

Aloe Vera: History, Science, and Medicinal Uses



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Many people are looking to nature for answers to their present health challenges. Aloe has never been more popular as a natural and holistic approach to many of today's modern diseases. People across the world with Diabetes, Arthritis, Gout, Psoriasis, Irritable Bowel Syndrome (IBS), Ulcers, Inflammation, and other conditions are looking to Liquid Aloe Vera for help. Even more people believe "an ounce of prevention is worth a pound of cure", and numerous scientific studies on Aloe Vera are demonstrating its analgesic, anti-inflammatory, wound healing, immune modulating and anti-tumor activities as well as antiviral, anti-bacterial, and antifungal properties. Aloe's medicinal properties can be attributed to the synergistic effect of the combined nutritional elements producing a more powerful effect than the individual components.

This book will serve to educate and inform you as you decide to make Aloe part of your daily health program.

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1. Historical Information



Aloe Vera (*Aloe barbadensis Miller*) is a specific species of Aloe. There are over 400 species of Aloe Vera plants in the Lily Family. Aloe plants tend to grow 80-100 cm tall. New plants mature in 4-6 years and can survive for nearly 50 years in favorable conditions. They have thick, green leaf-like structures that grow from a central point. Aloe does not have a typical stem like other plants do, it is a stemless plant. These leaf-like structures have spiky edges that protect the plant from being consumed easily. Aloe Vera is classified as a succulent plant. Typically succulent plants grow in areas of the tropics or subtropics. But some plants, like Aloe Vera, can survive quite well in arid areas. Succulent plants are water retaining plants. They store water in their leaves, stems, and roots to prepare for times of little or no rain. The plant can survive in hot temperatures ranging all the way to 104 degrees Fahrenheit all the way down to below freezing temperatures as long as the root of the plant is not damaged. Aloe Vera is native to North Africa and the Caribbean. The finest Aloe grown today is grown in the Southern California desert region. Aloe use has been documented for thousands of years.

There has been partial historic documentation on the evolution of Aloe Vera and its use in past times. It has been rumored that Egyptian queens, such as Cleopatra and Nefertiti used Aloe Vera in their routine beauty regiments. It was also mentioned in the bible that Jesus has his hands wrapped with Aloe after being hung from the cross to soothe the pain and help heal his wounds.

2. Early Medicinal Uses



The earliest known documentation of Aloe Vera, in reference to medical use, was in 1500 B.C. Many nations, such as Greece, China, Mexico, and the United States have historical documentation of Aloe Vera being used as a

treatment for different ailments. Aloe processing makes up a large part of the medicinal plant industry. Interestingly enough, mass production of Aloe Vera did not begin until the late 1600's. Throughout much of the 18th and 19th centuries, Aloe Vera was actually the most frequently prescribed treatment for certain ailments and illnesses.

There are two parts of Aloe Vera that are commonly used. The bitter exudate is used as a natural drug for its cathartic effect and is widely employed as a bittering agent in alcoholic beverages and as a laxative. The inner gel, or "pure gel", is the more readily known part of the Aloe Vera plant. This is the section of the plant that is most commonly known to be used for treatments of sun burns. But if prepared properly, the inner gel can be consumed to help treat certain internal ailments. The inner gel is obtained by cutting away the outer covering, or "rind", of the leaf. The inner gel is clear, thick, and has a slimy consistency. There are two different methods in preparing the inner gel of Aloe Vera that are then used in medicinal products or cosmetics.



3. Preparation for Use



The preparation of the Aloe Vera plays a huge role in the effectiveness and use of the plant. Let's explore the two methods of preparing the Aloe Vera. The two different methods are to fillet the leaf or process it as a "whole leaf" product. The two methods produce different strengths of Aloe. The process called "whole leaf" is typically taking the entire Aloe leaf and chopping it into many tiny pieces. These pieces are then turned into pulp and then filtered through different sized filters to extract the Aloe Vera gel. By using a filtering

process, there is a more likely chance that bits of the rind as well as other items come through the filter and dispersed into the final product producing a “not so pure” pure Aloe Vera Gel substance. Additional processes for the “whole leaf” method includes filtering with charcoal as well as using heat and cold processing to remove any impurities left behind by chopping the entire leaf up and making into pulp. During these processes, the loss of nutrients occurs, leaving a product that is incomparable to the second method of Aloe Vera preparation.

