


STANDARD OPERATING PROCEDURE (SOP)	Issue date: 06/08/2019
Trust Reference Number: C42/2019	Revision date: October 2023
University Hospitals of Leicester 	Review date: October 2026
Leicester Royal Infirmary (LRI)	Page 1 of 28 Version: 2

Ophthalmic Laser Procedures Standard Operating Procedure UHL Ophthalmology (LocSSIPs)

Change Description <input type="checkbox"/> Change in format	Reason for Change <input checked="" type="checkbox"/> Trust requirement
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APPROVERS	POSITION	NAME
Person Responsible for Procedure:	Consultant Ophthalmologist	Indranil Choudhuri
SOP Owner:	Consultant Ophthalmologist	Somnath Banerjee
Sub-group Lead:	General Manager	Zack Sentance

Appendices in this document:

Appendix 1: UHL Safer Surgery Ophthalmology, Ophthalmic Laser Procedures: Argon Checklist

Appendix 2 : Patient Information Leaflet for Ophthalmic Laser Procedures Available at:

[Having laser iridotomy treatment for glaucoma \(leicestershospitals.nhs.uk\)](https://www.leicestershospitals.nhs.uk)

[YAG laser capsulotomy treatment for your eye \(leicestershospitals.nhs.uk\)](https://www.leicestershospitals.nhs.uk)

Appendix 3 : LOCAL RULES FOR THE USE OF THE Optimis Fusion YAG laser Class 3b (& Vitra Multispot YAG laser Class 4) WITHIN OPHTHALMOLOGY LEICESTER ROYAL INFIRMARY

Appendix 4: LOCAL RULES FOR THE USE OF THE PASCAL STREAMLINE 577NM ARGON LASER (ROOM 43) IN OPHTHALMOLOGY OUTPATIENTS WINDSOR BUILD LEVEL 1 LEICESTER ROYAL INFIRMARY

Introduction and Background:

What this Local Safety Standards for Invasive Procedures (LocSSIPs) covers:

- Area : Eye Department Out-patients
- Procedure: Ophthalmic lasers including Argon, PASCAL and YAG procedures.
- Clinic : ARGON Clinic/ YAG Clinic

National guidance that it is based on:

- (1) National Safety Standards for Invasive Procedures, NHS England 2015


Title: Ophthalmic Laser Procedures Standard Operating Procedure UHL Ophthalmology (LocSSIPs)

Authors: Indranil Choudhuri

Approved by: MSS Quality & Safety Meeting 2023

Review: 17/10/2026

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

National Safety Standards for Invasive Procedures (NatSSIPs) governs the safety standards required for all invasive procedures (including laser treatment to eyes). In the context of eye treatment, it is of particular importance to avoid, amongst other safety concerns, wrong eye treatment incidence which is one of the Never Events.

Lasers, intense light source systems and LEDs govern the safe use of medical lasers. Its main purpose is to avoid inadvertent laser damages related to laser treatments for both the staff involved and patients.

Similar procedures that are grouped together under this LocSSIPs:

- Retinal lasers treatments;
- Laser to the iris;

Laser to the posterior capsule;

- Laser to other parts of the eye or surrounding tissues.

Referral process:

- Elective cases are referred from clinic both from within UHL and from Peripheral clinics; Urgent/emergency cases arise from clinics or from Eye Emergency Department (EED).

Never Events:

Wrong eye laser, to be prevented by marking the side to be lasered.

List management and scheduling:

The usual clinic management policies apply.

How patients are booked for a list:

Patients are booked from clinics/ Eye Emergency Department (EED)

List the minimum dataset required for scheduling a patient on the list

- Patient's Name.
- DOB,
- System number,
- Address


Patients are booked by the Administrative staff, as per listing date, or prioritised as indicated on the listing form.

No Abbreviations are to be used.

Laterality indicated by Left/Right.

How DNAs are handled to prevent loss to follow-up:

DNAs are rebooked at an appropriate interval

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Patient preparation:

The patients will be provided with

- UHL patient information leaflets (PILs) on Argon retinal laser treatment, YAG capsulotomies and YAG peripheral iridotomies.
[YAG laser capsulotomy treatment for your eye \(leicestershospitals.nhs.uk\)](http://leicestershospitals.nhs.uk)
[Having laser iridotomy treatment for glaucoma \(leicestershospitals.nhs.uk\)](http://leicestershospitals.nhs.uk)
- All patients are provided with UHL patient information leaflets (PILs) at the time of listing.

