

With the revolutionary scanning PR777 laser benefits can be achieved for people with a wide range of conditions in total comfort. The system has produced dramatic improvement in fluid retention due to poor fluid drainage (lymphoedema), chronic inflammation of muscles and joints, acute injuries (in both pain and function), scars, sun damaged skin, and improving healing of tissues. It can be used alone with great benefit. Even more can be achieved by combining it with other modalities such as manual massage or by a mechanically aided form such as endermologie, with the Spineforce machine, Huber, and with adjuvant creams to produce stunning tissue effects.

WHAT CAN IT BE USED FOR?

The benefits from this laser are still being found. Initially it was used for aiding in the treatment of injuries to muscles and other tissues and in improving lymphatic drainage. Some people post-surgically for breast and other cancers can have problems draining the free fluid that accumulates between cells when the lymph glands that are part of the lymphatic drainage system are removed as part of the treatment. Even bands of tissue in scars (especially after radiotherapy) can produce a restriction in fluid drainage. The healing of the skin damage that occurs with radiotherapy (a sort of sun-burn effect) can be improved and made much more comfortable with the red beam (Helium Neon) part of the laser. This same part can also improve the rate of healing of surface wounds such as ulcers. It can also be used to activate a cream in photodynamic therapy for sun damage and some skin cancers. Areas of pain associated with injuries and even arthritis can be improved with certain settings on the laser. The inflammation associated with such injuries and arthritis of various types can be dramatically

improved with treatments. Problems such as carpal tunnel syndrome where one of the nerves to the hand have been compressed at the wrist can be reversed. Some people may still need other approaches (such as the final solution, surgery) if they do not respond or are too advanced. Back pains of various kinds will respond. These may have a muscular or nerve origin. But appropriate targeting by area and approach will produce rapid changes. Scar tissue that arises in the abdomen after surgery (adhesions) can be softened and modified by this process.

HOW DOES IT WORK?

The PR777 laser produces two types of light from diode lasers. There is a visible red beam, which is the Helium Neon beam at around 633nm wavelength. This is an ideal wavelength to activate some creams in photodynamic therapy. Being red it also penetrates more deeply than other colours of the visible light spectrum. The other main worker in the laser is infra-red, the Gallium Arsenide diode, at 904nm. This has the ability to penetrate 3cm or more below the skin surface to achieve its effects. It is produced as a short pulse that can be repeated in rapid successions through a wide range of frequencies from ten a second to 5,500. This variation can produce different effects in the tissue. For example around 200-300 shots a second improves pain sensation. At 5,500Hz inflammation and fluid retention will be improved.

The beams are produced in solid state diodes and fired down a channel where the beam can be manipulated from a single point to a scanning beam covering anything from a line to a large rectangular area. The laser can also be fired from attachments to the machine body that allow contact treatment of specific areas.

The laser energy absorbs into targets within the body that are most receptive to the particular wavelength of the laser. These are often elements within the cells such as mitochondria, that control the activity of the cell and subsequently the body. By stimulating these healing and growing processes are enhanced that will resolve tissue problems. Cells within the blood will also absorb the energy and move about the body. This accounts for benefits people see at points well away from the treated segment. It also was the reason it was sometimes difficult to document changes in experiments that evaluated these lasers. If the opposite side of a body was used as a control to compare results with the treated side, there might not be a great deal of difference. But if two different people were used, one treated and the other not, there was a significant difference.

These effects are different from surgical and other lasers that are designed to destroy tissue to produce their effect. Lower energies of laser at the right application frequency can stimulate tissue effects. But also too much can result in reversing this effect.

IS IT PAINFUL?

Frequently people are not even aware the laser is doing anything. They need to see the red beam moving to be sure anything is happening. Some people are aware of a tingling in the treated area. This is helpful to know something is happening but is not necessary to produce a result. A few people may be aware of a little warmth. With activation of creams in photodynamic therapy there can be a tingling to slight burning sensation. There should never be any pain.

HOW QUICKLY WILL I SEE RESULTS?

Some people feel an immediate change on getting up off the couch or chair after the session. Quite a few may not notice something until the next morning. This could be a complete clearance, or the beginning of a change. A few may notice continued improvement over several days.

HOW MANY TREATMENTS WILL I NEED?

Usually a series of treatments is recommended. These can be done two or three times a week for a couple of weeks. If people are coming from out of town these can be arranged, still effectively, on every day of a week. Some people will achieve an excellent response for more minor conditions with a single treatment.

HOW LONG WILL THE EFFECT LAST?

Sometimes in breaking a pain cycle there may be long lasting effects. In others where there is underlying removed tissue from surgery repeated treatments are likely to be needed in the future. These can vary from a few months to half a year or longer.

WHAT ELSE CAN BE USED?

Other modalities will improve results, depending on the underlying condition. Obviously in photodynamic therapy a cream that can be activated by the laser is used.

For back problems, re-education of the damaged, weakened and imbalanced muscles can be achieved with the Spineforce treatment with the Huber machine.

Manual massage, or, in our clinic, using the even more effective endermologie technique with the Keymodule i machine will improve fluid drainage, aid in repair of muscle and other surface tissue injuries.

SUMMARY OF INDICATIONS

- Muscle injury treatments
- Nerve entrapment and inflammation problems
- Haematomas and bruising
- Arthritic pain
- Lymphatic drainage problems
- Scar remodelling
- Photodynamic therapy for sun damage



THERAPEUTIC LASER TREATMENT

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