

## Document Control

<b>Title</b>			
<b>Rhian Corp LTU-904 Portable Laser Unit Standard Operating Procedure</b>			
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**Policy categories for Trust's internal website (Bob)**

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## 1. Background

This document sets out Northern Devon Healthcare NHS Trust's system for the performance of Medical Class 1 Low Level Light Therapy (LLLT), using the LTU-904 Portable Laser Therapy Unit for patients with lymphoedema.

Lymphoedema can cause discomfort, heaviness, tension and a loss in range of movement. If left untreated, or poorly managed, fibroblasts become overactive and macrophages underactive. When this happens the fluid lying dormant in the tissues is replaced by fibre (1).

Low level light therapy (LLLT) is a low intensity red and near infrared light therapy. It is not a heat treatment, the effects are photochemical. The light penetrates into tissue where it is absorbed by cells and converted into energy that influences the course of metabolic processes.

The use of LLLT has shown to have therapeutic effect in conditions such as slow healing wounds and musculoskeletal conditions to aid tissue repair, inflammation and pain (1). LLLT has been used in lymphoedema treatment for many years. Studies have shown that effects such as softening of tissues, reduction in volume, softening of scar tissue and increased mobility particularly in secondary lymphoedema to cancer involving upper and lower limbs, midline and head and neck oedema (2,3,4).

The LTU-904 Portable Laser Therapy Unit is an infrared laser operating at a wavelength of 904 nanometres. This invisible wavelength penetrates up to 2cm into the tissue and is indicated for use as a tool as part of a therapy regime for the treatment of lymphoedema.

## 2. Purpose

The Standard Operating Procedure (SOP) has been written to:

- Identify the procedure for the assessment and delivery of Class 1 Low Level Light Therapy for patients with lymphoedema in the clinical setting.
- Improve treatment care for the patient and reduce the risks associated with poor lymphoedema management.

- Ensure the is used correctly. Detailing the precise usage of this equipment reduces any potential harm to patients.
- Please note that this SOP is a guideline only and a clinician's clinical judgement should be utilised following thorough assessment of the patient.

### 3. Scope

This Standard Operating Procedure (SOP) relates to the following staff groups who may be involved in the assessment and delivery of Low Level Light Therapy in the clinical setting:

- Lymphoedema Practitioners

Staff undertaking this procedure must be able to demonstrate continued competence as per the organisations policy on assessing and maintaining competence.

### 4. Location

This Standard Operating Procedure ~ Low Level Light Therapy can be implemented in clinical areas where competent staff trained in the use of this device are available to undertake this role.

### 5. Equipment

- Rhian Corp LTU-904 Therapy Unit
- Headpiece
- Charging lead
- Testing card

### 6. Procedure

- Prepare the LTU-904 Therapy Unit for use, checking for damage to the unit/, head/lead. If any damage do not use and report to EBME.
- Explanation of the treatment to be given to the patient and the patient will be given the opportunity to ask questions prior to agreeing to the treatment.
- Verbal consent to be obtained before the commencement of treatment and documented in the electronic notes.
- Toilet facilities to be offered.
- Record clinical assessment and limb volume measurements prior to the treatment course.
- Ensure the area to be treated is clean and free from talcum powder.

- Assist the patient to position themselves in a comfortable lying or sitting position and that the couch is set at a comfortable height for the therapist to work.
- Ensure the limb is clean and dry before commencing treatment.
- Assist the patient to position themselves in a comfortable lying or sitting position and that the couch is set at a comfortable height for the therapist to work.
- Ensure the patient performs or the practitioner should perform Simple Lymphatic Drainage prior to LLLT.
- Treatments are individualised as per the written guidelines.
- Switch the LTU-904 on and set to high.
- Using Haddenham Healthcare treatment protocol for arm, leg, head, neck or breast and working from the proximal to the distal region apply the LTU-904 to the skin for 60 seconds per treatment spot approximately 2cm apart.
- Aim to work along the medial pathways incorporating lymphatic collecting vessels.
- Aim to cover all fibrotic areas.
- Treatment times will range between 15-30 minutes depending on area affected.
- Following LLLT any other treatments including Manual Lymphatic Drainage (MLD) and Intermittent Pneumatic Compression (IPC) should be provided immediately.
- Compression bandaging or compression garments to be applied/donned as appropriate.
- Following use switch off the LTU-904, clean and charge as required and store safely according to manufacturer's recommendations.
- Clinical assessment and limb volume measurements will be recorded post treatment course.
- Ensure the equipment is cleaned and dried between patients in accordance with manufacturer's instructions and Northern Devon Healthcare Trusts Infection Control policy. Charge as required and store safely as per manufacturer's instructions.

## 7. References

- Carati C J, Anderson S N, Gannon B J and Piller N (2003) Treatment of post mastectomy lymphoedema with low level laser therapy. *Cancer* 98 1114-22.
- Haddenham Healthcare (2013) Lymphoedema Clinic Protocol. The Use of Low Level Light Therapy (LLLT) as an adjunct in the treatment of lymphoedema.

- Kozanoglu E, Basaran S, Paydas S and Sarpel T ( 2009) Efficacy of pneumatic compression and low-level laser therapy in the treatment of postmastectomy lymphodema: a randomised controlled trial. Clinical Rehabilitation.23 117-124.
- Omar M T A, Ebid A A and Morsy A M (2011) Treatment of post-mastectomy lymphoedema with laser therapy: double blind placebo control randomised study. Journal of Surgical Research. 165 82-90.
- RianCorp LTU-904 Laser therapy System User Manual
- Tilley, S (2009) Use of laser therapy in the management of Lymphoedema.Journal of Lymphoedema. 4 (1) 39-43.

## 8. Associated Documentation

Northern Devon Healthcare NHS Trust Policies for:

- Infection Control
- Consent
- Competence