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Question 1:

What is the purpose of studying physical agents and electrotherapy?

Answer:

- Electrotherapeutic Modalities And Physical Agents:

Description:

Terminology And Subtypes:

- Physical modalities:

Physical Modalities is a broad term referring to a variety of instruments, machines and tools traditionally used in physical therapy for Musculoskeletal conditions, including chronic low back pain (CLBP). Two important categories of modalities are electrotherapeutic and physical agents. Electrotherapeutics modalities:

Electrotherapeutics modalities involve the use of electricity and therapies such as transcutaneous nerve stimulation (TENS), electrical muscle stimulation (EMS) and interferential current (IFC). The term superficial TENS is also used to differentiate it from TENS administered through a spinal cord stimulator. Electroacupuncture is the application of electrical stimulation, typically with high frequency TENS, through acupuncture needles.

Electrotherapy modalities common interventions include TENS, EMS and IFC.

1. TENS:

TENS delivers an electrical current through superficial electrodes placed on the skin around the area of symptoms and causing a tingling sensation by stimulating sensory nerve fibers.

2. EMS:

EMS are delivers an electrical current through superficial electrodes placed on the skin, but uses a different types of electric current than TENS to get target motor nerve fibers.

3. IFC:

IFC is also administered through superficial electrodes and used a much higher frequency than TENS, which is thought to allow for deeper penetration of the electric current and is thought to cause discomfort.

There are several types of TENS, EMS and IFC devices available, including larger units intended for use in clinical settings and smaller, battery_ operated units that may be portable and worn under clothing for prolonged use throughout the day.

- Physical Agents:

Physical Agents are Modalities that involve thermal acoustic (produced by sound waves) or radiant energy, and include interventions such as therapeutic ultrasound (US), superficial heat (hot packs) and (cryotherapy cold packs or ice).

- Common Physical Agents:

Common physical agents US, superficial heat, and cryotherapy. US produces sound waves that are transmitted to the affected area through a hand_ held, wand_ shaped probe using conductive gel. Settings on the US machine may delivered pulsed or continuous

waves. Hot waves are typically reusable moldable bags of gel that are heated and wrapped in moist towels before being placed on the affected area to provide heat. Cold packs are typically reusable, moldable bags of gel that are frozen and wrapped in moist towels before being placed on the affected area to provide cold.

Question 2:

Which one is the best modality to treat pain and why?

Answer:

- Treatment Modalities:

The physician at the center for the study and Treatment of pain(CSTP) at NYU langone health provide a comprehensive, pain focused evaluation for the chronic pain patient which helps to determine the best course of treatment for each individual patient.

Our specialists provide pharmacological, physical, interventional and psychological treatments in the caring and supportive environment. All of over physicians have trained in the subspecialty of pain Medicine. A psychologist experienced in chronic pain management provides services when necessary.

Our goal is to return patients to the most optimal level of functioning while keeping them and their families informed about the conditions that affect the patient, as well as the available treatments.

Types Of Therapy:

1. Medication:

The most common analgesics include anti_inflammatory analgesics, opioid and nerve pain medications as well as antidepressants. Patients that have previously become dependent are carefully withdrawn from drugs that may have contributed to their dysfunction overtime. If appropriate the patient is placed on a time dependent schedule of non addictive, nor_narcotic analgesics. Other drugs may supplement these if they are required. Some patients may take long term opioids as needed.If they demonstrate improvement. Every effort is made to minimize side effects and interference with a normal lifestyle.

2. Nerve Blocks And Trigger Point Injections:

These are local anesthetics and/or steroid injections that can provide diagnostic and therapeutic value. They may act to interrupt pain transmission, relax muscles and decrease inflammation, as well as allow proper physical therapy to be engaged.During the lesser_pain periods, physical therapy is initiated and normal activity is resumed.

3. Psychological Treatments:

Cognitive behavioral treatments is often helpful in minimizing the suffering associated with chronic pain and improving quality of life. Specific strategies may include relaxation, training, hypnosis, cognitive restructuring and individual and group counseling.

4. Rehabilitation:

A frequent companion of chronic pain is a distinct restriction of daily activities. Including reducing one's ability to work, perform household duties, and simply enjoy life. These changes are usually thought to be consequences of the pain and may lead to further disability. A gradually increasing program of range of motion therapy, muscle strengthening, massage and proper postural training is often beneficial in helping the patient return to a more normal way of life.

5. Implantable Devices:

Implantable medication devices deliver analgesia directly to the nerves to alleviate chronic and cancer pain.

6. Spinal Cord Stimulation:

Electrodes are placed in the spine to reduce pain conduction at the spinal level. This treatment works particularly well for nerve pain.

7. Transcutaneous Electrical Nerve Stimulation (TENS):

The electrical device, developed specifically for pain relief provides a safe and painless level of electrical stimulation that interferes with pain transmission and perception. It is worn and regulated by the patient.

8. Radiofrequency Lesioning:

Nerve ablation blocks are performed safely and effectively with radio frequency ablation. This can be effective for nerve or osteoarthritic pain.

9. Traditional Chinese Medicine:

The fundamental theory of Traditional Chinese Medicine, also known as TCM says that there is an energy force flowing throughout the body. This force known as Qi (pronounced "Chee") comprises all over the essential aspects of life—physical, emotional, and spiritual.