

SOUTH TYROLEAN HAY AND MINERAL BATHS

Preventive folk medicine from South Tyrol



Foreword

For centuries, mankind has been aware of the soothing and curative effects of mountain herbs, sparkling Alpine water and the fresh, clean air of the mountains. In the last few years, more and more people have been seeking out authentic spa treatments and home remedies to complement purely conventional medical care. In South Tyrol, there are resources available that have been scientifically proven as having health-promoting effects. This brochure is intended to encourage utilisation of the enormous potential of Alpine resources, especially as regards complementary treatment of rheumatism.

Through this publication, IDM Südtirol seeks to contribute to the appreciation and increased utilization of these valuable, natural, Alpine resources.

IDM Südtirol
Business Development - Food & Wellness



‘Rheumatism patients must cope with pain on an everyday basis, and unfortunately also undergo drug therapy in most cases. We want to illustrate to those affected that there is a supplementary approach that may be beneficial to their health’.

Günter Stolz, President of the Rheumatism League, and
Andreas Varesco, Managing Director

‘Bathing culture is of great interest to me, personally, also because I am open to complementary medicine’.

Dr Armin Maier,
Head of the Rheumatism Clinic, Bolzano Hospital

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Bathing in South Tyrol

The tradition of bathing has been considered curative for centuries¹. As early as in 1870, haymakers had already become aware of the analgesic effects of hay flowers, something they discovered accidentally as they rested in the hay after work. The culture of bathing in spring water dates back even further, all the way to ancient Roman times.

Bathing culture developed into a socio-cultural phenomenon that has shaped South Tyrol over time and represents the true origins of tourism development in the region. Today in South Tyrol, there are at least 38 water sources with special chemical components, of which 14 are officially recognised as mineral water. Some of these springs are coming into use again, with the aim of offering health-promoting treatments.

The water used for radon and sulphur baths always comes directly from natural springs close to the spa facilities that offer these treatments. Radon and sulphur baths attain optimal effect when between six and twelve 20-minute baths are taken at temperatures between 37 and 39 °C.

IMPORTANT: Don't forget to rest after your treatment!



¹ Engelbert, Dr. C., 2007.



A traditional hay bath, which can only be offered in summer, employs fresh grass sourced from Alpine meadows. After the hay is mowed, any remaining dew is dried out of the grass, which is then put directly into the hay bath. There the hay heats up to around 50 °C due to the onset of fermentation, causing the bather's body to perspire and initiate metabolic processes. When it forms part of a tub bath, on the other hand, hay can be used all year round. In this case, hay is soaked in water and heated with steam to start fermentation.



Thermal Effects on the Body

Hay baths and mineral baths alike have a thermal, i.e. a warming effect on the body. Research on the thermal effects of baths carried out by the University of Siena² has shown that pain-relieving hormones and endorphins are released by giving the muscles hot stimuli.

This lowers the level of pain intensity, reduces muscle spasms and extends the range of motion in joints. Heat also accelerates tissue metabolism and stimulates the removal of metabolic waste products, another way of relieving pain.

A 2013 study³ of 15 osteoarthritis patients showed the following thermal effects of bathing: occasional hyperemia (increase in blood flow) in tissue layers and resolution of blood congestion, and the release of various hormones, including endorphins, which have antispastic and analgesic effects. Patients also reported a **significant reduction in joint pain and a decrease in the duration of joint stiffness.**



- The warmth of the baths stimulates the body's metabolism and helps alleviate pain. Different types of baths are recommended depending on the type of illness. Hay baths stress the body more than mineral baths do.

² Fioravanti, A., University of Siena, Rheumatology Unit, Department of Clinical Medicine and Immunological Sciences, Siena 2009, 2011

³ Chesi, S.: University of Siena, Rheumatology Unit, Department of Medicine, Surgery and Neuroscience, in: Botanicals: Targets and Therapy, Siena 2013.

Radon Baths

ACTIVE INGREDIENT: RADON

Radon is an inert gas that occurs in the earth's crust and is produced as an intermediate element during the radioactive decay of uranium and radium. On average, the air contains about 50 Bq/m³ of radon. Radon also occurs in natural springs that come into contact with radon gas. Because the gas is heavier than air, it accumulates in cavities and depressions⁴.

SCOPE OF APPLICATION

Musculoskeletal disorders: osteoporosis, ankylosing spondylitis, arthrosis, soft-tissue rheumatism, degenerative spinal disorders and chronic polyarthritis⁵.

