From Salt Speleotherapy to Controlled Halotherapy and HaloSPA
Alina V. Chervinskaya
From Salt Therapy to Controlled Halotherapy and HaloSPA, 2006.

Professor Dr. med. Alina V. Chervinskaya is the head of Clinical Research Respiratory Center (St Petersburg, Russia), the vice president of Baltic Association for Aerosol Respiratory Hygiene. She is a creator of the method of halotherapy used in conditions of controlled medicinal microclimate of salt caves. She works in the field of pulmonology and rehabilitation medicine. She handles the studies of medicinal salt aerosols’ mechanisms of action and clinical efficiency of the controlled halotherapy method. She is an authoress of more than 200 published works on this topic.

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The Beginning of Salt Speleotherapy

About 20 million years ago Eastern Europe was partially covered by a shallow sea. With the disappearance of the sea large amounts of layered salt were left behind. Nowadays they are bedded between 10 and 300 meters below the surface.

In the 14th century people started to mine salt for their own use and trade.

Among the other locations, large salt mines were developed in the South of Poland near Krakow.

1843 the Polish doctor Felix Boczkowski formulated that the presence of the air in the salt mines saturated with dry salt particles caused healing effects on people with pulmonary and respiratory discomforts.

Salt aerosol plays an important role in the relief of respiratory disorders.
Salt Speleotherapy is a method of treating patients by placing them in the environment of a natural rock-salt cavern for a certain period of time.

Speleotherapy as a natural salt treatment has become an effective low-cost alternative for people with respiratory discomforts and skin problems.

Nowadays salt caves are used for treatment in health resorts in Austria, Poland, Slovakia, Romania, Azerbaijan, Kirgizstan, Russia and Ukraine.

The natural presence of dry sodium chloride aerosol in a very clean environment appears to be an important factor of the curing effect. Other factors among which are a comfortable and stable temperature and low humidity contribute to the positive therapeutic value as well as the negative aerosol charge that cleans the air by clustering parts.

In the early 90s of the last century the limited presence of suitable salt mines or salt caves in the world gave a reason to start exploring the possibilities of recreating the micro-climate aboveground.
Halotherapy Is a Method that Reconstructs Speleotherapy in Surface-based Salt Rooms*

Salt environment in the salt rooms is created by aerosol generator with microprocessor control system

* The salt room where the treatment session is carried out could be also called “halochamber”, “halocomplex”, “speleochamber”, “salt grotto”, “salt cave” etc.
Halotherapy Solution

Halotherapy is a method that reconstructs speleotherapy by creating identical micro-climate in surface-based salt chambers

Proprietary basic technology of dry sodium chloride aerosol creation with certain characteristics

Specific development of physiologic / easy-to-use technologies for targeted respiratory hygiene and rehabilitation, health resort medicine

Dry salt aerosol is combined with comfort conditions of procedure

Capability for wide application
Halotherapy and HaloSPA in the Salt Rooms

Dynamics of density of dry sodium chloride aerosol in salt room with controlled microclimate at various modes of treatment

Dry salt aerosol generator for the salt rooms
Characteristics of Dry Sodium Chloride Aerosol at Halotherapy and HaloSPA Technology

**Density range** of dry sodium chloride aerosol (1-10 mg per cubic meter)

**Fractional composition of dry salt aerosol:**
Respirable particles (1-5 μm) – more than 80 percent

**Negative aerosol charge:**
6-10 nC/m³

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**Dry salt aerosol produced with the halogenerator contains more than 80 percent respirable particles**
Dry Salt Aerosol Works as a “Bronchial Brush” for the Airways

Dry sodium chloride aerosol has cleansing and anti-inflammatory effect on the respiratory system.
Dry Sodium Chloride’s Mechanisms of Action

HALOTHERAPY

Decrease inflammation of the respiratory tract based on increased number of alveolar macrophages in combination with a stimulation of local immune response (IgA etc.), improvement of biocenosis.

- Removal of pathogenic agents
- Speed-up of mucociliary transport
- Abatement of bronchial inflammation
Halotherapy Efficiency in Patients with Chronic Lung Diseases* (numeral clinical-functional estimation)

The controlled placebo studies have shown that the inclusion of halotherapy into the rehabilitation course of pulmonary pathology patients allows achieving the maximal therapeutic effect by 82 – 96 percent of patients along with the most optimal use of pharmacotherapy.

By significantly large amount of patients the stronger pronounced positive effect is observed.

An anti-inflammable and cleansing effect of dry sodium chloride aerosol results in the decrease or disappearance of lung diseases’ symptoms in the pulmonary system.

* Alina V. Chervinskaya, 2001
**Morbidity with Temporary Disability before and after 6 Months after Halotherapy (HT) by Pulmonary Patients (n=345)**

Analysis of morbidity with temporary disability by the patients with various pulmonary diseases was conducted during 6 months before the application halotherapy and six months after.

It has shown that the application of the method assured 1.5–2 times reduction of morbidity level by the patient population.

