Physiotherapy

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History

- Physicians like Hippocrates & later Galenus are believed to have been the first practitioner of physiotherapy to treat people in 460 BC.
- Modern Physiotherapy was established in Great Britain toward the end of 19th century.
- Physiotherapy is a result of the Second World War. During the Second World War, when a large number of soldiers and civilians suffered injuries, the need for putting them back on health track became imperative. The number of injured persons was so large that acute shortage of medicines was felt. The situation gave rise to a new science of healing, now known as 'Physiotherapy'. Physiotherapy is the cheapest treatment without drugs.

Definition

- It is the science of treatment of disease by exercise, massage, heat, light, electricity or other physical agencies. Use of drugs in this form of therapy is avoided. When required, it can be administered from the neonatal to the geriatric stage.
- Physiotherapy, also referred to as physical therapy, involves evaluating, diagnosing, and treating a range of diseases, disorders, and disabilities using physical means.

Physiotherapy Specialties

- Orthopedic
- Neurology
- Cardiopulmonary
- Pediatric
- Geriatric
- Sports
- Rehabilitation

Role Of Physiotherapist

- Assess ,manage & treat a broad range of medical conditions from sprained ankle to strokes.
- Relieve physical pain & heal injuries.
- Increase mobility, build strength, improve balance & enhance Cardiopulmonary performance.
- Use a variety of techniques to maintain the property of muscles & joints.
- Make individual independent for his/ her activity of daily living.
- Provides gait training & Posture correction.

Methods used in Physiotherapy

Electrotherapy:-

- Shortwave Diathermy
- Microwave Diathermy
- Ultra sound
- Interferential Current Therapy (IFT)
- Transcutaneous Electrical Nerve Stimulation (TENS).
- Faradic & galvanic muscle stimulator
- Cervical/ Lumbar Traction
- Wax bath
- Infrared rays
- LASER
- Russian Current Therapy

Exercise Therapy:-

- Active & Passive Exercises
- Resisted exercises
- Joint Mobilization techniques.
- Suspension therapy
- Hydrotherapy
- Relaxation techniques
- Stretching
- Proprioceptive Neuromuscular Facilitation. (PNF)
- Myo Fascial Release Technique
- Muscle Energy Technique
- Gait & Balance Training
- Posture Correction.
- Breathing Exercise
- Postural Draining

Shortwave Diathermy

- Short wave diathermy operate at a frequency of 27.12 MHz, a wavelength of approximately 11 meters.
- SWD is usually prescribed for treatment of deep muscles and joints that are covered with a heavy soft-tissue mass.
- SWD utilizes two condenser plates that are placed on either side of the body part to be treated. Another mode of application is by induction coils that are pliable and can be molded to fit the part of the body under treatment.

Microwave Diathermy

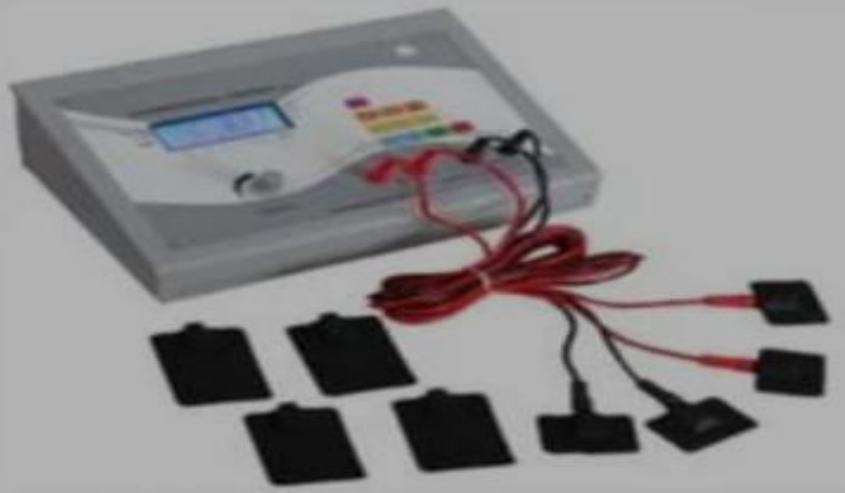
- The clinical microthermy frequency is limited to 2.450 Mc range (10-12 cm wavelength), which is shorter than short wave diathermy.
- The clinical indications for microthermy are, more or less, similar to those for short wave diathermy.
- It has two kind of heads:
  (i) Circular
  (ii) Rectangular.
- director selection depends on the shape and the anatomical configuration of the treated area.

