

# PRESS RELEASE



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# **Press release Gastein Heilstollen**

## **For a natural pain relief**

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### **Gastein Heilstollen – Info in Brief**

#### **Heilstollen Therapy**

Gastein Heilstollen Therapy is a combination of mild hyperthermia treatment and radon therapy at alpine elevations. It takes place at five therapy stations, each increasing in warmth (37.5°C to 41.5°C) and humidity (70 to 100%).

When dealing with chronic ailments of the musculoskeletal system such as Bechterew's disease, rheumatoid arthritis or fibromyalgia, remarkable pain-alleviating effects are demonstrated.

These effects are sustained for months. Scientific studies have shown reduced need for medications for up to a year. Also with respect to respiratory and skin disorders, this effective, natural therapy demonstrates impressive benefits. A visit to the Gastein Heilstollen is also worthwhile as general prevention and stabilization of the immune system.

#### **Science & Research**

The effects of the natural medicinal substance, radon, and the benefits of Heilstollen therapies have been the object of scientific research since the very beginning, and have been clearly proven. There now exist several control studies on radon therapy, with impressive evidence of its effectiveness. The hub of current research on radon therapy is the Gastein Research Institute of Paracelsus Medical University, Salzburg.

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### **Gastein Heilstollen – List of indications for radon treatment**

#### **Chronic pain and functional disorders in case of diseases affecting the locomotor apparatus**

- Chronic inflammatory rheumatic conditions, in particular ankylosing spondylitis or spondylarthropathies, as well as chronic polyarthritis (rheumatoid arthritis)
- Degenerative diseases of the large and small joints (arthritis)
- Degenerative diseases of the spinal column (spondylitis, spondylarthroses, osteochondroses)
- Chronic discopathies, also post-operatively
- Osteoporosis
- Fibromyalgia syndrome
- Non-articular rheumatism (non-inflammatory pain in the tendons and muscles)
- Psoriatic arthropathy or psoriatic arthritis
- Chronic arthritis urica
- Chronic consequences of accidents and sports injuries
- Neuralgias, neuritis, polyneuropathia
- Sarcoidosis

#### **Regeneration, circulation, and immunologic skin balance disorders**

- Wounds that fail to heal, especially ulcus cruris
- Neurodermatitis
- Psoriasis (vulgaris)
- Scleroderma
- Slight peripheral circulatory disorders

#### **Functional disorders of the respiratory tract**

- Chronic obstructive pulmonary disease
- Bronchial asthma
- Chronic sinusitis
- Hay fever

#### **Premenopausal and menopausal complaints**

#### **Geroprophylaxis**

#### **Contraindications**

Pregnancy, hyperthyreosis; in the case of patients with malignant tumours, there must be a pause of at least one year after successful chemotherapy and/or radiotherapy and/or immunotherapy before beginning with the Heilstollen treatment. Children and adolescents should basically be excluded from radon treatment. Here, the risk of medication treatment must be weighed against that of a weak radiation treatment on a case-to-case basis.



Univ. Prof. Dr. med. Markus Ritter  
(Last updated: August 2008)

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### **Gastein Heilstollen – List of indications for the Gasteiner Heilstollen treatment**

as a combined hyperthermia/radon inhalation with an additional skin radiation under high air humidity, are basically identical with the general indications of radon treatment.

On the one hand, hyperthermia has an independent therapeutic effect, and on the other it enhances the absorption and distribution of radon in the body.

**The Heilstollen treatment can thus achieve a higher therapeutic dose, inducing a stronger and longer lasting therapeutic effect, and a reduced need for medication.**

Giving priority to the administration of the Gasteiner Heilstollen treatment instead of another form of application of the radon treatment is primarily indicated by the impending progression and by the severity and spread in case of inflammatory or non-inflammatory diseases. Accordingly, the severity of the resulting pain and functional impairments play a decisive role.

The treatment is particularly indicated when an independent mild hyperthermia effect is conducive and required for immunological stabilization and pain alleviation, and when it can be assumed that a sufficient and long-lasting therapeutic effect can only be achieved through the greatest possible exposure to radon.

