# Radiation Safety Policy for the Medical Use of Non-Ionising Radiation Policy



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| **Endorsing Body:** | **Area Radiation Safety Committee** |
| **Governance or Assurance Committee** | **Healthcare Quality Assurance Improvement Committee** |
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| **Responsible Person** | **Chairman Area Radiation Safety Committee** |

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| CONSULTATION AND DISTRIBUTION RECORD | |
|---|---|
| **Contributing Author / Authors** | • Secretary, Area Radiation Safety Committee |
| **Consultation Process / Stakeholders:** | • Medical Director<br>• Chairman of Radiation Safety Committee<br>• Laser Protection Adviser<br>• Laser Protection Supervisors<br>• Clinical Scientists - MR<br>• Service Managers<br>• Theatre Charge Nurses<br>• Dermatology Nurses<br>• Head of Medical Physics<br>• Radiology Clinical Lead |
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| CHANGE RECORD | | | |
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| 01/05/15 | Secretary, Area Radiation Safety Committee | Updated Appendix 1 and 6 Reformat into NHS Lanarkshire Corporate Policy template | 1.2 |
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| 30/11/2018 | Secretary, Area Radiation Safety Committee | Changed numbering in main policy | 1.5 |
| 12/11/2021 | Secretary, Area Radiation Safety Committee | Updated MRI Safety Guidelines reference | 1.6 |

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## 1. INTRODUCTION

This policy sets out the framework to oversee health and safety relating to all medical uses of non-ionising radiation within NHS Lanarkshire.

## 2. AIM, PURPOSE AND OUTCOMES

The aim of this policy is to describe the radiation safety policy for the medical use of non-ionising radiation within NHS Lanarkshire.

The aims of the Non-Ionising Radiation Policy are:

- To ensure that any existing non-ionising radiation sources used by the Board or within Board premises are subject to a risk assessment and appropriate controls.
- To ensure compliance with general health and safety legislation and with specific legislation relating to non-ionising radiations, through adherence to relevant national guidance and appropriate national and international standards.
- To ensure that any non-ionising radiation sources procured for or loaned to the Board are controlled and are subject to risk assessment and appropriate controls.
- To ensure that wherever non-ionising radiation equipment is used for the treatment or diagnosis of patients within the Board, roles and responsibilities are clearly established and risks to patients, staff and others are adequately controlled.

## 3. SCOPE

### 3.1 Who is the Policy intended to Benefit or Affect?

This policy will benefit patients being treated by NHS Lanarkshire and will affect NHS Lanarkshire staff, patients & their families, contractors, members of the public and staff from other organisations working on NHS Lanarkshire premises.

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### 3.2 Who are the Stakeholders

The stakeholders are the patients being treated by NHS Lanarkshire; employees of NHS Lanarkshire; members of Health Physics Greater Glasgow and Clyde Health Board; NHS

Lanarkshire Radiation Safety Committee; NHS Lanarkshire Clinical Governance Committee; NHS Lanarkshire Health Board through the Medical Director.

## 4. PRINCIPAL CONTENT

Policy authorised by Chief Executive, NHS Lanarkshire and Medical Director, NHS Lanarkshire.

### A. Policy Statement

NHS Lanarkshire (The Board) recognises its obligations under the Management of Health and Safety Regulations 1999 to assess the workplace risk to staff, patients, patients' families, contractors and the public. Within the general principles of prevention, the medical use of non-ionising radiations presents an acceptable risk when used as an effective form of treatment or in diagnosis. This document sets out a framework to restrict the risks as far as is reasonably practicable while being consistent with a clinical outcome favourable to the patient.

The Board will ensure, as far as reasonably practicable, the health and safety of its employees, of patients undergoing treatment, of contractors working on the premises, and of members of the public who may be exposed to hazards arising from the use of non-ionising radiations. This includes optical radiations such as class 3 and 4 lasers and ultraviolet, used directly in treatment, other optical sources used for therapeutic or diagnostic purposes, or high intensity optical sources used for other applications within the Board's premises. This also includes electromagnetic fields arising from magnetic resonance imaging (MRI) used in diagnosis, from various therapies involving heating or removal of tissue and those arising from any other source within the workplace. Applications in the treatment and diagnosis of patients will only be undertaken where the procedures are clinically justified and appropriate assessment of the associated risks have been carried out.

### B. Safety aspects for sources of different non-ionising radiations

Exposure limits have been set for all artificial optical radiation sources in the workplace which apply to all staff. Specific requirements for different types of optical sources are summarised in Sections B.1, B.2 and B.3.

