



Negative Ions Sports Watch

Health benefits of Negative Ions

The astounding degree to which negative ions can contribute to good health is becoming increasingly apparent, as extensive research on the subject suggests.

Negative ions are in the air that we breathe as well as in our bodies. They neutralize free radicals, revitalize cell metabolism and enhance immune function. In addition, they purify the blood and balance the autonomic nervous system, promoting deep sleep and healthy digestion. Negative ions also protect the body and mind from the harmful effects of environmental stressors such as Electromagnetic fields. See below for more on the amazing effects of negative ions.

In order to ensure our health and well being, it is crucial that we surround ourselves with a sufficient amount of negative ions. In addition to using Air Sports Watch products, which produces negative ions and elevates their levels in our bodies, eating clean, healthy, alkaline-producing foods can also increase our negative ion levels.

What are Ions?

Ancient peoples recognized that the air is “electric,” so to speak, but it is thought that the formal study of ions did not begin until fairly recently. In 1899, two German scientists, Elster and Geitel, discovered that there are particles in the atmosphere that carry electricity. These particles were later named “air ions” by the British scientist Faraday. The word “ion” was taken from the Greek language, in which it means to “go” or “wander about.”

Ions are invisible particles, either molecules or atoms, which bear an electric charge. Atoms, for instance, consist of an atomic nucleus that contains neutral neutrons and positively charged protons, as well as orbiting electrons that are negatively charged. When an atom is in a neutral condition, the number of protons (+) and electrons (-) is equal. When the number of protons and electrons is not the same, the particle becomes an ion that is either positively or negatively charged. Generally speaking, positive ions are harmful to the human body, while negative ions are beneficial.

Technical Information

- Health grade silicon infused with Tourmaline and Germanium
- Ultra lightweight at only 10 grams
- Ergonomic design, radiator grooves for flexibility and breathability
- Water proof to 30 meters
- Emits negative ions (anions) at over 1900ions per cc
- Emits far infrared at over 90% efficiency
- 2008 Good Design Award
- Sizes: xxSmall (14cm), xSmall (15cm), Small (16cm), Medium (17cm), Large (18cm), xLarge (19cm)
- A range of multiple fashionable colors to choose from

Positive Ion:

An atom (or molecule) that has lost one or more electrons due to a high-energy impact. Natural forces that generate positive ions include the decay of radioactive minerals, radon gas, forest fires, lightning and ultraviolet rays.

Negative Ion:

An atom (or molecule) that has gained one or more extra negatively charged electrons. Negative ions are naturally generated by evaporating water.

The Ratio of Negative to Positive Ions is Crucial to Health

The ratio of negative to positive ions is crucial, because negative ions are able to neutralize the harmful effects of positive ions. At the beginning of the 20th century, the ratio in the atmosphere was 1.2 negative ions for every positive ion. However, in recent years, the ratio has reversed and now there are 1.2 positive ions for every negative ion. This is due to environmental hazards such as air and water pollution, electromagnetic fields, and other factors.

Positive and negative ions also exist in our bodies, and the ratio of ions in the air we breathe influences the ratio in our bodies. Ions enter the body through the lungs (inhalation) as well as through the skin - especially through meridian (acupressure) points, which have weak electronic resistance. Then they travel through the blood and lymphatic systems to cells throughout the body. Using Air Sports Watch products increase the number of negative ions absorbed through the skin.

Negative and Positive Ion Levels Measured in Various Locations

	Negative Ions	Positive Ions
Offices	70	1,400
Industrial Areas	50	300
Shopping Arcades	220	280
Residential Areas	200	180
Forests	2,500	800
Hot Spring	2,500	820
Near Waterfall	5000	300

These measurements were taken in Japan

In some offices with computer stations, no negative ions were detected at all! Inside typical Tokyo residences, positive ions were found to be 500 times more numerous than negative ions. These findings may be due to inadequate ventilation both in office buildings and energy - efficient houses, as well as from the use of electronic devices that generate electromagnetic fields and from building materials that emit formaldehyde and other toxic fumes. On the other hand, high negative ion levels, such as at waterfalls, hot springs and other highly moist areas, will neutralize positive ions, leading to very low positive ion levels.

In any case, these measurements suggest that it is difficult to maintain sufficient levels of negative ions in the present age.