The second method, and most favored by the Aloe industry of preparing Aloe Vera, is called “filleting”. Filleting is defined as cutting the most valuable piece (of meat) out to be consumed. The same definition applies to an Aloe leaf. By filleting the leaf, the most valuable piece “of meat” is being cut out. There are two ways of filleting an Aloe leaf. One is by hand filleting the leaf, while the other is by machine. Typically, the method of using a machine will produce more volume but the quality if not as high as hand filleting. The machine can only be programmed to cut on an average and this usually means that some of the mucilage, and in some cases the inner gel, is wasted by being removed. The best way to get the most out of the Aloe leaf is to hand fillet. This means that an actual human being cuts away the rind, by hand, with a knife. This method may not produce as much volume in pounds per day, but the quality, by far, surpasses any machine. By hand filleting the leaf, the leaf is used to its maximum capacity and ensures the final product contains all the nutrients that the Aloe leaf has to offer.



4. Nutritional Overview of Aloe



The variety of nutrients in the Aloe leaf is what gives it the potential to be used in many ways. Aloe Vera is considered an adaptogen. An adaptogen is a substance that invigorates or strengthens the system. Specifically, the terms apply to herbs that maintain health by increasing the body's ability to adapt to environmental and internal stressors. This can range from smog in the air, food that you eat, or simply even a bad day at work. Aloe Vera is known to have 75 "known" nutrients that are documented: 20 minerals, 20 amino acids, 12 vitamins and water. It is rumored though that Aloe Vera easily contains more than 100 different nutrients.

Vitamins are defined as a group of organic micro nutrients present in minute quantities in natural food stuffs that are essential to normal metabolism. Vitamins present in Aloe Vera are Vitamin A (otherwise known as Beta Carotene), Vitamin B (known as Thiamine), B2 (Riboflavin), B3 (Niacin), B5, B6 (Pyridoxine), B12, Vitamin C, Vitamin E, and Folic Acid. Vitamin B complex and C are considered to play an important role in reducing stress and inflammation.

Minerals are defined as natural components formed through geological processes needed in small amounts to help regulate body functions. Minerals found in Aloe Vera are calcium, sodium, zinc, chromium, potassium, magnesium, copper, manganese, and selenium. For example, a deficiency in calcium alone can affect bone and tooth formation, while over retention can cause kidney stones. Another example is the need for sodium; sodium is an essential mineral or micronutrient which along with potassium helps to regulate the body's fluid balance. Just as an example, both of these necessary minerals are naturally found in Aloe Vera.

Amino Acids are the building blocks of proteins. Proteins not only catalyze all of the reactions in living cells, they control virtually all cellular processes. There are 7, of the 8, non-essential amino acids present in Aloe Vera. Non-essential amino acids are the proteins that can be synthesized by the human body. This means that the human body can take elements and combine them to create non-essential amino acids. The 7 non-essential amino acids are Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Theronine, and Valine.



Essential Amino Acids are amino acids that have to be physically ingested by the human body to be present; therefore these amino acids need to be present in the foods we eat. A few examples of these amino acid protein sources include eggs, chicken, beef, milk, and wheat. Unfortunately, in today's society many people have food allergies or personal preferences that would prevent them from ingesting these items. Therefore, Aloe Vera is a great dietary source to meet those amino acids needs. There are 12 essential amino acids present in Aloe Vera.

The 12 essential amino acids are Alanine, Arginine, Asparagine, Cystenine, Glutamic Acid, Glycine, Histidine, Proline, Serine, Tyrosine, Glutamine, and Aspartic Acid.

Trace Elements are elements essential for growth, but needed only in small amounts. Enzymes are defined as proteins that trigger activity in the cells of the body. Almost all processes that occur in a cell need enzymes in order to proceed at a significant rate. Enzymes present in Aloe Vera are Aliiase, Amylase, Certalase, Bradykinase, Lipases, and Proteases. These are the main nutrients in Aloe Vera but there are other nutrients present that aid in the overall positive effect that Aloe has on the body.

Anthraquinones are antimicrobial agents that include Barbaloin-10, Isobarbaloin, and Anthrone C (glycosides and chromones). An antimicrobial is a substance that kills or inhibits the growth of microbes such as bacteria (antibacterial activity), fungi (antifungal activity), viruses (antiviral activity), or parasites (anti-parasitic activity). Aloe Vera also has plant sterols such as Campesterol, β -Sitosterol, Lupeol, and Cholesterol. These are considered all anti-inflammatory agents. An Anti-inflammatory is a substance or treatment that reduces inflammation. By reducing the pain of inflammation, it acts as a natural analgesic.

