

## **Dead Sea EDOM Scientific Research**

A study involving a European occupational therapist suffering from psoriasis who had obtained compensation from her health insurance in order to undergo therapy at the Dead Sea has led to great interest in health funds in Denmark, Germany and other European Countries. This has resulted in their subsidizing treatment from the Dead Sea for people suffering from both Psoriasis and other skin conditions. If Health Insurance companies can be considering coverage of treatment at the Dead Sea for relief and treatment of skin disorders, then it seems reasonable to advocate usage of products manufactured from the Mud and minerals of the Dead Sea.

**Healthy skin and physical and mental well being is dependent on the correct sodium and potassium or fluid balance in the body.** This is regulated by the Adrenal gland, which in turn affect healthy function of the kidneys. The kidneys are responsible for controlling 28 chemicals in the body. An imbalance of these chemicals or electrolytes can result in certain skin or other symptoms and over an extended period of time results in various illnesses.

### **The Dead Sea Salts differ from regular sea salt in 2 important ways.**

- 1) They contain 10 times more minerals than sea salt.
- 2) The Dead Sea salts absorb essential oils with ease, which enables them to be released into the bath water as they dissolve. This is beneficial for those wishing to benefit from the Dead Sea in the privacy of their own home.

Some of the minerals found in the Dead Sea are listed below together with their functions or benefits to health.

This provides some insight as to why these minerals assist in cleansing, de-toxing and restoring a healthy status quo of the body, especially the skin and muscles.

**A** Acne Aging and skin problems **Arthritic Disorders** **B** Balneotherapy **Bromine** **C** Cellulite **Calcium** **Chlorine** **D** Dandruff **Dry skin** **F** Firming **Breasts** **G** General Stress **H** Hair **I** Insomnia **Iodine** **M** Magnesium **P** Pelotherapy **Potassium** **Psoriasis** **R** Rheumatism **S** Skin **Skin Allergies** **Skin problems** **Sodium** **Sulfur** **W** Wrinkling

### **Minerals and Chemicals found in the Dead Sea.**

Sulfur is found in the amino acids cysteine, and methionine; as well as in cells, hemoglobin (of the blood), collagen (of the muscles), keratin (required for skin), insulin, heparin, biotin, co-enzyme A, (required for healthy hair, skin, nails, among many other biological structures). Sulfur is necessary for synthesizing collagen. It is required for the adequate digestion and absorption of carbohydrates and a number of vitamins e.g. thiamin, biotin and pantothenic acid; It is also essential to enable cells to breathe.

Sulfur is necessary for the secretion of bile from the liver and for converting toxins into non-toxins.

Chlorine is necessary to maintain the correct balance of alkaline and acid in the body, together with being vital for cell metabolism

Iodine is necessary for the production of the hormone thyroxin, and is also vital for both energy and cell metabolism

Potassium is necessary to maintain the water balance in order for cell metabolism to take place, assisting the cells to absorb nourishment and expel waste products. An imbalance in potassium often leads to water retention. Potassium also plays a vital role in regulating muscle contractions and the nervous system.

Sodium like potassium plays a vital role in assisting the cells to absorb nourishment and expel waste.

Calcium is necessary in strengthening cell membranes and cleansing the pores. In addition it is vital for production and maintenance of healthy teeth and bones, together with regulating the heart muscles and nerves.

Magnesium is necessary in assisting the body to utilize other essential nutrients and in cell metabolism.

Bromine helps with the natural repair of the body together with cell metabolism and can be used as a natural antibiotic.

Saunas often use Dead Sea salts to evaporate the bromides thus creating an environment similar to the Dead Sea. Having a hot bath with Dead Sea salts and allowing the steam to collect in the bathroom will have a similar effect. Other than the benefits listed below for bath salts, steaming and using these salts in the bath can be beneficial for respiratory conditions e.g. asthma.

## **PELOOTHERAPY**

The main healing property of mud is humic acid, which comes from concentration of organic matter. After the Ice Age the earth experienced a compression of plant and animal life resulting in transformation of various rocks and hence, mud. The parts of the earth, which suffered the most erosion, have higher deposits of humic acid. One of these areas is the Dead Sea, which has the largest concentration of humic acid, chloride salts of magnesium, sodium, potassium, calcium, bromine and various other minerals. Since the Dead Sea Mud (also known as Pelloid) has a high concentration of minerals together with an ability to hold heat, the mud can be used for certain healing benefits.

