Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

***Please Note: This policy is currently under review and is still fit for purpose.***

# OPTICAL RADIATION POLICY

**This procedural document supersedes: CORP/HSFS 9 v.6 – Optical Radiation Policy**

**Did you print this document yourself?**

The Trust discourages the retention of hard copies of policies and can only guarantee that the policy on the Trust website is the most up-to-date version. **If, for exceptional reasons, you need to print a policy off, it is only valid for 24 hours.**

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|---|---|
| Author/reviewer: (this version) | Peter Thompson – Laser Protection Adviser |
| Date written/revised: | 15th May 2017 |
| Approved by: | Optical Radiation Safety Committee |
| Date Approved: | 8 June 2017 |
| Date issued: | 28 June 2017 |
| Next review date: | June 2019 - **extended to April 2022** |
| Target audience: | Trust-wide |

# Amendment Form

| Version | Date Issued | Brief Summary of Changes | Author |
|---|---|---|---|
| Version 7 | 28 June 2017 | Update Trust's logo<br><br>-Introduction – Update British standards. Hyperlinks to current legislation checked.<br>- 4.1 Laser Safety Training – altered text to include 'latest version'.<br>- 4.3 Lead Clinician and in subsequent sections altered text form departmental to Care Group's.<br>- 7. Quality Assurance and in subsequent sections– altered text from Department to Service manager.<br>- 9. The Demonstration, Lease and Loan of Optical Devices – Text changed to include equipment that has been leased by the Trust.<br>-11.1 Skin Cancer Surveillance Protocol - New sub-section added. | P Thompson |
| Version 6 | 30 July 2015 | Updated policy with some changes and additions – New style and Trust format<br><br>- References updated under introduction<br>- Section 2, 'Purpose' added<br>- Last two paragraphs Section 3 changed to allow for DATIX<br>- Section 8, changed paragraph 4, added paragraph 5<br>- Section 9, paragraph 1 changed,<br>- Section 12, paragraphs 12.4 and 12.5 changed<br>summary table added<br>- Section 13, 'Definitions' added<br>- Section 14, 'Accountability framework' - CGQ committee added<br>- Sections 16 and 17 reformatted and references updated where required.<br>- Appendix 5 updated | P Thompson |

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|---|---|---|---|
| Version 5 | 22 July 2013 | - New style Trust format included<br>- Change for clarification of over-arching policy plus web address for AOR legislation – page 4<br>- Further information and clarification of training required by an LPS and an operator - section 2 and 3<br>- Responsibilities of Lead Clinician and requirement for treatment protocol - section 3.3<br>- Further clarification on requirement for Equipment maintenance - section 4<br>- Section on Monitoring of policy added – section12<br>- Section on Accountability framework added – section 13<br>- References updated – section 14 | P Thompson |
| Version 4 | January 2011 | • Change of title - Page 1 - Change of name from Non-Ionising Radiations Safety Committee to Optical Radiation Safety Committee.<br>• Page 4 - Extra duties added to the Introduction under the Control of Artificial Optical Radiation at Work Regulations 2010.<br>• Page 5 – Additional information on **Information and Training** and on compliance with regulation 5 of AORR 10. Training database no longer exists and all mention has been deleted form text.<br>• Page 6 – Training Co-ordinators role is now defined.<br>• Pages 7 and 8 – Under **Risk Assessments,** Trust's '**Risk Management Strategy'** emphasised and additional information on compliance with regulation 4 of AORR 10.<br>• Page 9 – Additional information on **Health Surveillance** and on compliance with regulation 6 of AORR 10<br>• Page 9 - **Equality and Diversity** statement added as point 11. | P Thompson |
| Version 3 | November 2007 | Updated policy with some changes and additions – New format | P Thompson |

## Contents

## 1. INTRODUCTION

Unauthorised use of hazardous optical equipment can be harmful to the user and to anyone else present when the equipment is activated Lasers are classified according to the degree of hazard in BS EN 60825-1:2014, Edition 3, which replaces the first edition published in 1993. Photobiological Safety of Lamps and Lamp Systems is covered by BS EN 62471-5:2015.

