



Dry Salt Therapy (Halotherapy) Reference & Resource Guide

DISCLAIMER: While there are many clinical and scientific studies conducted on dry salt therapy (halotherapy) throughout the world, the FDA has not evaluated the statements made throughout this document. Dry salt therapy is not intended to diagnose, treat, cure or prevent any disease.

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The Evolution of Halotherapy (Dry Salt Therapy)

Modern dry salt therapy (halotherapy) can date its origins to the salt mines in Europe and Russia, where it was called speleotherapy, a respiratory therapy which involves the breathing of salt-infused air in a micro-climate of a salt mine. It was first officially recognized as a therapy in 1843 by Polish physician Dr. Feliks Boczkowski, who noticed that the salt mine workers rarely suffered from respiratory issues.

Miners, who chiseled, ground, and hammered the salt, produced micro-sized particles that were dispersed into the air and inhaled. Additionally, there were ideal conditions below the Earth's surface where air pressure and circulation, and humidity and temperature affected the quality of the environment. The air lacks airborne pollutants such as pollen and radon. In this environment, miners were receiving many natural health benefits by breathing in the salt particles.

Impressed with the positive health benefits he witnessed in the salt mines, Dr. Boczkowski founded and opened the first health resort facility at the Wieliczka Salt Mine in Poland.

Throughout Eastern Europe, others started using hollowed-out areas of salt mines, which were referred to as "caves", as underground health resorts and sanatoriums.

People would often spend days in the salt mines since speleotherapy was providing a significant positive impact on their health and wellbeing. Realizing that most people didn't have the time to spend in a salt mine or "cave", nor the financial resources to travel there, the Russians started to investigate developing the technology of how to recreate the microclimate of these micro-sized particles for inhalation.

In 1976, Russian doctors and scientists created the first halogenerator, which replicated the conditions of salt mines, and halotherapy, the above-ground alternative for speleotherapy, was born.



The Halogenerator

A halogenerator is a machine that intakes air and is comprised of a salt feeder, and a grinder or blade cutting mechanism that transforms pure grade sodium chloride into precise micro-sized salt particles and disperses the dry salt aerosol via a fan through an opening into a salt therapy room.

The depth of penetration into the airways is largely determined by particle size. In order to guarantee that the inhaled salt reaches not only the main respiratory tract and the bronchi but also the bronchiole and alveoli, the particle size should be between 0.1 and 5 microns, with 80% or greater smaller than 2 microns.

In Europe, halogenerator technology has evolved to the point that some medical device companies are now manufacturing halogenerators, which are being used by medical facilities and hospitals throughout Europe. When you can control the particle size and the concentration of how much salt is being inhaled; that's where the efficacy comes from this modality. Clinical studies have been done with halogenerators that have consistent particles sizes where concentration levels can be controlled, and dosing and protocols can be established.

Halotherapy in the United States

In the United States, dry salt therapy (halotherapy) started approximately 10 years ago with about a dozen facilities, and over the years, growing not as a trend but as an industry, over 1,000 salt therapy facilities are now expected by 2020. The restraints of the United States healthcare system, which includes FDA approval, pharmaceutical and insurance companies, medical lobbyists, and other restrictions are the only deterrents affecting its progress.

More clinical studies need to be performed and validated in the United States in order to be more widely accepted by the medical community, but there is proven success, effectiveness, and results in using dry salt therapy as a complementary and alternative treatment in conjunction with respiratory issues, skin conditions, and overall general wellness.



How Dry Salt Therapy Works

The 3 Fundamentals of Dry Salt Therapy

There has been lots of science about hypertonic saline solutions in terms of nebulizer treatments, wet salt therapy solutions and saline, so utilizing salt and saline in medical environments is not something that is foreign. This is a dry salt application designed through a delivery mechanism of inhalation, and due to the particle size, it's able to penetrate the epidermis at the surface level.

Super Absorbent - Dry salt acts like a sponge attracting foreign substances along its path through the respiratory tract. The dry salt can be imagined behaving like a toothbrush that cleans the respiratory system removing the build-up of foreign elements that cause various respiratory ailments and conditions. Dry salt aerosol is also very hygroscopic. As quickly as it can, it attracts as much moisture as possible. When salt particles are inhaled and deposited on the mucus on the bronchial tree, the mucus is liquefied, which facilitates its easy expectoration. Sputum is loosened and can then be removed by coughing. The obvious advantage of this is that any blocking of the airways caused by the mucus is removed. Dry salt aerosol also works as a mucokinetic agent and can increase the effectiveness of a cough, either by increasing expiratory cough airflow or by unsticking highly adhesive secretions from the airway walls. Salt stimulates the bronchial self-cleaning mechanism and can, therefore, act as an expectorant. This slight stimulation removes the mucus faster.

