**Assignment for Viva (Spring 2020) (DPT 6th Semester)**

**Course Title: Physical Agents and Electrotherapy-ll Instructor: Dr. Maria Feroze**

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**Note:**

* **Upload your assignment on SIC till 10th July 11:59 p.m.**
* **Copying the content from net or book is not allowed.**
* **Write the assignment in MS word/pdf.**

**Q1. What is the purpose of studying Physical Agents and Electrotherapy?**

**ANS: Electrotherapeutic** modalities and **physical agents** are generally used to:

1. [**Reduce nerve pain.**](http://www.ckphysio.co.uk/blog/key-benefits-electrotherapy-physiotherapy-treatments/#pain)

2. [**Promote healing of musculoskeletal injuries.**](http://www.ckphysio.co.uk/blog/key-benefits-electrotherapy-physiotherapy-treatments/#healing)

3. [**Have a non-invasive, drug-free pain control.**](http://www.ckphysio.co.uk/blog/key-benefits-electrotherapy-physiotherapy-treatments/#control)

4. [**Prevent muscle atrophy.**](http://www.ckphysio.co.uk/blog/key-benefits-electrotherapy-physiotherapy-treatments/#atrophy)

5. [**Increase circulation for wound repair.**](http://www.ckphysio.co.uk/blog/key-benefits-electrotherapy-physiotherapy-treatments/#circulation)

6. [**Have a minimal to no side effects.**](http://www.ckphysio.co.uk/blog/key-benefits-electrotherapy-physiotherapy-treatments/#effects)

**1. Reduce nerve pain.**

Those who suffer from nerve pain experience numbness, tingling, burning, muscle weakness, and general pain throughout the body. Though the causes for nerve pain vary, the pain is attributed to your body's nerves sending out electrical impulses that carry pain signals. In cases of nerve pain, a physiotherapist can use a TENS machine to target and reduce [**nerve pain**](https://www.webmd.com/pain-management/try-electrotherapy) by interfering with or "confusing" the pain signals your body transmits.

**2. Promote healing of musculoskeletal injuries.**

Some electrotherapy modalities, especially a [**shockwave therapy treatment**](http://www.ckphysio.co.uk/treatments/shockwave-therapy/), have been shown to effectively treat a variety of musculoskeletal conditions. Not only can shockwave therapy reduce pain, but it can help increase blood flow to an injured area which can stimulate the healing process. You might find that shockwave therapy is useful for injuries like:

• Tennis elbow

• Plantar fasciitis

• Carpal tunnel syndrome

• Jumpers knee

• Shoulder pain and injuries

Because electrotherapy can help increase circulation and promote healing in an area, it's also used by physiotherapists to treat common sports injuries like sprains and strains.

**3. Have a non-invasive, drug-free pain control.**

Electrotherapy offers a safe, non-toxic, and non-addictive way to handle chronic pain. Whether you suffer from chronic neck or back pain, you know that these conditions can make it difficult to perform activities of daily living and can reduce your quality of life.

Though pain-reducing medication is sometimes a necessary intervention, using electrotherapy for pain relief offers a powerful alternative — without any of the concerns inherent in using habit-forming drugs. In addition, electrotherapy offers a non-invasive way to handle chronic pain and promote tissue repair. Using electrotherapy can, in some cases, prevent the need for invasive interventions like surgery.

**4. Prevent muscle atrophy.**

When muscles can't be used due to injury, illness, or nerve damage, this can result in muscle atrophy — which is when a muscle wastes away. Not only does muscle atrophy restrict movement and impact quality of life, but it can also contribute to pain and stiffness. Fortunately, electrotherapy — specifically electrical muscle stimulation (EMS) — can help [**prevent atrophy**](https://stimrx.com/how-does-tens-and-ems-treat-muscle-atrophy/) by stimulating muscles to contract. Sometimes, EMS is used to stimulate muscles to contract, while a TENS machine is used to help reduce the pain associated with atrophy.

**5. Increase circulation for wound repair.**

Healthy circulation is an incredibly important aspect of the healing process. Oxygenated blood brings nutrients to our cells and helps jump-start tissue healing. In addition, healthy circulation helps remove toxins from the body to create a healthier body. Studies have shown that electrotherapy devices can significantly [**enhance blood flow**](https://www.sciencedirect.com/science/article/pii/S2005290116300899) in the body — which then boosts the body's ability to heal and repair wounds.

**6. Have a minimal to no side effects.**

When it comes to electrotherapy treatments, most patients experience pain relief and healing with relatively few side effects. In fact, the most common side effect from electrotherapy can often be traced back to the adhesives used in securing the electrode pad to the skin, which can occasionally trigger a rash or allergic reaction on the site. You may experience some slight discomfort during treatment, but electrotherapy is generally a pain-free methodology with no long-lasting side effects.

**Q2. Which one is the best modality to treat pain and why?**

ANS: **Short wave Diathermy** is a therapeutic treatment most commonly prescribed for muscle and joint conditions. It uses a high-frequency electric current to stimulate heat generation within body tissues.
The heat can help with various processes, including:

* increasing blood flow
* relieving pain
* improving the mobility of tissues.

Shortwave diathermy uses high-frequency electromagnetic energy to generate heat. It may be applied in pulsed or continuous energy waves. It has been used to treat pain from kidney stones, and pelvic inflammatory disease. It’s commonly used for conditions that cause pain and muscle spasms such as:

* sprains
* strains
* bursitis
* Tenosynovitis.

**Benifits:**Treating injuries with heat can increase blood flow and make connective tissue more flexible. It can also help minimize inflammation and reduce the incidence of edema, or fluid retention.By increasing blood flow to the site of an injury, the deep heat generated with diathermy can accelerate healing.

Diathermy is used to treat the following conditions:

* arthritis
* back pain
* fibromyalgia
* muscle spasms
* myositis
* neuralgia
* sprains and strains
* tenosynovitis
* tendonitis
* Bursitis.

After a diathermy treatment, the affected area may feel more flexible.

The increased blood flow to the affected area may induce healing and tissue repair.

**Thank**

**you**