How Positive and Negative Ions Affect Our Bodies

	Negative Ions	Positive Ions
Blood vessels	Dilate blood vessels	Constrict blood vessels
Blood Pressure	Stabilize BP	Increase BP
Blood	Increase blood alkalinity	Increase blood acidity
Bones	Strengthen bones	Weaken bones
Urinary tract	Promote urination; increase increase nitrogen in urine	Suppress urination; decrease nitrogen in urine
Respiratory	Stabilize respiration and make breathing easier	Accelerate respiration and make breathing more difficult
Pulse rate	Decrease pulse rate	Increase pulse rate
Heart	Enhance heart function	Impair heart function
Fatigue	Speed physical recovery	Prolong physical recovery
Autonomic Nervous System	Calm and relax nerves	Tense and strain the nervous system
Growth	Promote healthy growth	Suppress and delay growth

Harmful Effects of Positive Ions

Ions were first linked to human health by a Japanese medical study in 1910, which showed that patients with arthritis experienced greater pain when weather fluctuations elevated the percentage of positive ions in the atmosphere. As a result of this and other research, in Japan the close relationship between ions and health has long been widely recognized. Cold fronts and low-pressure systems increase the percentage of positive ions in the atmosphere, leading to a decrease in the number of negative ions in our bodies. Doctors in Japan report that under such conditions, the symptoms of their asthma and arthritis patients are aggravated, and the number of strokes increases.

In North America, the relationship between positive ions and asthma has also been studied. Positive ion winds (in which there are extremely high concentrations of positive ions) in Calgary, Alberta, southern California, and other places around the world have been found to coincide with increased incidence of asthma attacks (Guy Cramer, "Advanced Research on Atmospheric Ions and Respiratory Problems", Certified Medinex Website, Sept. 2, 1996, Moreover, in recent years a number of doctors in Japan report that high levels of positive ions in the immediate environment - due to electromagnetic fields generated from computers, cell phones and other electronic devices - can both impair brain function and suppress the immune system, leading to a host of ailments. Symptoms include headache, lack of energy, fatigue, anxiety, irritability, nausea, stomachache, breathing difficulty, vertigo (dizziness), poor concentration and mental performance, and sleep disturbance.

When blood or urine samples from individuals reporting such symptoms are analyzed, extremely high levels of the stress hormone serotonin are detected. This hormone is known to be potentially harmful to the body at high levels, and it is thought that positive ions may work to increase serum serotonin. (Negative ions, on the other hand, cause the body to convert excess serotonin into a harmless compound).

Positive ions turn into free radicals in the body, oxidizing cells throughout the entire system. They damage healthy cells and increase the acidity of the blood. When cells are oxidized, lactic acid levels rise drastically, resulting in a variety of maladies, including cancer. The balance of the endocrine, immune, and autonomic nervous systems is thrown off, and blood and lymph circulation declines. As a result, aging processes

accelerate, and premature aging occurs.

The following are human-made environmental factors that increase positive ion levels; each hazard is either new to the last century, or has magnified significantly during that time.

Human-Made Hazards that Increase Positive Ion Levels

Exhaust fumes - the major environmental cause
Factory smoke
River pollution and acidic rain
Dioxin produced from the burning of waste materials
Pesticides and food additives
Formaldehyde
Phosphorus compounds used in everyday products

Electromagnetic fields (EMFs) generated by X-rays, electric appliances, computers and other electronic devices, power lines, etc.
Negative Ions Neutralize Free Radicals.

It is said that 2% of the oxygen we breathe turns into free radicals in our bodies. When these free radicals combine with free radicals produced by other sources (such as heavy metals, chemicals, bacteria, viruses, and positive ions), they become even more harmful. Negative ions work to prevent oxidation by neutralizing the free radicals in our cells. As a result, cells are revitalized, and immunity and resistance are strengthened. Negative ions also work to balance the autonomic nervous system and improve gastrointestinal function. They can relax the mind and body, promote deep sleep, increase metabolism, stabilize appetite and blood pressure, enhance recovery from physical exhaustion, and help one feel refreshed and invigorated. Negative ions are essential to overall health. Below is a summary of the health benefits of negative ions.

