

Neem "The Village Pharmacy"

By Joseph Selvester, [Ayurvedic Practitioner and Master Herbalist](#)

In 1922 British Archaeologists discovered the 5000-year-old Indus Valley archaeological site in Northwestern India. During their archaeological expeditions something amazing happened, instead of the civilizations becoming more primitive, as the archaeologist's dug deeper through the layers, the civilizations being uncovered became more complex and advanced than the ones previous. The result when they reached the final layers of the dig was two cities Mohenjodaro and Harappa. These cities were so advanced they could practically compete with cities today in areas of architecture, engineering and construction. The streets were designed in a grid system that was well planned and organized. There was an underground sewer system with stone manhole covers for access. A sophisticated water supply and drainage system with waterproof brickwork ran throughout the city. The houses were spacious in the upper class sections containing modern amenities like lavatory facilities.

They also found skulls upon which cranial surgery had been performed, and clay pots, which contained medicinal herbs. One of the most prominent medicinal herbs they found was Azadirachta Indica also known as Neem. So here we find in one of the worlds most ancient and developed civilizations the first evidence of an advanced medical system that includes both surgery and phytopharmacology, this system is called Ayurveda. However we should also note that one of the most important herbs in this system was and is Neem.

The medicinal benefits of Neem are spoken about in the Veda's, the worlds oldest books. In India's ancient Ayurvedic Medical texts the medicinal information about Neem spoken about in the Vedas is expanded upon in great detail. In Ayurvedic Medical texts it is explained that every part of the Neem tree has health promoting benefits. What is clear from the above information is that the general population of India for, over 5000 years, has used Neem safely and effectively. In fact the people of India call the Neem Tree "**The Village Pharmacy**".

Traditional use of Neem in Ayurveda:

Traditionally Neem was used in Ayurveda for a number of conditions. It is one of the main ingredients in every blood purification formula used in Ayurveda and it appears in most Diabetic formulas as well. It is also used for arthritis, rheumatism, the removal of external and internal parasites, including malaria and fevers and as an insect repellent. One of the most famous uses for Neem is to prevent tooth decay & gum disease. Neem twigs and leaves have been used for thousands of years by millions of people in India to brush their teeth and cleanse their gums to promote oral hygiene. Today hundreds of scientific clinical studies confirm the wisdom of India's people and her Ancient Ayurvedic medical texts.

The Science of Neem:

The first thing that science has done for Neem is Identify the active ingredients and what conditions they address. I am going to give a list of the more common compounds that have been identified and what conditions they address. However the research is ongoing and scientists feel that there are many more compounds yet to be identified.

Nimbin: anti-inflammatory, anti-pyretic, anti-histamine, anti-fungal

Nimbidin: anti-bacterial, anti-ulcer, analgesic, anti-arrhythmic, anti-fungal

Ninbidol: anti-tubercular, anti-protozoan, anti-pyretic

Gedunin: vasodilator, anti-malarial, anti-fungal

Sodium nimbinate: diuretic, spermicide, anti-arthritic

Quercetin: anti-protozoal

Salannin: insect repellent

Azadirachtin: insect repellent, anti-feedant, anti-hormonal

The highest concentrations of the active ingredients are found in the seed and oil, however the active ingredients are also found in lesser amounts in the bark and the leaves. Traditionally in Ayurveda the fresh leaves and twigs were used on a daily basis as a preventative for many conditions, including tooth decay, gum disease, malaria, etc. When a serious condition was treated a concentrated paste of the leaves or strong decoction of the leaves and/or the bark was used, for blood purification (in case of bacterial, fungal, or viral infections), malaria, fever, arthritis, rheumatism, and many more. It was also used as a protective agent from nature's pests both as an insect repellent and insecticide that is both safe and harmless to humans. Traditionally Neem oil was applied externally to the hair, scalp, and skin for parasites and as an insect repellent. It was also massaged into arthritic joints, after being slightly warmed, to relieve pain and inflammation.

When I was living in India during the late 1970s, I had my own personal experience with Neem. During my stay in India I was stricken with a relatively new form of malaria (at the time) known as cerebral malaria. This incurable form of malaria developed from mosquitoes that had become immune to the pesticides and produced a strain of malarial parasite that was chloroquine resistant or immune to treatment.