Smearing the Pelloid onto the body in a process known as Pelotherapy provides cleansing and detoxing of the skin which has proved beneficial for skin, muscle pain and arthritic or rheumatic conditions.

## **BALNEOTHERAPY**

Is an ancient healing form using water, usually with added salts, thereby distinguishing it from hydrotherapy, to condition, relax and revitalize the skin, body

and muscles. Its benefits are seen in improving circulation, strengthening the immune system, reducing pain, stress and insomnia.

### **The list of conditions or problems benefiting from use of Dead Sea products includes:**

#### **Skin:**

The skin is the largest organ of the human body, forming a protective covering from the harmful effects of the sun's rays, pollution, weather extremes of seasonal changes. In addition the skin enables the body to store or hold in its body fluids and provides the elasticity required for every movement we perform. If that is not enough, the skin enables us to communicate with the outside world through the vital sense of touch. Since this vital organ carries out so many important functions we need to respect it by providing good cleansing, replenishing fluids and electrolyse and avoiding harmful environments or reducing the harmful effects.

#### **Skin problems**

Skin problems are a common aspect of the aging process throughout the spectrum of human development. Certain skin problems affect people at different stages of development and for each it is important to support and nurture the skin in order to restore health and enhance general function.

Skin disorders e.g. Acne, dermatitis, blackheads, psoriasis, eczema, dandruff, scabies, scaled head, seborrhea, vitilago; Rheumatological conditions e.g. alkalosis, arthritis (cysteine patients with arthritis), rheumatoid arthritis, psoriatic arthritis, back pain, bursitis, neuralgia, fibrosis, osteoarthritis, polyarthritis, spondylosis, and tendinitis, as well as hair falling and balding, breast firming, constipation, diarrhea, dyspnea, insomnia and fatigue, impotence, intestinal parasites, stress, sciatica, sluggishness, tinea, worms.

#### **Acne**

Acne is a skin condition comprising of inflammation due to excess oil or sebum produced by the glands together with dead skin pores. These two in combination, clog the pores resulting in inflammation, which may become purulent whiteheads or blackheads due to bacteria in the area. If the inflamed or clogged pore runs deep into the skin, this area may form a cyst. The cyst typically is only painful or colored when it becomes infected. As you can see from the above description there are many causes of acne, falling into four categories, namely: bacteria, hereditary, hormonal or dogged pores.

The sebaceous glands secrete oil naturally in response to an increase of testosterone in both men and women at puberty.

Acne typically affects 80-90 % of adolescents of sexes, boys more than girls. Acne can a develop later in adult years. Acne usually affects the face, chest back and sometimes-upper arm. Acne can also be found in infants due to the activation of

sebaceous glands in utero. Acne can be a chronic problem or resolve spontaneously after 4-5 years as noted in 70% of acne sufferers. The incidence of Acne at age 40 years is about 1% for men and 5% for women.

Acne is not caused by dirt, a diet with too much sugar or caffeine although these can aggravate it. Other factors that can affect acne include over exposure to certain weathers, stress, hormonal changes, oily skin, endocrine conditions, certain tumors and response to certain medications or drugs.

### **Treatment**

Since acne is often hereditary it can not be prevented, but good skin toileting or cleansing can improve the condition by reducing further lesions. Certain medicinal ointments, cleansers are recommended when the condition becomes uncomfortable or unsightly. These include sulfur amongst other chemicals. Since the Dead Sea products have a high sulfur content they are useful in the cleansing required to purify the skin of acne sufferers.

Antibiotics and hormonal or steroid medications are prescribed in severe cases. However other management is always advisable first as these medications all have negative side effects.

Acne can have adverse psychological effects, as ones body image is greatly determined during puberty and adolescence. To assist in developing a sense of control, self-esteem and good body scheme, it is possible to assist the body to restore healthy balance with balanced diet, exercise, plenty of water, rest and a balanced diet as all these assist in enabling the body to remove toxins and restore natural health necessary to enhance spontaneous recovery from this condition.