Health benefits of negative ions

Recovery from physical exhaustion or fatigue	by increasing oxygen levels in the blood and facilitating more efficient oxygen utilization, negative ions help accelerate recovery from fatigue.
Stabilizing brain function	by promoting abundant oxygen levels in the blood, negative ions help normalize brain function, resulting in relaxation and calmness.
Blood purification	by increasing the levels of calcium and sodium in the blood stream, negative ions help restore a healthy (slightly alkaline) pH balance to the blood.
Increasing metabolism	by stimulating the exchange of electronic substances in cell walls, negative ions help increase metabolism.
Strengthening the immune system	high levels of negative ions promote production of globulin in the blood, resulting in stronger resistance to illness.
Balancing the autonomic nervous system	negative ions can calm and relax taut nerves by balancing the opposing sympathetic and parasympathetic branches of the autonomic nervous system.
Promoting better digestion	by counteracting over-arousal of the sympathetic nervous system, negative ions help ease tension in the stomach and intestines, promoting the production of digestive enzymes and enhancing digestion.
Cell rejuvenation	negative ions help revitalize cell metabolism, enhancing the vitality of muscle tissue and strengthening internal organs.
For overall health	negative ions can rejuvenate and revitalize all of the body's systems and cells, promoting a stronger overall constitution.

Researching the Effects of Negative Ions

Studies Conducted in Japan

Many doctors and researchers in Japan have been studying the effects of negative ions. According to them, an insufficient number of negative ions in our environment results in suppressed immune, nervous, and digestive function, eventually leading to a variety of illnesses. Some doctors in Japan even treat their patients using a medical device that produces natural (not artificially produced) negative ions, with successful results. Below are some of the research results on the effects of negative ions

In 1975, Nanzandoh Medical Clinic in Japan published some astonishing results from their research on negative ion therapy, finding it effective in the treatment of high blood pressure, rheumatoid arthritis, gout, tinnitus (ringing of the ears), as well as for various disorders of the nervous, respiratory, and digestive systems, thyroid gland, and skin. It was also found to speed recovery from illness and slow aging processes.

A clinic near Ueyamada Hot Spring in Shinshu, Japan, treated Alzheimer's patients with negative ion therapy, and more than half were cured of the disease, recovering on their own with no further treatment! Following this, a medical team at Shinshu University also found that negative ions work to heal damaged cells in mice.

Dr. Tomoh Tsubushi, a medical professor at Tokyo Metropolitan University and sports medicine specialist, has closely followed negative ion research. In 1997, he concluded from his own studies that when negative ion therapy was applied after exercise, it quickly normalized blood pressure, reduced serum serotonin levels, and accelerated recovery time from exhaustion. In 2000, his paper on the beneficial effects of negative ions on the human body was published in *Shuki no Kenkyu*, a Japanese scientific journal.

According to research conducted by Shiseido, the world renowned Japanese cosmetics company, inhaling air containing 3,200 positive ions per cubic centimeter for 20 minutes resulted in thirst, loss of voice, and nasal congestion due to elevated serum serotonin levels. In contrast, inhaling negative ions for 10 minutes stabilized brain waves, resulting in a sense of calmness. In the group that inhaled negative ions, hardly any serotonin was detected in blood or urine samples. (Negative ions cause the body to convert excess serotonin - the antagonist for most of the problems - into a harmless chemical compound).

Studies Conducted in the U.S. and Other Counties

The following is excerpted from an article by Guy Cramer, entitled "Advanced Research on Atmospheric Ions and Respiratory Problems" - (Certified Medinex Website, Sept. 2, 1996)

A doctor treating burn victims with negative ion generators found that those patients who also had respiratory problems - chronic bronchitis or asthma - all reported that negative ion therapy helped them breathe more easily. With these findings the doctor started research into the effects of ions on respiratory ills. This research was carried out at the Northeastern Hospital, at the University of Pennsylvania's Graduate Hospital, and the Frankford Hospital in Philadelphia. He found 63% of patients suffering from hay fever or bronchial asthma 'have experienced partial or total relief' because of negative ion therapy. One hospital doctor who worked on the project said later, 'They come in sneezing, eyes watering, nose itching, worn out from lack of sleep, so miserable they can hardly walk. Fifteen minutes in front of the negative ion machine and they feel so much better they don't even want to leave.'

The U.S. experimenters Windsor and Becket gave sixteen volunteers overdoses of positive ions for just 20 minutes at a time and all of them developed dry throats, husky voices, headaches, and itchy or obstructed noses. Five of the volunteers were tested for total breathing capacity, and it was found that a positive ion over-

dose reduced that capacity by 30 percent. Exposed to negative ions for ten minutes, the volunteers' maximum breathing capacity was unaffected. What is significant here is that negative ions did not affect the amount of air breathed, but positive ions made breathing more difficult.

