



Is Bioptron Light Therapy the same as laser therapy?

No, light therapy is *not the same* as laser therapy. Light emitted by a **BLT** device differs from laser light in several ways.

- **BLT** contains light from a *wide range* of wavelengths (vs. the narrow bandwidth of laser light).
- **BLT** emits light that is of *low-energy* so there is only a minimal heating effect, making the treatment *safer* (vs. the high-energy beam from a laser that may generate a great deal of heat).
- **BLT** devices emit light with a *wide beam* to allow exposure of *larger treatment area* (vs. the usually much narrower beam from a laser).

Is Bioptron Light Therapy expensive?

BLT is cost-effective.

Is Bioptron Light Therapy safe?

Yes, light therapy with **BLT** is safe. To date, there are no known adverse effects associated with **BLT**.

Where can I get more information on Bioptron Light Therapy?

Comprehensive information on all aspects of **BIOPTRON Light Therapy** is available from:

Please add local contact details here:



BIOPTRON Pro 1



BIOPTRON 2



BIOPTRON Compact III

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What is tennis elbow?

'Tennis elbow' is the common name given to pain occurring in the outside area of the elbow (also known as 'lateral elbow pain', 'rowing elbow' and 'lateral epicondylitis'). One of the earliest reports described the condition occurring in people playing lawn tennis, hence the name 'tennis elbow'. Although tennis elbow is usually a mild and self-limiting condition, it can severely affect health and employment in some people.

Who gets tennis elbow?

Tennis elbow is one of the commonest arm lesions seen by doctors. It occurs in 1-3% of the population (i.e. 1-3 people in 100); usually in men and women aged 40-60 years old. Despite the name, playing tennis only accounts for a small fraction (less than 5%) of cases of tennis elbow.

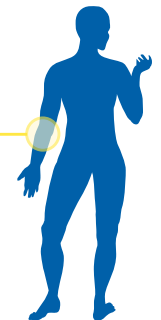


What are the causes of tennis elbow?

Tennis elbow is caused by damage to the tendon that joins the muscles in the lower arm (*extensor muscles*) to the bone of the upper arm (*humerus*). This tendon is anchored to the area of bone on the outside of the elbow (*lateral epicondyle of the humerus*). Tendon damage can occur in two ways; i) by a single episode of trauma (e.g. being hit on the arm), or ii) by repeated overuse of the arm. Common activities that can result in tennis elbow include manual occupations (e.g. builders, house maids/cleaners, car mechanics), gardening, cutting with scissors/shears, sports involving repeated throwing, swimming, tennis and golf.

What are the common symptoms of tennis elbow?

The symptoms of tennis elbow tend to develop slowly and commonly occur in the arm of the dominant hand (i.e. in the right arm of a right-handed person). The main symptom is pain in the outside area of the elbow; some people also have pain in the surrounding muscles. Grip is often reduced due the pain, which may restrict daily activities (e.g. carrying shopping bags, working using tools, etc.).



Apply to affected area for 4-10 minutes, 1-2 times per day

What treatment is available for tennis elbow?

If tennis elbow is treated as soon as the symptoms appear, it is likely to heal more quickly. Resting the injured arm is important but this may be difficult for many people, particularly if using the arm is required for employment (e.g. plumber) or for normal daily activities (e.g. caring for the home/children).

Mild cases of tennis elbow can be treated at home using ice packs, a brace or sling to support the arm, and/or simple pain relieving medicines (however, these drugs also have possible side effects such as nausea, irritation of the stomach lining/development of a stomach ulcer).

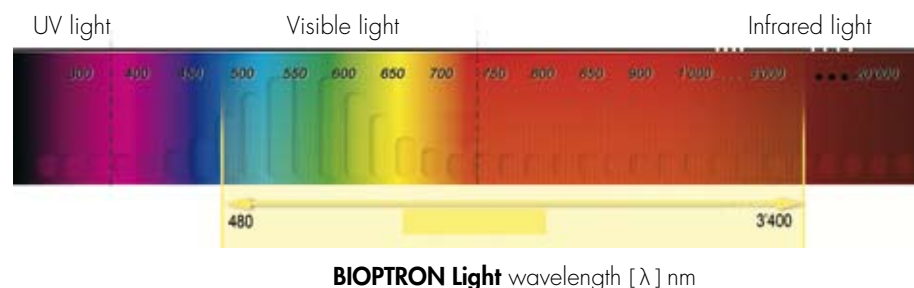
Moderate cases may require further treatment via the family doctor, such as the prescription of stronger pain killers and/or referral for physical therapy. Physical therapy reduces pain and improves strength; it includes therapeutic exercises, massage, ultrasound, heat therapy and medical laser light therapy. More severe cases of tennis elbow may require surgery.

Most cases of tennis elbow normally improve within weeks/months; however, prolonged dis-comfort can occur in a minority of cases with symptoms lasting up to several years. Manual workers are particularly likely to have a recurrence of the condition, as they tend to resume the activity that caused the initial injury.

What is BIOPTRON Light Therapy?

Light is a form of energy and has wave-like properties; the difference between the various colours of light is determined by their wavelength. Light has been used as a healing tool since ancient times. Scientists now have a better understanding of which components of natural light are efficient in the stimulation of healing.

This has led to the development of optical devices to produce various types of 'medically useful' light, such as the **BIOPTRON Light Therapy (BLT) System**.



What effects does BIOPTRON Light Therapy have on the human body?

BIOPTRON Light Therapy devices emit light containing a range of wavelengths that correspond to visible light *plus* infrared radiation, both of which have been reported to stimulate biological reactions. Importantly, *no harmful ultraviolet (UV) radiation* is present in **BLT**.

When the BLT device is held over the skin surface, energy from the emitted light penetrates the underlying tissues (*Figure 1*). This produces a biological response, called *photo-biostimulation*, causing various reactions within these tissues that may result in the reduction of pain and promotion of healing.



Figure 1: BLT with the BIOPTRON Pro 1 device

How does BIOPTRON Light Therapy help relieve pain?

Light therapy is believed to reduce pain sensation in several ways -

- Improving local blood supply & reducing muscle spasm.
- Reducing the release of chemicals that stimulate pain receptors (called an anti-inflammatory effect).
- Inducing the release of the body's natural pain-killing agents (called endorphins).
- Direct action on nerve fibres to prevent transmission of pain impulses to the brain.

Therefore, the application of **BLT** over the injured area (e.g. the elbow) helps to reduce pain and discomfort.