With regard to the diseases of the locomotor apparatus, this applies to all progressions and stages of ankylosing spondylitis, the subacute or chronic stage of arthropathia or arthritis psoriatica (in this case, positive effects are achieved both for the skin and the locomotor apparatus), with all subacute and chronic stages of other forms of spondylarthritis (as, for instance, in the case of Crohn's disease and ulcerative colitis), and the subacute and chronic stage of chronic polyarthritis (rheumatoid arthritis),

in every stage of fibromyalgia,

with non-articular rheumatism (non-inflammatory pain in the tendons and muscles)

with severe monoarticular arthritis,

with pain conditions in case of chronic gout,

with severe generative diseases of the spinal column,

with severe discopathies and, accordingly,

with severe polyneuropathia.

Moreover, the Heilstollen treatment is particularly indicated in the case of respiratory diseases such as COPD, bronchial asthma, hay fever, or chronic sinusitis as separate main diagnoses, or as complementary diagnoses (the combined factors of hyperthermia, air humidity, air purity, and direct exposure of the respiratory tract to radon are especially useful!).

Hyperthermia and the direct exposure of the skin to radon produce a similar effect in the case of **regeneration, circulation, and immunologic balance disorders of the skin**, such as slowly healing wounds, especially ulcus cruris, neurodermitis, psoriasis vulgaris, scleroderma, and with slight peripheral circulatory disorders.

Special limitations and relative additional contraindications for the Heilstollen treatment are – in addition to the aforementioned general limitations for radon treatment -

- those in connection with severe forms of claustrophobia (though manageable with the corresponding preparation and support) as a result of the location in a mountain tunnel

- those linked to the moderate hyperthermia in the case of
  - 1.) severe cardiovascular diseases and cardiac arrhythmias due to the expected doubling of the cardiac output (final assessment by the medical service in the Heilstollenhaus will be decisive),
  - 2.) in case of severe renal function disorders or inflammatory renal involvement as part of an autoimmune disorder, since hyperthermia can have a negative impact here,
  - 3.) with acute infections, since hyperthermia can have a negative impact on these,
  - 4.) in the case of acute iritis, since hyperthermia can aggravate the condition, and during a highly acute stage of a chronic polyarthritis or psoriatic arthritis



Univ. Prof. Dr. med. Markus Ritter  
(Last updated: August 2008)

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### **Gasteiner Heilstollen – General information**

Unique worldwide - a natural pain relief! In their quest for gold, the mountain dwellers of the Gasteinertal found a way to natural pain relief instead: the path leading into the Gasteiner Heilstollen. For over 50 years, this method has been used successfully in the treatment of rheumatic diseases and, after decades of experience, is considered by balneologists to be the most effective natural remedy available.

As to the number of patients, the Gasteiner Heilstollen is even considered the largest treatment centre worldwide for patients suffering from Ankylosing Spondylitis, a severe rheumatic disorder. This treatment, however, has also proven quite successful in the case of respiratory illnesses and allergies.

A healing atmosphere unique the world over prevails two kilometres deep inside the Radhausberg. The enormous success of the treatment can be attributed to the ideal combination of high temperature (37 to 41.5°C), air humidity (70% to 100%), and naturally elevated radon levels.

Some 10,000 guests come here every year and take advantage of the climate in the Gasteiner Heilstollen to alleviate their complaints. The success rate among these patients is around 80-90 percent. A three-week treatment in the Heilstollen will help alleviate the patients' complaints for a period of several months.

A recent study carried out at the Ludwig Boltzmann Institute in Vienna has found an indicator for the effectiveness of the treatment for the first time. The healing climate in the Heilstollen helps increase the levels of TGF- $\beta$ , a chemical messenger that is involved in various repair mechanisms of the body.

This cytokine also promotes wound recovery and regeneration of muscle and nerve tissue, and inhibits exaggerated immunological processes and inflammatory reactions.

A total of more than 2.5 million man visits to the Heilstollen in the last 50 years underscore the positive effects of this treatment. Several scientific works have confirmed the unique effect of the treatment in recent years. After treatment, patients need significantly less medication and take less sick leave. As a result, the Heilstollen treatment helps increase a patient's standard of living in the long term.

#### **Staying healthy:**

The Gasteiner Heilstollen treatment helps improve the body's self-regulatory ability. It strengthens the patient's immune system. It helps train the cells' repair system. As a result, the treatment can significantly contribute to health maintenance. Many guests take advantage of the healing climate of the Heilstollen for prophylactic purposes. The treatment has also proven to have a positive impact on patients suffering from osteoporosis and neurological, circulatory, hormonal, and vegetative disorders.

