Legs Syndrome.

### **Kava and Restless Legs Syndrome Study**

Studies have reported that Kava preparations compare favorably to benzodiazepines in controlling symptoms. Kavalactones appear to act on the limbic system, in particular the amygdala complex - the primitive part of the brain that is the center of the emotional being and basic survival functions. It is thought that Kava may promote relaxation, sleep, and rest by altering the way in which

the limbic system modulates emotional processes. Tolerance does not seem to develop with Kava.

## Passionflower



Passionflower relaxes the muscles and induces sleep. Drink 1 cup of passionflower tea two hours before bed. Passionflower has been reported to have sedative, hypnotic, antispasmodic and anodyne properties.

It has traditionally been used for nervous tachycardia, neuralgia, generalized seizures, spasmodic asthma, hysteria, and insomnia. The bio-active constituents' maltol and ethylmaltol have been shown to have CNS sedation, anticonvulsant activity, and a reduction in spontaneous motor activity in laboratory animals.

Passionflower extracts have been reported to reduce locomotor activity, prolong sleeping time, raise the nociceptive threshold and produce an anxiolytic effect in laboratory animals.

In humans, Passionflower has been reported effective when used in combination with other sedative and anti-anxiety herbs such as valerian, making it beneficial in conditions such as hyperthyroidism, where CNS stimulation occurs. These effects may be due to synergism and also due to the potential binding of Passionflower constituents to benzodiazepine receptors in v

## Bach Rescue Remedy

Bach Rescue Remedy is a blend of flowers that help you to relax, become calm, and be focused. For some who are suffering from Restless Legs Syndrome they have found that Bach Rescue Remedy helps them to sleep at night, calming their

legs. **Top Tip: This is an option that pregnant women often find helpful. Many have managed to eliminate other sleep aids when using this product.**

Bach Rescue Remedy is made up of :

- Cherry Plum
- Clematis
- Impatiens
- Rock Rose
- Star of Bethlehem

## Astragalus

Astragalus is an herb that promotes circulation and it helps with iron absorption, which is beneficial to anyone suffering from Restless Legs Syndrome.



Astragalus membranaceus, has been used for centuries in traditional Chinese medicine, and balances and improves the functioning of all the body's organ systems through its adipogenic and tonic properties. It also boosts circulation and assists absorption of iron from food.

## Butcher's Broom

Butcher's Broom improves [poor circulation](#) and relieves the pain and discomfort associated with restless leg syndrome. It is also useful in the treatment of constipation, circulatory disorders, and as a bladder and kidney tonic.

# Diet

## Avoid Chemicals in Food

There is a category of food additives that are called neurotoxins or excitotoxins.<sup>39</sup> The glutamates directly affect your nervous system. **MSG or monosodium glutamate is the most well known excitotoxin.**

Other additives are converted by processing into glutamates. You should work to eliminate all excito-toxins from your diet, and eat only foods that are unprocessed foods.

Even the tiniest amounts of excito-toxins will aggravate your Restless Legs Syndromes, as well as affect other immune conditions such as Chronic Fatigue Syndrome or Fibromyalgia. They can also cause joint pain and migraine headaches.



You need to read all food labels. Never buy any food that has the following additives.

### Other Names for MSG Include:

- Autolyzed "anything"
- Bouillon/Broth/Stock
- Carrageenan
- Caseinate (sodium or calcium)
- Citric acid
- Commercial soup or sauce base
- Corn byproducts:
- Corn syrup

- Cornstarch
- Dextrose
- Gelatin
- Hydrolyzed "anything"
- Malt extract
- Malted barley flour
- Monosodium glutamate
- Natural flavor/seasonings
- Seasonings, Spice
- Soy, fish, or bean sauces
- Soy, wheat, whey protein
- Yeast extract

Commercial processes that are used to manufacture MSG were not in use until the 1960s. Even though the claim MSG is "natural" there is nothing natural about the MSG we use today. Aspartame and NutraSweet are two other widely used excitotoxins.

It's nearly impossible to completely avoid additives 100 percent. You eat out, eat deli foods, etc. This can lead to some restless leg symptoms if you are exposed in this way. It's not the easiest thing to do, but compared to lying awake every night with your legs tormenting you, it's a breeze.

## Avoid Gluten

Some sufferers find that eliminating gluten from their diet eliminates many problems including Restless Legs Syndrome.

Gluten is a protein found in the grains wheat, barley, and rye. It gives bread its spongy texture, makes



pizza dough stretchy, and is used to thicken sauces and soups.

