

Radziejowski Paweł. Hot stone massage therapy - mechanisms of the influence on the human organism of selected methods of use. *Journal of Education, Health and Sport*. 2018;8(5):335-348. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.1500598>
<http://ojs.ukw.edu.pl/index.php/ohs/article/view/6322>
<https://pbn.nauka.gov.pl/sedno-webapp/works/888364>

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 1223 (26/01/2017).
1223 Journal of Education, Health and Sport eISSN 2391-8306 7

© The Authors 2018;

This article is published with open access at Licensee Open Journal Systems of Kazimierz Wielki University in Bydgoszcz, Poland
Open Access. This article is distributed under the terms of the Creative Commons Attribution Noncommercial License which permits any noncommercial use, distribution, and reproduction in any medium, provided the original author (s) and source are credited. This is an open access article licensed under the terms of the Creative Commons Attribution Non commercial license Share alike.
(<http://creativecommons.org/licenses/by-nc-sa/4.0/>) which permits unrestricted, non commercial use, distribution and reproduction in any medium, provided the work is properly cited.

The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 03.05.2018. Revised: 21.05.2018. Accepted: 31.05.2018.

Hot stone massage therapy - mechanisms of the influence on the human organism of selected methods of use

Paweł Radziejowski

ORCID 0000-0001-8232-2705

[*pawel.radziejowski@wz.pcz.pl*](mailto:pawel.radziejowski@wz.pcz.pl)

Czestochowa University of Technology,

Faculty of Management, Institute of Health Science and Nutrition,

Armii Krajowej str., 19b, 42-200, Częstochowa, Poland

Key words: stone massage; dynamic massage; contrastive static and dynamic massage; static massage.

Abstract. A stone massage as a relaxing treatment combines the benefits of a relaxing massage, aromatherapy, thermotherapy and acupressure. The stone massage is a form of impact on the body which uses mechanical stimuli, the pressure on the tissue in order to induce physiological reactions. Therapeutic effects of stones was used hundreds years ago in the Far East. Women from that

area applied hot stones on the stomach to reduce menstrual pain and other ailments. The 90's of XX century is a time of rebirth of hot stone massage, which first became popular in the United States of America. A modern hot stone massage is a treatment which perfectly complements physiotherapeutic activity which goal is the restoration of the damaged organs. What is more, it is also applied in wellness clinics, accelerating recreational processes, thus increasing the body's ability to exercise. It is worth mentioning that exist several methods of stone massage: dynamic massage, contrastive static and dynamic massage (several varieties) and static massage (energetic). More and more often, the customers enjoy also a foot and a facial massage.

A stone massage relaxing treatment combines the benefits of a relaxing massage, aromatherapy, thermotherapy and acupressure. The stone massage is designed to be a form of the impact on the body, which uses mechanical stimuli. The form of pressure on the tissue is used in order to induce physiological reactions. In addition, the hot stone massage affects the expansion of blood vessels, increases blood flow to the muscle, speeds up the supply of nutrients and simultaneously causes a more efficient elimination of waste products [1, 2].

The hot stone massage has become popular in recent years. The procedure is performed in SPA and therapeutic centers around the world. Furthermore, it is a very old therapy because of its tradition dating back about 5000 years ago. The treatment has been used in Indian and Mayan culture. The stone massage had been used in China, for thousands years in many diseases. It is known that in those times inhabitants were treated in two types of therapy with heat or cold [3].

The history of hot stone massage hides methods that have been used already by the so-called Indians (Native Americans) in ancient cultures. Because of their activity, stone massage was used as a part of the purification rituals, both physical (like sweating) as well as spiritual. Later, the hot stones were used also for relaxation. The work that Native Americans put into the development of this technique has been recognized and often it is said that they are 'the fathers of hot stones' [4].

In Hawaii, the stone massage was used for the similar purposes. The fate of stone was different since Hawaiians had access to Pohaku (the lava stones). Hence, in their culture, they perpetuated stone massage as 'Pohaku' and this name is using nowadays. What is more, the stone massage was also widespread in Asia, although their using for therapeutic purposes was more important. To add, it was believed that improve of physical health is extremely important, especially when a person was seriously ill. Unfortunately, since the therapists resorted to acupuncture and other therapies, stone massage fell outside [1, 3].