The pre-procedural investigations and work-up required are:

- Clinical assessment by appropriately qualified staff;
- Imaging requirements: fundal angiography, OCT of the relevant part of the eye

How to handle patients with special requirements such as:

- Diabetes : hypo box available in Eye Emergency Department
- No special equipment's for patients on anticoagulants

Pre-operative MDT involvement in the patient pathway:

- Patient arriving at the Eye-outpatient Department will be received by the clinic receptionist who will check the patient's details against the patient's notes (Name, Date of Birth (DOB) and address)
- Clinic nursing staff will check the patient's vision; and then instil pre-operative topical drops as prescribed by the Medical staff;

Drops are prescribed on the listing form by the listing ophthalmologist. The sae is used by the clinic staff

How patients requiring translation or interpretations will be managed:

- Requirement for interpreters is indicated on the listing form

How patients will be consented and by whom:

- The patient will be consented and the side for treatment will be marked by the operating Doctor.

The specific complications that patients should be informed of in the consent process:

- Sight loss (partial or complete);
- Pain or discomfort;
- Raised intra-ocular pressure.


Infection prevention strategies:

- UHL hand hygiene policy;
- UHL infection control policy;
- Anti-sepsis of equipment including the slit-lamp and contact lenses.

Special steps for prevention of safety incidents :

- Laser operators are to follow the Local Rules for the specific laser to be used;
- A pre-laser checklist is to be used before and after the procedure for each procedure.

Copies of the Local Safety Rules and associated checklist are in an Appendix. These Local Safety Rules conforms to the specifications set out in the "Lasers, intense light source systems and LEDs – guidance for safe use in medical, surgical, dental and aesthetic practices September 2015" (Appendix 3 & 4) and have been approved by the Laser Protection Advisor.

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Workforce – staffing requirements:

Minimum safe staffing standards for a procedure list:

- Operating (Authorised Laser User) Doctor;
- Clinic Nurse/ Healthcare Assistant.

In-hours and out of hours requirement is the same.

Escalation procedures if a clinical situation overwhelms available resources: the clinic list or case is to stop at a safe point. Escalation is to the nurse-in-charge of the area.

How learners or students will be supervised in area: learners or students will be strictly supervised by the Authorised Laser User, and with the appropriate safety goggles.

Newcomers to area will have an induction and this induction includes: UHL Laser safety test, Local Safety Rules, this SOP.

The operating Doctor will maintain and monitor workforce levels to provide assurance that procedures can safely proceed.

Ward checklist, and ward to procedure room handover:

Non-invasive OPD Procedure does not require formal handover.

Procedural Verification of Site Marking:

Correlating the site of procedure with the Argon laser referral form.

Site and side marking is required for this procedure; and will be carried out by the operating Doctor.


The mark will be checked by a second staff member (Doctor, Nurse or HCA) at Time out.

Surgical site marking is mandatory for all procedures for which it is possible.

Site marking is documented on the [UHL Safer Surgery Ophthalmology, Ophthalmic Laser Procedures: Argon Checklist](#).

Site marking should be performed with an indelible marker designed for that purpose and must be:

- Performed shortly before the procedure by the operator or nominated deputy
- Must remain visible in the operative field and not be obscured.

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Team Safety Briefing:

A Team Brief should be carried out by the team who will perform the list, going through the list of patients, checking all pre-op work is done and essential paperwork (referral) is available, all required equipment is available, whether there are any specific pt requirements eg interpreter that have to be addressed.

The operating Doctor will check the notes before a clinic start or before a case; and inform clinic nurses/HCAs of any special requirement envisaged.

Sign In & Time Out:

The 'Sign In' and 'Time Out' will happen in the clinic room, just before the start of the procedure

- The doctor doing the procedure will Sign In
- Where possible the ODP nurse or assistant will be present for the Sign In and Time Out
- The Sign In and Time Out will occur immediately before the procedure start
- All team members must be present and engaged as it is happening
- That the patient will be encouraged to participate where possible
- The patient will be asked about their demographics, and the correct site to be treated is agreed with the patient.
- Any omissions, discrepancies or uncertainties must be resolved before starting the procedure

Procedure is performed under topical anaesthesia.

Performing the procedure:

The operating Doctor must comply with the standards set out in the Local Safety Rules and in this LocSSIPs.