*Alina V. Chervinskaya, 2001*
During clinical observation for three months, there were 14 cases of cold and 104 days marked by symptoms of acute respiratory viral infection. In the control group there were 55 cases of cold and 585 days of the symptoms.
Halotherapy Against Pollen Allergy

Dry sodium chloride aerosol eliminates airborne pollen particles from airways.
The air composition strengthens immunity and better immunity decreases allergic reaction to pollens.
Halotherapy and HaloSPA for Dermatology and Cosmetology

Dry sodium chloride aerosol has a revitalizing and cleansing effect on the skin.

Dry sodium chloride aerosol increases activity of skin cell ion channels and activates electrophysiological activity that determines skin protective properties.

Normalization of skin autoflora composition, bacteriostatic, antiedematous and anti-inflammatory effect after halotherapy is determined.

Dry sodium chloride aerosol has a revitalizing and cleansing effect on the skin.
More frequently halotherapy is used for preventive and restorative treatment of pulmonary diseases – asthma, chronic bronchitis, chronic obstructive pulmonary diseases (COPD).

Method is applied for treatment and preventive of ENT– pathology, hay fever, common cold, skin diseases as well.
### Efficiency of Halotherapy According to the Data of Physicians of 10 Medical Hospitals and Out-patient’s Departments*

<table>
<thead>
<tr>
<th>Nosologic form</th>
<th>Number of Patients</th>
<th>Improvement, percent (M ± m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronchial Asthma</td>
<td>1818</td>
<td>85,4±4,0</td>
</tr>
<tr>
<td>Chronic Obstructive Bronchitis</td>
<td>1242</td>
<td>92,3±3,3</td>
</tr>
<tr>
<td>Chronic Non-Obstructive Bronchitis</td>
<td>689</td>
<td>86,0±6,1</td>
</tr>
<tr>
<td>Acute Bronchitis</td>
<td>163</td>
<td>80,4±8,1</td>
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<tr>
<td>Pneumonia</td>
<td>160</td>
<td>82,0±5,5</td>
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<tr>
<td>Bronchiectatic Disease, Cystic Fibrosis</td>
<td>47</td>
<td>90,0±4,9</td>
</tr>
<tr>
<td>Pneumoconiosis</td>
<td>48</td>
<td>96,2±4,1</td>
</tr>
<tr>
<td>Pollinosis</td>
<td>38</td>
<td>81,4±7,2</td>
</tr>
<tr>
<td>Chronic Rhinitis and Rhinosinusopathy, Maxillary Sinusitis</td>
<td>178</td>
<td>85,1±5,6</td>
</tr>
<tr>
<td>Chronic Pharyngitis, Tonsillitis, Laryngotracheitis</td>
<td>120</td>
<td>71,0±6,7</td>
</tr>
<tr>
<td>Skin Diseases</td>
<td>86</td>
<td>61,5±6,7</td>
</tr>
</tbody>
</table>

* Alina V. Chervinskaya, 2001
Where Are the Halomed Salt Rooms Applied?

- Clinics
- Hospitals
- Out-patient’s departments
- Medical rehabilitation centers
- Preschool institutions
- Private clinics
- Centers of natural therapy
- Health resort medicine
- SPA-centers
- Wellness-centers
- Hotels
- Private houses
What Do the Visitors Get from the Halomed Salt Rooms?

- Natural medicine-free treatment of respiratory and skin problems
- Cleansing and sanitation of the airways
- Enhancement of airways’ defence mechanisms
- Enhance biological and immune host defense mechanisms
- Decrease of base medication load
What Are the Advantages of Halomed Salt Rooms for the Visitors?

- Scientific approval of the mechanisms of action
- High efficiency
- Adaptation to diverse medical and health improving approaches
- No invasiveness, no side effects
- Comfort and convenience
- Combination with relaxation
- Removal of physical and psychic emotional discomforts
- Novelty and attractivity for the visitors
What Are the Target Groups?

People with the following discomforts can expect beneficial physical effects by taking halotherapy sessions on a frequent basis:

- Chronic pulmonary diseases (asthma, chronic obstructive pulmonary diseases, pneumonia, bronchitis, cystic fibrosis)
- Allergies with an effect on ear, nose, throat, sinuses (e.g. hay fever)
- ENT-diseases (rhinitis, sinusitis, pharyngitis, laryngitis)
- Prevention and treatment common cold
- Respiratory hygiene to clean airways from harmful airborne and tobacco smoke particles
- Dermatological disorders (acne, neurodermatitis, psoriasis, cellulite)
- Heart and vascular problems (especially in combination with lung diseases)
- Vegetative nervous system disorders
- Inability to loose fat tissue due to disturbed metabolism
What Are the Target Groups?

People with the following discomforts can expect beneficial mental effects by taking halotherapy sessions on a frequent basis:

- Chronicle fatigue
- Overstrain and exhauster
- Depression
- Low stress resistance
- Quit tobacco smoking

Rock salt (halite)