It is important that hazardous optical equipment is used carefully and that staff take safety precautions for themselves and their patients. The procedures used in the management and control of optical radiation safety should be documented in a clear and unambiguous way. This is to ensure that individuals are fully aware of their responsibilities and duties.

The Control of Artificial Optical Radiation at Work Regulations 2010[(5)] – [hereafter AORR 10] applies to the safe use of optical radiation in the workplace for the protection of the Trust's employees. This legislation has been implemented as national law, as is required by the Physical Agents Directive: Artificial Optical Radiation 2006/25/EC. See web address below.
http://www.legislation.gov.uk/uksi/2010/1140/pdfs/uksi_20101140_en.pdf

All lasers will include the device features outlined in the Medical Healthcare Products Regulatory Agency's 'Guidance on The Safe Use of Lasers, intense light source systems and LEDs in medical, surgical and aesthetic practices', MHRA, DB2008(03), April 2008. See web address below.
https://www.gov.uk/government/publications/guidance-on-the-safe-use-of-lasers-intense-light-source-systems-and-leds

## 2. PURPOSE

This document is a platform for the delivery advice on Optical radiation and is used as a vehicle for the implementation and response to new legislation and standards within the Trust. It also provides further information on education, training and matters of legislative compliance and is intended to encourage professional and practice development.

## 3. DUTIES AND RESPONSIBILITIES

The responsibility for the supervision of the use of lasers lies with the Trust as the **Employing Authority**.

A **Laser Protection Adviser (LPA)** will be appointed and is required when Class 3b and 4 lasers are to be used. The Laser Protection Adviser will make an annual report to the Trust's Radiation Safety Committee. The LPA must have a certificate of competence to act as an LPA, as issued through RPA 2000.

Risk Assessments and Local Rules will be prepared in consultation with the Trust's LPA for all sources of hazardous optical radiation. The LPA will provide advice and information regarding any changes in legislation and/or guidance at the annual meeting of the Trust's Optical Radiation Safety Committee.

Any reported radiation incidents will be investigated by the LPA who will then report the incident to the Trust's monthly Clinical Governance Sub Committee (Radiation). The LPA will discuss any reported serious adverse incidents that involve optical radiation at the Trust's Radiation Safety Committee whose meetings are scheduled every six months. The Trust will be responsible for reporting the incident to the HSE and/or MHRA when necessary.

A **Laser Protection Supervisor (LPS)** will be appointed for each laser usage, to both supervise the use of the laser and to ensure compliance with all the safety requirements (Appendix 1). The LPS will be responsible for updating the Local Rules and Risk Assessments when there are any changes in practice, legislation, national guidance, etc. The 'review date' will be up to a maximum of two years from the 'approval date'. The LPS will ensure that the Local Rules are laminated and either kept on display in the treatment room or attached to the side of the laser.

The LPS must attend a Laser Core of Knowledge safety course. This training must include the relevant safety management aspects that allow them to perform their role effectively and be repeated as a minimum every 3 years. The LPS must maintain evidence of Continued Professional Development (CPD) to demonstrate knowledge and skills relevant to the treatments carried out. CPD reflects training needs in response to changes in equipment, practice and the treatment environment.

Regular attendance at the ORSC meeting is compulsory for anyone working as an LPS. In the event of foreseen but unavoidable absence from a meeting, an LPS should identify and fully brief a competent member of the department to attend in his/her place.

The LPS will be appointed as the official holder of the key required to operate the laser. The LPS will be given the authority to ensure that there is no unauthorised use of the laser.

