



## Climatotherapy: There is Life in the Dead Sea

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The "Dead" Sea and the whole region around its shores are actually bursting with life. The leading powers of these waters, especially in treating rheumatic and skin diseases, have been recognized from the time of antiquity. The waters of the Dead Sea "heal all those who use them" (*Sextus Julius Africanus*, third century).

Climatotherapy at the Dead Sea is a natural approach to the treatment of psoriasis and other skin diseases. The sun, the bathing and resting, and the natural physical properties of the surroundings, i.e., the high salt concentration of the water, the dense, oxygen-rich haze, the relaxing atmosphere, and the ecologic determinants, are exotic ingredients for a formula for safe, effective and pleasant healing and recovery. This unique therapeutic approach needs no chemicals or potentially harmful drugs, such as retinoids, cytotoxic agents or steroids, and raises the meanings of natural photo-, helio- and balneotherapy to their highest level. Patient compliance may be just a matter of the ability to make the time and cover the expenses for travel and accommodation.

Putting aside the sheer pleasure of taking time off to pamper oneself under the guise of treating one's skin diseases, does this therapeutic approach really work? The happy answer to this question is a resounding YES! The efficacy of this treatment is testified to by tens of thousands of visitors who have come from all over the world to this place to seek climatologic treatment for their disease throughout the past 30 years, many returning year after year. Impressive clinical results of climatotherapy for psoriasis at the Dead Sea were also established by several studies, lending credence to the extolling of its enthusiastic supporters. The seminal article on Dead Sea treatment was published more than 40 years ago (1959) [1]. Ten years later, more publications began to appear in the medical literature, now providing a respectable collection of well-designed and controlled studies that scientifically established the efficacy of climatotherapy [reviewed in 2–5]. Moreover, the Dead Sea Medical Research Center, an institution established in 1993 and dedicated to the study of the singular scientific/medical/therapeutic aspects of the Dead Sea region, has contributed much to the scientific value of this therapy.

How does this treatment work? Curiously, in spite of there being meager convincing scientific proof of it, most researchers believe that the most important among all the factors is the exposure to the sun's ultraviolet rays. There is only one published report in which

the isolated contribution of the sun was compared to the properties of the water *in vivo* in psoriatic patients [6]. This study showed a mean improvement in PASI score of 72% in patients exposed only to sunshine, an improvement of 28% in those who received only indoor bathing with Dead Sea waters, and an improvement of 83% in those who did both. Noteworthy, since the advent of PUVA (psoralen plus ultraviolet light of the A wavelength) therapy for psoriasis in the early seventies and the introduction of many light sources that try (and, in part, succeed) to mimic the radiation at the Dead Sea, several qualified scientists (and not-so-qualified individuals who have vested interests in this area) now try to emphasize that it is the unique combination of many factors, such as the oxygen-rich, bromine-rich haze over the sea, the exclusive composition of the waters and many others, that lead to such high levels of therapeutic success in clearing psoriatic lesions. Scientifically based evidence for these claims is still in the offing.

How does Dead Sea treatment fare compared to other treatment modalities? Compared to most contemporary psoriasis therapies, climatotherapy is in the lead, proving to be the most cost-effective, non-drug, and non-stressful treatment, as well as being less expensive than inpatient care. It is a very potent therapy due to the high rate of clearance and a long remission time. Resistance to the treatment is rare, resistance to other treatments is not a contraindication, and it is suitable for children. Perhaps its most distinctive advantage is that it improves the patients' self-confidence to continue their daily routine in a healthy society.

There are almost no side effects during and after treatment, and there is a very low risk of potential damage to general health, but the issues of safety and long-term risks need to be addressed. An important consideration when using UV radiation (natural and artificial) for extended and repeated sessions is the possibility of long-term damage to the skin, which might lead to premature aging, decreased immunity and the development of skin cancers. In a retrospective Danish cohort study comprising 1,738 psoriatic patients who underwent climatotherapy at the Dead Sea during 1972–93, a significantly (almost fivefold) increased risk of non-melanoma skin cancer was found for those patients compared with

UV = ultraviolet

the Danish population at large [7]. Recently however, Kushelevsky et al. [8] found that the mean UVB exposure dose at the Dead Sea is one of the lowest reported for the clearance of psoriasis, compared with the dose in similar climatotherapy studies in Sweden and Switzerland, as well as with the dose in patients treated in radiation cabins at seven university clinics.

In a timely, interesting and important study appearing in this issue of *IMAJ*, Even-Paz and Efron [9] found that the effect of 3 hours of daily sun exposure in the heliotherapy of psoriasis at the Dead Sea was therapeutically sufficient and that this schedule could replace the traditional (but not evidence-based) one that recommends a daily exposure of 5–6 hours. Because of the potential, additive, and carcinogenic effect of UVB, and in view of the frequently repeated treatments used in a lifelong disease such as psoriasis, this new line of evidence for designing an equally effective treatment plan but one in which sun exposure is half as long is of special practical importance for these patients.

Although our forefathers were promised "a land flowing with milk and honey," these blessings were not translated into abundant natural resources, such as industrial raw materials, minerals or oils. On the other hand, Israel has been blessed with no small number of health springs and health spas. The most famous of all these waters is the Dead Sea, located less than one hour's drive from Jerusalem. It is 400 meters below sea level, making it the lowest point on earth, and is one of the world's most fascinating and well-known health resorts. Climatotherapy at the Dead Sea has yielded encouraging results and the many investigations and studies that were done in recent years show promise that there is much more that awaits discovery. Further research and more clinical trials in patients are needed to apply the unique curative powers of the Dead Sea to their greatest advantage. The potential of this small paradise is

enormous, and the contribution and value of serious and modern investigations to both the patients and to our country cannot be underestimated.

Even-Paz and Efron should be congratulated for their considerable contribution to the literature in the past and for the important and practical evidence that they provide in the present article.

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*I suffer more from the humiliations inflicted by my country than from those inflicted on her.*

*Simone Weil (1909- ), French philosopher and mystic. Although she officially embraced no religion, she was passionately concerned with religious matters as well as social equality and pacifism. She died from pleurisy after restricting herself to the same diet as that in Nazi labor camps.*

## Capsule

### Oridion's BreathID obtains FDA approval

Oridion (swx:oridn) has obtained final FDA marketing clearance for its BreathID, which tests for *Helicobacter pylori* bacteria. This bacterium infects over half the world's population and is a leading cause of peptic ulcers. It is also a major risk factor for the development of gastric cancer in patients with dyspepsia. The GI Testing Business Unit develops non-invasive, online, office-based breath testing products that are convenient and effective for

screening, diagnosing and managing common gastrointestinal complaints in the physician's office. Currently available for the BreathID GI Breath Test platform are tests for *H. pylori* detection and gastric emptying rate, enabling physicians to test, obtain results and begin treatment – all in one clinic visit.

*Israel High-Tech & Investment Report 2003;19:9.*