Anti-Inflammatory - Inhaled dry salt particles may help to reduce inflammation in the entire respiratory tract and widen the airway passages. Clinical studies have found that the inhalation of dry salt aerosol results in decreased colonization of pathogenic bacteria flora. A clean respiratory system naturally results in higher oxygen intake, increased energy, and an improved immune system.

Anti-Bacterial - The dry salt particles act as an anti-bacterial agent, dissolving bacteria and pollutants lodged in the respiratory tract. These are then either coughed up or naturally expelled by the body.

Dry Salt Therapy and the Skin

The micro-particles of salt also have a beneficial influence to the integument system (skin protective layer) and hairs providing healing and cosmetic effects. This increases activity of skin cell ion channels and activates electrophysiological activity that determines the skin's protective properties. The dry salt impacts the skin microcirculation and assists cellular membrane activity used in dermatology and cosmetology and enhances their effectiveness.



Who Benefits from Dry Salt Therapy?

Halotherapy benefits adults and children alike, as well as athletes and animals. It is natural and safe and there are no known side effects. Many people who undergo halotherapy as a complementary treatment on a regular basis may find relief from a variety of respiratory conditions such as:

- Allergies
- Asthma
- Bronchitis
- Bronchial Infections
- Cold and Flu
- COPD
- Cystic Fibrosis
- Emphysema
- Pneumonia
- Rhinitis
- Sinus Infections
- Sinusitis
- Smoker's Cough
- Snoring & Sleep Apnea
- Stress & Fatigue
- Wheezing

Dry salt therapy is also extremely beneficial to your skin in treating:

- Acne
- Eczema
- Psoriasis
- Dermatitis
- Rosacea
- Itching
- Swelling & Inflammation
- Dry & Flaky Skin
- Rashes
- Skin Aging

In addition, dry salt therapy has been shown to reduce:

- Anxiety
- Fatigue
- Stress

The best thing about dry salt therapy, however, is that despite the fact that it can be used to help treat the respiratory issues and skin conditions listed above, it can be used by anyone to enhance their overall respiratory hygiene and combat the poor quality of today's indoor and outdoor air.



How Dry Salt Therapy is Being Offered

Typically, salt therapy is offered via salt therapy rooms in public environments such as standalone salt therapy facilities, day spas, fitness clubs, med spas and wellness centers, doctor offices, private country clubs, and destination resorts.

These rooms are specifically designed to control the proper salt concentration and air ventilation inside a room for people to be able to sit back, relax, breathe, and inhale in the micro-sized salt particles.

Salt therapy rooms are sometimes referred to as "salt caves" when such things as Himalayan salt are added to the floor, walls, and ceiling in an effort to make them look like the original salt caves and mines in Europe. This Himalayan salt, however, is just decor, and provides no therapeutic value.

Oftentimes, salt therapy is being offered along with yoga, massage, reiki, acupuncture, sound therapy, and meditation. Children's play rooms are beginning to incorporate salt therapy, and businesses are starting to hold company meetings in salt rooms.

Length of Session

The amount of salt aerosol inhalation is dependent on two factors:

1. The concentration of salt in the air
2. The length of salt aerosol inhalation

The duration of a salt therapy session is based on the size and cubic volume of air space in the environment and can be anywhere from 45 minutes in a salt therapy room down to 10 minutes in smaller, portable salt therapy units. Skin that is exposed will absorb the micro-sized salt particles that are not inhaled.



Side Effects/Contraindications

There have been a number of clinical studies and research on halotherapy, and, to date, there are no known contraindications otherwise than what has been recommended based on the properties of sodium chloride, as well as in health code situations in public environments, people with any type of:

- Active tuberculosis
- Contagious conditions
- Late stage lung cancer
- Acute issues & fever
- Open wounds & sores
- Cardiac insufficiency

We understand more studies are needed to understand if there are any further contraindications, but we can confidently say that thousands of individuals have experienced salt therapy throughout the decades, and none have suggested the contraindications were present. We also encourage individuals to consult their local physician before beginning any regiment of dry salt therapy.