To enable guests to become familiar with the Gasteiner Heilstollen, the operators offer sneak-in visits to the Heilstollen twice a week. These visits include a short medical check, an information briefing on the causes and effects of the unique healing climate, and a visit to the Heilstollen.

**Conditions for which the treatment is particularly beneficial:**

1. Diseases affecting the locomotor apparatus

Ankylosing Spondylitis and other spondylarthroses, rheumatoid Arthritis, Arthroses, Psoriatic Arthritis, Spinovertebral syndrome, Fibromyalgia, Osteoporosis pains, Neuralgias, Polyneuropathia, Sports injuries, Sarcoidosis.

2. Respiratory Illnesses

Chronic Bronchitis, Bronchial Asthma, Chronis Sinusitis, Hay fever

3. Skin Conditions

Psoriasis (vulgaris), Neurodermatitis, Wounds which fail to heal, Scleroderma

The treatment is also helpful in combating menopausal symptoms, and as a prophylaxis (preventative medicine), as well as in stabilizing the immune system.

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### **Gastein Heilstollen – Radon: it's all about the dosage**

Radon is a natural, radioactive gas which is odorless and colorless. Source of this inert gas is radium, a metal found everywhere in the Earth's crust, in turn created by the decay of uranium. It occurs throughout our environment, both in the Earth's crust and in the air, with radon levels varying substantially. Wherever there is a lot of rock containing uranium and the ground is very gas-permeable, we find especially high levels of radon. And if, for example, spring water is surrounded by an abundance of radon gas beneath the ground, it, too, may also contain radon.

All of us take in natural radioactive elements through the air we breathe and our food. On average, we are exposed to natural radiation levels of about 2.4 mSv (millisieverts) per year, along with manmade sources such as x-rays etc. Radiation experts agree that high doses of radioactive exposure can cause cancer. However, as we discuss "risk" factors, we should also address the dosage involved. When we consider those dosages involved in radon balneology, for example, increased risk has never been shown. In other words, suggested risks are only theoretical assumptions. According to the similarly controversial Hormesis theory, an actual reduction in cancer risk is also conceivable at radiation levels of this level.

The physical half-life of radon is 3.8 days, though similar depletion in our body occurs within just 20-30 minutes. In other words, half of the radon has been eliminated from our body after this time. After only a few hours, no more radon can be found in our body. We should note that during radon therapy - during a three-week treatment program, as an example – exposure levels lie at 1.8 mSv. This corresponds to a two-level x-ray of the lumbar vertebrae. Radon therapy, then, according to the experts, represents a degree of exposure which is insignificant within the spectrum of natural radiation exposure.

The very low-dose radiation of a radon treatment represents a short stimulus to the organs and cells, thereby activating the body's own self-healing powers. Balneologists also ascribe anti-inflammatory and pain-reducing effects to low doses of this inert gas. As a consequence, radon is used in the treatment of certain symptomologies, resulting in useful and healing effects within the body.

Since the very beginning, radon therapy in the Gastein Heilstollen galleries has been the object of scientific research and, most recently, of a number of controlled clinical patient studies – with positive results. In all of the studies, it is readily apparent that the therapeutic effects of radon show a delayed onset, but are then sustained for several months. And with respect to chronic ailments, though the radon therapy cannot actually cure the disease itself, it can contribute substantially to long-term relief of symptoms and a reduction in need for medications. Which in turn results in reduced risk of side-effects from those very medications.

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## **Gastein Heilstollen – Patient Comments**

The illness Morbus Bechterew is today less of a burden than it is a deep enrichment to my life! Thanks to my sessions in the Gastein Heilstollen galleries, I have a handle on my pain and it is easier to come to terms with my daily life."

**Peter Krämer M.D., Münster**  
**Diagnosis: Bechterew's disease**

\* \* \*

For me, the Gastein Heilstollen is a way out of my years-long struggle with pain, medications and their side-effects. I am enjoying the quality of life I have regained."

**Angelika Kind, age 74, Saarburg**  
**Diagnosis: chronic polyarthritis**

\* \* \*

During my life, I have undergone many spa treatments and therapies. Only one has really helped. Thanks to Gastein Heilstollen Therapy, I am pain-free for months at a time, even in spite of my fibromyalgia. There is nothing better!