This is what the doctors told me at the hospital after taking my blood and examining me. The doctors decided that because I was nearly three times larger than the average Indian, they could give me three times the dose of chloroquine. After a few days I was released from the hospital as I was apparently regaining my health. Soon the fever and shaking started again, it was at this point that the people I was staying with called the Ayurvedic Physician and asked him to help me.

The Vaidya, as he was called, gave me strange looking herbal medicines for my condition. There were little black pellets that looked like hamster droppings and a brown liquid that he called an *asava*, which meant it was an herbal wine. Both of these medicines were, as I discovered later, herbal bitters the main ingredient of which was Neem. I reasoned that even eating hamster turds was a better fate than the violent shaking and fever I was experiencing. So I ate the pellets and drank the herbal wine, which was, as I recall not a bad chaser, and soon I was feeling well again. After I recovered I decided to learn all about this ancient system of Ayurvedic medicine and about Neem the herb that was responsible for my recovery from the brink of death. Subsequently I discovered that not only was Neem recommended in the Ayurvedic texts for malaria, I learned that it was proven by modern scientific clinical studies to be effective against chloroquine sensitive and chloroquine resistant strains of malaria. Neem is, as we discussed earlier, a clinically proven anti-microbial. This means it is effective against bacteria's, viruses, and funguses as well as parasites.

Neem's Effects against Bacteria

There have been a number of clinical studies showing that Neem has significant effects on several bacterial strains. Among some of the more prominent strains studied were *staphylococcus aureus*, *streptococcus pyogenes*, *cornebacterium*, *E. coli*, and *salmonella typhosa*.

These bacteria's can cause meningitis, cystitis, sore throats, typhoid, blood poisoning, and food poisoning. Neem's ability to exert significant effects over the above mentioned bacterial strains indicates it's ability to resolve the aforementioned conditions.

Neem's Effects against Viruses

There are certain compounds in Neem that demonstrate a unique ability to surround viruses, which prevents them from causing infection. Neem also inhibits viral multiplication by interacting with the surface of the cells to prevent the cell from becoming infected by the virus. Neem has been observed to be effective against a number of viral pathogens in various clinical studies demonstrating it contains unique properties to inhibit viral disease. Neem is one of just a few known antiviral agents.

Chickenpox, shingles, herpes, and hepatitis are viral conditions, which have been successfully treated, in clinical studies by Neem's therapeutic compounds. The uncomfortable symptoms of colds and flu's can be relieved during seasonal changes by the regular consumption of Neem Leaf capsules, extract, or tea.

Neem's Effects against Fungi

India's tropical climate especially in the coastal regions creates the kind of humid hot house atmosphere that funguses thrive in. Traditionally, in Ayurveda, Neem seed oil, aqueous extracts of Neem leaf, Neem leaf powder, the smoke from burning dried Neem leaves, and Neem leaf pastes have been used for the prevention and treatment of fungal conditions in India.

Athlete's foot, ringworm, and Candida, which causes vaginal yeast infections and thrush, are some of the more common fungi that attack humans. There are two medicinal compounds in the Neem leaf, gedunin and nimbidol, which have been clinically proven to control these fungi. Jock itch, another fungi that attacks humans, has been treated traditionally in India for thousands of years with Neem seed oil and aqueous extracts of Neem leaf. Creating medicinal smoke by burning dried Neem leaves, is an ancient practice in Ayurveda for purifying the atmosphere around a seriously ill patient. A clinical study examining the efficacy of this ancient practice found that smoke from burning dried Neem leaves exerted an extreme suppression of fungal growth and germination.

Amongst the thousands of Ayurvedic medicinal plants in India, modern clinical research has now proven that Neem extracts contain some of the most powerful antifungal compounds against certain fungi.

Neem's Effects against Parasites

For thousands of years in India Ayurveda has recommended the use of Neem to rid the body of all forms of parasites. Simple aqueous extracts of Neem leaves have been the standard treatment for external parasitic infestation in villages throughout India. In fact it is considered superior to standard allopathic treatments with far less side effects.