Ultrasound

- Ultrasound is high frequency sound waves, greater than 20,000 Hz. Therapeutic ultrasound is in the frequency range of 1- 3 MHz.
- It has both thermal & mechanical effect.
- Used to heal soft tissue and ligaments injury , scar mobilization & edema reduction.

Interferential Current Therapy

- The four electrodes are placed in such a way that the two currents produced cross each other in the affected area. Where the two currents meet, they actually 'interfere' with each other; hence the name "interferential".
- This modality addresses the issues of pain, spasm, and inflammation



TENS

- Transcutaneous electrical nerve stimulation (TENS) currently is one of the most commonly used forms of electro analgesia.
- Use of TENS for various types of conditions, such as low back pain (LBP), myofascial and arthritic pain, sympathetically mediated pain, bladder incontinence, neurogenic pain, visceral pain, and postsurgical pain .

Electrical Muscle Stimulator

- Electrical muscle stimulation is the elicitation of muscle contraction using electric impulse.
- The impulses are generated by a device and delivered through electrodes on the skin in direct proximity to the muscles to be stimulated.
- Galvanic current is a direct current. Galvanic current will primarily be used for the stimulation of blood flow and pain reduction, as well as ionization (diffusion of medicaments into the tissue with the help of the current).

Cervical & Lumbar Traction

- Cervical spinal traction is accepted as effective for short term relief of neck pain. It can relieve muscle spasm and nerve root compression by stretching soft tissues and increasing the spaces between cervical vertebrae.
- Lumber traction can relieve pressure on compressed nerves, help muscles relax and reduce muscle spasms. Traction increases the space between vertebrae - reducing pressure on intervertebral discs and nerve root.

Paraffin Wax therapy

- Paraffin wax heat therapy is a very effective way of applying heat to soothe stiffness or pain in some parts of the body such as muscles and joints.
- Paraffin wax has this ability to absorb and retain deep heat; thus, it has high heat capacity. That is the reason why it is an effective method for heat therapy.

Infrared Rays

- Infrared is a band of light that we perceive as heat.
- Infrared Heat Therapy effectively helps to increase blood circulation without putting strain on your heart and increases the levels of oxygen and white blood cells in your blood. It also stimulates the production of collagen in your body and helps to rid your body of toxins by causing you to perspire. You get the benefit of a stronger immune system, better cardiovascular health, and a faster ability to heal from soft tissue injuries such as tears, pulls, and sprains.

LASER

- Light Amplification from the Stimulated Emission of Radiation .
- It increase healing rate in wounds and burns
- Decrease inflammatory edema
- Increase healing response of fractures
- Increase regeneration of damaged nerve by stimulating axon sprouting

Russian Currents

- Russian stimulation is a form of electrical stimulation that uses electricity to contract muscle tissue. After injury or surgery, you may be experiencing muscle weakness. Often, muscles are inhibited after an injury and are unable to generate a forceful contraction. Russian stimulation is used to help improve the contraction of your muscles.

