

Negative ions are Positive.

Our modern homes and offices seal out negative ions forcing us to live in unhealthy environments. Computer terminals, fluorescent lighting, forced air ventilation systems, and modern building materials generate an over abundance of positive ions. Positive ions make us feel tired, depressed and irritable.

Balancing the ionization in your home and workplace may help you live a healthier life. The worlds most tranquil and refreshing regions are loaded with billions of negative ions. Air near waterfalls, mountains, beaches and forests are among those places where ionization levels are the highest and in complete and natural balance.

What are negative ions?

Ions are molecules that have gained or lost an electrical charge. Negative ions are created in nature as air molecules break apart due to sunlight, radiation, and moving air and water. They are odorless, tasteless, and invisible and we inhale them in abundance in certain environments. For example you may have experienced the power of negative ions when you last set foot on the beach or walked beneath a waterfall or immediately after spring thunderstorms. The Niagara Falls are said to be the healthiest place on earth!

How does negative ions interact with the body?

The human body is surrounded by ions, both positive and negative; therefore, the function of electrons inside and outside the cells has significant influence on the human body. We take in negative ions through our skin and lungs transporting it to the entire body through the blood.

Negative ions prevent acidification of the blood, which is caused by the loss of electrons. Being in an environment rich of negative ions therefore improves the body's immunity and resistance to illness.

Metabolism is the process of acquiring nutrients from the blood and excreting waste out of the body, which is extremely important to the human cells. The more negative ions there are in the blood, the more efficient the cell's metabolism process. On the contrary, the more positive ions there are in the blood, the slower and less efficient the cell's metabolism. This causes the body's cells to become weak and the body will tend to get sick more easily and aged faster.

Generally speaking, negative ions increase the flow of oxygen to the brain; resulting in higher alertness, decreased drowsiness, and more mental energy.

Negative ions are beneficial to human body in four major ways:

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- Strengthen the functions of autonomic nerves
- Reinforces collagen (tissues that are resilient and tension-related)
- Improves the permeability of the cell's prototype plasma membranes (improves metabolism)
- Strengthens the body's immune system

Negative ion regeneration for youthfulness and longevity:

(by John Heinerman, Ph.D)

- Negative ions neutralize pollutants and provide positive effects on health to stimulate the reticulo-endothelial system, a group of defense cells in our bodies that marshal our resistance to disease.
- Act on our capacity to absorb and utilize oxygen. Negative ions in the bloodstream accelerate the delivery of oxygen to our cells and tissues and speed up oxidation of serotonin in the blood. This is well known to have far reaching effects on mood, pain relief and sexual drive.

What are the proven health effects of negative ions?

Scientific studies have shown that atmospheres charged with negative ions relieve hay fever and asthma symptoms, seasonal depression, fatigue and headaches. It's also been shown that negatively ionized atmospheres improve performance of voluntary movement, increase work capacity, sharpen mental functioning, and reduce error rates.

Studies at Columbia University and the New York State Psychiatric Institute have demonstrated that High Density Negative Ionizers appear to act as a specific antidepressant for patients with seasonal affective disorder (SAD), but without the side effects of antidepressants such as Prozac.

Remarkable as it may seem, a room charged with negative ions was shown to stem bacteria growth and precipitate many airborne contaminants including pollen, dust and dust mites, viruses, second-hand cigarette smoke, animal dander, odors and toxic chemical fumes.

Other benefits in short.

Asthma, allergies, and other respiratory problems: Many scientific studies have been conducted over the years (mostly in Europe and Russia) showing how exposure to high levels of negative ions drastically or significantly reduce asthma and allergy symptoms, as well as respiratory-related illness.

Migraine Headaches: Inhaling negative ions regulate the production of serotonin inside the brain. The overproduction of serotonin inside the brain is the cause of migraine headaches.

Depression: A study at Columbia University suggested that negative ion treatment is more effective than anti-depressant drugs such as Prozac and Zolof, and there are no side effects with negative ions.

Fatigue: The overproduction of serotonin (chemical produced inside the brain) also causes fatigue, and negative ions regulate the production of serotonin inside the brain.

Sleep: A study in France found that negative ionizers helped people to sleep better, by regulating the production of the chemical serotonin in the brain.

Mental Performance and Concentration: Several tests have shown people exposed to negative ion treatment perform much better in mentally-oriented activities than those who are not.