Neem's effectiveness against parasites is due to compounds that mimic hormones. This activity interrupts the life cycle of parasites by inhibiting the ability of the parasites to feed, and preventing parasite eggs from hatching. Neem has demonstrated these effects against lice, and against itch mites which cause scabies. Intestinal worms are treated and prevented throughout the tropics by regular consumption of Neem teas.

Neem has both curative and preventative effects on the Malaria parasite the methods for accomplishing this are as varied as the active ingredients in Neem. There are two compounds in Neem, which are clinically proven to be as effective against the malarial parasite as both quinine and chloroquine; they are gedunin, a limonoid and quercetin, a flavonoid. The leaves can be chewed and consumed on a daily basis as a preventative like quinine and Neem leaf extracts are clinically proven to be as effective as chloroquine

against the malarial parasite.

In addition, other studies show that Neem leaf extracts are effective against chloroquine sensitive and chloroquine resistant strains of the malarial parasite. In another study, with a resistant strain, 100% of all the malarial plasmodia were dead within 72 hours due to the toxic effects of an active ingredient from Neem leaves known as Irocin A. There is still another study, which shows that Neem leaf extracts prevent the normal development of the malarial plasmodia by increasing the state of oxidation in the red blood cells.

One of the most impressive accomplishments of Neem against parasites is its effectiveness against encephalitis. In a paper delivered to the American Chemical Society at its annual meeting in March 1993 R.O. Larson describes how an outbreak of Japanese encephalitis in India was eradicated. This was accomplished by giving children two doses of crushed Neem leaves daily.

Neem's effectiveness on serious Dermatological conditions

Dr. H.S. Puri, a leading clinical research scientist in India made the following statement:

"SKIN CREAMS INCORPORATING NEEM OIL CAN CONTROL PSORIASIS, ECZEMA, ACNE, DERMATITIS AND OTHER SKIN PROBLEMS BETTER THAN ANY OTHER KNOWN PRODUCT"

Neem is clinically proven to be an effective analgesic and anti-inflammatory, relieving both pain and inflammation. These qualities along with the above mentioned properties of Neem is what makes Neem so effective against serious skin conditions like eczema, psoriasis, acne, dermatitis, shingles, jock itch, athletes foot, ring worm, scabies, lice, candida, and more. Lotions and creams containing Neem oil and Neem leaf extracts are effective externally and Neem leaf extract, capsules, and teas are useful internally because they effectively detoxify the blood of impurities that are the source of skin problems.

Psoriasis:

Sheryll Zenganeh the publisher of "Empress Press", a national newsletter for people with psoriasis and other serious skin conditions, has promoted the effectiveness of Neem. Sheryll suffered from Psoriasis for seventeen years before she came in contact with Neem. She stated in her newsletter that **"today, thanks to the Neem tree and the products from NeemAura Naturals, my psoriasis is virtually gone and I now has soft, supple, youthful, gorgeous skin."**

In clinical studies Neem extracts and oil were found to be as effective as coal tar and cortisone in treating psoriasis. However there were none of the usual side effects accompanying the use of Neem as there was with Coal tar and cortisone. When applied to the skin, Neem extracts and oil removed the redness and itching while improving the condition of the skin for the duration of the treatment.

Eczema:

In the case of eczema clinical studies demonstrate that even the application of weaker Neem leaf extracts effectively cured acute conditions of eczema, what to speak of the fresh cold pressed oil with its high concentration of active ingredients. Using a Soap or shampoo containing Neem oil can easily relieve the itching and redness of eczema. For specific areas of intensity on your skin apply Neem cream after bathing and/or shampooing with Neem oil products.

Acne:

Neem effectively kills the bacteria that cause Acne and studies prove that Neem will reduce inflammation,

even the inflammation produced by Acne.

Skin problems in general:

Dry Skin, Wrinkles, Dandruff, Itchy Scalp, Skin Ulcers and Warts are other conditions that can be effectively resolved by the use of soaps, lotions, and creams, containing Neem leaf extracts and oil.