Therapeutic effects of the stones were used hundreds years ago in the Far East. Women from that area applied hot stones on the stomach to reduce menstrual pain and other ailments. The 90's of XX century was a time of rebirth of hot stone massage, which first became popular in the United States of America. Original, American methods of stones massage (Lastone) were developed by Mary Nelson - Hannigan from Arizona, who was the founder of the Lastone Therapy Corporation. Indeed, this method is very popular in Europe, where it became well-known in the late twentieth century [4].

In Poland, the stone massage is a relatively new technique and it is not as popular as the traditional massage. Especially because many people simply do not know anything about it. Moreover, even if they know it, may find difficulties in finding the right therapist. The one, who properly and safely for the health, uses this technique.

Nowadays, the hot stone massage is a treatment which perfectly complements comprehensive physiotherapeutic activity which goal is to restore the damaged organs. Being applied in wellness clinics, accelerate recreational processes, thereby increasing the body's ability to exercise.

Undoubtedly, the best therapeutic effects are achieved with the help of flat, oval volcanic stone (basalt), which exhibit excellent conductive properties of low and high temperatures. What is more, during the massage also precious or semi-precious stones are used to balance the circulation of the energy. That is according to the Hindu concept which is based on the unity of body, psyche and spirit. The whole procedure takes about 90 minutes, during which the therapist performs a massage with hot and cold stones, while leaving some of them in particular places on the body [5].

In fact, the hot stone massage is designed to stimulate blood circulation, release muscle tension, to make an adequate level of energy and relax. Obviously, the impact of the hot stones improves circulation and metabolism. Moreover, it is an excellent remedy for stress. Among others it regenerates mentally and physically, releases muscles aching, soothes and restores balance in the body. The warmth coming from the stones and the energy of the Earth contained in them, accelerates blood and lymph circulation, which in turn allows body to clean of toxins - especially if massage is performed alternately with hot and cold stones. The hot stone massage is not only incredibly relaxing, anti-stressing and fatiguing but it also perfectly affects the circulation and improves skin firmness and elasticity. As a result of massage with warm oils, the skin is perfectly smooth. Because of a variety of hot/cold stones massage techniques and the flows of positive energy, the effect of balance and deep relaxation is achieved [6].

Therapy (with warm and cold stones) has a beneficial effect on the body, helps relieve the pain. Moreover, the hot stone massage affects the expansion of

the blood vessels and the cold marble stones have astringent features. To add, the warm stones calm the nervous system and the cold ones stimulate it [4].

Generally, a person who is subjected to this treatment gets the feeling of balance. In order to deepen the effects of the massage, the therapist can combine the treatment with manual techniques. This may improve the flow of blood and lymph throughout the body. During the massage, the therapist placed stones on various parts of the body, which helps to restore balance throughout the body. It has been shown that the use of hot and cold stones during one massage session, accelerates such processes as treatment and healing. In addition, the massage supports the cardiovascular system [4, 5, 6].

On the basis of thermal imaging and after analyzing the survey it found out that the surface temperature of the back of the patient, increased after each massage. Hence, the massage decreased tension of the back muscles. After a series of massages pain from the spine and shoulder girdle decreased. Also, the general state of mind of the subjects had improved [7].

Sets of stones massage - basalt stones (hot), marble (white - cold), semi-precious stones (hot, warm, cold)

They are mined from the bottom of the oceans, where they were polished by the sand and waves. They are sourced from specially selected, clean areas with high volcanic activity (eg. Hawaii, the Philippines, Bali, Peru, Mexico, Chile). Their surface is perfectly smooth and they are dimensioned to fit your hand. The energy from the depths of the seas contained in them is beneficial for our body. Volcanic stones are ideal for therapy because are famous for their ability to hold the heat which makes it easy to slip on the skin. Differently - sized stones are adapted to massage different parts of the body [1, 4].