### B.1 Lasers and Intense Pulsed Light (IPLs)

References to lasers relate to Class 3 and 4 lasers only, and not to class 1 and 2 lasers, which for normal use are regarded as safe.

A system of classification has been implemented for lasers to indicate the degree of hazard and level of precautions that should be taken. The hazard to the eye or skin in general terms from the various classes is given in the table below.

Table: Laser Safety Classes

| Laser Safety Class | Laser Type | Potential Eye & Skin Hazard |
|---|---|---|
| Class 1 (embedded) | Laser completely enclosed | Generally safe during use. Hazards according to power of enclosed laser when interlocks are overridden. |
| Class 1<br><br>Class 1C | Very low power level | Emitted power generally safe for long-term intrabeam viewing, even with optical instruments such as magnifying glasses.<br><br>Eye safe |
| Class 1M | Low power level. Collimated large beam diameter or divergent | Safe for long-term intrabeam viewing, but potentially hazardous with magnifiers (divergent beams) or binoculars (large diameter collimated beams). |
| Class 2 | Low power level Visible wavelengths only | Safe for brief (accidental) direct exposure with naked eye and optical instruments. Prolonged staring may injure eye, especially blue wavelengths. |
| Class 2M | Low power visible Collimated large beam diameter or divergent | Safe for brief exposure with the naked eye, but potentially hazardous when exposure occurs with magnifiers (divergent beams) or binoculars (large diameter collimated beams). |
| Class 3R (visible) | Low power Typically alignment lasers | Accidental exposure usually not hazardous, but eye injury possible for intentional intrabeam viewing |
| Class 3R (invisible) | Low power | Accidental exposure usually not hazardous, but eye injury possible for intentional intrabeam viewing. |
| Class 3B | Medium power | Exposure (including brief accidental exposure) of the eye to the direct beam may cause serious eye injuries. Very limited skin hazard. Viewing diffuse reflections is normally safe |
| Class 4 | High power | Exposure (including brief accidental exposure) of the eye to the direct beam and close viewing of diffuse reflections may lead to serious eye injuries. May cause serious skin hazard. Presents fire hazard. |

N.B. It is the manufacturer's responsibility to classify a laser based on the output.

The following are required by departments using Class 3B and Class 4 lasers and IPLs.

- Each department will ensure that the master keys for their lasers and IPLs are kept in safe custody and only issued to authorised personnel.
- Risk Assessments and Local rules must be in place for all lasers and IPLs used in treatment and diagnosis. Local Rules must contain any control measures identified in the relevant risk assessment.
- Each laser or IPL has an Operational Laser Protection Supervisor who has day to day responsibility for overseeing laser safety.
- Each laser or IPL has a Clinical Laser Expert who has responsibility for assessing and confirming the competence of all clinical therapeutic laser users within their area of responsibility prior to their approval as authorised laser users for a particular clinical application.
- Each laser will have a list of competencies against which laser users are assessed prior to approval as authorised laser users.

### B.2 Non-coherent optical sources used in medical treatment and diagnosis

The hazards from ultraviolet radiation are a risk of skin erythema and cataract from exposure of the eye. There is also a small increased risk of skin cancer in the longer term.

Treatments of patients with ultraviolet phototherapy, photodynamic therapy and other non-coherent optical sources will be optimised in order to minimise the risk of short term effects on the eye and skin, while maximising the clinical benefit to the patient.

Assessment of acceptable levels of exposure of staff, students or outside workers applying optical radiation techniques must be maintained below specified minimum permissible exposure limits. Risk assessments must be carried out and appropriate controls identified should be put in place to ensure that all staff exposure to optical sources is maintained at a safe level.

### B.3 Optical sources used for applications other than patient treatment and diagnosis

Exposure limits exist relating to all artificial optical radiation sources in the workplace and these apply to all workers. This places an obligation on the Board to assess the risk from any optical source which potentially could present a hazard.

Risk assessments must be in place for all optical sources used for patient treatment. Risk assessments must also be in place for all other optical sources although for the majority of sources these may be generic because of the low level of hazard.

## B.4 Magnetic resonance imaging

Magnetic Resonance Imaging (MRI) equipment exposes patients and staff to significant static and time varying magnetic fields and also radiofrequency fields. Ferromagnetic materials brought into the proximity of the magnet can become potentially lethal missiles. Electromagnetic interactions with implants and other metal objects such as monitoring wires can cause malfunctions and burns.