Neem's effectiveness against Periodontal Disease

Throughout India and South East Asia hundreds of millions of village people use Neem twigs and leaves to brush their teeth, and keep their gums free of disease and infection even though they have limited access to modern dental care. The ancient Ayurvedic practice of using Neem to heal and rejuvenate gum tissue and to prevent cavities and gum disease is verified in modern clinical studies.

Studies showed that Neem bark is more active than the leaves against certain bacteria and that Neem based tooth pastes and mouth washes significantly improved Pyorrhea, at various stages, in 70 patients. In another study Neem toothpaste prevented and even reversed gingivitis.

Neem's effects on the immune system

I just mentioned how millions of people in India and Southeast Asia maintain excellent oral hygiene standards by brushing with Neem Twigs on a daily basis, there is however, another reason why these people brush with Neem twigs every morning. According to the ancient healing system of Ayurveda the bark of the Neem tree will strengthen an individual's resistance to disease. Modern clinical studies have identified a number of compounds in the Neem tree that effectively regulate immune system functions.

There are immunomodulatory polysaccharide compounds, especially present in Neem bark, that apparently increase antibody production. While other compounds enhance the immune system through a different mechanism known as the cell mediated immune response, which is the body's first form of defense. Neem's enhancement of the cell mediated response is extremely important because it is this mechanism of the immune system that can eliminate most pathogens before they cause the symptomatic feelings of illness associated with disease. This could help in immune compromised conditions like Aids, Epstein Barr, etc. where an opportunistic infection in the respiratory system or elsewhere could cause serious problems.

Even without facing the life-threatening conditions mentioned above, the increase in colds, flu's, infections, etc in the general population is an indication of how compromised our immune systems are today. This is due in part to the over consumption of antibiotics in our food supply and through prescription, which in turn breeds drug resistant disease causing microbes and a weakened immune system. The use of Neem on a cyclical basis can improve your immune system's ability to both fend off and resolve these attacks.

Today's toxic environment presents us with added stress and a high risk of chemical contamination. In an animal study Neem was clearly successful in reducing anxiety. In still another animal study Neem increased production of Glutathione-S-Transferase improving the liver's ability to detoxify itself of chemical contamination.

Neem's effects on degenerative disease's

Diabetes:

Diabetes is still on the increase but effective management through diet and exercise is fast becoming the first line of treatment. In the ancient system of Ayurveda when an excess of one taste causes a disease the opposite taste is introduced into the diet with herbs and food to reduce the imbalance. Diabetes is a disease of excess

sweetness so bitter herbs and foods must be used to counteract the imbalance. Neem being very bitter was often used to treat diabetes in Ayurveda. Modern clinical studies reveal that Neem has been effective in treating and preventing Diabetes.

Whether drinking a simple cup of tea out of the leaves or taking extracts of the Neem leaf, Neem significantly and consistently reduced insulin requirements for nonkeytonic, insulin fast, and insulin sensitive forms of Diabetes. Because of the numerous and successful clinical studies with Neem on Diabetes and its long history of successful use in Ayurveda for the same purpose, the Indian equivalent of the FDA has approved the manufacture and sale of Neem tablets, by Pharmaceutical companies, for the treatment of Diabetes.

Arthritis:

Traditionally Ayurveda has recommended the use of Neem leaf, seed, and bark, for reducing arthritic pain and inflammation and for halting the progression of the disease as well. The use of Neem for these purposes has been confirmed by modern clinical studies.

The pain, inflammation, and swelling of the joints in arthritis can be greatly reduced by different compounds in Neem. In numerous clinical studies the polysaccharides and other compounds of Neem leaf extract have produced a reduction in the inflammation caused by arthritis. One of the major components in Neem seed, which has demonstrated a significant effect against arthritis, is nimbidin. Other components that possess anti-inflammatory properties are limonoids and catechin.

There are several reasons why the compounds in Neem work so well. It appears that these compounds make a number of adjustments to various mechanisms in the body, which explains their anti-inflammatory effects. There is an inhibition in the release of mediators of acute inflammation, an antihistaminic effect, and a modification in the functioning of the immune system response. This last effect is extremely important. Neem's ability to change the way the immune system responds to arthritis, by reducing the generation of inflammation producing chemicals, may also be the reason why it halts the progress of the disease and why it may hold the promise of an actual cure.

