

## UNNECESSARY WORRIES ABOUT MEDICAL RISKS IN RADON BATHS

Most people hear mostly negative information about the ionizing radiation: weapons of mass-destruction, radiation sickness, etc. Radiation therapy is connected only with cancer treatment. Yet the ionizing radiation in the hands of a medical doctor is less risky than for example penicillin. People still die of an allergic reaction to penicillin. Nobody has died of medical irradiation yet. Each physical treatment must be performed only under medical supervision, only then the good side of this natural energy can be used.

The Léčebné lázně Jáchymov a.s. spa company is a holder of the State Office's for Nuclear Safety Certificate to carry out this treatment and to take measures to ascertain absolute safety both for the patients and the employees. A dosimetry laboratory responsible for supervising the prescribed procedures both during pumping the radon water and the subsequent provision of radon baths in the spa facilities is part of the Jáchymov spa complex. The content of radon in the water and the air is monitored and checked carefully on a regular basis; and every guest is completely examined on his or her arrival to the spa hotel both clinically and in a lab. The best proof of the safety and effectiveness of the Jáchymov treatment are our guests who keep returning for ten, twenty and even thirty years. Their lives are now acceptable due to the radon treatment, sometimes in spite of a serious chronic disease.

## FOR WHOM IS THE RADON TREATMENT NOT SUITABLE?

- ☞ patients with any acute disease – infections, non-stabilized arterial hypertension, heart or breathing problems, unstable diabetes, not treated hyper-functioning of the thyroid gland, etc.
- ☞ pregnant women
- ☞ children and youth under 18
- ☞ patients within two years after an operation or another form of a cancerous disease treatment, unless the oncologist agrees to the radon treatment



## WHAT PROBLEMS IS THE RADON TREATMENT SUITABLE FOR?

The radon treatment is in general very gentle and it does not tax the body with heat load or from the point of view of blood circulation or acids-alkali balance. It is well tolerated by the seniors as well.

**It is suitable mostly for treatment of chronic diseases affecting the motion apparatus by:**

- ☞ **inflammation** – all rheumatic diseases of joints, soft tissues, backbone (e.g. rheumatoid arthritis, psoriatic arthritis, systemic lupus, fibromyalgia, Bekhterev's disease)
- ☞ **pain and stiffness due to wear** (e.g. arthroses of joints and backbone, spinal discs herniation, damage of tendons, ligaments and menisci)
- ☞ **metabolic disorders** (osteoporosis, gout, porphyry)
- ☞ **damage to peripheral nerves or spinal cord roots** (e.g. neuritis, neuralgias, peripheral paralysis, spinal cord root syndromes, poly-neuropathies, carpal tunnel syndromes)

**Further, it is suitable for post-operation and post-injury conditions requiring intensive healing and regeneration of the damaged tissues, i.e. total joint replacements, spinal operations or large-sized burn scars.**

**The radon therapy helps in regeneration of conditions with general energy imbalance:**

- ☞ **vegetative lability, neuro-circulatory weakness** (cold extremities, easy collapses, cold-bloodedness, functional organ dysfunction, climacterial syndrome)
- ☞ **a decline in strength** in higher age **in general**
- ☞ **exhaustion** in demanding vocations
- ☞ **regeneration** for top-class sportsmen
- ☞ **maintaining the functional reserves** of the body in case of multiple sclerosis or Parkinson's disease in an early stage

**Also the diseases of peripheral blood vessels as vaso-neuroses, ischemies in atheroscleroses of the extremities' arteries, conditions following veins inflammations or rheumatic vasculitis respond well to the treatment.**



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# RADON IS ENERGY ENERGY IS LIFE

## CURATIVE SOURCE FROM THE CORE OF THE EARTH





## RADON WATER...

## RADON...

## HOW...

### ... HEALING ENERGY FROM THE CORE OF THE EARTH

It is the specific natural treatment source what turns a place into a spa.

There are climatic spas, thermal mineral water spas, peat spas, etc. The Léčebné lázně Jáchymov a.s. is absolutely unique and different by its natural curative source. **It uses radon water for treatment which, unlike other sources, does not have chemical but energy effects.**

The unique source of this natural wealth in Jáchymov is **a still active mine**, the oldest one in Bohemia and possibly also in Europe. It was established in 1518, and the springs of radon water named after the academician Běhounek or Marie Curie – Skłodowska are located on its twelfth floor, 500 m under the ground.

Currently, there are four springs used on the 12th floor of the Svornost mine:

SPRING	CAPACITY	TEMPERATURE	RADON CONTENT
Curie	30 l / min	29 °C	5 kBq/l
C1	30 l / min	29 °C	11 kBq/l
Běhounek	300 l / min	36 °C	10 kBq/l
Agricola	10 l / min	29 °C	20 kBq/l

*A mix of all four springs is used for baths.*

Water from these springs is collected in a cistern on the 12th floor and then pumped to 400 metres into an accumulation reservoir on the Barbora floor. The radon water is then run down to the Daniel floor and then distributed through about 3,000 metres of pipes to the individual spa facilities.



### ... RADIOACTIVE DEMON OR HEALER OF GENIUS?

Animals, including people, have been developing on Earth for millions of years in an environment which used to produce higher or lower levels of ionizing radiation in different eras. The organisms had time to develop natural physiological reactions protecting the cells from radiation damage. These are mostly regeneration processes.

People are able to respond to the ionizing radiation to a certain level by activating the regeneration processes and they are able to become resistant to a certain level both to radiation and to other physical and chemical damage to the cells in general. Jáchymov spa treatment utilizes this phenomenon in treatment of the motion apparatus diseases in a wide sense of the word.

**Radon**, specifically its isotope 222, is a chemically inert gas springing in the depths of the Ore Mountains and dissolving in the underground springs. It is **a source of soft ionizing alpha radiation**. The body surface is exposed to an energy shower of the radon alpha-particles during the radon bath, thus setting off a chain of physiological responses. **The penetration of radon into the blood stream is negligible and the biological half-time** (elimination of radon from the body) **is 20 minutes** (i.e. the duration of the radon bath itself).

### ... DO RADON BATHS AFFECT THE HUMAN ORGANISM?

Therapy is the art of using the curative source in optimum quality and quantity. The quality in the case of radon is the soft alpha radiation, the quantity the strength of the Jáchymov springs and doses verified by a century of radon baths use. Their curative range is 10 to 24 baths of 4.5 – 5.5 kBq lasting 20 minutes.

The energy absorbed **stimulates regeneration of tissues and expulsion of harmful oxidative stressors** (mostly free radicals from chemicals, industrially processed foods and the environment). It increases the production of hormones, including the analgesic, anti-inflammatory and sexual ones. **All elements of the immune system get activated**. These processes are started during the treatment stay and they continue for about 4 – 6 weeks after the last radon bath.

It is followed by the stage of **calming of painful and inflammatory conditions** in the body, with improvement of all elements of the motion apparatus functions: joints, muscles, tendons, along with their respective blood vessels and nerves. **The relief lasts in most cases longer than half a year**, the quality of life of the chronically ill increases and their use of analgesics decreases.