In the event of an Incident that involves Optical Radiation it will need to be reported on a Web based incident reporting System called DATIX, using the Category Radiation and Sub-Category LASER (CAORWR 2010). Any incidents that are reported in this way will be sent to the LPA. This information must be included in the Local Rules. The LPA is only required to act as the Handler for serious incidents that involve the potentially harmful effects of Optical Radiation

For all reported DATIX incidents the person reported as the handler must be from the department where the incident happened. Different handlers are expected to be used for different situations with their management grade corresponding to the level of harm that was caused by the incident. For example if there is no harm at all the ward manger or departmental manager will suffice. But if there are any unexpected deaths, the Head of Nursing, Matron or the patient Safety Facilitator should act as the handler.

## 4. TRAINING/SUPPORT

If the revised risk assessments indicate that employees could be exposed to artificial optical radiation, which could cause adverse health effects to the eyes or skin of employees, the Trust will provide its employees with suitable and sufficient information and training relating to the outcome of the revised risk assessments, Reg. 5), AORR 10.

## 4.1 Laser Safety - Training

All operators must attend a Core of Knowledge safety training course. Evidence of a training attendance certificate should be held within the relevant department for confirmation. Theoretical training for the LPS will be provided at approved training centres and will cover the Laser 'Core of Knowledge' (Appendix 4). A list of available courses can be obtained from the Laser Protection Adviser. For further information please refer to the latest version of 'Medical Equipment Training for Trust Staff' see CORP/RISK 2 or you can contact the Medical Technical Services Manager.

Staff assisting with the use of a laser must undertake training in basic laser safety. The LPA will provide training in the safe operation of the specific equipment type at the request of the departmental manager and this will cover the following:

Characteristic features of light from lasers;

- Hazards from device malfunction;
- Equipment management;
- Effects of light on the eye, skin and body tissues;
- Safety management, including Local Rules and controlled area;
- Minimising risks;
- Action to be taken in the event of an adverse incident.

## 4.2 Authorised User - Training

An **Authorised User** is an operator who has been approved to use a specific laser device. The relevant department will keep a list of Authorised Users. The Local Rules for that device will include a list of Authorised Users. The laser should only be used on patients in the presence of an Authorised User. They will have received training in the following areas:

- Advanced Laser Safety;
- Manufacturer's Operational Procedures;
- Clinical Guidelines for Use.

All operators must demonstrate evidence of having attended operator training which is system specific and treatment specific. All staff involved in the treatment process must receive appropriate training. Evidence of training attendance certificates should be held within the department. All operators must have evidence of on-going continuing professional development training. A written record should be kept to demonstrate evidence of attendance. All operators of lasers systems use them only for treatments for which they have been trained and, where appropriate, hold qualifications.

### 4.3 The Role of the Lead Clinician

The **Lead Clinician** will have the responsibility for writing clinical guidelines for use, training and supervision of junior clinical staff and assessing their competence, prior to performing treatments unsupervised (Appendix 3). A written treatment protocol should be produced by the Lead Clinician which identifies the treatments performed, sets out the necessary pre-treatment checks and tests. The treatment protocol should be signed and dated A separate treatment protocol should be in place for each laser treatment. Junior staff will work under the direct supervision of an appropriately trained and experienced registered user. Users will receive training that will be organised by their Care Group's nominated Training Co-ordinator.

The training co-ordinator's role is to ensure that staff have been assessed against the medical equipment used or that might be used in their areas, and determine the most appropriate level of training required (if any).

In particular, the guidelines should address:

- Contra-indications;
- Technique;
- Pre-treatment tests;
- Post-treatment tests;
- Recognition of treatment-related problems;
- Procedure if anything goes wrong with treatment;
- Permitted variation on machine variables;
- Procedure in event of equipment failure.

## 5. EQUIPMENT MAINTENANCE

The Medical Technical Services Department will supervise the operational maintenance of any of the Trust's medical devices that include optical sources. The Medical Physics Department will be responsible for providing expert support on optical radiation safety.

There is a requirement that all hazardous optical sources that are used to treat patient are serviced and maintained to ensure they are operating within their design specification. The user should ensure that the service agent services the equipment in accordance with the manufacturer's specification. These systems have an electrical safety test carried out annually. The Medical Technical Service Department will keep a record of servicing and repair.

