

iMed MTS Tech Sheet

The MTS device has six different technologies. It is administered by a trained physiotherapist using specially designed probes applied to the body.

Specifications

Dimensions 38x35x16cm

Weight: 14.0 Kg

Frequency Range: 30-70 Khz

Power Supply: 230V 60hz

Operator Requirements

Physiotherapist

Nurse

Doctor

TECHNOLOGY 1 - LOW FREQUENCY ULTRASOUND

MTS uses the mechanical energy of acoustic waves to treat a range of injuries. Normally low Frequency ultrasound is considered about 1 to 3 Megahertz. The MTS system however operates at a much lower 38 Kilohertz. By using this proprietary lower frequency ultrasound, MTS generates much higher mechanical energy that penetrates much deeper into the body thereby allowing a more effective therapy. The MTS penetrates 4 to 6cm below the skins surface compared to 0.6 to 1 cm using conventional Ultrasound. This extra depth of penetration enables the remarkable results in the treatment of inflammation and pain.



TECHNOLOGY 2 - PRESSURE WAVE EMISSION TREATMENT (SHOCKWAVE)

This innovative proprietary type of micro shockwave emission is capable of creating a massage through pressure waves. The piezoelectric heads emit a shockwave with sufficient mechanical energy to stimulate damaged tissue. This application produces no heat thus allows the treatment of inflamed tissue for longer than usual. It creates a primary effect of mechanical stimulation of skin receptors, which then cascade into secondary effects of increased anti-inflammatory actions and increased cellular metabolism for a faster healing cycle.

TECHNOLOGY 3 - THERMAL RADIOFREQUENCY

Using low emission bipolar electrodes (BPE) to create a resistive radio frequency that is optimal for operator and patient safety. The system delivers localised energy and has a direct effect on the structural proteins of the dermis. Utilising this energy with a controlled temperature delivery has dual anti-ageing benefits and restores existing collagen to its normal physiological elasticity, as well as stimulating fibroblasts cells to create new reticular protein polypeptide chains. The thermal energy radiated to the underlying tissues has the secondary benefit of a gradual and physiological increase in temperature which encourages vasodilation and tissue oxygenation. This counteracts the aging phenomena related to the production of free radicals and pH changes in fibrous tissue that causes microcirculatory problems.

TECHNOLOGY 4 - ATHERMAL RADIOFREQUENCY (FRAXELLING)

This exclusive unique and revolutionary type of fractional resistive (non-ablative) athermal radio frequency is used to stimulate specific Anti-Pain pathways including TRP (Transient Receptor Potential) channels which control the pain, heat and inflammatory pathways for healing. This enables MTS to penetrate deep under the skin's surface and stimulate quick healing responses in deep tissues without generating heat. RNA riboswitches and Voltage Gate channels within the cells are stimulated to increase cellular protein synthesis and cellular metabolism for a faster and pain free rehabilitation. It also stimulates specific receptor membranes, activating a series of anti-inflammatory responses and stimulating the draining lymph directly, increasing the effects of lymphatic massage, pressure therapy and other drainage techniques. The mechanism increases cell permeability and exchanges within the extracellular environment enabling a remarkable anti-oedema and anti-inflammatory action. MTS can treat traumatic oedema for post-surgical intervention as well as acute tissue swelling including haematoma. The overall result of this action provides remarkably fast anti-inflammatory and pain relief capabilities in general as well as on any particular surface, tendon or muscle.

TECHNOLOGY 5 - MICRO CURRENT EMISSION

This application generates currents that are used in the bio-stimulation of tissue. The currents work directly on cell membranes stimulating cell renewal thus improving the tropism of the cell walls, making metabolic exchange much faster. The unique low emissions, specific frequencies and depth of penetration used by the MTS machine make this a very effective in the rehabilitation of muscles and the healing of wounds. This technology is also used to re-educate cells, stimulating them with small amounts of electricity restoring their normal electro-physiological valence and helping enormously in the repair of connected somatic dysfunction thus alleviating chronic pain, neuropathic pain. This technology when used within certain prescribed parameters speeds up post-surgical rehabilitation and post-traumatic rehabilitation. This unique MTS technology is designed to works on all sections of the body including dermatome, myotome, angiosome and the viscera.

TECHNOLOGY 6 - TRANSDERMAL DELIVERY

Transdermal delivery is where active ingredients are delivered across the skin for systemic distribution bypassing the GI (Gastrointestinal tract). The MTS uses Electrophoresis. The stratum corneum of the skin is temporarily "opened" with the formation of aqueous channels called electro pores. These aqueous channels allow passage of water soluble molecules of both low or high molecular weight to be delivered to the dermis by-passing the normal fatty phospholipid barrier of the skin. As there is no increase in skin temperature with the use of this technology, any non-thermally stabilised products or medicines can be delivered safely and very effectively with their full potency intact.