In Britain, two Oxford University statisticians conducted a study among 100 victims of asthma, bronchitis, and hay fever chosen at random from a list of people who had purchased negative ion generators in the hope that it would help their problems. In the end their report was based on interviews with only 74 of the 100. They found that 18 of 24 asthmatics; 13 of 17 bronchitis sufferers; 11 of 12 hay fever victims; and 6 of 10 people afflicted with nasal catarrh reported that negative ion generators had noticeably improved their condition. A few claimed the generator had cured them.

Brazilian Hospitals have commonly used ionizing devices for the treatment of breathing problems, including allergies, following a test involving 36 children with asthmatic allergies. All of them had consistent and in some cases crippling problems before taking negative ion therapy; during the treatment only one of them suffered an allergy attack and afterward all were reportedly cured, at least to the point that they no longer suffered problems so long as they took part in occasional negative ion therapy sessions.

In 1966 at a hospital in Jerusalem, doctors performed a series of tests on 38 infants between two and twelve months old. All suffered to about the same degree from respiratory problems. They were divided into two groups of nineteen, one kept as a control group in a ward without any ion charge and the other where a negative ion generator was in use.

The researchers reported that negative ions without any other treatment - that is, no drugs - seemed to cure attacks of asthma and bronchitis more quickly than drugs, antibiotics included. They also observed that there were none of the 'adverse side effects' frequently found when treating such children with drugs. They concluded that the children treated with negative ions were less prone to 'rebound attacks' (relapses). As to objectivity, the scientific report said that the tests 'demonstrated that the atmospheric ions have an effect on infants, especially those suffering from asthmatic bronchitis.'

Less scientifically, they found that babies didn't cry as often and as loudly when they were breathing negative ions as they did in normal air. And there is nothing subjective about a bawling baby."

More on FIR

What exactly is infrared, or radiant heat?

No need to worry - it has nothing to do with either ultraviolet radiation (which gives you a sunburn and damages your skin) or atomic radiation (the kind from a nuclear bomb).

Radiant heat is simply a form of energy that heats objects directly through a process called convection, without having to heat the air in between. Radiant heat is also called infrared energy (IR). Our sun is the principal source of radiant energy that we enjoy daily (some more so than others).

Far-Infrared Rays (FIR) & Negative Ions

For over half a century, experts have studied the relationship between ions and health. And they have all agreed that in this day and age, our health is greatly influenced by the quantity and quality of ions, which saturate our environment. A.D. Moore (a professor at Michigan University), a world renowned authority in the ongoing study of ions, wrote that the control of ion quantity in the air can induce good effects on the human body, and that the intake of ion-saturated air can be helpful in curing patients. Thus, it has become common knowledge among scientists today that the ion (especially the anion) is an integral factor in health improvement and sustenance, and the best source for anions is FIR. Among the many ions that constantly float in the surrounding air, the very light negative ion is one of the most active. This activity of negative ions (bio-energy) is the core of better and more healthy living.

1. What Are Far-Infrared Rays?

Infrared radiation accounts for over half of the energy emitted by the sun. The remaining energy is emitted in the form of visible light.

Infrared radiation comprises wavelengths from 1 millimeter to the longest wavelength of visible light, from 5.6 microns to 14 microns wavelength. This range, also known as radiant heat; was discovered by the English astronomer Sir William Herschel in 1800. Herschel found, by putting a thermometer at various points in a prismatic spectrum, that ordinary light transmits some heat but that the effect is even more marked beyond the red end of the spectrum (Far-Infrared). Infrared radiation is readily absorbed by many kinds of matter and is thus effective in warming the substances on which it falls. Because it is more penetrating than visible light, such radiation lends itself to many kinds of practical application, one of which is drying.

2. Traits of Far-Infrared Rays

Far-infrared rays have three basic characteristics.

A. Radiation

Radiation refers to the aspect of FIR (or any wavelength of light in general) in which energy (heat energy in this case) is emitted in the form of particles and waves, transmitted, and absorbed by matter. This ability to exist as both particle and wave is called electromagnetism, manifested in FIR as well as all other spectra of light.

Other types of light, such as microwaves, travel as heat energy. However, in order for FIR to have a heating effect they must hit matter and reflect off its surface. This phenomenon is responsible for the cold temperatures at high altitudes. On mountain peaks, for example,

surface area decreases greatly, and there is less matter for infrared rays to reflect from, or for “resonant absorption”. Thus heat is not emitted.