## 6. RISK ASSESSMENTS

The Trust is committed to ensuring the safety of patients, staff and the public through the integrated management of all aspects of governance and risk.

The Trust 'Risk Management Strategy' is described in an "umbrella" document that defines the strategic direction for risk management in the Trust. It describes the framework and the method that the Trust will use to identify, manage and reduce the risks (actual or potential) which exist within the organisation, (see Risk Identification, Assessment and Management Policy – CORP/**RISK 30).**

The Management of Health and Safety at Work Regulations 1999, Regulation 3, requires that you should make a suitable and sufficient assessment of all of the significant risks associated with all hazardous work based tasks and activities. If a significant hazard is thought to be present, that is related to artificial optical radiation, AORR 10 requires a revision of the risk assessment that was required under reg. 3) of MHSWR 99. As part of this process, the Trust will measure, reference or calculate the levels of artificial optical radiation to which its employees are likely to be exposed. The Trust will ensure that any risk of adverse health effects to the eyes or skin of its employees as a result of exposure to artificial optical radiation, which is identified in the revised risk assessment, is eliminated or reduced to a minimum.

The revised risk assessment will include consideration of:-

(a) the level, wavelength and duration of exposure;
(b) the exposure limits values;
(c) the effects of exposure on employees or groups of employees whose health is at particular risk from exposure;
(d) any possible effects on the health and safety of employees resulting from interactions between artificial optical radiations and photosensitising chemical substances;
(e) any indirect effects of exposure on the health and safety of employees such as temporary blinding, explosion or fire;

The revised risk assessment may include a justification by the employer of the risk of adverse health effects to the eyes and skin of employees.

If the revised risk assessment indicates that employees are exposed to levels of artificial optical radiation that exceed the exposure limit values, the Trust will introduce control measures designed to prevent exposure exceeding the exposure limit values. A risk assessment of optical radiation hazard will be made prior to the installation of new equipment and then reviewed every two years. The results will be formally recorded and any recommendations actioned by the departmental manager.

## 7. QUALITY ASSURANCE

Quality Control procedures will be created by an appropriately qualified state registered health care professional, in accordance with the manufacturer's instructions. An adequately trained

assistant can then carry out procedures, with the results being formally documented for inspection by the Service manager. The reporting of any faults identified by the quality control tests will be the responsibility of the Service manager.

## 8. THE PLANNING OF NEW FACILITIES AND THE PURCHASING OF NEW HAZARDOUS OPTICAL DEVICES

The Trust procedures for the acquisition of all new hazardous optical devices and for the introduction of new clinical procedures must be as followed and will include:

- The Laser Protection Adviser will be involved in the selection process and at the planning stage whenever hazardous optical equipment or a designated treatment room is to be introduced, replaced or modified;

- Prior to the installation of any hazardous optical equipment and in particular for lasers class 3A and above, a risk assessment of radiation hazard must be performed and documented;

- Following purchase, all optical phototherapy will be acceptance-tested by **the Medical Physics and Medical Technical Services Departments**; and must be registered into the Trusts database. Once acceptance tested each medical device type will be subject to a risk assessment;

- Phototherapy equipment should not be used until it has been signed off by the Head of Medical Physics;

- Where lasers are involved, the Lead Clinician and Laser Protection Supervisor will be fully trained and competent, prior to the clinical use of the laser;

- All staff involved in or assisting with its use will receive training from the manufacturer prior to the clinical use of hazardous optical equipment. For every new installation, the manufacturer will provide training in the specific methods of operation associated with their equipment. This will form part of the contract, prior to the purchase of any laser device. Refresher training will be arranged through the Care Group's Training Co-ordinator when required.

- The ongoing costs of servicing and maintaining any new equipment must be considered and funded as part of the initial procurement process.

- Records of the training provided will be kept locally by a department's Service lead(s) and their Training Co-ordinator(s). For example, in theatres equipment training records are kept as part of a "Gold standards file". Additional training courses can be created and set-up as part of the Trust's Oracle learning Management System (OLMS). A LPS laser safety training course has been set-up by the LPA on the OLMS.