Monitoring:


All procedures are done with topical anaesthesia, therefore do not require monitoring.

Prosthesis verification:

Not applicable.

Prevention of retained Foreign Objects:

Not applicable.

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Radiography:

Not applicable.

Sign Out:

'Sign out' must occur before the patient leaves the operative/procedure area.

A description of the content of the Sign Out:

- This will be led by the operating Doctor
- Confirmation of procedure
- Documentation of the procedure in the notes (or in the checklist) and in the laser log book
- Discussion of post-procedural care and any concerns with patients
- Equipment problems to be reported
- A named person for escalating issues:

See safety checklist - [UHL Safer Surgery Ophthalmology, Ophthalmic Laser Procedures: Argon Checklist.](#)

Handover:

No handover required as out patients procedure, patients go home after procedure.

Team Debrief:

The 'Team Debrief' will occur at the end of each procedure.

The debrief will include:

- Things that went well
- Any problems with equipment or other issues
- Areas for improvement
- An action log


Post-procedural aftercare:

Post-laser monitoring arrangements:

- no formal monitoring is required in most cases
- patients are encouraged to sit in the out-patient waiting area until they feel well enough to go home (usually accompanied by a relative)
- If indicated, the operating Doctor will check the post-laser patient before the patient goes home.

Possible complications and how to recognise them:

Excessive pain, excessive loss of vision, general unwell, allergic reactions.

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Discharge:

Criteria for discharge: most of these are out-patient procedures; patients can be discharged by the operating Doctor.

Discharge letter requirements: per usual Eye Out-patient GP letters policy

Follow-up: to be decided by the operating Doctor as appropriate.

How any results will be communicated: via GP letters.

Governance and Audit:

Define what constitutes a safety incident in this area:

- Anything other than a correct procedure in the correct eye of the correct patient is a safety incidence;
- Inadvertent laser injury to observers, relatives, members of public or staff members is a safety incident.

All incidents will be reported on Datix.

Review, investigation, dissemination, and learning from incidents after a Datix is submitted will take place at the Department Mortality and Morbidity Meetings.

How will this SOP be audited – yearly; and the results will be presented and acted upon in the Department Mortality and Morbidity Meetings.

[To submit monthly Safe Surgery Audit and WHOBARs assessment as per Safe Surgery Quality Assurance & Accreditation programme.](#)

Training:

How staff will be trained in this SOP:

- Training of new staff at or near Induction;
- Regular refresher training (6 monthly) of all Laser operating staff.

How you will incorporate a Human Factors approach into training:


- Explanation of Human Factor and its importance in Health and Safety policies;

Emphasis on the importance of adherence to SOP and the use of checklists.

Multidisciplinary team will be trained together during departmental meetings.

Documentation:

This pathway will be documented in the patient record by way of inclusion of the checklist in the patient's notes.

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References to other standards, alerts and procedures:

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

National Safety Standards for Invasive Procedures, NHS England 2015:

<https://www.england.nhs.uk/patientsafety/wp-content/uploads/sites/32/2015/09/natssips-safety-standards.pdf>

UHL Safer Surgery Policy: B40/2010

UHL Sedation Policy: Safety and Sedation of Patients Undergoing Diagnostic and Therapeutic Procedures B10/2005

UHL Consent to Treatment or Examination Policy A16/2002 UHL Delegated Consent Policy B10/2013

UHL Guideline: Anticoagulation management (“bridging”) at the time of elective surgery and invasive procedures (adult) B30/2016


Shared decision making for doctors: [Decision making and consent \(gmc-uk.org\)](http://www.gmc-uk.org)

COVID and PPE: [UHL PPE for Transmission Based Precautions - A Visual Guide](#)


COVID and PPE: [UHL PPE for Aerosol Generating Procedures \(AGPs\) - A Visual Guide](#)

END

Appendix 1: UHL Safer Surgery Ophthalmology, Ophthalmic Laser Procedures: Argon Checklist



University Hospitals of Leicester
NHS Trust



LocSSIPs

STOP THE LINE

Safer Surgery Checklist
Ophthalmic Laser Procedures
Ophthalmology Department

Date: _____
Time: _____
Location: _____

Patient ID Label or write name and number
Hospital No.: _____
Name: _____ Sex: _____
Address: _____
D.O.B.: _____
Telephone No. 1: _____
Telephone No. 2: _____