**Jörg Blum, age 65, Oldenburg**  
**Diagnosis: fibromyalgia**

\* \* \*

5 years of severe asthma and multiple occasions when I needed medication – my condition was easily described. After a 3-week course of therapy at the Gastein Heilstollen, my lung function had improved so much, my doctor was unable to see any more signs of asthma, and I haven't needed medications for 3 full years."

**Stephanie Kruppa, age 73, Augsburg**  
**Diagnosis: severe asthma**

\* \* \*

For years I have carried the heavy burden of fibromyalgia around with me. During a "Fibro" informational weekend, I became acquainted with the Gastein Heilstollen, and came here for therapy shortly afterwards. With each treatment session, I felt better and lighter. I could not possibly recommend Heilstollen therapy any more "warmly"!

**Karin Gussmack, age 47, Rosenau**  
**Diagnosis: fibromyalgia**

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### **Gasteiner Heilstollen - Pilot studies on the effect of radon treatments on osteoporosis and autoimmune diseases**

- Increased bone regeneration was established among ankylosing spondylitis patients as a result of the Gasteiner Heilstollen treatment
- New large-scale study will look into effectiveness and sustainability of the general treatment of osteoporosis
- Radon exposure reduces auto-antibodies, pointing out to its effective application against diseases involving autoimmune processes

Since the Gastein research institute was reorganized less than two years ago, several significant research programs have already been launched. The first pilot studies have been completed, and the information obtained on the effectiveness of the radon treatment against various symptoms is now being examined in large-scale studies.

„The results obtained so far are very encouraging“ explains Angelika Moder, the scientific director of the Gastein Research Institute. „Radon treatments are apparently very effective against many symptoms, and we are able to deliver scientific proof for the empirical knowledge acquired on natural remedies in Gastein over decades, sometimes even centuries“.

In a recent study carried out by FOI in the Gasteiner Heilstollen, it was proven that radon treatment promotes bone generation processes with patients suffering from inflammatory joint diseases (ankylosing spondylitis) – an essential treatment effect, since half of all patients with chronic inflammatory diseases suffer from bone loss (osteoporosis) and the resulting consequential conditions, such as bone fractures.

A recently launched, large-scale study is to examine to which extent the positive effect on bone density proven with ankylosing spondylitis patients also applies in the case of other patients suffering from osteoporosis, and to which extent radon treatment can also be used in the prevention of bone loss. „In view of the rising number of osteoporosis patients and the increasing importance of prevention as a result of greater life expectancy, this is probably where the greatest potential for radon treatment lies“, says Moder.

Also highly encouraging are the effects observed in another pilot study carried out in the Gasteiner Heilstollen on autoimmune diseases, i.e. diseases in which the body's defences against infection attack the body's own tissue.

The study showed a reduction of auto-antibodies in blood as a result of the radon treatment. In future, radon treatment could therefore be successfully applied against several diseases in which autoimmune processes play a major role.

Moder stresses that the therapeutic effects were attested on a molecular and cellular level. Moreover, a study at the University of Vienna supported by the FOI supplied concrete information on the working mechanism of the radon treatment. „Today, we not only have considerable knowledge of what can be achieved with the radon treatment, we also know how and why it works. This allows us to carry out targeted research for new applications, and to optimize traditional spa applications, making them even more effective.“

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### **Gasteiner Heilstollen - Course of pain and exhaustion symptoms following the Gasteiner Heilstollen treatment as part of the spa treatment for fibromyalgia patients – a pilot study**

Authors: Katrin Althuber, Gerhard Mayerhofer, Gudrun Lind-Albrecht - Gasteiner Heilstollen  
published in the Vienna Medical Weekly "Skriptum" in 2006, issue 11/2006

Pain treatment with fibromyalgia patients continues to be difficult, albeit modern medication and the multimodal therapeutic concept have resulted in slight improvements in this respect.

Individual studies suggest that hyperthermia can help bring about long-term pain alleviation. Apart from the absorption of radon through the respiratory tract and the skin, the Gasteiner Heilstollen treatment also induces mild hyperthermia. To study the additional pain treatment benefit of the Gasteiner Heilstollen treatment, a pilot study was launched in 2006 – in preparation of a randomized study – involving the prospective observation of patients suffering from fibromyalgia (diagnosis based on the ACR criteria).