## 9. THE DEMONSTRATION, LEASE AND LOAN OF OPTICAL DEVICES

Prior to the demonstration or Loan of hazardous optical equipment and in particular for lasers class 3A and above, a risk assessment of radiation hazard must be performed and documented. When an item of equipment is taken **'on loan or *hired under contract*"**, the new equipment must be routed through the Trust's Procurement Service. Any new Lasers and phototherapy equipment will be used with the approval of the LPA and the LPA will have ensured that the laser is supplied with the correct PPE and signed off as functioning correctly. Equipment on loan should not be used until it has been signed off by the Laser Protection Adviser.

The supplier must provide adequate training to enable the device to be used safely. Both the Laser Protection Adviser and the Medical Technical Services Department will be informed and consulted and a NHS Indemnity Form A will be used to formalise the above. (See latest version of Medical Devices Management Policy - CORP/**PROC 4**).

If the contractor has its own LPA and legally takes on that responsibility for the procedures, risk assessments and local rules that is ok, providing that both parties have agreed the arrangements for this in writing. If this is the case, these documents must be in-situ and be available for inspection.

## 10. THE CONDEMNATION AND DISPOSAL OF OPTICAL DEVICES

Prior to the disposal of hazardous optical devices, you must consult the manager of the Medical Technical Services Department (see latest version of Condemnation or Disposal of Assets or Stock Policy and Procedure - CORP/**PROC 6**).

## 11. HEALTH SURVEILLANCE AND MEDICAL EXAMINATION - STAFF

Under reg. 6) AORR 10, if the revised risk assessment indicates that there is a risk of adverse health effects to the **skin** of employees as a result of exposure to artificial optical radiation, the Trust must ensure that such employees are placed under suitable health surveillance.

A medical examination will be made available to any employee following a reported incident involving a suspected overexposure and when the revised risk assessments show that the employee has been exposed to levels of artificial optical radiation that exceed the exposure limit values. The individual's health record will be made and kept up to date and will contain a summary of the results of the medical examination. Continued Health Surveillance will; be made available if appropriate.

### 11.1 Skin Cancer Surveillance Protocol - Patients

Patients who have reached their maximum lifetime visits of NB-UVB (currently 500 visits) and/or PUVA (currently 200 visits) are at an increased risk of developing non-melanoma skin cancer. All patients will be made aware of the increased risk of skin cancer due to Phototherapy prior to

commencing treatment, and this should be discussed again as the accumulative number of visits increases.

Following the patient's final Phototherapy appointment, when they have reached their lifetime maximum number of visits, they will be offered an appointment with the Skin Cancer Nurse Specialist for education on how to identify skin cancers or pre-cancerous areas at early, readily treatable stages. Digital photography will be used where appropriate.

The patient's own GP will also be informed that they have reached their maximum lifetime number of visits, and their accumulative number of joules, so that they can too monitor for early signs of skin cancer.

## 12. MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT

12.1 The LPA is responsible for providing the advice and information regarding any changes in legislation that is used during the periodic review of the policy. The Trust's Optical Radiation Safety Committee is responsible for the approval of this 'Optical Radiation Safety Policy document'. Monitoring of this policy will be the responsibility the members of the ORSC.

12.2 Local rules and Risk Assessment will be reviewed at least every two years by the LPS/department manager. The assessor will be responsible for ensuring that the manager receives feedback so that he/she can deal with any issues.

12.3 All Risk Assessments referred to the departmental business manager will be reviewed and monitored and acted upon.

12.4 ORSC meeting attendance (and non-attendance) will be recorded and monitored by the department's manager through the PDA system.

12.5 Training course attendance (and non-attendance) will be recorded and monitored by department's manager through the PDA system. The line manager of the recorded non attendees will be sent a letter informing them of the staff members failure to attend training and a further training date arranged.

