

Classical and reflex massage; their characteristics and differences (Neurophysiology)

Massage is a mechanical stimulation of the tissues by means of rhythmically applied pressure and stretching. It is therefore a variant of mechanotherapy. The goal of the massage is a beneficial effect of local and systemic conditions, problems and changes due to disease, injuries or exertion, or prevent of disease. Over the years many claims have been made relative to the therapeutic benefits in the patient population, although few are based on well-controlled and well-designed studies.

The effects of massage may be either reflexive or mechanical. The effect of massage on the nervous system differs greatly according to the method employed, pressure exerted and duration of applications. Massage induces local, distant and overall reactions in the body.

Classic massage can be defined as a system of massage technique that is carried out on the body of a patient with therapeutic intent. Indication of classic massage is diseases of the musculoskeletal system, post-traumatic and post-operative conditions, diseases of the blood and blood vessels, diseases of the nervous system, internal diseases and in course of recovery.

Contraindication of classic massage is osteoporosis, haemorrhage, advanced atherosclerosis, fever, acute inflammation skin disorders, cachexia, tuberculosis, cancer, stomach ulcers and pregnancy.

The local effect is manifested in the skin by releasing the channels of the sebaceous and sweat glands. A friction speeds up emptying of surface and lymph vessels, increases blood flow so that the increased number of active capillaries promotes the absorption of oedema, effusions, haemorrhages in tissues, eliminating fatigue inducing substances like lactic acid, and improve nutrition and supply of oxygen. The correct choice of massage techniques can achieve an increase or decrease in muscle tension, improve trophic muscles and reduce pain. The aim is to find places with altered sensitivity and then to treat them. The similar changes were found in the subcutaneous tissue, at the muscle fascia, in the muscle tissue and also on the periosteum. The reflex massage can target all tissue layers.

Reflexology is a therapeutic intervention led primarily by way of the neural connections in the area of the selected reflex arcs. The reflex massage can be characterized as a manual therapeutic intervention on the body surface, applied in locations, where we find changes that are caused by secondary by reflexive way. Point of action is not primarily ill tissue or organ.

Ultrasound; indications and contraindications dosage

Indications are tissue relaxation, local blood flow, scar tissue breakdown, help to reduce local swelling and chronic inflammation, promote bone fracture healing and neural application can reduce the pain

Absolute contraindications are epiphysis of growing bones, gonads, eyes, post-laminectomy and acute bleeding.

Relative contraindications are brain, heart, parenchymatic organs, peripheral superficial nerves (mechanical and thermal destruction of tissues. Ulnaris near elbow, palmar part of wrist with medianus, around ankle joint)

Bony prominens under skin, emphysema and menstruation

Dosage should be 1-10 sessions with frequency of 3-5 times per week. Duration should be 3-10 minutes with positive step. Intensity should be 0,5 W/cm² to 2 W/cm², also with positive step, but only time or intensity should be increased from one treatment session to the next one.

Phototherapy; basic characteristics, distribution

Phototherapy can be polarized, meaning that light rays only vibrates in one direction, or non-polarized. It is induced by either lasers or fluorescent lamps

We use ultraviolet (UV) light in phototherapy.

Ultraviolet light reduces inflammation of the skin and can help in various inflammatory skin disorders. However, although it can cause skin conditions to clear, this is usually temporary and not a cure. UVA is a more potent form of treatment with higher wavelength than UVB, so is usually reserved for people who do not respond well to UVB.

UVB is used to treat common skin conditions such as psoriasis, atopic eczema, other forms of dermatitis, polymorphic light eruption, generalised itching, pityriasis lichenoides, cutaneous T cell lymphoma, lichen planus, vitiligo and other less common conditions

It can have short-term side effects like skin redness, itching and dry skin.

Long-term side effects can be skin ageing and skin cancer.

Ultraviolet treatments are usually given in a hospital outpatient department in a walk-in cabinet containing fluorescent light bulbs. The treatment schedule varies from two to five times a week and an average course lasts between 15 and 30 treatments. The starting dose is done by assessment of sun light sensitivity of the patient. Like how easily he/she gets sunburned.

The only artificial source of intense coherent light is the laser (Light Amplification by Stimulated Emission of Radiation)

It is based on photons reacting with other electrons- stimulation of photons emission

Direct effects are thermal and photochemical, while indirect effects are biostimulation, anti-inflammatory by activation of monocytes and macrophages and also an analgetic effect.