During the treatment, the therapist may use different sets of stones, which differ in the number, eg., there are sets of 38 stones so-called the basic kits; 52

Hawaiian stones so-called the professional kits; 67 stones so - called the great sets [3].

A set of 38 stones is usually used in a narrow range by a beauticians who add this as a complementary treatment. Above featured set consists of:

- 6 stones weighing 200 - 400 grams,
- 8 stones weighing 100 to 200 grams,
- 6 stones weighing 50 - 100 grams,
- 8 stones weighing 50 grams or less,
- 10 tiny stones into the area between the toes and hands [3].

A set of 52 stones is used to treatment narrowed in terms. It is a quick massage for one body part, for example – only back. 52 stones is not enough to perform a massage on the whole body. Above featured set consists of:

- 8 stones weighing 200 - 400 grams,
- 14 stones weighing 100 to 200 grams,
- 12 stones weighing 50 - 100 grams,
- 8 stones weighing 50 grams or less,
- One set of 10 tiny stones finger into the space between the feet and hands [3].

Preparation for the treatment. Activation of an electrical heating device.

Stones heated in special heaters with a thermostat are used for body massage and acupressure.

Bath heater may be filled up to a maximum of 2.5 cm below the top edge. Always put the stones into the tub and then pour water. Never put hot stones on wounds, burns, abrasions, sensitive skin or skin damaged in any way. Before starting the treatment, stones' temperature must always be checked with your fingers and then hold in your

hands before you put it on someone else. To avoid scalding, we use a special glove or spoon to remove stones from the heater [3].

Indications for the treatments

For people without a serious health problem, procedure is recommended as a remedy for stress and for a biological regeneration. The hot stone massage regenerates after exercise, relieves tension and muscle fatigue, and has a beneficial effect on hypertension. The strength and intensity in which massage is performed are tailored to individual preferences.

Indications for stone massage [2, 3]:

- obesity
- convalescence period
- states after injuries of the central nervous system
- psychogenic neurosis
- cardiovascular disease
- constipation
- orthopedic injuries
- rheumatic diseases
- post-stroke states
- sciatica and sciatica arm
- Reynaud's disease
- Cerebral palsy (CP)
- paralysis and paresis
- The hot stone massage has a beneficial effect on the following symptoms [2, 3]:
 - Myalgia;
 - Bad circulation
 - Rheumatic and arthritic ailments;
 - Back pain;

- Stress;
- Insomnia.

The massage is recommended for people:

- After plastic surgery and other surgical procedures;
- With depression,
- Stressed,
- Tired,
- With an active lifestyle,
- Overtrained or with tired muscles
- Obese,
- With all kinds of personal injury,
- Those who want to prevent arthritis and spine,
- With muscle weakness or paralysis after a stroke.

CONTRAINDICATIONS for stones massage are similar to the contrary in other types of massage [2, 3]:

- inflammations and allergic skin
- inflammation of the lymph nodes
- blood thrombus
- cancer
- fever
- aneurysms
- abnormal sensations, sensitivity to heat
- heart failure
- pregnancy and feeding time
- varicose veins and bursting cell
- third degree of hypertension.
- unstable heart disease

Massage course

In combination with a soothing, relaxing music massage helps to focus attention on the therapist's touch. For 60 - 90 minutes body is in contact with a hot (about 40-50 degrees), respectively-selected stones.

The massage is performed with the romantic, dim light and relaxing music.

The massage is performed on naked body or body covered with towel.

There are several methods of stones massage.

Dynamic massage:

Massage involves the whole body; the first part of the procedure is carried out on the back side of the body and the second part at the front in the following order:

From behind - back, hands, pelvis, bottom limbs; From the front – bottom limb, belly, chest (if necessary), face (if necessary).

Stone massage is performed by using such techniques:

Stroking – with stones adapted in size and shape to the body; this technique uses classic massage stroking types (main technique);

Rubbing – with a circular motion;

Kneading – with two stones close to each other, until a fold of skin is formed and the fold is gently kneaded.