Method: 21 patients (20 female, 1 male) with proven fibromyalgia were examined and questioned at the beginning (T1) and at the end (T2) of the treatment, and were sent a questionnaire 4 months later (T3). The measurement parameters included pain intensity and the extent of exhaustion on a VAS scale (0...10), the administration days for pain killers, the morning stiffness of the hands/the body as a whole, the FIQ. Concomitant features: Number of tender points, additional medication (incl. SSRI), sociodemographic parameters, concomitant diseases such as Sp.a., RA, osteoporosis, collagenoses. In addition to the Heilstollen treatment as such, a physiotherapeutical programme was carried out (lymph drainages, rape seed exercises for the hands, pool exercises, Qigong, and Breuss massage).

**Results:** By the end of the spa treatment, 15 out of 21 patients (71%) already reported a pain alleviation effect. As to the changes between the beginning and the end of the treatment (T1-T2), we established an average pain alleviation of 51%. 9 out of 21 patients experienced at least 50% pain alleviation, while 2 out of 21 were completely free of pain by the end of the treatment.

The response rate for T3 (4 months after the treatment) was 66% (14 out of 21 patients). After 4 months, 13 out of 14 patients (93%) described the success of the spa treatment as good. There was still an average pain alleviation of 44%; 12 out of 14 patients (86%) reported a lasting pain alleviation of at least 20%; 6 out of 14 patients (43%) reported a

lasting pain alleviation of at least 50%. 2 patients continued to be completely free of pain.

4 months after the spa treatment, the rate of administration of painkillers had dropped by an average of 37% compared to the beginning of the treatment.

With 5 out of 14 patients, painkiller administration dropped by 100%, while 7 out of 14 patients reduced painkillers by at least 50%.

With 11 out of 14 patients, exhaustion was still reduced after 4 months, 2 reported no changes, and 1 patient reported an aggravation of exhaustion symptoms. The average decline in exhaustion symptoms was 36%; 11 out of 14 patients reported a decline in exhaustion of at least 20%; 6 out of 14 patients experienced at least 50% less exhaustion. 1 patient reported a disappearance of all exhaustion symptoms.

**Summary:** The multimodal spa treatment programme, involving a combined hyperthermia and radon absorption through the skin and the respiratory tract at the Health Centre proved to be a very good medium-term solution for pain alleviation – lasting at least 4 months – among fibromyalgia patients. A review using a controlled study will follow to confirm the actual contribution of the Gasteiner Heilstollen treatment.

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### **Gasteiner Heilstollen – for ankylosing spondylitis (AS) - Chefarzt, Univ. Doz. Dr. med. Bertram Hölzl**

Ankylosing spondylitis patients suffer from pain in different parts of the spine and thorax, from enthesitis, and possibly also arthritis. In the first years, the inflammatory process often causes a long time dependence of NSAR – including a long-term side effect risk.

Pain and loss of motion cause functional impairment and lead to a decline in the patients' quality of life. Medical treatment and rehabilitation of patients with AS should not only consist in NSAR and/or biologicals – a complex physical treatment is necessary to protect patients from immobility and pain.

One can obtain more and longer-lasting therapeutic effects in rehabilitation therapy by adding radon thermal inhalation to the complex of different physical parts of the rehabilitation program.

Meanwhile, 2 controlled studies have shown long-lasting pain reduction for up to 9 months after treatment, reduction of medication consumption (NSAR) up to 12 months after treatment, and long-lasting improvement of functional impairment.

A randomised controlled clinical study (managed and organized by the university of Maastricht) showed a clear advantage through Gasteiner Heilstollen treatment within a complex rehabilitation program for patients with AS: functional impairment (BASFI), pain and disease activity (BASDAI) and life quality (QUALY) showed improvements up to 40 weeks after treatment. Patients who received the same exercise program but sauna instead of the Heilstollen treatment did not experience such a long-lasting therapeutic effect.

The study also demonstrated the socioeconomic advantage of the Heilstollen treatment: The costs involved in accomplishing a defined progress in function (BASFI) and life quality (QALY) were twice as high for a rehabilitation program without Heilstollen treatment as compared to the costs of a combined rehabilitation program including Heilstollen treatment.

If we examine the possibility of reducing medical consumption and reducing the chance of drug side-effects (especially caused by NSAR and by coxibe), we arrive at a clear cost-benefit-ratio in favour of using the Gasteiner Thermalstollen treatment for ankylosing spondylitis.