All MRI suites have self-closing, self-locking doors to prevent unauthorised entry of patients and staff. All patients and staff attending an MR unit have to undergo an extensive safety checklist to ensure they have no contraindications for exposure to the MRI fields.

Local rules have been compiled for each MRI unit using the MHRA's Device Bulletin February 2021 *Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use* as the basis, and must be available at each MRI unit.

Each MRI unit has an identified 'Responsible Person' who has day to day responsibility for MR safety.

Each MRI unit has an identified MRI Safety Expert to advise on issues related to the varied electromagnetic interactions and the operation of the equipment.

There is a need to optimise imaging in MRI and this often includes some use of healthy volunteer scanning.

## B.5 Electromagnetic fields arising from other sources

Significant electromagnetic fields are present in the immediate vicinity of therapeutic diathermy equipment. It is normally sufficient to ensure that staff do not stand within 1m of the electrodes and patient when such is being used for treatment.

Fields from surgical diathermy and other therapy equipment are lower and hazards correspondingly less.

Staff using any type of equipment that has an associated electromagnetic field must be aware of the level of hazard.

## C. Non-ionising radiation equipment policy

C.1 Responsibility for ensuring that all non-ionising radiation equipment is installed, commissioned and maintained to satisfy non-ionising radiation safety requirements and is included in the equipment replacement programme of the Board will lie with the relevant Head of Service. All documentation relating to the service history for the equipment should be kept within the department.

C.2 Responsibility for maintaining an inventory of all non-ionising radiation equipment used for medical exposures will lie with the Head of Medical Physics through existing Board equipment management structures and procedures.

C.3 All non-ionising radiation equipment purchases will go through appropriate routes established by the Board, with input from the relevant Safety/Protection Adviser as appropriate. This will ensure that equipment purchased is designed, constructed and installed so that it is capable of restricting exposure in line with the intended clinical purpose, and that all technical information relating to use and safety requirements, including source details, are provided by the supplier or manufacturer.

C.4 Prior to installation and clinical use of any new types of equipment delivering non-ionising radiation to patients for therapeutic purposes (including loan equipment), the appropriate safety adviser will be consulted and appropriate risk assessments and control measures implemented.

C.5 Responsibility for ensuring that relevant staff receive appropriate training in use of non-ionising radiation equipment, including relevant safety training, will lie with the relevant clinical director for medical staff, and the appropriate manager for other healthcare professionals.

C.6 Only approved service personnel with relevant training must undertake maintenance or servicing of equipment emitting non-ionising radiations.

C.7 When equipment is being serviced, tested or otherwise operated by a third party external to the Health Board, then the equipment in which they are working with be subject to formal handover. All work will then be subject to the safety arrangements put in place by the third party who will be responsible for regulatory compliance whilst that work is taking place. At conclusion of the work the equipment and area should be formally handed back to the local department who will be responsible for carrying out any necessary quality control checks before returning the equipment to clinical use.

C.8 If any source of non-ionising radiation is damaged in a manner that could lead to potential overexposure, it is the responsibility of staff using that source to ensure it is made safe, and to inform the local manager, so that arrangements are put in place either for its repair, or its removal from service and disposal.

**D. Incidents**

Any incident which leads to an unintended exposure of patients, staff or members of the public that could potentially be harmful must be dealt with according to the Board policy, which can be found in the Risk Management section of FirstPort. It must be reported through the Datix incident recording system and to the appropriate manager. The Head of the Clinical Service will be responsible for ensuring that an investigation is undertaken and evaluating the information obtained.

If an incident involving optical radiation occurs which has the potential to cause the operator, patient or other staff injury and an injury is suspected, then a medical examination must be carried out. An Ophthalmologist must carry out an examination within

24 hours for any suspected eye injury, and a Dermatologist should carry out an examination for injuries to the skin.

Additional arrangements that should be followed in the event of a suspected laser or IPL exposure are given in Appendix 4.

Incidents which require to be notified to external agencies will be reported to the appropriate Head of Service, who will be responsible for making the external report. A copy of the report will be sent to the Secretary of the Radiation Safety Committee. Incident reports will be considered through the Directorate structures.

## E. Safety Training

Operational Laser Protection Supervisors should be familiar with the 'Core of Knowledge' for laser safety (MHRA Guidance), and be able to provide evidence of suitable training. They should attend LPS update courses at intervals of no more than three years.