Static and dynamic contrast massage (I):

The patient lies down on his stomach and stones are placed along his/her spine. At a time when their gentle pressure and heat bring the patient into a state of relaxation, the therapist performs massage of legs, first manually, and in a moment with both hot and cold stones. Then the therapist pulls the stones of the spine and massaging patient's back. When the patient lies already on his back with hot stones in his hands and spine on paravertebral zones, relaxation reaches its apex. This treatment can be done also with an intense massage. In contrast, during the treatment, the white, cold marble stones are used. They can be gently

applied and are also used as a tool specialized for a massage. The therapist can use their manual abilities with stronger massages, which are indicated by the large muscle tension.

The treatment lasts approx. 90 minutes and there is no indication as to the frequency of use. Even one is enough to feel the effects.

Static and dynamic contrast massage (II): when patient is ready to massage, the therapist leaves her/his alone in a warm office so she/he could dress up in a towel and lie down. Then the therapist puts warm stones on various acupressure points on the body, and use essential oils and aroma which enriches the contact session. The relax is very deep for body and mind, so patient can drift away in the sleepy state so they don't even notice where else the therapist put the stones. The therapist uses various massage techniques in order to achieve the effect of deep relaxation thanks to the flow of positive energy and creation feelings of balance.

Massage is performed by hands and alternately the hot, basalt, volcanic stones and by marbles which are much smaller. After some time, when the body is embraced by a deep feeling of relaxation, the vast difference in temperature between the stones is no longer visible. The therapist spread stones on the patient's back, on the front of the body, on the forehead and on the hands, or on selected energy points that are gently pressing. Then begins the massage with warm oil from the foot through the torso of the arms, from the front to the back. The therapist slides stones on warm and oiled body. Next, lays the cold stones on the neck. The procedure takes about an hour.

Static massage (energetic)

This treatment includes therapy using the hot stones with essential oils. Massage involves the whole body; at the beginning of treatment, the patient lies down in front, and on the back, neck (cold); in his hands, the therapist set stones between the toes and on the lower limbs.

We spread them in key locations on the body at the chakras and energy flow areas. It is the impact on the energy centers called chakras according to ancient Indian tradition. The chakras are points on the body receiving and processing the energy that penetrates the human energy field and are responsible for the proper flow through the whole body. Blocked chakras can cause poor physical and mental wellbeing and even illness.

In the human body there are seven major chakras that are spread from the base of the spine up to the head [4]:

1. The crown chakra is located on top of the head and is responsible for the spiritual life.

2. The third eye chakra is located in the middle of the forehead and is responsible for the imagination if it is lock/locked it may cause headaches and vision problems.

3. The throat chakra is located in the neck and is responsible for the work, and its blockade can cause asthma and sore throats.

4. The heart chakra is located on the chest and is responsible for the energy of love, disturbances in the area may cause problems with pressure.

5. The solar plexus chakra directs our emotional life, its disorders cause allergies, fatigue, digestive problems.

6. The sex chakra is located in the lower abdomen and is responsible for the sexual life.

7. The root chakra is located at the base of the spine, near the tailbone and is responsible for the immune system and vital energy, the blockade has an impact on the formation of joint degeneration.

Stone therapy is based on the deployment of special chakras maps on the body. During the massage, stones are arranged in the vicinity of chakras or massaging these places in order to unblock energy channels

The second type of therapy is the treatment of energy which uses **semi-precious stones and essential oils**. It combines the action of stones with aromatherapy. The following are the most commonly used types of stones: red jasper, green jade, carnelian, crystal, aventurine , sodalite, amethyst, rose quartz, chalcedony, tiger eye.

Foot Massage

One can also perform massage on the feet. Here, the small stones are used. They are inserted between the toes which result is the release of stress and stimulation of nerve endings in the feet. At the end, you can massage the foot and the entire body by using a blend of vegetable oil or massage with essential oils.

Facial stones massage (cosmetic)

The facial massage with semi - precious stones (crystal rock) and cold marbles is a great therapy, excellent as the anti-stress, silencing and relaxing treatment. Massage decrease face redness, increases blood flow and reduces inflammation of the skin, eg. acne.

