Thermal springs in Greece. Much more than Wellness

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Thermal springs in Greece. The scientific view
«Greece has an advantage, is a shaken a country»!!! There is a huge seismic activity in this area.
Thermal springs in Greece

In contrary the rest of Europe is a quite silent continent
Earthquakes effect on thermal springs

• The intense seismic activity results to a lot of thermal springs in Greece with 112 recognised springs (hydrotherapy, mud bath, vapour)

• 81 of them are operating
Does earthquakes effect on thermal springs?

• The seismic activity enriches the therapeutic natural resources (water, vapour and mud) naturally with valuable elements.

• The literature supports very satisfactory the improvement of the these resources quality with measurements before and after the earthquakes during the years.

*Note*: This seismic activity is of low capacity and only a few of these earthquakes are perceptible by human and only are registered by geodynamic institutes.
«Thermal springs» definition and thermal waters ingredients

• A hot spring is a spring that is produced by the emergence of geothermally heated groundwater from the Earth's crust.

• The waters of natural water springs are produced through rocks and come out of the earth’s core.

• These are mineral waters, containing: dissolved mineral ingredients-such as sodium, potassium, calcium, magnesium, iron, iodine, radium, phosphorus and sulphur-or gases like carbon dioxide, hydrogen sulphide, nitrogen, oxygen and hydrogen.
«Thermal springs» definition and thermal waters

✓ The waters are not of equal acidity degree and they are acid, alkaline, or neutral.

✓ The temperatures vary but have an average of $60^\circ$ C. There are springs that may contain a higher level of one or two substances and others that may contain a lower level.
Thermal springs: The medical view & benefits

- The pharmaceutical medicine became very late popular in the middle of 19th century when apothecaries started producing drugs such as morphine, quinine and strychnine.

- Since then humanity survived for ages using for treatment herbs and thermal springs
Thermal springs: The medical view & benefits

✔ The Thermal Stimulus (increases the neuromuscular response)

✔ For a thermal stimulus the temperature of water should be greater than 34°C.

✔ At temperatures between 38 °C and 40 °C. muscles are heated, their resistance is decreased and after relaxation, pain is relieve and movements are facilitated.

The agent acts in several ways.

These are:

✔ the dimension increase of the blood vessels (dilatation),
✔ hyperemia,

✔ The Thermal Stimulus

✔ Increases the body perspiration,
✔ the muscle relaxation
✔ improves metabolism
✔ and promotes analgesia.
Thermal springs: The medical view - benefits

✓ With regard to mechanical factors, the effect of laws based on the Archimedes theory referred to in the hydrostatic pressure.

✓ In the water the body becomes lighter, movements become easier, the muscles relaxes, absorbs the bumps and inflammations and causes a positive effect on psyche.
A very important component of the thermal water is the element sulfur in the form of sulphate radicals.

These sulfate radicals entering through the skin into the body and enrich the contents of joints, bone marrow and blood.

In our body there are a lot of trace elements that help chemical reaction and involved in protein production.

These trace elements are found in many spring waters. One of these is radon, which has the ability to penetrate the body through inhalation, through thermal baths and mud baths.

The mineral hot springs have redox properties, and it is important in the balancing of physical equilibrium.
Facilitation of the neuromuscular bundle function:
Tendons & ligaments healing:

Pain relief
Joint blood supply restoration:

Further pain relief, soft tissue healing & joint motion allowed
Joint function & cartilage nutrition restoration:

Motion (-)  
Motion (+)
Joints motion facilitates blood circulation, heart & pulmonary function:

☑ This is the base of good health (vicious circle)
Absolute contraindications for thermalism treatment

- Scleroderma,
- Collagen diseases
- Vascular diseases
- Cardiac abnormalities,
- Rosacea
- Blood clotting problems,
- Active bacterial or fungal infection,
- Immuno-suppression,
- Scars less than 6 months old,
- Facial fillers (botox) in the past 2 weeks.
History: Mediterranean Antiquity 2000 B.C.