RESEARCH RESULTS

A study on 222 patients carried out by the research institute of the Gastein Healing Gallery⁶ showed that radon **inhibits inflammation** by releasing endorphins. It also turned out that this had a **pain-relieving effect** on the patients. On average, pain sensation dropped from 4.88 to 3.04 on a scale of one to ten. Especially in the months following the treatment, patients reported having to take less pain medication. Furthermore, the immune system was strengthened due to the release of so-called alpha particles, which in turn release neurotransmitters and hormones. Radon's alpha rays also improve a cell's capacity to repair itself. In the year following the treatment, the average number of sick days for study participants dropped from 14 to 1.5 days. EURADON, the European Association of Radon Spas, has confirmed **long-lasting pain relief** in an international radon study performed at several spa facilities⁷. The organisa-

- Radon baths effect pain reduction over the long term and reduce the need for painkillers. However, it is important to remember, however, that an excessive dosage and long-term treatment can also have negative effects. The desired positive effects occur only if the treatment is carried out in appropriate measure.

⁴ Marx, S.: Technical University of Munich, 2014

⁵ Pratzel, H.: Institute of Medical Balneology, 1991.

⁶ Unter Moder, 2011.

⁷ Franke, A., Franke, T.: 2013: so-called IMuRa trial

tion also states that radon causes **positive changes in bone metabolism** and significantly reduces antibodies, the levels of which are especially high in rheumatic diseases⁸.

Radon baths can be found in hotels like Bad Salomonsbrunn in Antholz/Anterselva (radon concentration 347 Bq/l, spring from granite rock, Antholz/Anterselva).



⁸Moder, A. in: ärzte-exklusiv, 2011.

Sulphur Baths

ACTIVE INGREDIENT: SULPHUR

Sulphur is a mineral that occurs in food as well as in the earth's sphere, and thus in natural springs, in the form of sulphates and sulphides. It escapes from the earth in volcanic areas and is contained in the mud of volcanic lakes. The sulphur content in natural springs varies, and in Italy any healing effect of water must be tested and officially recognised by the Ministry of Health. Bathing regularly at temperatures between 37 and 39 °C is recommended, as is a rest period following the bath.

- > Sulphur fosters various pain-relieving treatments such as anti-inflammatory therapy and stimulating blood circulation.

SCOPE OF APPLICATION

Rheumatic diseases: ankylosing spondylitis, soft-tissue rheumatism, joint and spinal disease, intervertebral disc problems⁹, skin disorders, itching, arteriosclerosis, cardiovascular diseases¹⁰ and cell aging (sulphur, a radical scavenger, has antioxidant properties¹¹).

RESEARCH RESULTS

The Austrian Medical Journal¹² ascribes **anti-inflammatory** effects to sulphur. The element aids in healing joint inflammation. Hydrogen sulphide enters the blood through the skin and acts as a **joint 'lubricant'** by integrating into the articular¹³ cartilage.

⁹ Brückle, W. from the rheumatology clinic, 2010.

¹⁰ Marktl, W. from the Institute of Physiology of the University of Vienna, 2005.

¹¹ Ibid.

¹² Declaration of consent on sulphur water bathing therapy, 2013.

¹³ Brückle, W., 2010.

In a 1999 study¹⁴ of 18 patients with chronic arthritis, the Institute for Balneology and Medical Climatology described three different types of effects from sulphur baths:

1. attenuating effects (sulphur baths **significantly reduce cold and pressure pain** on the pain scale);
2. systemic effects (when hydrogen sulphide is absorbed through the skin, it **reduces pain sensation** even in parts of the body not directly immersed in the bath);
3. local effects (increases **blood circulation and microcirculation of the skin**, i.e. circulation in all capillaries is improved, in turn increasing oxygen supply to the cells). A study on the thermal effects of baths carried out by the University of Siena¹⁵ also shows mechanical effects (**water pressure**) and thermal effects (**hot stimuli**), which support the treatment of rheumatic diseases.

According to a study by the University of Vienna, hydrogen sulphide seems to destroy free oxygen radicals. This would be a significant effect, indeed, but does require further clarification¹⁶.

Sulphur also helps lower LDL cholesterol, a helpful feature in arteriosclerosis and cardiovascular disease.