Authorised Laser or IPL Users should have sufficient supervised clinical training before undertaking any procedures involving a therapeutic laser or IPL device (MHRA Guidance notes). Authorised Laser Users should be familiar with the 'Core of Knowledge' for laser safety, and be able to provide evidence of suitable training. This may be achieved through specific practical courses attended, but will in many cases take the form of supervised clinical sessions in the use of their specific laser or IPL for the procedures to be undertaken.

Non-clinical laser users should have received appropriate departmental safety training prior to acting as technical users.

All staff working in an environment where work with lasers is taking place must have undertaken a course in basic laser safety.

Nurses and other staff administering phototherapy must have appropriate training in UV safety.

MRI staff must have appropriate training in MRI safety as determined recommended by the MRI Safety Expert.

Any contractors, trainees or other non-Health Board workers who may have involvement with the use of Class 3 or 4 lasers, phototherapy equipment or MRI equipment must be given training appropriate to their role.

All the above training must be documented and available for audit purposes.

## Appendix 1

### The Functions and Responsibilities Attached to the Appointment of Operational Laser Protection Supervisor

The prime function attached to this appointment is:

To exercise close supervision of the work with a laser or lasers within their area or Department, to ensure that the requirements of the MHRA document DB 2008(03) Guidance on the safe use of lasers, IPL systems and LEDs, associated guidance and the 'Local Rules' are implemented in practice. The Operational Laser Protection Supervisor will have responsibility for supervising the overall safety of the laser environment but the clinician carrying out the procedure remains responsible for the safety of the patient.

Any concerns that cannot readily be resolved must be raised with the Departmental Manager and the Laser Protection Adviser (LPA).

In addition, the Operational Laser Protection Supervisor will be expected to take responsibility, working in conjunction with the Departmental Manager and LPA, for the following:

1. To draw up, in collaboration with the Laser Protection Adviser a set of 'Local Rules'. This must detail the principles and the working practices to ensure safe use of the laser facility, and must be kept under continuous review.
2. To ensure that procedures are carried out in a safe manner and, with the assistance of each laser operator, adapt the procedures to ensure safe operation. Any problems or potential problems with regard to laser safety that cannot readily be addressed should be drawn to the attention of the LPA .
3. To notify the LPA of any forthcoming change in the work or the facilities wherever these may have significant bearing on laser safety and, with advice from the LPA, to carry out an appropriate prior risk assessment. Changes would include the purchase of new equipment or delivery systems, modifications to old equipment, or the need to carry out procedures in a new location.
4. With the assistance of the laser operator involved, to undertake an initial investigation into the circumstances of any reported or suspected incident as a result of the work with lasers within the Department and to report the findings to the Departmental Manager and Laser Protection Adviser. (See MHRA Guidelines).
5. To ensure in collaboration with the LPA, laser operator and the employing authority, that all employees and authorised visitors receive such information on laser safety, instruction and training as appropriate.
6. To ensure that all members of staff involved in the work of the Department have read the 'Local Rules' and have signed a statement acknowledging this.
7. To maintain the registers of personnel authorised to operate each laser, and of those who may assist in the operation of the laser.
8. To approve the competence and knowledge of clinical laser users, in collaboration with the Clinical Laser Expert, prior to approving their addition to the register of authorised users.

9. To ensure, with advice from the LPA, that protective eyewear is appropriate to the type of laser used, that all Personal Protective Equipment (PPE) is stored and labelled correctly and that staff are fully trained in its use.
10. To examine all Personal Protective Equipment (PPE), warning signs and lights, and other safety features at regular intervals for damage and correct function and to keep a record of such checks.
11. To check with the Departmental Manager that the annual review of the risk assessment for laser work has been completed. To carry out an annual review of laser safety, including a review of the relevant risk assessments.

**Appendix 2**

**Draft Letter of Appointment of Operational Laser Protection Supervisors**

From Head of Service:

Dear [INSERT name of Operational Laser Protection Supervisor]

NHS Lanarkshire has endorsed the recommendation that you be appointed Operational Laser Protection Supervisor for:

Hospital: [Insert name]
Department: [The Department where the functions and responsibilities will apply]
Laser(s): [Specify the laser(s) for which the responsibilities will apply]
Clinical Laser Expert(s): [Insert name(s) of all CLEs in area]
(Responsible for advising on clinical aspects of laser procedures and practice)

The prime function attached to this appointment is:

To exercise close supervision of the work with the lasers listed above within the Department specified to ensure that the requirements of the MHRA document DB 2008(03) Guidance on the safe use of lasers, IPL systems and LEDs, associated guidance and the 'Local Rules' are implemented in practice. Copies may be obtained by NHS staff free of charge from dh@prolog.uk.com, quoting reference DB2008(03).