12.6 In the event of persistent non attendees the Care Group Departmental Service manager will contact the staff member's line manager and develop an action plan to ensure this training takes place in a timely manner.

| What is being Monitored | Who will carry out the Monitoring | How often | How Reviewed/ Where Reported to |
|---|---|---|---|
| **Current Legislation** | LPA | Every two years or when deemed appropriate by the LPA | Change in Policy reported to ORSC Group |
| **Risk Assessments** | LPS/Manager/LPA | Every two years or in response to a change in working practice | LPS Self-Assessment form Actions reported to ORSC and Service Manager. |
| **Local Rules** | LPS | Every two years or in response to a change in working practice. | LPS Self-Assessment form And Service Manager |
| **ORSC Meeting Attendance** | Chair of ORSC | Every year | Manager at PDA from meeting minutes |
| **LPS Update Training** | Manager/LPA | Every three years | Manager to review at PDA. Discussed at ORSC meeting and minuted. and attendance dates kept in OLMS training records. |

## 13. DEFINITIONS

| | |
|---|---|
| AORD | Artificial Optical Radiation Directive |
| BS | British Standards |
| CPD | Continuous Professional Development |
| COAORWR | Control of Artificial Optical Radiation at Work Regulations |
| DATIX | Web based system for reporting incidents. |
| EN | European Norm |
| IEC | International Electro-technical Commission |
| OLMS | Oracle Learning Management System |
| ORSC | Optical Radiation Safety Committee |
| LED | Light Emitting Device |
| LPA | Laser Protection Adviser |
| LPS | Laser Protection Supervisor |
| MHRA | Medical and Healthcare Products Regulatory Agency |
| MHSWR | Management of Health and Safety at Work Regulations |
| NIR | Non-ionising Radiation - refers to any type of electromagnetic radiation that does not carry enough energy to ionise atoms |
| PDA | Performance Development Appraisal |

| | |
|---|---|
| PHE | Public Health England – formally the HPA |
| PPE | Personal Protective Equipment |
| RSC | Radiation Safety Committee |

## 14. ACCOUNTABILITY FRAMEWORK

- The Trust's Board of Directors
- The Trust's Clinical Governance and Quality Committee.
- The Trust's Radiation Safety Committee
- The Optical Radiation Health & Safety Committee.
- Departmental Business/Service Managers
- Laser Protection Advisers / Laser Protection Supervisors

## 15. EQUALITY IMPACT ASSESSMENT

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy and forms (CORP/EMP 27) and the Fair Treatment for All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified. (see Appendix 5).

## 16. ASSOCIATED TRUST PROCEDURAL DOCUMENTS

1. Medical Devices Management Policy - CORP/**PROC 4**
2. Medical Equipment Training for Trust Staff - CORP/**RISK 2**
3. Condemnation and Disposal of Trust Assets - CORP/ **PROC 6**
4. Risk Identification, Assessment and Management Policy – CORP/**RISK 30**
5. Ionising and Non-Ionising Radiations Safety Policy – CORP/ **HSFS 21**

## 17. REFERENCES

1. BS EN 62471-5:2015, Photobiological Safety of Lamps and Lamp Systems.
2. BS EN 60825-1: 2014, Safety of laser product – Part1: Equipment classification requirements and user's guide.
3. Guidance on The Safe Use of Lasers, intense light source systems and LEDs in medical, surgical and aesthetic practices', MHRA, DB2008 (03), April 2008.
4. IEC EN 60825-8: 2006 Safety of laser product – Guidelines for the safe use of Medical Laser Equipment.
5. The Control of Artificial Optical Radiation at Work Regulations 2010 - No 1140.
6. The Personal Protective Equipment Regulations 2002 - No. 1144

# APPENDIX 1 – STATEMENT OF DUTIES OF LASER PROTECTION SUPERVISOR

**STATEMENT OF DUTIES OF LASER PROTECTION SUPERVISOR**

**Location:**

In connection with the above, I hereby appoint you as Laser Protection Supervisor for the above unit, and the duties and responsibilities attached to this appointment are as outlined below.