Gluten-free eating has a basis in science, and it does help a very real health problem. For those with celiac disease, gluten is terrible where even a tiny crumb of it is a malicious invader and can mount an immune response, says Alessio Fasano, M.D., medical director of the University of Maryland Center for Celiac Research in Baltimore.

Now experts have determined that there is also those who have a non-celiac gluten sensitivity. Gluten sensitivity can lead to similar celiac symptoms such as diarrhea, stomach cramps, and bloating. But unlike those that have Celiac, there is no damage done to the intestine. The direct relationship between Gluten and Restless Legs Syndrome is unclear but many have found that eliminating Gluten has lead to a decrease even an elimination of Restless Legs Syndrome.

## Reduce Caffeine Intake

It seems that caffeine can make Restless Legs Syndrome worse. Try avoiding caffeine to see if you benefit. Some neurologists will instruct their RLS patients to stop drinking caffeine.



It is easy to rely on caffeine to get you started in the morning; however, caffeine actually disrupts the body's natural sleep/wake cycle, and it can make Restless Legs Syndrome even worse.

Though eliminating caffeine intake can be an extremely difficult process, this will not only alleviate symptoms of Restless Leg Syndrome, but allow for the body to return to its natural rhythm.

Giving up caffeine completely can be difficult and you probably shouldn't quit cold turkey. Better to slowly wean yourself so that you don't suffer from caffeine withdrawal.

## Sugar Free High Protein Diet

Because Restless Legs Syndrome is associated with hypoglycemia, **eating a sugar-free, high-protein diet along with a protein snack at night could decrease the episodes of cramping from Restless Legs Syndrome at night.**

There has been a direct correlation between sugar consumption and an increase in restless legs symptoms. For some just a single soda or cookie will be enough to impact symptoms at night.

## Avoid Aluminum

There has been an overwhelming amount of evidence related to aluminum toxicity. Aluminum is found in the food we eat, the air we breathe, and in the products we use. There are many symptoms associated with aluminum toxicity and many have found a link between their Restless Legs Syndrome. Aluminum has many other bad effects on the human body, RLS are just one of them.

## Reflexology

Reflexology has helped some restless leg sufferers to get relief from the pain and tingling. In Reflexology, the practitioner applies pressure to the feet, which send messages to the brain through the nerve pathways. If you suffer from Restless Legs Syndrome, it can promote better nerve function and messaging.



One pathway is called the Spinothalamic tract. It is responsible for affective sensation. This tract transmits information that requires an action from your body. For example, your foot will retract when you scratch an itch.

Another pathway is the Extrapyraxidal tract, which is responsible for unconscious, involuntary and automatic movement of the skeletal system. According to the National Institute of Neurological Disorders and Stroke, a branch of the U.S. National Institutes of Health, more than 80% of people diagnosed with Restless Leg Syndrome also have a condition called periodic limb movement disorder (PLMD), which we talked about earlier. Reflexology can be used alongside other treatments to ease symptoms.

## **Chiropractic Treatment**

The adjustments from your chiropractic treatment can help to relax your muscles. Generally, the lower back and pelvic instability would be addressed to help relieve Restless Legs Syndrome. Chiropractors say that having an adjustment 1-2 times a week may help improve restless leg symptoms. They say that muscle twitching; joint pain, muscle tension, muscle spasms, crawling feelings, tingling sensations, and a creeping sensation may be alleviated by routine adjustments – especially at night.

"The American Chiropractor" (Volume 30, Issue 8) by chiropractor Donald Free discusses the connection between RLS to spinal misalignment and sciatic nerve compression. He talks about a study that performed spinal manipulation, electrical micro-current therapy and combined them with proper corrective exercises. This treatment reduced sciatic nerve pressure and relieved RLS symptoms for many patients.

## Get Active - Start Exercising

Those who live a sedentary lifestyle are much more prone to developing Restless Legs Syndrome. You can benefit by including more exercise in your daily routine. Just make sure to start slow and gradually increase the amount of exercise you do slowly.

This is especially true if you have not been exercising. Also, if you have any health issues talk to your doctor before starting an exercise program.

Try cycling, swimming, fast walking, running, etc. Yoga and Nia both offer gentle exercise forms so this is definitely an option if you find other exercise to create too much pain.



Take a brisk walk 4 times a week for 30 minutes at a time has been shown to lessen the severity of Restless Legs Syndrome over a few months. Intense leg workouts can be beneficial. Try one week of daily intense leg exercises around 30 minutes. This can include fast walking, cycling, etc.

Stretch leg muscles gently with swimming, especially if other forms of exercise cause cramping.

If you feel restless leg symptoms, get up and start moving - take a walk. Sometimes listening to the urge to walk can be enough to stop an episode and let you get back to sleep again.