<u>TEAM BRIEF</u>	
Prior to the list starting, with all members present	
All members of team have discussed care plan and addressed concerns	Yes <input type="checkbox"/> No <input type="checkbox"/>
<u>SIGN IN & TIME OUT</u>	
On arrival of patient in procedure room, with all team members present	
Team introduce themselves by name and role	Yes <input type="checkbox"/> No <input type="checkbox"/>
Confirm patient's name, DOB and Hospital Number with patient and against wristband/consent/procedure list	Yes <input type="checkbox"/> No <input type="checkbox"/>
Confirm valid written consent/ digital consent	Yes <input type="checkbox"/> No <input type="checkbox"/>
Confirm procedure and site with patient	Yes <input type="checkbox"/> No <input type="checkbox"/>
Confirm side with patient	Right <input type="checkbox"/> Left <input type="checkbox"/>
Confirm site marking (correct eye marked)	Yes <input type="checkbox"/> No <input type="checkbox"/>
Known allergy:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Patient Information Leaflet Provided	Yes <input type="checkbox"/> N/A <input type="checkbox"/>
<u>TEAM DEBRIEF</u>	
Any concerns from Team Members throughout the Procedure?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If Yes, please identify with follow up actions	Yes <input type="checkbox"/> N/A <input type="checkbox"/>

<u>SIGN OUT</u>	
After counts are performed, and before patient or team members leave the procedure room	
Procedure correctly performed and recorded	Yes <input type="checkbox"/> No <input type="checkbox"/>
Any equipment issues?	Yes <input type="checkbox"/> N/A <input type="checkbox"/>
Post procedure advice given	Yes <input type="checkbox"/> No <input type="checkbox"/>

Read out by: (PRINT)	Read out by: (PRINT)
Signed:	Signed:
Date:	Date:

(102314389)R
 Ophthalmic Laser Procedures Standard Operating Procedure UHL Ophthalmology (LocSSIPs)
 Approved by CMG 2023
 Based on the WHO Surgical Safety Checklist, URL: <http://www.who.int/patientsafety/safesurgery/en>,
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Appendix 2: Patient Information Leaflet for Ophthalmic Laser Procedures Available at:
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[YAG laser capsulotomy treatment for your eye \(leicestershospitals.nhs.uk\)](https://www.leicestershospitals.nhs.uk)

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Appendix 3 : LOCAL RULES FOR THE USE OF THE Optimis Fusion YAG laser Class 3b (& Vitra Multispot YAG laser Class 4) WITHIN OPHTHALMOLOGY LEICESTER ROYAL INFIRMARY

LOCAL RULES FOR THE USE OF THE
Optimis Fusion YAG laser Class 3b
(& Vitra Multispot YAG laser Class 4)
WITHIN
OPHTHALMOLOGY
LEICESTER ROYAL INFIRMARY

Prepared by: Medical Physics Dept.
Radiation Services Division, Leicester.

Date: 02/03/2016

Local rules – Optimis Fusion YAG, Ophthalmology, LRI, 02/03/16

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1. Nature of hazards to persons

The laser is used for operative procedures to : Capsulotomy, iridotomies,

Hazards due to treatment beam:

The main potential hazards of the Optimis Fusion YAG laser and Vitra Multispot YAG are:

- High voltage electricity supply.
- Damage to the eye from the Optimis Fusion YAG laser operating at 1064 and 532 nm and from the Vitra Multispot YAG laser operating at 532 nm.
- Risk of fire from treatment beam in the presence of flammable materials, gases or explosives (Optimis Fusion).
- Skin burns if the beam is intercepted by any part of the body

The Nominal Ocular Harm Distance for the Optimis Fusion YAG operating at
(i) 1064 nm is 7.82 metres
(ii) 532 nm is 193 metres.

The Nominal Ocular Harm Distance for the Vitra Multispot YAG operating at 532 nm is 21.88 metres.


Reflective materials may deflect the beam along unexpected paths and reflecting curved surfaces may concentrate the beam beyond the normal focus. These effects may cause hazardous conditions outside the normal beam path.

The laser can cause injury to the eyes from both the direct and scattered beams. To minimise the above risks the following rules have been written.

Hazards due to aiming beam:

The aiming beam for both YAG lasers is a Class 2 Diode laser (635 nm, < 1mW). Do not stare into the beam due to risk of dazzle, flash-blindness and afterimages which may temporarily disturb vision.