Salt Concerns

Some people are concerned about the intake of salt because of issues relating to diet, high blood pressure, and hypertension. This type of salt intake is connected to the digestive tract. Dry salt therapy is different as it is associated with the respiratory system. When inhaled, the amount of micro salt particles entering your respiratory system is extremely low, so it doesn't present any risk to your health. It kills bacteria, reduces inflammation, and expands airways.

There have been no reports stating that inhaling the amount of salt being utilized in a salt therapy session can provide any type of disruption or elevation of high blood pressure or hypertension.

Salt Type and Quality

Halotherapy requires the highest-quality salt available, which means that the cleanest salt available should be used. All the clinical studies and research for halotherapy involve only using 99.99% pure grade sodium chloride. This salt comes from the earth and seas but goes through a process eliminating and removing all debris and contaminants. It is not processed with any additives or caking agents such as table salt.



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Treatment Sessions

Based on an individual's condition and symptoms, this can vary, since like many wellness and health regimens, individuals respond differently. Many individuals will notice a positive effect in just in one session, however, a series of sessions is recommended for optimal results.

Some people go two to three times a week for a three to four-week ritual during allergy and cold seasons, some people go twice a week for six to eight weeks for more chronic conditions. Those who go for general wellness, stress relief, and relaxation simply go as often as they like.

For best results, a series of treatments is recommended. The Salt Therapy Association additionally recommends using dry salt therapy as a continuous preventive measure to strengthen the immune system against colds, cough, allergies, and sinusitis. There are some people who have salt therapy in their homes and do a daily ritual. You cannot overdose from salt therapy.

*Dry Salt Therapy Treatment Protocols

Although the FDA has yet to establish official protocols for dry salt therapy in the United States, some European countries have incorporated the following duration of treatment:

- **Asthma (mild):** 12-14 days
- **Asthma (severe):** 18-21 days
- **Acute bronchitis:** 12-14 days
- **Recurrent bronchitis:** 12-14 days
- **Chronic simple bronchitis:** 18-21 days
- **Chronic obstructive bronchitis:** 18-21 days
- **Pneumonia after acute stage:** 12-14 days
- **Cystic fibrosis:** 20-25 days
- **Chronic sinusitis:** 14-18 days
- **Acute sinusitis:** 3-5 days
- **Hay fever:** 12-14 days
- **Smokers:** 12-14 days

*SOURCE:

MINISTRY OF PUBLIC HEALTH OF THE RUSSIAN FEDERATION, Halotherapy Application in Treatment and Rehabilitation of Respiratory Diseases, Methodical Recommendation No. 95/111, Moscow 1995

Methodical recommendation was discussed and approved by the Scientific Board of the Institute of Pulmonology of the Russian Federation.

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PLEASE NOTE:

For best results, during a course of therapy, chronic sufferers should try to complete sessions as consecutively as possible - daily is best, but at least 3 times a week are usually needed for challenging cases.

Back-to-back sessions - two in a row - can be greatly beneficial for sinus and skin conditions, though are not always recommended for chronic lung conditions.



Clinical Research and Medical Evidence

Salt has been used for its healing and therapeutic qualities for thousands of years from a variety of geographic regions and cultures. In modern times, dry salt therapy, also called Halotherapy, has been observed and researched with recorded studies that go as far back as the early 1800's from physicians and scientists throughout Europe and the Far East. In the past few decades, more recent and current clinical studies have been published showing the efficacy of dry salt therapy and its application to various conditions.

Most of the current research and clinical studies are based in the countries where dry salt therapy has been a health and wellness modality for the past few decades such as Russia, Hungary, Poland, Finland, Israel, Italy and other geographic locations. These studies have been conducted by licensed medical professionals, clinical researchers, and have been published in various medical journals and publications such as the US National Library of Medicine and the National Institutes of Health.

Some of the current research and published articles focus on how dry salt therapy impacts bronchitis, chronic obstructive lung diseases (COPD), asthmatics, dermatology, and other conditions.

The **Salt Therapy Association** is also leading the way with supporting additional medical and clinical studies here in the United States and abroad to further the research, development and efficacy of dry salt therapy/halotherapy.