The Operational Laser Protection Supervisor will have responsibility for supervising the overall safety of the laser environment but the clinician carrying out the procedure remains responsible for the safety of the patient.

Any concerns that cannot readily be resolved must be raised with the Clinical Laser Expert, Departmental Manager, and/or the Laser Protection Adviser.

More information on your functions and responsibilities as a Operational Laser Protection Supervisor is contained in the accompanying sheet [Appendix 2 of this Policy].

I should be grateful if you could confirm in writing your willingness to accept this appointment.

Yours sincerely,

**Appendix 3**

## Draft Letter of Appointment of Clinical Laser Expert

From: Clinical Director/ Clinical Lead

Dear [INSERT name of Clinical Laser Expert]

NHS Lanarkshire Health Board has endorsed the recommendation that you be appointed as Clinical Laser Expert for:

Hospital: [Insert name]
Department: [The Department where the functions and responsibilities will apply]
Laser(s): [Specify laser(s) for which the functions and responsibilities will apply]
Operational Laser Protection Supervisor: [Specify LPS responsible for supervision of safety]

The prime functions and responsibilities attached to this appointment are as follows.

To exercise supervision of the clinical work with lasers within the Department specified above.
To advise other users on clinical aspects of laser procedures and practice
To assist in the supervision and training of clinical laser users.
To advise on suitable training for clinical uses of lasers within your area.
To confirm the competence of all clinical laser users within your area of responsibility prior to their approval as authorised laser users by the Operational Laser Protection Supervisor.
To ensure that authorised laser users within your area maintain their competence.

Any concerns that cannot readily be resolved must be raised with the Departmental Manager, Clinical Director, and/or the Laser Protection Adviser.

I should be grateful if you could confirm in writing your willingness to accept this appointment.

Yours sincerely,

## Appendix 4

## Arrangements in the Event of a Laser or IPL Incident

A medical examination by an appropriate Ophthalmologist should be carried out within 24 hours of an alleged incident involving a supra-threshold ocular exposure.

a) The laser procedure should be suspended. The operator should then decide whether it is appropriate to continue.

b) The Operational Laser Protection Supervisor should be informed of the incident and should investigate the cause and take measures to prevent any future recurrence.

c) If eye exposure is suspected:

i) An eye examination should be carried out within 24 hours by an ophthalmologist experienced in laser injuries and the Laser Protection Adviser (LPA) contacted as soon as possible.
ii) If the injured person is exhibiting symptoms of shock, they should be taken immediately to the nearest A&E department.

d) The incident must be logged through the DATIX system to provide a record of the incident and the LPA informed.

e) If equipment failure is suspected, the laser should be removed from service pending inspection and the key secured.

You will need to state that the incident is laser involved and request eye examination of 'suprathreshold macular grid fields and fundoscopy' within 24 hours. That person(s), will need to bring with them details of the laser model and manufacturer, the wavelength and energy used.

**Appendix 5**

**Draft Letter of Appointment of MRI Responsible Person**

From: Clinical Director/ Clinical Lead

Dear [INSERT name of Responsible Person]

Delegation of the day-to-day responsibility for MR safety to a specified MR Responsible Person

The MHRA in its February 2021 Device Bulletin Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use section 4.1.3 recommends that the Chief Executive formally makes such a delegation of safety responsibility.

I therefore formally delegate these MR safety responsibilities to you for the following site:

[INSERT site]
……..

Yours sincerely

## 5. ROLES AND RESPONSIBILITIES

The Chief Executive of the Board is responsible for ensuring that there are policies and procedures in place to ensure the safety of staff and others exposed to non-ionising radiation.

The Radiation Safety Committee will oversee safety issues (see section 8 of this policy).

The Medical Director will appoint designated advisers on non-ionising radiation safety (Laser Protection Advisers (LPA), Magnetic Resonance Imaging Safety Advisers (MRISA), Non-Ionising Radiation Protection Advisers (NIRPA)) ensuring that they are appropriately qualified.

Directors of Hospital Services and the Director of Access must ensure that all sources of non-ionising radiation within their directorate are subject to the contents of this policy.