These rules have been written by and drawn up on behalf of the Management of the Ophthalmology Department at Leicester Royal Infirmary, and must be observed by all staff involved with the use of the laser.

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2. "Controlled Area" designation and access

- 2.1 The operating room / clean room in which the laser is used is designated a "Controlled Area". An approved warning sign shall be fitted to the each entrance (*Annexe 1*).
- 2.2 A notice shall be fixed to the laser indicating that its use is subject to these local rules (*Annexe 1*).
- 2.3 Viewing windows in this area should be obscured with the blinds provided.

3. Responsible officers


- 3.1 The manager responsible for Health and safety for the area is, Department Manager
- 3.2 The Laser Protection Adviser (LPA) to the Hospital is **Mr M J Dunn**, Department of Medical Physics, Leicester Royal Infirmary, 0116 258 6750.
- 3.3 The local Laser Protection Supervisor(s) (LPS) is: Sam Wong, Clinician

The responsibilities of the Laser Protection Supervisor are given in *Annexe 2*.

Authorised users


- 3.4 The authorised key-holder is Sophie Snelson, Rebecca Tallis
- 3.5 Authorised users of the laser are: see current user list in eye casualty.
- 3.6 The above named Laser Protection Supervisor
- 3.7 Authorised members of the Medical Physics Department
- 3.8 Agents of the supplier.

A copy of the register will be kept with the key and the LPS will instruct the key holder to issue the key to the authorised users only.


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4. System of Work

- 4.1 All users of the laser must sign a statement that they have read and understood these local rules. A copy of the signed statement shall be kept by the Laser Protection Supervisor and also sent to the Laser Protection Adviser.
- 4.2 Only authorised users may operate the laser. Unauthorised users may use it under the direct supervision of an authorised user. If another person is judged by one of the authorised users to be competent to use the laser unsupervised, their name needs to be added to the users register and a signed statement that they have read and understood the local rules is required.
- 4.3 Authorised persons using the laser (or IPL, or LED) or assisting in the procedures should be sufficiently trained in the safe performance of their duties.
- 4.4 When the laser is in use it is recommended that the number of people in the theatre/ clean room be kept to a minimum. It is the responsibility of those present during the use of the laser to be aware of the hazards involved. It is the responsibility of the user of the laser to be familiar with the manufacturer's operating instructions and to ensure the safety of the patient and other staff members.
- 4.5 Assisting staff should stand behind the surgeon unless their duties prevent this when the laser is used.
- 4.6 The recommended safety eyewear marked for use with the Optimis Fusion YAG laser and the Vitra Multispot YAG laser must be worn by all personnel in theatre / clean room when the laser is in use.
- 4.7 Eye examinations must be carried out within 24 hours in all cases where accidental exposure to the eye is suspected. Accidental exposure to any other part of the anatomy must be referred for treatment. The incident should be reported to the LPA.
- 4.8 Staff must not in any circumstances look into the primary beam of the laser, nor expose any part of their bodies to the beam.
- 4.9 Doors must remain closed and the signs indicated in *Annexe 1* used on the entrance doors during laser operations and removed when the laser is no longer in use.
- 4.11 Prior to the use of the laser the integrity of the instruments to be used should be ascertained.

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- 4.12 The laser should be switched off unless it is directed towards the surgical site, a suitable thermal barrier or a power measuring instrument.
- 4.13 A test exposure should be made prior to use on a patient whenever the machine has been moved. Unless it is shown that the laser is operating satisfactorily it must not be used surgically.
- 4.14 The laser must not be left running unattended. It must be put into stand-by mode between patients.
- 4.15 At the end of a session the laser must be switched off at the console, the key removed from the key switch and returned to the authorised key-holder.
- 4.16 Details of the laser treatment should be recorded in:
- the patient's notes
 - the operation register
 - the laser log book which accompanies the laser.
- 4.17 Other procedures shall not be undertaken in the Controlled Area while the laser is in use.
- 4.18 No more than one laser should be switched on at any time.
- 4.19 The operator shall be careful to avoid reflections of the beam from instruments in close proximity to the beam path. Instruments with diffusely reflecting surfaces should be used when available, rather than those which give rise to specular reflections.
- 4.20 Any malfunction of the laser should be reported immediately to the Medical Physics Department, Leicester Royal Infirmary, and the company engineer. The laser must be switched off and not used until the malfunction has been investigated.
- 4.21 The operator must ensure the laser is only operated when directed at the operation site, and should give a verbal warning that they are about to initiate an exposure. During such use only the laser foot pedal should be operable by the surgeon. Foot pedals controlling other devices should not be operable by the surgeon without them having to move location.