1. To be responsible, in collaboration with the Trust's Management, for ensuring that the requirements of the relevant standards, guidance and Local Rules (see below) are effectively fulfilled in practice, in order to keep laser hazards to staff and patients as low as practicable.

2. To draw up, in collaboration with the Clinical Head of Department and the Laser Protection Adviser (LPA), a set of "Local Rules" and "Systems of Work" as applying to the use of Lasers for Medical and Dental purposes. Thereafter, to keep these Local Rules under review in the light of changing circumstances.

3. To maintain a register of authorised clinical and non-clinical users, ensuring that the correct procedure for authorisation has been undertaken and advise the LPA of any changes/amendments to the register.

4. To obtain written statements from each Authorised User that they have read and understood the Local Rules and to send copies of the statements to the LPA.

5. To ensure that the Laser(s) are only used by authorised persons.

6. To identify the holder and location of the Laser key.

7. To assist in the preparation of contingency plans (Guidance Document) and to ensure that all staff concerned are aware of the procedures to be followed in an emergency. Specifically, in the event of a complaint, an ophthalmic test is carried out on that person within 24 hours.

8. To liaise with the LPA over the designation of all "Controlled Areas" and to make regular checks to ensure that all appropriate warning notices and lights, etc. are in good order.

9. To report to the LPA any change of equipment, usage or environment that might affect the Laser safety of the Department and to liaise with the LPA on any new projects.

10. To report to the LPA details of any loan equipment brought into the department and ensure that:

a. appropriate safety tests are performed, according to Trust policy;
b. appropriate personal protective equipment (PPE) is provided;
c. training is provided and;
d. Local Rules are written before the equipment enters clinical use for the first time.

11. To advise the LPA of any untoward incidents associated with the Laser as soon as possible in the event of an incident occurring.

12. To ensure, in collaboration with the Head of Department and the LPA, that all the workers liable to be exposed as a result of Laser work are adequately instructed about the hazards they may meet and about the precautions to be observed. In particular, that:

    a. new employees of the Department read and understand the Local Rules and sign an appropriate declaration or record book to be kept by the LPS,

    b. staff should be encouraged to attend specific training lectures and/or courses deemed to be necessary to their duties, and records kept of such training.

13. To arrange that a record book be maintained for recording all modifications to, or maintenance of, any apparatus which might alter the output or quality of the Laser radiation or the protection provided by the equipment.

14. To liaise with staff from other departments or outside contractors (e.g. engineers from laser equipment companies, etc.) and with visitors to ensure that they do not unknowingly put themselves or others at risk, and to enable them to follow appropriate Local Rules or 'Systems of Work'.

Signature of the Laser Protection Supervisor:

……

Name (Print):……..

Date:…….

Signature of the Laser Protection Adviser:

……

Name (Print):……..

Date……

# APPENDIX 2 – CLINICAL GUIDELINES FOR USE OF LASERS

## Example of Clinical Guidelines for the use of Lasers

| | |
|---|---|
| **Name of procedure** | |
| **Clinical indicators** | |
| **Contra-indications** | |
| **Side effects** | |
| **Clinical competence required** | |
| **Description of procedure:** | |
| **Pre-use laser checks** | e.g. Alignment of therapeutic beam with the aiming beam |
| **Output parameters (These must all be recorded in the patient notes)** | |
| **Laser used** | *e.g. Argon, HolmiumYAG, Carbon Dioxide, etc.* |
| **Method of beam delivery** | *e.g. fibre optic, articulated arm, hand piece, etc.* |
| **Power/power per pulse** | *Power = watts/power per pulse = Joules* |
| **Pulse length** | *e.g. 10 nanoseconds, etc.* |
| **Pulse repetition** | *e.g. 10 Hz (10 pulses per second).* |
| **Expected number of pulses per treatment (if applicable)** | *e.g. 1000.* |
| **Other laser-specific requirements** | *e.g. cleaving of fibres, checking and cleaning of optical fibre terminations, etc.* |
| **When to get help** | *e.g. Laser malfunction, output irregularities, interlock failure* |
| **Aftercare of patient** | |

## APPENDIX 3 – LEAD CLINICIAN'S RESPONSIBILITIES

**Lead Clinician's Responsibilities**

1. Writing clinical guidelines and their periodic audit.
2. Training of Junior Clinicians.
3. Assessment of clinical competence.
4. Maintaining a register of competent users and procedures for which they are competent.
5. Liaising with Laser Protection Supervisor and Laser Protection Adviser on the maintenance of laser safety.
6. Maintaining own clinical competency.
7. Maintaining a list of patients on whom treatments are performed on each laser.