If Restless Legs Syndrome is keeping you awake, get up and do some gentle spinal twists, backward bends, forward bends, chair pose, and warrior pose slowly with deep breathing.

## Other Home Remedies

### Dehydration

If you are not drinking at least 4 glasses of water a day, you increase your risk of suffering from restless legs. You may even find drinking at night helpful. Also, watch your caffeine and alcohol intake as both of these are dehydrating. You can tell if you are drinking enough water by whether your pee is clear. If your urine is dark, it means not enough water has been drunk.



### Brewer's Yeast

Some restless leg sufferers have used Brewer's Yeast to reduce symptoms. **Top Tip: There are different amounts recommended but the most common theme is 5 tablets a day combined with B12 and Magnesium. You can buy Brewer's Yeast online or at your local health food store.**

### DL Phenylalanine

DL Phenylalanine is a natural food supplement of Amino Acids, which has helped Restless Legs Syndrome and Parkinson's Disease.

## Noni Juice

Another home remedy that some have found to help their restless legs is Noni juice. For more than 2000 years, the Polynesians have been using Noni Juice and enjoying the benefits.



Dr Neil Solomon is the world's authority on Noni. He has spent a decade studying Noni Juice health benefits. Along with Restless Legs Syndrome Noni Juice has been shown to help chronic fatigue syndrome, high blood pressure, fibromyalgia, sleeplessness, stress, and a number of other conditions.

The only way to find out whether Noni juice is right for you is to try it. **Some sufferers recommend two ounces twice a day.**

## Tarentula (Homeopathic)

Tarentula is the most popular homeopathic treatment recommended by Homeopathic doctors. It is fast acting, safe, and has no side effects when taken appropriately.

## NADH - Nicotinamide Adenine Dinucleotide with Hydrogen

NADH has been effective with some who have RLS. NADH is a co-enzyme, not a hormone like DHEA. It is involved in the Krebs cycle, which means the body uses it to produce ATP, the energy source for cells. NADH is a coenzyme that is found naturally in all living cells, and it plays an important role in the energy production of cells, especially the brain and central nervous system. The more NADH your

cell has, the more energy it can produce to perform its process efficiently. A growing body of scientific research shows that NADH stimulates the brain cells' production of the neurotransmitters dopamine, noradrenaline, and serotonin.

## Epsom Salts

Epsom Salts are not salts but rather a naturally occurring pure mineral compound of magnesium and sulfate. They have long been known as a natural remedy for a number of ailments and many have found them very beneficial in the treatment of Restless Legs Syndrome. Take a hot bath with 2 cups of Epsom Salts and soak for at least 10 minutes.

## Other Tips to Eliminating Restless Leg Syndrome

- Eliminate alcohol as it can aggravate restless leg symptoms
- Gentle exercise may help; try yoga in the morning and evening
- A daily walk can be helpful as a restless leg syndrome treatment
- A healthy diet is essential
- Several nutrients play a key role in helping to decrease restless leg syndrome symptoms. These are **magnesium**, **B12**, folic acid, vitamin D, iron (if you've been tested and blood levels are below 50mcg/L), and vitamin C.
- Before sleep, gently massage your legs, starting at the ankles and working up
- A bath, hot or cool, may help relieve some of the RLS symptoms.
- Participate in light to moderate exercise daily including walking or jogging. Don't exercise late in the day.
- Stretch your legs often, bend your knees, and rotate your ankles often throughout the day.
- Massage your legs to help you relax and soothe the restless sensations you experience.

- Practice relaxation techniques such as deep breathing, meditation or yoga.
- Stop smoking
- Keep a sleep diary to monitor the effects of medication and strategies of RLS.
- Soak feet in hot water or apply a heating pad or cold compress to the affected area.
- Maintain a regular sleep schedule.
- Lie on your side with a pillow between your knees to initiate sleep.
- Join a RLS support group where you can share information with others dealing with the same condition.

## As We Draw to an End

Restless Legs Syndrome is a very real condition and if you are one of the millions of sufferers, we urge you to try one or more of the many natural remedies we've discussed. Remember, it may take a few tries to find what works for you personally – just keep trying, and don't give up until you find relief.

We also strongly encourage you to try **B12 and magnesium** before you try any other remedy. Why? Because they have provided remarkable benefits for a large percentage of restless leg sufferers, so it makes sense to give these a try before you start moving down the list.

As we bring this book to a close, we want to wish you good health and great success in finding a treatment that works for your Restless Legs Syndrome. **Remember do not give up – you deserve to live a life that's free of the symptoms of restless legs.**

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