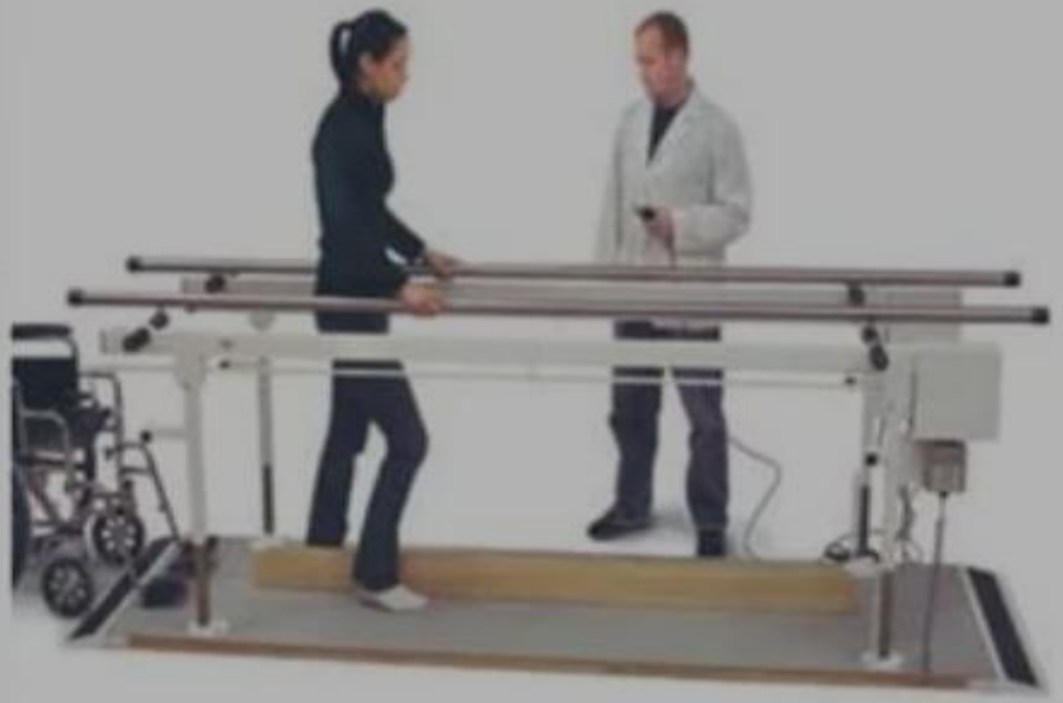
Shoulder wheel Exercise:-

To improve the Range of motion of shoulder joint

Finger ladder Exercise:-

Parallel Bars:-

For gait training & posture correction



Stairs & Ramp:-

Stair climbing training

Wobble Board :-

for Balance exercise

Suspension Therapy

To improve ROM

Quadriceps Chair

For Quadriceps Strengthening

Static Bicycle

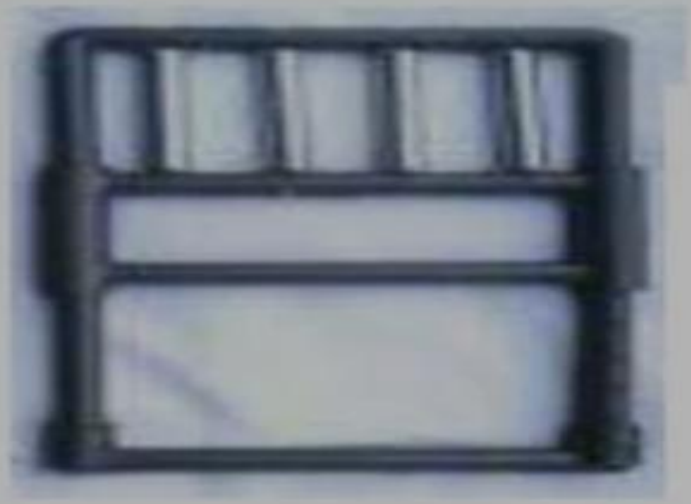
Gym Ball Exercise

For Back exercise , Neck & trunk control in Baby

Overhead Pulley

Supinator/ pronator Exerciser

Finger Exerciser



Finger Weight Peg set

Pinch & Pulp Co-ordinator

Walking Aids

Elbow Crutches

Walking Stick

Tripod

Alu Crutches

Invalid Walker

Walker

Rollet Walker

Deluxe Wheel Chair

Thankyou