Heads of Service will appoint Operational Laser Protection Supervisors (LPSs) to oversee safety aspects of the application of every Class 3B or 4 laser used. A letter suitable for use in appointment of an LPS is given in Appendix 2. The primary specialties in which Class 3B and 4 lasers are used are Ophthalmology, Dermatology, Surgery, ENT, Gynaecology, and Oral Surgery.

Clinical Directors/ Clinical Leads have responsibility for appointing a Clinical Laser Expert for each therapeutic laser used within their Directorate to advise on clinical laser procedures and practice, and user competency. A letter suitable for use in appointment of Clinical Laser Experts is given in Appendix 3.

Clinical Services Managers, Senior and Line Managers are responsible for managing the effectiveness of control measures put in place for use of non-ionising radiation sources, ensuring any recommendations from the relevant Safety Adviser are put in place and ensuring that risk assessments are undertaken for all non-ionising sources used.

They are also responsible for ensuring that there is a planned maintenance regime in place for all Class 3 and 4 lasers, phototherapy equipment, MRI equipment and other equipment emitting non-ionising radiation where this is deemed appropriate and notifying the LPA at an early stage when any purchase or loan of a Class 3 or 4 laser is being considered.

Operational Laser Protection Supervisors (LPS) are responsible for ensuring the safe use of all Class 3 and 4 lasers within their area. Functions and responsibilities of an LPS are given in Appendix 1.

The Dermatology Safety Supervisor will ensure that: the hazards from ultraviolet therapy are assessed, control measures are put in place and update training is available for phototherapy staff where it is deemed appropriate.

Clinical Laser Experts are responsible for assessing and confirming the competence of all clinical therapeutic laser users within their area of responsibility prior to their approval as authorised laser users, and assisting in the supervision and training of clinical laser users.

Authorised laser or intense pulsed light (IPL) source users must ensure that they are competent to undertake the procedures that they perform, and maintain a training log with components against which their training and experience can be verified and sufficient records of their subsequent practice to confirm their continuing competence.

The Responsible Person for each MRI Unit is responsible for day to day MR safety. Formal delegation of these functions to that person is made by a letter from the Clinical Director/ Clinical Lead (Appendix 5).

All staff members are responsible for making themselves aware of any hazard associated with non-ionising radiation emitted from equipment that they operate, and following associated local rules and safety procedures established by the employer. Staff also have the responsibility of alerting their line manager if any potentially hazardous source of non-ionising radiation is brought to the department, and reporting all incidents involving non-ionising radiation sources.

## 6. RESOURCE IMPLICATIONS

Staff time in terms of training; education; audit; optimisation and reviewing the policy.

## 7. COMMUNICATION PLAN

The policy will be put on FirstPort, NHSL public Website and communicated to staff through the management structure of NHS Lanarkshire.

## 8. QUALITY IMPROVEMENT – Monitoring and Review

The Board's Radiation Safety Committee will meet every 12 months. The meeting agenda for the committee will include non-ionising radiation safety. Incident reports will be reported to the Radiation Safety Committee.

Monitoring the effectiveness of this policy will be a requirement of this committee.

Annual audit of laser/IPL safety compliance must be undertaken, results of which should be reported back to the Radiation Safety Committee.

## 9. EQUALITY AND DIVERSITY IMPACT ASSESSMENT

This policy meets NHS Lanarkshire's EDIA

√

(tick box)

## 10. Summary

This document describes the Radiation Safety Policy for the Medical Use of Non-Ionising Radiation within NHS Lanarkshire.

## 11. REFERENCES

1. The Control of Artificial Optical Radiation at Work Regulations 2010

2. Lasers, intense light source systems and LEDs – guidance for safe use in medical, surgical, dental and aesthetic practices, MHRA, September 2015

3. The Health & Safety at work Act 1974, HMSO London

4. The Management of Health & Safety at work Regulations 1999

5. The Personal Protective Equipment at Work Regulations 1992 & The Personal Protective Equipment at Work (Amendment) Regulations 2022

6. Health & Safety (Safety Signs and Signals) Regulations 1996

7. Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use, MHRS, February 2021

8. Medical electrical equipment - Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment, BS EN 60601-2-22:2020

9. Technical Report: "Safety of Laser Products – Part 8: Guidelines for the safe use of medical laser equipment". BS IEC TR 60825 –8 (2006)

10. Tracheal tubes designed for laser surgery. Requirements for marking and accompanying information. BS EN ISO 14408:2016

11. Data Protection Act 2018