Sallyic Acid, an aspirin-like compound, found in Aloe Vera, has anti-inflammatory and antimicrobial properties. Finally, Saponins are detergent-like,

soapy glycosides that work as a cleansing agent in the circulatory system. Scientists have also identified saponins as an anticarcinogen (a substance or agent that counteracts the effect of a carcinogen or a cancer-producing substance). Aloe Vera has Ligin present in it as well. Ligin aids damaged skin in healing by stripping the skin of toxic materials, increases blood flow, and flushes away dead skins cells. All these nutrients are found simultaneously in the inner gel of the Aloe leaf. Because of the range of vitamins in the plant, it has developed a reputation as a medicinal plant.

5. Medicinal Benefits



Medicinal properties range from external burn treatments to helping relieve constipation by consumption. The following paragraphs will discuss how Aloe Vera speeds healing and some of the common medicinal uses it is known for. Aloe Vera has been proven to speed the healing of burns and other wounds. The most commonly reported use of Aloe Vera gel is to speed the healing of burns, abrasions and other skin injuries. In one study with 27 people that had first degree burns, those who were treated with Aloe Vera gel healed in an average of 12 days. Those treated with a placebo took an average of 18 days to heal. Statistically that means the people that used Aloe Vera healed 33% faster than normal bodily function. How does it work then?



6. External Healing



If we examine the leaf and its natural biological defense mechanism when the actual plant gets hurt, then the answer to how it helps heal abrasions faster makes perfect sense. When the Aloe leaf is punctured and/or the leaf is torn, the Aloe leaf seals off the “open wound” by letting the mucilage leak into the opening and form into a glue-like substance. The mucilage is usually liquid in nature. This substance stays pliable but prevents the inner gel from leaking out.

When a wound or abrasion is sustained in the human body, our bodies begin to go through the cellular process of healing. The body begins to repair and replace the epidermis (or outer layer of skin) and dermis (lower layer of tissue) the body loses. Collagen plays a major role in the healing process and is one of the main components of skin. Collagen is a protein chemical substance that is the main support of skin, tendons, bones, cartilage and connective tissues. As we age, the level of collagen in our bodies naturally decreases, which is one reason why it is difficult for older people to heal and it seems like children heal overnight. Aloe Vera contains a majority of the necessary amino acids and vitamins that our skin needs to heal. The Aloe Vera gel itself forms the same glue-like substance on your skin which acts as a natural “band aide”, sealing in the nutrients and allowing them to begin working immediately and keeping out any bacteria or agents that could cause healing to slow or cease completely. The Aloe Vera gel is also high in water content which is essential for the body to heal.



Aloe Vera contains Glycine, Proline, and Lysine which are the amino acids that actually make up collagen. So, instead of the body having to ingest Glycine and Proline (which are essential amino acids) and create Lysine (which is a non-essential amino acid) to provide the wound with collagen; applying Aloe Vera externally supplies the body with those Amino Acids. This allows the body to focus on cellular reproduction and therefore accelerates the healing time. This is

only one example of how Aloe Vera aids in the healing of an external wound. Aloe Vera also has many nutrients that act as anti-inflammatory agents. The sterols in Aloe Vera, Campesterol, β Sitosterol, and Lupeol, are the main factors that contribute to the anti-inflammatory action of Aloe Vera.

For example, it has been found that topical application of Aloe Vera gel seems to ease the pain and inflammation caused by a shingles outbreak. Shingles is *varicella-zoster* virus, or a strain of the herpes simplex virus (Type I). This is the same strain that causes chickenpox. There's also evidence to suggest that it prevents infection of the blisters. Because it has an anti-viral like effect, it could also be proposed and assumed that if taken regularly, it could help manage outbreaks of dormant viruses harbored within the body like the herpes simplex virus (Type I). Aloe Vera seems to also reduce the symptoms of psoriasis as well. Aloe Vera gel has been shown to relieve the symptoms of psoriasis in several different studies. In one group, 83% of those whose psoriasis was treated with Aloe Vera gel three times a day showed significant improvement. Less than 6% of those treated with a placebo showed improvement of their condition. Psoriasis is an immune-mediated, genetic disease manifesting in the skin and/or the joints, as defined by the National Psoriasis Foundation. According to the Psoriasis Foundation "a normal skin cell matures and falls off the body's surface in 28 to 30 days. But a psoriatic skin cell takes only three to four days to mature and move to the surface. Instead of falling off (shedding), the cells pile up and form the lesions." Aloe Vera was the number one herbal remedy with the highest result of success. Salicylic Acid is one of the main natural nutrients in Aloe Vera which happens to be one of the advised topical treatments for Psoriasis. Psoriasis is one of the many problems that can be treated by applying Aloe Vera topically or ingesting it.