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Annexe 1

SIGNING

Controlled Area

Temporary signs shall be fitted at each entrance to the Controlled Area containing:

- the B.S. laser symbol and wording to indicate a laser hazard.
- the B.S. symbol indicating the requirement for the wearing of protective eye wear.
- Where provided a sign worded "CAUTION - LASER IN USE", powered electrically such that this wording is illuminated when the laser is connected to the electrical mains.

Affixed to laser equipment


Sign to be permanently displayed on the laser with the wording

"THIS DEVICE MUST BE USED ONLY BY AN AUTHORISED OPERATOR IN ACCORDANCE WITH THE APPROVED LOCAL RULES".

Affixed to laser key

The key will be clearly labelled with the words


"LASER - TO BE USED BY AUTHORISED OPERATORS ONLY".

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Annexe 2

RESPONSIBILITIES AND DUTIES OF LASER PROTECTION SUPERVISOR


1. To ensure that the local rules are adhered to.
2. To inform the Laser Protection Adviser if they consider that the existing rules require amending.
3. To ensure that the register of authorised users is maintained and the correct procedure for authorisation has been undertaken.
4. To obtain written statements from each authorised user that they have read and understood the local rules, and send copies of statements to the Laser Protection Adviser.
5. To ensure that only authorised users operate the laser.
6. To inform the Laser Protection Adviser as soon as possible in the event of an incident occurring.
7. To seek assistance from the Laser Protection Adviser on the safety implications when a change in operating procedure is envisaged.

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I certify that I have read and understood the Local Rules for the use of the Optimis Fusion YAG laser and the Vitra Multispot YAG laser.

<i>Name (BLOCK CAPITALS) and Position</i>	<i>Signature</i>	<i>Date</i>

Return to: *Laser Protection Supervisor*

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1. Nature of hazards to persons

The laser is used for operative procedures to the retina and anterior segment of the eye, namely:

- Retinopexy (retinal tear/hole);
- Pan-retinal photocoagulation;
- Macular photocoagulation (grid/focal);
- Other photocoagulation;
- Suturelysis;
- Trabeculoplasty;
- Removal of xanthelasmata;

The Nominal Ocular Hazard Distance (NOHD) for:

- The PACAL Streamline 577 laser (room 43) is approx 3.73m.

This is the distance beyond which there is no hazard to unprotected eyes


The main potential hazards of the Argon laser are:

- High voltage electricity supply.
- Damage to the eye from Argon laser operating at 577nm

Reflective materials may deflect the beam along unexpected paths and reflecting curved surfaces may concentrate the beam beyond the normal focus. These effects may cause hazardous conditions outside the normal beam path.

The laser can cause injury to the eyes from both the direct and scattered beams. To minimise the above risks the following rules have been written.

These rules have been written by and drawn up on behalf of the Management of The Leicester Royal Infirmary UHL, the Ophthalmic Specialist Advisory Group, and the Clinical Head of the Ophthalmology Service, and must be observed by all staff involved with the use of the laser.

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4. System of Work

Before using the LASER:

- 4.1 All users of the laser must sign a statement that they have read and understood these local rules. A copy of the signed statement shall be kept by the Laser Protection Supervisor and also sent to the Laser Protection Adviser.
- 4.2 Only authorised users may operate the laser. Unauthorised users may use it under the direct supervision of an authorised user. If another person is judged by one of the authorised users to be competent to use the laser unsupervised, their name needs to be added to the users register and a signed statement that they have read and understood the local rules is required.
- 4.3 Prior to the use of the laser the integrity of the instruments to be used should be ascertained.