Physical Performance: Due to test results performed by Russian scientists, negative ionizers were always installed in the locker rooms and resting places for the Russian athletes.

Burns: Studies performed in one hospital found that burn patients were far more likely to recover more quickly and thoroughly

Negative ions and beauty.

According to a study conducted by Dr. Arudoman of Germany negative ions helps to reinforce collagen. Collagen is tissue that is resilient and tension related. In his study he noticed that the pores and the sweat glands of the skin expanded, which demonstrate good metabolism of the cell membranes. This phenomenon is called Prototype plasma membranes of dermal reflectivity.

More and more health and beauty related products include negative ions in their treatment. Today you will find facial massagers, facial and hair moisturizers, blow dryers, etc all equipped with negative ions. It is foremost the increased blood circulation and the above explained reinforcement of collagen that are said to diminish wrinkles and make skin supple that makes these products popular.

Negative ions and Lightair IonFlow 50 air purifier.

Lightair IonFlow 50 air purifier differentiate itself from other ionizers on the market by being able to generate an extremely high amount of negative ions without producing ozone as a bi-product. Ozone has always been a side effect of ionization meaning the higher ion generation the higher the ozone level. This has resulted in inefficient ionizers in order to respect the threshold value of ozone.

Another vital difference is that the IonFlow 50 uses a positively charged collector that efficiently collects the negatively charged particles in the air, essentially acting as a large magnet for particles. Most other ionizers let the particles drop to the floor.

The amazing thing with the IonFlow 50 is that thanks to its capability to generate an high amount of negative ions it attain the same efficiency as the best HEPA filter based air purifier, but without the noise, high energy consumption and expensive filter change. Add all the amazing benefits of negative ions and you have the ultimate health product! Lightair IonFlow 50 offers an unbeatable combination of efficient, silent, filter-free, ozone free, energy saving and easy to use, economical operation that is at home in any environment.

Studies Proving the Effectiveness of Negative Ions

Negative ions help prevent respiratory-related illnesses.

In a study conducted in a Swiss textile mill, negative ionizers were placed in two, 60' by 60' rooms, each containing 22 employees. In one room, the *negative ion electronic air cleaner* was turned on during the course of the study. In the other room, the *negative ion air purifier* was permanently turned off, although the employees in this room were led to believe they were working in a room enriched by negative ions. During this six-month study, a total of 22 *sick days* were lost by employees working in the room in which the negative ionizer was operating. In the room where the machine was not operating, a total of 64 *days* were lost to sickness. During a month-long flu epidemic, the first group lost a total of 3 *days* to sickness, while the second group lost a total of 40 *days* to sickness (*Stark, 1971*).

In a test involving a Swiss bank office, one group of 309 worked in a *negative ion-treated environment*. A second group of 362 worked in an untreated environment. Over the next several months, *for every day lost* to respiratory illness (cold, flu, laryngitis, etc.) in group one, 16 *days* were lost to respiratory illness in group two (*Soyka, 1991*).

In a Surrey University study at the Norwich Union Insurance Group headquarters, eight negative ion generators were placed in the computer and data preparation section. Before the test, the research team spent a month compiling incident rates for complaints of sickness and headaches. During the test in which the *negative ion air purification systems* were in operation, incidents of sickness and headaches were reduced by 78%. After testing was completed, the Norwich Union opted to keep the *negative ion electronic air cleaners* (*Soyka, 1991*).

Negative ions counteract the effects of smoking.

High levels of negative ions neutralize the effect that tobacco smoke has on the cilia. Cilia are the microscopic hairs located in the trachea that move rapidly back and forth to prevent pollutants and toxins from traveling into the vulnerable areas of the respiratory tract. The faster the cilia move, the more effective they are. However, tobacco smoke slows down the ciliary beat, diminishing the body's ability to keep

cancer-causing pollutants from entering the depths of the respiratory tract. Tests have shown though, that adding high levels of negative ions to the air accelerates the ciliary beat to normal levels (*Soyka, 1991*).

Negative ions are a natural anti-depressant without the side effects!

In a study conducted by Columbia University, 25 people with SAD (Seasonal Affective Depression) sat in front of a negative *ion air purifier* for a half hour every morning for a month. Half the subjects were given a low level of negative ions, and the other half a high level. The higher level of negative ion treatment proved to be as effective against SAD as antidepressants, such as Prozac and Zolof, and without the side effects of these drugs (*Finley, 1996*).