### **Cellulite**

Cellulite is experienced by 90% of all women over the age of 20 years. Lumpy deposits of fat below the skin on the thighs, hips and buttocks of women cause it. Since the fat becomes trapped in compartments of the tissue where there is poor circulation, cellulite is a condition is difficult to eliminate. The appearance of cellulite is typically described as dimpled, cottage cheese – like appearance.

Although exercise is recommended to improve muscle tone and circulation to the area, and diet to remove toxins and provide the necessary nutrients, these do not cure cellulite. In addition, the Dead Sea mud can assist in detoxing, improving circulation and suppleness of the skin while the bath salts can assist in the general cleansing of the skin, necessary to remove the impurities that are otherwise trapped within the tissue.

### **Ageing and skin problems**

Up to 20% people over 70 years experiencing three to five skin problems that would require medical attention. Some may be caused by chronic illness e.g. diabetes, where poor healing and reduced sensation can adversely affect the condition of the skin, especially in the legs and feet. Diseases affecting or involving blood circulation also affect the skin. Certain medications prescribed for maintenance of chronic

conditions e.g. cortisone also affect the skin leading to thinning and dryness of the skin. Maintaining healthy skin involves: regular exercise, maintain a trim frame, healthy diet with a low fat and sugar content, balanced lifestyle and avoiding exposure to the sun

### **Dry skin**

Dry skin is a common aspect of the aging process and is seen in most people over the age of 70 years. As skin ages, the physiological changes leading to dryness result in itching and flaking, especially when the weather is cold and dry. This is due both to a decrease in secretions from the oil glands and a reduction in the skin barrier leading to quicker skin irritation.

Other than aging, a severely dry skin can indicate various condition e.g. psoriasis, diabetes, liver or kidney disease, or an overactive thyroid gland, allergic reaction. Itching can also indicate a reaction to a number of medication or drugs, including anticancer drugs.

As one ages, our skin also becomes more susceptible to irritation from contact with various materials, a condition known as *contact dermatitis*. This could indicate an allergy has developed to any substance including: wool or lanolin, the oil in wool, soap, detergent, or bleach used in the wash.

Prevention of Contact Dermatitis includes: wearing loose fitting clothing; changing your washing detergent; washing new clothes before wearing them.

Regularly apply a moisturizer recommended by your doctor.

The moisturizer from the Dead Sea products, together with cleansing mild and bath salts can also alleviate uncomfortable symptoms. This is due to the high mineral content, which helps both in cleansing and replacing required electrolytes necessary for healthy skin.

### **Wrinkling Dry skin**

Wrinkling is the result of a number of factors: accumulated exposure to the sun, heredity, and a weakening of elastin and collagen, which is part of the aging process. Elastin is responsible for the skin's flexibility. The protein fibers known as collagen provide physical support for the skin. (Loss of collagen is more common in women than in men. The skin's natural fatty layer also reduces with age, causing the skin to sink inward. Added to all these factors is the constant pull of gravity, which increases the sagging of the skin.

Research into the benefits of minerals from the Dead Sea has shown a 40% reduction in the depth of the wrinkling.

### **Skin Allergies**

A range of factors, including, age, stress, illness, chemicals and others, causes allergies on the skin. The high magnesium and bromine content in the Dead Sea Mud is beneficial for anti allergic due to its cleansing, detoxing of the skin together

with providing smoothness and relaxation. Using the Mud Mask is recommended for relief of allergic symptoms affecting the skin.

## **PSORIASIS**

Psoriasis is a common skin condition affecting 3 % of the world population.

The nature of psoriasis is to afflict the sufferer with scaly areas of the scalp, palms, soles of the feet, knees, elbows and other areas sustaining repeated trauma.

The condition is unpleasant to look at and embarrassing for the sufferers.

Psoriasis is hereditary and there is no known cure for it.

If the onset is sudden, it can be an indicator of HIV in at risk individuals.

Treatments include various ointments usually containing corticosteroids, or injections into the dermis of the skin. Medications used to control the condition are not always successful and usually have adverse side effects.