7. Internal Healing



For many years, Aloe Vera has been used to relieve the pain and symptoms of digestive inflammatory diseases or more commonly known as IBS, Irritable Bowel Syndrome. While the use of Aloe Vera gel taken internally for the relief of heartburn, ulcers, and Irritable Bowel Syndrome goes back as far as the 6th century B.C., only recently has traditional medicine caught up. The results of

preliminary studies are promising and support the traditional uses of Aloe Vera. In one Japanese study, for instance, 17 of the 18 patients who were given an Aloe Vera supplement showed some improvement in the symptoms associated with their peptic ulcer. Numerous scientific studies on Aloe Vera are demonstrating its analgesic, anti-inflammatory, wound healing, immune modulating and anti-tumor activities as well as antiviral, anti-bacterial, and antifungal properties. Aloe's medicinal properties can be attributed to the synergistic effect of the combined nutritional elements producing a more powerful effect than the individual components.

As discussed above, Aloe Vera is not just made of one component. The Aloe Vera plant is a complex, extremely adaptable living organism. So, it is unfair to assume that one nutrient supplied by the plant is much more effective or useful than another. The nutrients together make a powerful combination that can be used in many different therapies to aid in the treatment of different ailments. Many people have different theories and studies that prove for and against the positive effects of Aloe Vera. But a single conclusion cannot be formed simply by researching and reading information 'tested on certain groups of people with specific ailments for specific times'. Each person has a different genetic make-up, and from this it is logical to assume that each person has different needs. Each individual requires different amounts of nutrients depending on their particular situation. But what many people forget is we all need the same type of nutrients to survive. For example, everyone needs protein, water, air, vitamins and minerals to name just a few. How does this refer to the Aloe Vera plant? One person may apply Aloe Vera on a burn and heal in four days, while the next person may apply Aloe Vera on the same type of burn and heal in seven days. It all depends on your specific needs. One person may drink Aloe Vera for stomach problems and experience results in two days, while the next person may drink Aloe Vera and experience results in five days. No matter if you apply it topically or ingest it, Aloe Vera is an excellent source of nutrients that can help your body in a multitude of ways.



8. Maximize your benefits



It is understood the nutritional plethora that Aloe Vera can provide to us if used and prepared properly. But as with any “medication”, herbal or otherwise, one must use it on a consistent basis, especially Aloe Vera, to get the maximum benefit that it can provide. The same concept applies to any type of holistic medicinal treatment as well. If the people in the above medical studies for Aloe Vera had just randomly taken the Aloe for Psoriasis or IBS then you can assume the results would not have been the same.

In conclusion, Aloe Vera has been used over thousands of years in many different countries as a treatment for different problems. The nutrient make up of Aloe Vera is one of a kind and has amazing natural healing properties. Aloe Vera is known to have 75 nutrients, if not more that have yet to be “scientifically” documented, that are proven to have certain benefits. And finally, we have looked at some modern day examples of how Aloe Vera is used to aid in the relief of symptoms, treatment, and in some cases healing of chronic illnesses like Psoriasis and Irritable Bowel Syndrome. Aloe Vera is a very versatile plant that has many different uses. It is then easy to assume that we have just scratched surface of Aloe Vera and understand the intricacy that makes Aloe Vera as valuable as it is.

9. What's Next?



Look for liquid Aloe, alone or combined with other beneficial factors, in an easy to consume form. Make sure only the inner gel is used, and for best results it must be cold-processed, hand filleted, hand harvested, and preferably grown in Southern California. Capsules or powders are far less beneficial than the liquid form, because the extra steps to first dehydrate and then reconstitute the plant can only reduce the effectiveness. Insist on only the inner gel, not whole-leaf Aloe.

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