When using the LASER:

- 4.4 When the laser is in use it is recommended that the number of people in the room be kept to a minimum. It is the responsibility of those present during the use of the laser to be aware of the hazards involved. It is the responsibility of the user of the laser to be familiar with the manufacturer's operating instructions and to ensure the safety of the patient and other staff members.
- 4.5 Assisting staff should stand behind the operator unless their duties prevent this when the laser is used.
- 4.6 With the exception of the laser user, recommended goggles should be worn by all personnel in the room when the laser is in use. These are wavelength specific and the correct eyewear for the **PASCAL 577** laser must be used. Other safety eye wear may not provide any protection. The laser user will be protected by the safety shutter on the direct view Ophthalmoscope.
- 4.7 Eye examinations must be carried out in all cases within 24 hours, where accidental exposure to the eye is suspected. Accidental exposure to any other part of the anatomy must be referred for treatment.
- 4.8 Staff must not in any circumstances look into the primary beam of the laser, nor expose any part of their bodies to the beam.
- 4.9 Doors must remain closed and the illuminated warning sign must be switched on during laser operations, and switched off when the laser is no longer in use.

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- 4.10 The laser should be switched off unless it is directed towards the surgical site, a suitable thermal barrier or a power measuring instrument.
- 4.11 A test exposure should be made prior to use on a patient whenever the machine has been moved. Unless it is shown that the laser is operating satisfactorily it must not be used surgically.
- 4.12 The laser must not be left running unattended. It must be put into stand-by mode between patients.
- 4.13 Other procedures shall not be undertaken in the Controlled Area while the laser is in use.
- 4.14 The operator shall be careful to avoid reflections of the beam from instruments in close proximity to the beam path. Instruments with diffusely reflecting surfaces should be used when available, rather than those which give rise to specular reflections.
- 4.15 Any malfunction of the laser should be reported immediately to the Medical Physics Department, Leicester Royal Infirmary, and the laser switched off and not used until the malfunction has been investigated.

After using the LASER:


- 4.16 At the end of a session the laser must be switched off at the console, the key removed from the key switch and returned to the authorised key holder.
- 4.17 Details of the laser treatment should be recorded in:
 - the patient's notes
 - the laser log book which accompanies the laser.

5. Emergencies

- .1 Any person suspected of having received an accidental exposure to the eyes from the beam of the laser should immediately be referred to the Laser Protection Supervisor (the consultant on call if the supervisor is not available) and the incident reported in the departmental accident book.
- .2 If a fault is suspected, switch off the laser and ring ext 5978 or bleep 4108
- .3 In the case of fire:
 - Try to switch off the laser if possible.

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- Do not use water fire extinguishers
- Follow the Trust fire procedure, dial 2222 and inform the hospital switch board to contact the necessary services and personnel.

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Annexe 1

SIGNING

Controlled Area

Temporary signs shall be fitted at each entrance to the Controlled Area containing:

- the B.S. laser symbol and wording to indicate a laser hazard.
- the B.S. symbol indicating the requirement for the wearing of protective eye wear.
- Where provided a sign worded "CAUTION - LASER IN USE", powered electrically such that this wording is illuminated when the laser is connected to the electrical mains.

Affixed to laser equipment


Sign to be permanently displayed on the laser with the wording

"THIS DEVICE MUST BE USED ONLY BY AN AUTHORISED OPERATOR IN ACCORDANCE WITH THE APPROVED LOCAL RULES".

Affixed to laser key

The key will be clearly labelled with the words


"LASER - TO BE USED BY AUTHORISED OPERATORS ONLY".

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Annexe 2

RESPONSIBILITIES AND DUTIES OF LASER PROTECTION SUPERVISOR

1. To ensure that the local rules are adhered to.
2. To inform the Laser Protection Adviser if they consider that the existing rules require amending.
3. To ensure that the register of authorised users is maintained and the correct procedure for authorisation has been undertaken.
4. To obtain written statements from each authorised user that they have read and understood the local rules, and send copies of statements to the Laser Protection Adviser.
5. To ensure that only authorised users operate the laser.
6. To inform the Laser Protection Adviser as soon as possible in the event of an incident occurring.
7. To seek assistance from the Laser Protection Adviser on the safety implications when a change in operating procedure is envisaged.

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I certify that I have read and understood the Local Rules (version: July 2014) for the
PASCAL 577NM ARGON LASER (ROOM 43)

IN OPHTHALMOLOGY OUTPATIENTS
WINDSOR BUILD LEVEL 1
LEICESTER ROYAL INFIRMARY

<i>Name (BLOCK CAPITALS) and Position</i>	<i>Signature</i>	<i>Date</i>

Return to: *Mr Sam Wong
Laser Protection Supervisor
Ophthalmology Administration Centre
Windsor Building
Level 1
LRI*