B. Deep-Reaching Effects

Ordinary heat (or lack of heat) does not affect our internal bodily organs or functions because they lack the ability to deep-reach. Our average body temperature of 36.5 Celsius is not affected to any substantial extent by fluctuating environmental conditions. Even extreme conditions such as the -42 Celsius environment of Alaska or the 50 Celsius water of a hot tub do not cause our internal body temperature to approach either -42 Celsius or 50 Celsius. Unlike environmental temperature conditions, or even visible light rays or close-infrared rays, FIR rays have the ability to penetrate deeply (up to 1.5 inches) and permeate thoroughly into the hypodermic layer of a person’s skin. Thus, it is possible to revitalize human cells and tissue by warming the body from the inside. Again, this warming is made possible by the heat energy transfer of the far-infrared radiation (previously discussed).

C. Resonance & Absorption

An organic compound is any molecule whose backbone structure is made of carbon atoms, hence being also called a carbon compound. The compounds of carbon constitute the central chemicals of all living things on this planet. Carbon compounds include deoxyribonucleic acids (DNA’s). These giant molecules contain the genetic information for all living species. Carbon compounds make up the proteins of our hair and blood, muscle, and skin. Together with oxygen in the air we breathe, carbon compounds in our diets furnish the energy that sustains life.

Not only are we composed largely of organic compounds, we are derived from and nourished by them, we also live in the age of organic compounds. The clothing we wear, whether a natural substance such as wool or cotton or a synthetic such as nylon or polyester, is made up of carbon atoms. Many of the materials that go into houses that shelter us are organic. The gasoline that propels our automobiles, the rubber of their tires, and the plastic of their interiors are all organic. Most of the medicines that help us cure diseases and relieve suffering are organic. Organic pesticides help us eliminate many of the agents that spread diseases in both plants and animals.

Organic chemicals are also factors in some of our most serious problems. Many of the organic chemicals introduced into the environment have had consequences far beyond those originally intended. A number of insecticides, widely used for many years, have now been banned because they harm many species other than insects and they pose a danger to humans. Organic compounds called polychlorobiphenyla (PCB’s) are responsible for pollution of the Hudson River that may take years to reverse. Organic compounds used as propellants for aerosols have been banned because they threatened to destroy the ozone layer of the outer atmosphere, a layer that protects us from extremely harmful radiation.

Thus for good or bad, organic compounds are associated with nearly every aspect of our lives.

3. What Is The Human Body’s Chemistry

Chemical analysis of a living hair would indicate the presence of only several specific elements -- carbon, oxygen, hydrogen, potassium, calcium, nitrogen, and sodium -- along with some trace elements that are present in minute amounts.

Our body requires two essential ingredients for the synthesis of any carbon compound -- water and

carbon. And the important component of the synthesized carbon compound is protein. Thus the majority of our body consists of water and protein.

Plants are the only organisms that can synthesize proteins. True, humans and other animals contain lots of protein, but it is not synthesized by them but taken in from other sources. The only way we can obtain the necessary protein is through a diet of plants and animals, which eat the protein-manufacturing plants.

According to results from infrared spectroscopy organic compounds tend to absorb rays of wavelengths in the 6-12mm range, the same as the Far-Infrared Hair dryer. Thus it is logical to claim that our bodies have spent their lives absorbing mostly FIR of similar wavelengths.

Consequently, in the "FIR" (Far-Infrared) hair dryer's utilization of FIR, it is important to know the conditions needed and the mechanisms used to synthesize organic compounds through bonding reactions between water, carbon, and the other necessary elements. It is also important to know the optimum wavelengths which our body's organic compounds absorb, so that our bodies may synthesize the required organic materials for a healthier body and healthier hair.

Conclusion

"FIR", although we can not see them are not only beneficial, but are also necessary for all living things. America, Japan and some European countries realized this long ago. As a result, they are 20 years ahead in the use of far-infrared emitting products. We are just now starting to catch-up as more and more far-infrared products are being approved by FDA, UL, etc. Some examples are Far-Infrared Saunas, Far-Infrared Treatment Lamps, Far-Infrared wraps, Far-Infrared clothing, Far-Infrared ovens, and a variety of Far-Infrared Treatments are ongoing in clinical studies. There have been promising results in the treatment of arthritis, soft-tissue healing, cancer, and sterilization.