Most of our patients with AS (2,500-3,000 per year) report pain reduction lasting for about 9 months after a 3-4 weeks treatment with 10-12 sessions in the Heilstollen.

During this time, they can work better and they need less NSAR.

Since the positive effects diminish one year after treatment, it is recommendable to repeat the Heilstollen treatment every year as long as inflammatory processes and chronic pain are involved.

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### **Gasteiner Heilstollen – for rheumatoid arthritis (chronic polyarthritis) - Chefarzt, Univ. Doz. Dr. med. Bertram Hölzl**

The chronic inflammation of the joints caused by rheumatoid arthritis (=chronic polyarthritis) carries the risk of permanent painful function disorders, deformities and destruction, stiffness, as well as instability of the affected joints. As a whole, the symptoms result in a severe decline in the quality of life.

The effectiveness of radon treatment against chronic polyarthritis was established in double-blind, placebo-controlled studies (with radon baths). The studies have shown pain alleviation lasting up to 9 months, also resulting in reduced use of pain medication (NSAR).

Studies also furnished proof of the activation of cytokine TGF-Beta through radon treatment in the Gasteiner Thermalstollen. This cytokine is somehow the counterpart of cytokine TNF-Alpha. It assumes an anti-phlogistic and healing function in the immune system. One can therefore realistically assume that the Thermalstollen treatment does not only enhance stabilization in autoimmune diseases through cytokine metabolism. It also constitutes more than just a purely symptomatic pain treatment and has an anti-inflammatory effect.

Of course, the patients affected are primarily interested in the sustained pain alleviation of the Thermalstollen treatment - and the resulting reduction of pain medication (NSAR). In the end, this results in an improvement of the patient's quality of life.

Therefore, a Thermalstollen radon treatment is indicated for rheumatoid arthritis (chronic polyarthritis) patients for two reasons.

In highly acute cases, the primary focus must be placed on the adjustment of medication (including, if necessary, a basic therapy and cortisone treatment) or a review of the same. After the highly acute inflammation symptoms subside, the Gasteiner Thermalstollen treatment is indicated for further alleviation of symptoms and stabilization - integrated in an overall programme consisting of exercise therapy, joint protection measures and extended physical therapy and patient information courses.

## **Press release Gastein Heilstollen** **For a natural pain relief**

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### **Gastein Heilstollen – Interview with Chief Physician, Prof. Bertram Hölzl M.D.**

*1. What distinguishes the Gastein Heilstollen from other healing galleries?*

The significant difference from other galleries is that they generally work with “pure, allergy-free air”, which means they are mainly effective in treatment of respiratory ailments. In addition to pure, allergy-free air, our “Radon Thermal Heilstollen” also boasts the combination of radon, high air temperature and high humidity, making it particularly effective in the treatment of painful conditions of the musculoskeletal system.

It has been shown that an air temperature ranging from 37.5 to 41.5°C, along with humidity levels of 70% to 100%, combine to create a mild state of hyperthermia. As a result, the core body temperature rises to 38 – 38.5°C. The consequences are: opening of the blood vessels, increase in blood circulation, relaxation of muscles.

*2. What are the effects of radon?*

After being absorbed through the lungs and skin, the inert radon gas spreads rapidly throughout the body. The products of its decomposition are deposited on the skin. Mild alpha radiation is released. This stimulates the body’s cell-repair mechanism and reduces the number of free radicals. Messenger substances, which promote healing and reduce inflammation, are activated.

These processes combat chronic inflammation and allergies; an immunological equilibrium is reestablished.

The extended hyperthermia created in the Heilstollen climate enhances the effects of radon therapy. Analgesic, anti-allergic, anti-inflammatory and immune-regulatory benefits are produced. It results in long-term and deep-seated mitigation of pain conditions and physical complaints. Medications can be reduced for months at a time.

*3. Gastein Heilstollen therapy is said to reduce pain caused by a variety of conditions. For which symptomologies do you achieve the greatest successes?*

Clearly we achieve the greatest treatment successes in disorders of the musculoskeletal system, respiratory conditions and skin complaints.

Numerous studies have provided evidence of the enormous effectiveness of radon therapy in treatment of Bechterew’s disease, rheumatoid arthritis, and degenerative back and joint conditions.