Studies carried out at the Dead Sea have showed positive results in lengthening the duration of remission and has been recommended as an alternative treatment for the condition. The studies have included both exposure to the environment and subdue UV rays at the Dead Sea itself together with application of Dead Sea mud and soaking in mineral baths. Although it is not possible to take the Dead Sea into ones home, the mudpack and bath salts do offer a good home therapy simulating the Balneo and Peloid therapies. In this way, the skin is assisted in eliminating toxins, regenerating new cells, increased circulation and general body purification.

It is important to note that contact with ones doctor is still imperative.

## **Arthritic Disorders**

There are 1000 or more different types of arthritic or rheumatological conditions known today. Of these some are inflammatory in nature and some are acquired e.g. osteoarthritis is linked to mechanical overuse of certain joints. Some of the conditions include rheumatoid arthritis, poly arthritis, psoriatic arthritis (a combination of psoriasis and arthritis) ankylosing spondylosis, systemic lupus erathematosus, and more. The cause for these conditions is as yet unknown and there is no known cure for them using conventional or allopathic medicine.

Various studies have taken place at the Dead Sea using treatment programs combining the atmosphere of the Dead Sea with the Dead Sea minerals, baths (balneotherapy) and mudpack treatments (Pelotherapy) with good results. Of particular interest is that heating the mud and applying to sore or inflamed joints has proven to eliminate stiffness and pain . This is due to the minerals improving blood circulation necessary to reduce the inflammatory response, together with the detoxing agent and general muscle relaxant. When the mud has been heated, the ability of the elements to penetrate and be absorbed into the system is increased.

## **Hair Loss**

Hairfall or loss is a common occurrence of daily life with up to 100 hairs a day being regarded as normal. However, when the quantity increases it becomes an understandable cause for concern.

The incidence of Hair loss is as much as 4 out of 5 people at some stage of their lives.

There are many causes listed as to why hair loss occurs, including: heredity, stress and trauma, local scalp infection, certain diseases or infections which result in a high fever e.g. flu, pneumonia or typhoid; certain medications e.g. antibiotics, contraceptives, blood thinning drugs, certain antipsychotics drugs; thyroid medication or strong drugs, chemical therapies e.g. those used for cancer treatments; thyroid problems; emotional or environmental stress; hormonal imbalances; following child birth as the hormones change; menopause. Iron deficiency anemia and lupus can also cause hair loss.

In the body, a compound called dihydrotestosterone (dht), made up of water, cholesterol, testosterone and an enzyme can have an adverse effect on the growth receptors in the hair follicle. It can cause the tiny blood vessels in the papilla to shrink, restricting food and oxygen to the matrix that produces hair protein. Dht also blocks certain receptors in the sebaceous gland, which then can produce a heavy sebum that later hardens in the follicle to form a hard deposit. The hair restricted in both areas atrophies and falls out prematurely. The cycle repeats itself until the follicle is only capable of producing a short hair, that falls out and the follicle itself atrophies. This is then the sad state, which we term as baldness. It is important to note the pattern of hair fall and quantity over what time period to assist in determining if there is an illness causing the hair loss. Typically hair loss is preceded by an excessive production of sebum from the glands known as seborrhea. Sebum is secreted naturally by the body from the ages of 16 or 18, however when the quantities of sebum secreted become excessive, the hair follicle has difficulty breathing and producing healthy hair, resulting in hair falling.

Baldness in men is noted to be as high as 30 million males in the USA. Female baldness is less common and usually occurs centrally on the head. Women usually only develop balding after cancer treatments, when experiencing hormonal changes as in during adrenal or ovarian growths, menopause or after crash dieting or fasting over an extended period of time.

Using the hair Maris Limus mask or shampoo made by Dead Sea products assists in cleansing the scalp, resulting in improving the hair follicles ability to allow hair growth. This in turn reduces hair fall.

## **GENERAL STRESS**

Stress has become one of those buzzwords typical of the modern times we live in. It is typically seen as being a negative conjuring up images of difficulty, chaos etc. Stress in actual fact is the body's response to any situation that necessitates change of one form or another, both negative and positive. It is the trigger or motivator to move forward, act or react to a given set of circumstances. Without stress our lives would stagnate.