- Baths in antiquity were widely distributed and served as a hospital, as almost all the diseases treated with water.

- These baths were available even a poor man.

- Upstairs were large stones, couches, which were heated from the bottom floor.

- Visitors and bathers were lying on these stones.

- In the stone was a hole, through which the steam came out from the bottom.

- It was widely used the medicinal inhalation in those baths.
History: Mediterranean Antiquity II

✓ Instead of soap it was used a paste of beeswax and water.

✓ In the middle of the room upstairs was a small pool of contrasting water for treatments.

✓ Rooms were available for gymnastic classes and hall-clinic where archaeologists found medical instruments.

✓ The floor presented, very often bath drain for the water that went into the common drain of the city.

✓ This drainage system served as a kind of central heating of the city.

✓ These traditional baths became the basis for the todays thermal centers.
Hippocrates, 460 BC - 370 BC) was the first to write much on the healing of diseases with water. He used water extensively, both internally and externally, in treating illness of all kinds.

He wrote:
“... the bath soothes the pain in the side, chest and back; concocts the sputa, promotes expectoration, improves the respiration, and allays lassitude; for it soothes the joints and the outer skin, and is diuretic, removes heaviness of the head, and moistens the nose. These are the benefits to be derived from the bath.”
History: Ancient Greece

By the time of Hippocrates bathing was considered more than a simple hygienic measure; it was healthy and beneficial for most diseases. Hippocrates proposed the hypothesis that the cause of all diseases lay in an imbalance of the bodily fluids. To regain the balance a change of habits and environment was advised, which included bathing, perspiration, walking, and massages. The baths were often combined with gymnastics and education, the precursors of the gymnasium.
Definition of «Wellness» term

"...a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity." - The World Health Organization (WHO).

"a conscious, self-directed and evolving process of achieving full potential." - The National Wellness Institute (NWI).
Why Much more than Wellness….?

Health Tourism

The modern health tourism is divided in 3 sectors

1. Medical Tourism
   This is highly competitive market which is focusing on cities with airports, private high level hospitals and specialized hotels. Its object is the treatment of specific diseases and surgeries.
Much more than Wellness….

2. **Preventive health tourism** is divided in 2 fields
   
   A) **The non indication oriented field** (Healthy people) which focuses on primary prevention with thermal baths and spa (diagnosis is not required)
   
   B) **The indication oriented field** (patients)

   refers to specific therapeutic medical services to prevent the deterioration of the health status of the patient.

   This field has two parts.

   i) **the secondary prevention** – medical baths, when we need specific therapeutic services for not so serious incidents (diagnosis is required)

   ii) **the tertiary prevention** – rehabilitation, for serious cases under medical experts control.
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3. **Wellness-spa**

*The lifestyle market* that aims to increase the personal efficiency, attractiveness and beauty.
Conclusion - considerations

✓ Therapeutical benefits of thermalism are well established since the rising of human civilization

✓ Thermalism offers the required environment and condition for the self repairing mechanism which is remarkable in human’s organism

✓ Facilitates both doctors and patients to be more effective and happy correspondingly in applied treatments

✓ Thermalism centers following the hygienic regulations are an index of civilization of every society during the centuries
Conclusion - considerations II

Greece offers

- Absolute water quality
- Ideal landscape
- Mediterranean cuisine
- History and tradition in thermalism
- Host culture (Philoxenia)
- High level educated scientist and employees
Conclusion - considerations III

Our hydrotherapy centers are very good and the only missing is the investments in high class accommodation and publicity to explode that sector of health tourism.

We started working because we believe that thermal springs in Greece can offer much more than wellness to the guests.

I would like to thank the Hellenic Association of Municipalities with Thermal Springs and especially Mr. Markos Danas, the General Secretary, for his valuable help in this effort for the development of thermalism in Greece and allowing the Greek Thermal Springs to become attractive and «Hot spot» in Health Tourism.
Thank you for your attention