# APPENDIX 4 – LASER CORE OF KNOWLEDGE

**Laser Core of Knowledge**

The following Core of Knowledge is recommended to training centres as the minimum syllabus necessary for laser courses. If this is followed, then laser users will have the necessary training to carry out the duties required of them under **these** Guidance Notes (see ref.). This syllabus is not sufficiently detailed for the training of laser protection advisers.

- Characteristic features of laser radiation emitted from different types of laser.
- Generation of laser radiation and hazards associated with device malfunctions.
- Principles of quality assurance.
- Equipment management.
- Laser-tissue Interactions.
- Effects of exposure of eye and skin to laser radiation.
- Laser safety management, Local Rules, the designation of the laser controlled area, the role of the Laser Protection Adviser and Laser Protection Supervisor, and how to deal with a suspected case of accidental exposure.
- Hazards from reflection or absorption of the laser beam with respect to instruments and other substances and hazards associated with anaesthetic mixtures.

Precautions to ensure that exposure of unprotected skin and eyes of those present are less than the maximum permissible levels.

- Hazards to the patient associated with laser treatment procedures and methods of minimising risks.
- Incidental hazards, such as electrical hazards, fire and explosion risk. Cryogenic liquids, atmospheric contamination and tissue debris.
- Recommendations of relevant standards and guidelines.
- Principles of risk assessment.

It may be appropriate to refer to other sources of intense non-ionising radiation, such as arc discharges and light-emitting diodes.

It is thought that the material could normally be covered in lectures totalling approximately four hours.

# APPENDIX 5 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING

| Service/Function/Policy/Project/ Strategy | CG and Department | Assessor (s) | New or Existing Service or Policy? | Date of Assessment |
|---|---|---|---|---|
| CORP HSFS9 V.7 - Policy | The Diagnostic and Pharmacy Care Group – Medical Physics | Peter Thompson | Existing Policy | 15/05/2017 |

**1) Who is responsible for this policy?** The Diagnostic and Pharmacy Care Group- Medical Physics

**2) Describe the purpose of the service / function / policy / project/ strategy?** Trust-Wide – all users of potentially hazardous Optical Radiation

**3) Are there any associated objectives?** Yes CAORWR 2010, British standards and MHRA guidance – compliance with legislation and best practice.

**4) What factors contribute or detract from achieving intended outcomes?** None

**5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief?** No

- **If yes, please describe current or planned activities to address the impact**

**6) Is there any scope for new measures which would promote equality?** No

**7) Are any of the following groups adversely affected by the policy?**

| Protected Characteristics | Affected? | Impact |
|---|---|---|
| a) Age | No | |
| b) Disability | No | |
| c) Gender | No | |
| d) Gender Reassignment | No | |
| e) Marriage/Civil Partnership | No | |
| f) Maternity/Pregnancy | No | |
| g) Race | No | |
| h) Religion/Belief | No | |
| i) Sexual Orientation | No | |

**8) Provide the Equality Rating of the service / function /policy / project / strategy – tick (✓) outcome box**

| Outcome 1 ✓ | Outcome 2 | Outcome 3 | Outcome 4 |
|---|---|---|---|

**If you have rated the policy as having an outcome of 2, 3 or 4, it is necessary to carry out a detailed assessment and complete a* **Detailed Equality Analysis form in Appendix 4**

**Date for next review: 15/05/2019**

**Checked by:** P Thompson **Date:** 15/05/2017