So if we need stress in order to progress in life, why the focus on the negative impact of stress on our lives?

When in a situation requiring change, our body prepares itself for what is known as a fight or flight response. A common example used in stress management is that of facing a lion. If one were to see a lion in the jungle, your immediate reaction would be of impending danger necessitating a decision to stay and fight or to run for your life. The same is true for any situation requiring change, you need to decide how to continue or respond to the given facts presenting themselves to you.

The body reads each new situation as impending danger and thus sets up a hormonal response to ensure that your body will be in a state ready to react quickly, to be alert and obtain the result necessary to keep you out of danger. This includes an outpouring of adrenaline, a stimulant hormone, into the blood stream. Which begins a chain reaction within your body, together with certain other stress hormones, which are intended to be protective. The changes include an increase in heart rate and blood pressure (to get more blood to the muscles, brain and heart), faster breathing (to take in more oxygen needed by the brain and muscles for quick reactions), tensing of muscles (preparation for action), increased mental alertness and sensitivity of sense organs (to assess the situation and act quickly), increased blood flow to the brain, heart and muscles (the organs that are most important in dealing with danger) and less blood to the skin, digestive tract, kidneys and liver (where it is least needed in times of crisis). In addition, there is an increase in blood sugar, fats and cholesterol (for extra energy) and a rise in platelets and blood clotting factors (to prevent hemorrhage in case of injury).

Utilizing these changes within your system at the correct time for the desired response is positive. For example fleeing from impending danger. More positive examples include giving a lecture, a presentation, getting married, moving etc.

When looking at the physiological changes that occur in the body in response to the body's concept of danger or the stress or, it makes sense why repeated stress will lead to physical changes which if occurring over an extended period of time results in illness.

The physical changes or symptoms resulting from stress include but are not limited to: increased heart rate; pounding heart; elevated blood pressure; sweaty palms; tightness of the chest, neck, jaw and back muscles; headache; diarrhea; constipation; urinary hesitancy; trembling, twitching; stuttering and other speech difficulties; nausea; vomiting; sleep disturbances; fatigue; shallow breathing; dryness of the mouth or throat; susceptibility to minor illness, cold hands, itching; being easily startled; chronic pain and dyspnea.

Emotional signs and symptoms of stress, including but not limited to: irritability, angry outbursts, hostility, depression, jealousy, restlessness, withdrawal, anxiousness, diminished initiative, feelings of unreality or over alertness, reduction of personal involvement with others, lack of interest, tendency to cry, being critical of others, self-deprecation, nightmares, impatience, decreased perception of positive experience opportunities, narrowed focus, obsessive rumination, reduced self-esteem, insomnia, changes in eating habits and weakened positive emotional response reflexes

Cognitive/perceptual signs and symptoms of stress, including but not limited to: forgetfulness, preoccupation, blocking, blurred vision, errors in judging distance, diminished or exaggerated fantasy life, reduced creativity, lack of concentration, diminished productivity, lack of attention to detail, orientation to the past, decreased psychomotor reactivity and coordination, attention deficit, disorganization of thought, negative self-esteem, diminished sense of meaning in life, lack of control/need for too much control, negative self-statements and negative evaluation of experiences

Behavioural signs and symptoms of stress, including but not limited to: increased smoking, aggressive behaviours (such as driving), increased alcohol or drug use, carelessness, under-eating, over-eating, withdrawal, listlessness, hostility, accident-proneness, nervous laughter, compulsive behaviour and impatience.

From the above lists doctors have now found a link between continued stress or stress symptoms and illness or diseases e.g. heart disease, diabetes, asthma, mental problems, lack of sleep, loss of resistance to illness, and even allergies, amongst others. For this reason it is important to learn to manage our stress and to reduce our stress symptoms.

Some of the methods of reducing stress and the effects it has on our health include: relaxation, exercise, diet, forming a healthy sleep pattern, developing good communication and inter personal relationships, balanced lifestyle, amongst others.