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PATHOLOGIES UNDER RESEARCH

PHYSIOTHERAPY APPLICATIONS

This innovative proprietary type of micro shockwave emission is capable of creating a massage Rehabilitation of osteo-articular pathologies, muscle-tendon caused by inflammatory states and degenerative chronic conditions. Treatments include the exclusive and combined use of:

D.A.C.U.: diathermy mechanically controlled, able to produce the stabilization of the extracellular matrix, the increase of nerve conduction, the alteration of vascular perfusion and increase of the nociceptive threshold.

C.A.D.: controlled electromagnetic diathermy, pulsed and continuous, able to produce an increase temperature at different levels of depth, a relaxing effect, stimulating tissue metabolism and a growth both of the venous(blood) and lymphatic(limph) micro-peripheral circulation.

M.T.D.: is a non-invasive treatment that uses a low-frequency current determining an increase of the permeability of the tissues to promote the penetration of substances with both low and high molecular weight.

PHYSIOTHERAPY PATHOLOGIES - Low back pain, Dupuytren's disease, De Quervain's tenosynovitis, Carpal Tunnel Syndrome, Epicondylitis, Epitroclea, Retro-Olecranon bursitis, Calcific tendinitis of the supraspinatus, Scars, Adhesive capsulitis, Sub deltoid bursitis acromion, Lesion of the medial collateral ligament, Plantar Fasciitis, Bursitis peritrochanteric, Tendinopathy of Achilleo, Ankylosing spondylitis, Patellar tendinopathy, Gonarthrosis, Quadriceps tendinitis, Tendinopathy of the goosefoot, Ankle sprain-tarsal, Iliotibial band syndrome, Distraction of the triceps surae muscle.

NEURO KENESIS TREATMENTS

Treatment of neurogenic algic status induced by the irritation associated with pain syndromes and nerve entrapment. The Neuro stimulation with microcurrents modulated in frequency, supports the rehabilitation in the treatment of the patient, both in the management of pain and in the optimization of the functional rehabilitation.

With Neuro modulation we act directly on the neurogenic pain (Chronic pain, Algodistrofie, Complex Regional Pain Syndrome ETC...).

The use of the dynamic neuro therapy technique specifically designed by Dr. Roberto Bergamo FT. D.O combining manual therapy with specific applications of microcurrents, enables targeted and elective action on the nerve entrapment syndromes (Carpal Tunnel, Tunnel of Guyon, Thoracic Outlet Syndrome, aftermaths of Hernias, Narrow Channel etc..)

NKT PATHOLOGIES - Antalgico, Decontracturing, Acute inflammation, Initial trauma, Antalgico - Decontracturing, Chronic Hyperalgesia (no-trauma), Chronic Tissue repair, Antalgico, Decontracturing, Chronic, hypersensitive, Acute, Immediate post-surgical or post-traumatic.

PHYSIO AESTHETIC TREATMENTS

Postural rehabilitation induced by disabling diseases, both genetic and post-surgery, as inflammation of the lymphatic system and the microcirculation and also chronic state due to a protein overload. Treatments include the exclusive use and combination of:

H.I.C.U.: mechanical diathermy high-power, able to produce an increase of enzyme activity, the greater extensibility of collagen and an increase in the permeability of the membrane.

H.D.C.: electromagnetic diathermy controlled in temperature, able to produce a programmed and localized hyperthermia. The greatest inflow of fluids allows a more effective and lasting H.I.C.U.

M.T.D.: special electrophoretic current, already known in aesthetic medicine, used to increase the permeability of tissues, favouring the penetration of the active ingredients both to low and high molecular weight

PAT PATHOLOGIES - Low Limbs Lymphedema, Lymphedema Upper Limbs, Fibrous lymphedema Upper Limbs, Lower limb lymphedema sclerotic, Lymphedema sclerotic Upper Limbs, Lipoedema Lower Limbs, Lipoedema Upper Limbs

Dupuytren's disease

De Quervain's tenosynovitis

Carpal Tunnel Syndrome

Epicondylitis

Epitroclea

Retro-Olecranon bursitis

Calcific tendinitis of the supraspinatus

Scars

Adhesive capsulitis

Sub deltoid bursitis acromion

Lesion of the medial collateral ligament

Plantar Fasciitis

Low back pain

Cervicalgia

Bursitis peritrochanteric

Tendinopathy of Achilleo

Ankylosing spondylitis

Patellar tendinopathy

Gonarthrosis

Quadriceps tendinitis

Tendinopathy of the goosefoot

Ankle sprain-tarsal

Iliotibial band syndrome

Distraction of the triceps surae muscle

Fibromyalgia

Osteoarthritis

Lymphoedema

Post Traumatic edema

Rheumatoid Arthritis