Perfectly affects the appearance of the skin.

- Stimulates micro-circulation
- Oxygenates and brightens the skin
- Reduces swelling around the eyes.

Infants massage with warm stones

In modern scientific literature one may find information about the use of massage with warm basalt stones to infants [8]. As emphasized by the authors, in the vast majority of children especially the youngest ones, eg. at 4.-6. week of life, the reactions to the heat are positive. For excited, mewling children, reduces the negative reactions. In addition, on carrying out the massage, parents watching extra time for an afternoon nap while simultaneously mute during

nocturnal sleep, decrease the digestive discomfort - the alleviation of bloating, constipation and colic.

Warm stone base with greased oil (with avocado, coconut, sweet almond) allows penetration into the skin of precious unsaturated fatty acid chains containing omega-3 and omega-6, supporting the skin's natural defenses for immature child who immediately after birth is often macerated. Stone as a mechanical stimulus supports this process, help to improve nutrition, accelerate blood and lymph circulation, which increases the baby's natural immunity.

It is important that the temperature of the room where massage is done, must be slightly higher compared to the traditional treatment and amount to 25-26 C. It is a prerequisite, because the child's body very quickly receives the heat coming from the stone, so we have to prevent thermal shock caused by a sudden change of temperature.

Massage begins with the work on foot. After delicate stroking of the foot - from tumor heel, ending with the forefoot the reflexology is turning on. Instead of thumb you can use a specially designed stones. The time of foot massage at the beginning should not exceed 2-3 minutes on one leg. On subsequent foot massage treatments could be extended to 10 minutes, then develop the entire upper and lower limb. The last step of the treatment is massage of the back and the abdominal wall. As we know, the newborns and infants often suffer from ailments of the digestive system, manifested by constipation, bloating, pin and seizures. According to the researchers very effective therapy (beside pharmacotherapy) might be the application of the warm and smooth stone to the small tummy. It can be combined with the performance of mechanical massage, supports the movement of the contents of food and gas in the direction of anus [8]. At the end of the treatment, massage of the back might be performed and it is very positively received by the child. During the work on this area the therapist performs stroking, especially with a warm stone, uses delicate

grinding, technique of a soft finger clapping in the style of a piano or alternately with a labile vibration [8].

References

1. Taub A.F. Procedures Offered in the Medical Spa Environment *Dermatologic Clinics*, 2008; 26 (3): 341-358.
2. Golovkin V.A., Soldatzenko S.S., Kaszczenko G.F., Golovkin A.V. Aromamasaż [Aromatic Massage], Symferopol, Tavrida., 2003, pp. 35-67.(in Russian)
3. Keattichai Keeratitanont, Mark P. Jensen, Uraiwan Chatchawan et al. [The efficacy of traditional Thai massage for the treatment of chronic pain: A systematic review](#) // *Complementary Therapies in Clinical Practice*, 2015; 21 (1): 26-32.
4. Thomas Stretch Dowse [Lecture II: The Mode And Method Of Applying Massage](#) // *Lectures on Massage & Electricity*, Elsevier, 2013, pp. 31-51.
5. Field T. Massage and aroma therapy *Inter J of Cosmetic Sc*, 2004; 26 (3): 169-170.
6. Coelho H. F.; Boddy K.; Ernst E. Massage therapy for the treatment of depression: a systematic review *Inter J of Cl Practice*, 2008; 62 (2): 325-333.
7. Demczuk-Włodarczyk E., Podbielska H., Witoś M.: Termowizyjna ocena zmian temperatury w okolicy grzbietowej pod wpływem masażu relaksacyjnego gorącymi kamieniami [Thermovision assessment of temperature changes in the dorsal region under the influence of relaxing massage with hot stones], *Acta Bio-Optica et Informatica Medica* 2009; 15 (3): 239-243. (in Polish)
8. Bartelmus E. Masaż ciepłymi kamieniami u zdrowych noworodków i niemowląt [Massage with warm stones in healthy newborns and infant], *Rehabilitacja w praktyce* 2008; 4: 43-44. (in Polish)