However, the therapy is also a worthwhile element of the classic spa tradition, both as a general form of prevention and in stabilizing the immune system.

4. *Who is an appropriate candidate for Heilstollen therapy? Are there no dangers or side-effects?*

Our medical team is always glad to assist with these types of questions from patients or attending physicians.

I have previously described in rough terms those symptomologies which indicate Heilstollen therapy.

Contraindications for radon therapy are pregnancy and untreated hyperthyroidism. Those patients undergoing treatment for malignancies should wait one year after concluding therapy. And since treatment also involves heat therapy, patients with severe heart, cardiovascular and renal complaints should always consult their personal doctor.

Heilstollen therapy is accompanied by minimal side-effects. And since it also leads to substantially reduced need for medications, it also results in reduction of many risk factors. Discussions as to whether radon therapy increases lung-cancer risk in people are, due to the very low doses involved in treatment, purely theoretical. Within the dosage range – roughly equivalent to that of a spinal x-ray – a correlation with increased lung-cancer rates has never been established.

5. *Do you understand the skepticism of many traditionally trained physicians?*

Skepticism doesn't necessarily have to be something negative. Asking critical questions is the expression of conscientious examination of an issue, which can only benefit the patient. In the instance of Heilstollen therapy, however, because of the exceptional evidence with respect to the symptomologies we have already addressed, in my opinion such skepticism is quite out of place.

6. *Where do your patients come from?*

Most of our patients come from Germany and Austria. But more and more patients from other European countries are discovering the pain-alleviating effects of the Gastein Heilstollen.

7. *Is radon therapy recognized by European insurance carriers?*

The various forms of radon therapy – and this includes Gastein Heilstollen therapy – are a recognized form of treatment. Within the framework of prescribed outpatient preventive care or inpatient rehabilitation, many Austrian and German insurance carriers do enter into direct-billing arrangements.

8. *What should patients from Austria and Germany be aware of if they are interested in Heilstollen therapy in Gastein Valley?*

Insurance billing matters relating to spa treatments are becoming ever more complex. Which is why the Gastein Heilstollen has created a patient information office dealing specifically with issues such as these. All interested patients can take advantage of this service and find out more information by calling our international, toll-free hotline at 00800 60 06 78 78.

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### **Gasteiner Heilstollen – History**

Since the Roman times, the area between Sonnblick and Ankogel in the heart of Austria, only 100 km away from Germany and Italy, has been known to have the most rich ore mines in the Alps. Gold and silver mining flourished here in the 16th and 17th centuries. In the year 1557 alone, more than 800 kilos of pure gold was extracted from this valley.

Efforts to reactivate gold mining in this area at the beginning of World War II also focused on the Radhausberg, on which rock debris, ruins, miner settlements and more than 50 dilapidated gallery entrances provided evidence of intensive mining in earlier times.

In 1940, it was attempted to undercut the old ore alleys with a new tunnelling system, hoping to find new rich veins. The new gallery, the Paselstollen, however, was rather disappointing in this respect. Yet other interesting discoveries were made which led to the scientific exploration of the gallery after the war.

It was discovered that in a certain part of the mountain, rock temperature reached up to 44°C, and air humidity was very high. Moreover, several mining workers who worked in the gallery reported that their rheumatic complaints, inflammatory joint diseases or wear-and-tear joint problems, and even lung diseases such as bronchial asthma and skin diseases have disappeared during work in the gallery. The word of this completely different "gold" in the Tauern mountains spread quickly.

As of 1946, comprehensive scientific research was carried out by the University of Innsbruck that did not only identify high temperatures (up to 41 °C) and humidity (almost 100%) but also the high radon levels in the gallery as a cause of this phenomenon. In an expert opinion issued by the University of Innsbruck in 1951, Professors Scheminzky and Hittmair consensually concluded that treatment in the Gastein galleries has a healing effect that is equal to that of spa treatments but is far more effective than all other common treatment methods – even state-of-the-art ones - with a considerable number of patients.

Since 1952, thousands of patients have come each year to seek relief from their ailments in the Gasteiner Heilstollen.

## **Press release Gastein Heilstollen Galleries For a natural pain relief**

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### **Gastein Heilstollen – Enquiries – Additional Information**

For all medical questions and related issues, or for additional medical opinions, please contact:

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