In addition to its anti-inflammatory effects there are several leaf compounds like the above mentioned polysaccharides, catechin, and limonoids, which are clinically proven to be more potent than aspirin (acetylsalicylic acid) in decreasing prostaglandin synthetase and the pain it causes.

Rheumatism:

Rheumatism or Rheumatoid Arthritis is an autoimmune condition that can cause serious pain and inflammation. Modern medicine uses strong drugs like phenyl butazone and cortisone to relieve the pain and inflammation of Rheumatism, however these drugs can cause many uncomfortable side effects. Clinical studies have conclusively demonstrated that the anti-inflammatory activities of various compounds in Neem leaves are equally as effective as phenyl butazone and cortisone.

In addition to relieving pain and inflammation the active constituents in Neem leaves are clinically proven to inhibit the prostaglandin mechanism, that causes pain, more effectively than aspirin. In the same study Neem significantly reduced acute paw edema as well. The consumption of Neem Leaf capsules and the topical application of slightly warmed Neem cream can help to alleviate the pain and inflammation of this condition.

Chronic Fatigue:

There are two schools of thought on what causes of Chronic Fatigue.

Some are convinced that it is related to the Epstein Barr virus others believe that it is related to the candida

albicans fungus. In either case Neem extracts have been proven clinically effective against both the virus and the fungus that are the suspected causes of Chronic Fatigue. Because the immune system becomes compromised in Chronic Fatigue Neem's ability to enhance the immune response on a cellular level enhances its usefulness for this condition.

Cancer:

For centuries in India and Southeast Asia Ayurvedic practitioners and herbalists have successfully used Neem to reduce tumors. Clinical research performed in Europe and India using the polysaccharides and limonoids found in Neem bark, leaves, and seeds demonstrated some remarkable effects against cancers. These compounds not only reduced tumors and cancers but were also effective against lymphocytic leukemia. An amazing reduction in tumor size was reported when Neem extracts were injected around the tumors.

Because of a lack of time and space it is not possible to write in detail of all the conditions that Neem has been clinically proven to resolve, however I will give a list of some of the remaining conditions.

- **Heart Disease:** Including high blood pressure, blood clots, cholesterol, and Arrhythmia/rapid heart beat.
- **Blood Disorders:** Including poor circulation, blood poisoning, and kidney problems.
- **Digestive Disorders:** Including heartburn/indigestion, peptic/duodenal ulcers, gastritis, and hemorrhoids.
- **Nervous Disorders:** Including anxiety, epilepsy, and hives.
- **Sexually Transmitted Diseases:** Including gonorrhea, syphilis, chlamydia, genital herpes, genital/vaginal warts, candidiasis, and urinary tract infections. As far as AIDS is concerned the immunomodulatory properties of Neem appear to enhance cell-mediated immune response in people who are HIV positive but who do not have full blown AIDS. However invitro tests at The National Institutes of Health which used Neem Leaf and Bark extracts to find a cure for AIDS were very encouraging.
- **Birth Control:** Works for Men & Women.

Tuberculosis, Bronchitis, Conjunctivitis, Allergies, Bad Breath, Hangover, Stress, Insomnia, Smoking, and on and on.

Furthermore the general population in India has used Neem for thousands of years as a bug repellant and insecticide. Today researchers have proven that Neem is despised by over 200 species of insects and is a safe and effective insecticide and bug repellent that is harmless to humans.

I think you will agree with me that there is considerable clinical evidence confirming the multiple uses of Neem in the ancient Ayurvedic texts and then some. Neem has a history of continuous, safe and effective use among the general population of India for over 5000 years. This also has been validated in numerous clinical studies. Acharan Narula a research Professor in the department of biology in at The University of North Carolina has done extensive research on Neem. He feels that Neem stands true to its Sanskrit name *Arishta* which means "reliever of sickness".

For a complete listing of all the clinical studies, explaining all the conditions Neem has been proven effective on, please access the following page:

<http://www.neemaura.com/science.htm>

Joseph M. Selvester
Ayurvedic Practitioner & Master Herbalist
1-877-754-9460 (Toll Free)

1-352-375-2503

jms@neemaura.com

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