Negative ions for a positive attitude

Positive ions, which are found in abundance in most indoor environments, cause an overproduction of serotonin. Serotonin is a neurotransmitter that helps the body deal with mental, emotional, and physiological stress. An overproduction initially causes hyperactivity, which rapidly leads to anxiety, and in some cases depression. Negative ion treatment has proven to be successful in reducing the overproduction of serotonin, and therefore successful in alleviating depression in some cases (*Kreuger, 1957*).

Negative ions help us to sleep better.

In 1969, French researcher found that the overproduction of the neurohormone serotonin caused sleeplessness and nightmares. In using a *negative ion electronic air cleaner* to treat a group of people experiencing sleeping problems as a result of serotonin overproduction, he found that most of them were able to sleep better (*Soyka, 1991*).

U.S. Dept. of Agriculture

A recent study by the U.S. Dept. of Agriculture found that ionizing a room led to 52% less dust in the air, and 95% less bacteria in the air (since many of the pollutants found in the air reside on floating dust particles).

The U.S.D.A. also performed another study to test the effectiveness of negative ionization at removing airborne Salmonella Enteritidis. The negative ions drastically reduced the airborne salmonella particles, prompting the following statement from the USDA: *"These results indicate that negative air ionization can have a significant impact on the airborne microbial load in a poultry house and at least a portion of this effect is through direct killing of the organisms."*

Good Housekeeping Magazine

In March of 1999, Good Housekeeping Magazine had its engineers test an ionizer by using a smoke test, and found that it cleared out the smoke in a tank.

Agriculture Research Service (of USDA)

The Agriculture Research Service of the U.S. Dept. of Agriculture tested the effectiveness of ionizers for removing dust in a poultry hatchery. The dust level is very high in such an environment. In this study, the use of an ionizer resulted in dust removal efficiencies that averaged between 81.1 and 92.2%. The airborne transmission of salmonella (to the eggs) was also significantly reduced as a result.

Journal of Hygiene

Scientists showed that ionization reduced bacterial levels in burns and plastic surgery units by over 96% after a two week period, which results in much better and more rapid healing of patients.

Journal of Applied Microbiology

The use of negative ions was even found by scientists to reduce the presence of airborne viruses by about 40%. A study featured in the 1987 issue also showed the negative ions are free from any adverse side effects.

Science

A 1976 study featured in this publication provided evidence that negative ions can have a biologically lethal effect on airborne microorganisms.

Journal of Hygiene

A 1979 study found that using negative ionization in the air protected chickens from airborne infection of the deadly Newcastle Disease Virus.

Journal of Food Protection

A 2001 study found that airborne negative ionization was highly effective at destroying airborne and surface salmonella.

University of Medicine and Pharmacy (Romania)

A test on male rats showed that just moderate levels of negative ions increased the resistance of the rats, reducing or eliminating the effect of some chemicals.

Effect of Negative Ions on Drivers

A study by Toyota Central R & D Labs, Inc. found that negative ions can improve fatigue and cognition of drivers.

Negative Charged Ions are Effective in Treating Cancer

(Cited from High-Voltage Treatment published by Youth Publishing) In 1950, Dr. Haskell applied Negatively Charged Ions to patients of Hypertension. Amazingly, Negative Ions were proven to have a positive effect in lowering one's blood pressure, while no beneficial effects were observed with Positive Ions. Negative Ions are also effective against influenza, asthma and especially bronchial disease. Another study done by the University of Frankfurt involved a "Cancer Team" in order to further study the physical effects of Negative Ions to cancer cells. Different types of cancer cells were transfused into the bodies of mice. In order to have a base of comparison, one group of mice were put into a negative ion environment each day while the other group remained untouched. As a result, the mice in the negative ion environment lived, on average, for 59 days, while the mice that were untreated lived no longer than 34 days. The mice from the experimental team lived 25 days longer; some even lived as long as 80 days! The experiment's result confirm the effectiveness of Negative Ions in treating cancer.

"Negative Air Ions Stimulate Mitochondria" Institute of Theoretical and Experimental Biophysics, Russian Academy of Sciences, Pushchino, Moscow Region, Russia.

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