In South Tyrol, hotels such as Bad Moos Dolomites Spa Resort (Sesto/Sexten), Bad Bergfall (Valdaora/Olang), Aqua Bad Cortina (San Vigilio di Marebbe/St. Vigil) and Al Bagn Valdander (Antermoia/Untermoi) offer baths in water sourced from the respective hotel's own spring, where sulphur occurs in the form of sulphates and sulphides.



¹⁴ Gutenbrunner, C., Medical University Hanover, 1999.

¹⁵ Fioravanti, A., Institute of Rheumatology at the Department of Clinical Medicine of the University of Siena 2009, 2011.

¹⁶ Hartmann, B., Hartmann, M, 2008.

Hay Baths

INGREDIENTS OF HAY

Hay flowers and herbs such as lady's mantle, Alps wormwood, arnica, fescue, mountain yarrow, mountain anemone, prunella, gentian, winter speedwell, cowslip, black nigritella, various types of lilies and clover, narrowleaf and broadleaf plantain, pasqueflower, autumn moor grass, bedstraw, heath milkwort, yarrow, eyebright, St. John's wort, masterwort, chamomile, wormwood, valerian, common sorrel, bloodroot and dandelion.

SCOPE OF APPLICATION

All forms of osteoarthritis (wear and tear of peripheral joints and spine), soft-tissue rheumatism, muscle tension, muscle hardening, sciatica pain (lumbosciatica) and spinal disc problems.

RESEARCH RESULTS

Due to South Tyrol's unique soil conditions (fossilised coral reefs containing abundant minerals), hay flowers grown locally are especially rich in essential oils, coumarin, glycosides and tannins, which help relieve rheumatism and muscle pain¹⁷. In 2013, Sarah Chelieschi from the Institute of Rheumatology at the University of Siena's Department of Clinical Medicine showed in a study of 15 osteoarthritis patients¹⁸ that this type of thermotherapy is an effective aid in the treatment of arthrosis (especially in the knee joint area). It makes a **good alternative treatment for patients who do not respond well to conventional drugs**: 72% of patients reported a lessening of pain immediately after treatment, and 90% of patients reported lessening after six months. In addition, morning joint-stiffness decreased (in 57% of patients, hay bathing was effective) and joint pain was less intense (improvement in 68% of study participants).

As early as in 2008, it was discovered over the course of a

- Muscle-relaxing ingredients and essential oils in the hay relieve pain in a sustained manner.



¹⁷ Engelbert, Dr. C., 2007.

¹⁸ Chelieschi, S., Institute of Rheumatology at the Department of Clinical Medicine of the University of Siena, 2013.

three-year study¹⁹ at the Terme di Garniga in Trento, with more than 100 patients participating in three test groups, that hay baths (ten hay baths per person and treatment cycle) are extremely effective for pain relief, especially in the case of arthrodesis in the knee. After three to six months, patients were more satisfied than after conventional medical treatment. The improvements from hay baths **even lasted up to 12 months after treatment.**

Chemical-biological processes cause components in the hay to ferment, releasing essential oils which are soothing to the skin. Glycosides in the hay are converted into **coumarin**²⁰, which has **nerve-soothing, anti-inflammatory and antispasmodic properties.**

Some of the South Tyrolean establishments that offer hay baths – even on a regular basis – include: Hotel Heubad (Fiè allo Sciliar/Völs am Schlern), Alpenbadl Oberfraunerhof (Velturno/Feldthurns), Bad Moos Dolomites Spa Resort (Sexten/Sesto), Bad Schüsslerhof (Selva dei Molini/Lappago, Mühlwald/Lappach), Lindenhof (Vandoies di Sopra/Obervintl), Alphotel Stocker (Campo Tures/Sand in Taufers).

PLEASE NOTE: If you are interested in starting a treatment in the form of hay, radon or sulphur baths, please contact the spas directly. Further information can be found at: www.badlkultur.it. If you are not sure if these baths are appropriate for you, please consult a medical specialist.

IMPORTANT: If you have an inflammatory rheumatic disease such as rheumatoid arthritis or ankylosing spondylitis, take a hay bath only when you are not experiencing acute inflammatory attacks!

¹⁹ Miori, R. et al., 2008.

²⁰ Nicolini, G., s.a.



Contact Info of South Tyrolean Bathing Spas

MINERAL BATHS

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Aqua Bad Cortina

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HAY BATHS

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