The bath salts and mud packs offer wonderful relief of the symptoms by increasing circulation and detoxification necessary to remove the by products from the stress cycle thereby freeing your cells from these toxins. They also moisturize the skin and enhance relaxation of the body, which in turn enables one to obtain adequate sleep, necessary for regeneration of the body.

## **Dandruff**

Shedding of dead skin cells is a natural part of the daily regeneration of the skin, which is shed every 24 days. An excessive shedding of the skin cells of the scalp resulting in white flakes, and sometimes itchiness is known as dandruff.

Dandruff, although a natural growth process of the skin, is caused by excess oiliness of the scalp and is therefore seasonal. Contrary to common belief that it would be more severe in summer due to sweating or dryness, dandruff is worse during the winter months.

Dandruff is very common and it is estimated that Americans spend up to \$300 on products to manage the problem.

There is no known cure for Dandruff.

Dandruff is affected by:

1. Use of hairsprays and gels
2. In- appropriate use of hair colorants and heated hair curlers.
3. Exposure to cold weather or dry indoor heating
4. Tight fitting hats or head scarves

## 5. Stress, anxiety, trauma and tension.

Possible solutions include:

Since dandruff is part of the natural growth process of cells, it can not be cured but only managed. For this various shampoos are on the market that claim to reduce or eliminate dandruff. They contain various chemicals of which sulfur is one. The Dead Sea salts as previously discussed, contain sulfur which in a natural form. In addition the other minerals assist in detoxing and cleansing which is vital to restore the balance of cells to reduce the oiliness of the scalp.

### **INSOMNIA**

There are a number of sleep disorders of which insomnia, described as an inability to sleep or to obtain satisfactory sleep, is the most common, experienced by 25% of Americans. There are different forms of insomnia from difficulty falling asleep, to difficulty staying asleep, to waking early, to sleeping at inappropriate times, to not sleeping deeply enough, which is imperative for REM sleep. Insomnia or restless sleep is experienced by most people at some stage of their lives, but is only considered a problem when this pattern becomes chronic or when it interferes with daily functioning. Prolonged sleep disturbance can lead to disease or illness as it results in an inability of the body to restore or replenish itself, which takes place during sleep. It also interferes with or leads to hormonal changes, which if experienced over a long period of time can lead to disease.

To assist with relaxing in order to fall asleep and to remove toxins from hormonal changes, the Dead Sea bath salts and also mud packs can be very beneficial. (See also the section on stress.)

Some causes of sleep disorders or insomnia include:

1. Pain experienced at night following injury, trauma or certain conditions e.g. arthritis.
2. Stress
3. Emotional trauma or mental anguish
4. Ineffective diet including over use of nicotine, caffeine and other stimulants
5. Reduced exercise
6. Environment including noise and light levels
7. Geopathic stress
8. Jet lag
9. Aging
10. Nightmares and other dreams that interfere with adequate sleep
11. Over excitement
12. Too many electrical appliances in the bedroom

Prolonged sleep disturbance can lead to: reduced energy level, irritability, disorientation, dark circles under the eyes, poor posture, memory and concentration difficulties and fatigue

Some recommendations for dealing with sleep problems include: obtaining counselling or dealing with whatever psychological issues are involved, work with any dreams together with a professional who is experienced in dreams interpretation and therapy. Relaxation and good exercise program, be careful not to do aerobic exercise the hour before bedtime. Developing a regular sleep pattern and bedtime routine, balanced diet, eliminate caffeine, nicotine and other stimulants especially at night. Avoid emotional upset or confrontation especially just prior to bedtime. Refrain from watching or reading scary films or the news in the last hour before bedtime.

Make sure the bedroom is sufficiently ventilated, the temperature is appropriate and there is reduced noise and light.

As part of the bedtime routine, specialists often recommend hot baths to relax the muscles, de-stress and prepare for bed. Adding the Dead Sea Bath Salts to these baths will be beneficial due to their added properties of detoxing and enhancing a state of general relaxation. Be careful if taking a hot bath to drink water while soaking in the bath to prevent dehydration or dizziness.

### **Firming Breasts**

Utilizing the mud mask on ones breasts assist in removing impurities and toxins from the skin surrounding the breast area. This in turn leads to more supple skin and improves firmness of the breasts.