University Hospitals of Leicester NHS
NHS Trust

Nd:YAG Laser Capsulotomy by Allied Healthcare Professionals with independent prescribing accreditation

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

Approved By:	MSS Q&S Board
Date of Original Approval:	**26/09/2023**
Trust Reference:	**C23/2024**
Version:	1.0
Supersedes:	
Trust Lead:	Zack Sentence
Board Director Lead:	Hazel Busby-Earle
Date of Latest Approval	17/11/2023
Next Review Date:	**September 2025**

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REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

KEY WORDS

Laser, Allied Healthcare Proffesionals, patient, procedure

1 INTRODUCTION AND OVERVIEW

1.1 Overview

This document sets out the University Hospitals of Leicester (UHL) NHS Trusts

Policy and Procedures by which designated nursing staff and optometrists will train to

deliver YAG Laser Capsulotomy as independent practitioners.

This Local Safety Standards for Invasive Procedures (LocSSIPs) covers:

- Area : Eye Department Out-patients
- Procedure: Ophthalmic laser Nd:YAG capsulotomy procedures.

The policy also, provides guidance for the management of patients who will have Nd: YAG Laser Capsulotomy performed by an allied healthcare practitioner.

In addition, this policy sets out the process to be used for monitoring compliance and outcomes.

National guidance is based on:

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

- Laser to the posterior capsule.

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).

1.2. Introduction

Posterior capsular opacification (PCO) remains one of the most common post-operative complications of cataract surgery (Steinert, 2019). In 1998, a meta-analysis by Schaumberg et al. showed that 11.8% of patients who had routine cataract surgery would require a YAG laser capsulotomy within one to five years following their surgery.

Nd: YAG laser is performed on patients who have undergone cataract surgery, most performed by phacoemulsification, and whose vision has deteriorated due to posterior capsule thickening. The laser procedure causes photodisruption of the tissues and is used to cut a hole in the posterior capsule (Coakes et al.,1993; Sinha et al.,2013). The objective is to create a gap in the membrane behind the patient's intraocular lens in order to restore the patient's visual acuity to its best post-operative level (Gibbons et al., 2018).

In 1997, nurses in the United Kingdom started to undertake training in YAG capsulotomy in response to the Department of Health's report by Calman (1991), which recommended that appropriately trained nurses could expand their roles to undertake some roles previously undertaken by trained medical practitioners. The Department of Health's NHS plan continued with this theme.

Enabling Allied Health Professionals to be trained to perform Nd:YAG laser capsulotomy will contribute to the efficient delivery of the ophthalmology clinic services within University Hospitals of Leicester NHS Trust. This will enhance and develop patient- centered care through a process of enabling nurses and optometrists to perform functions previously only performed by medical staff.

2 POLICY SCOPE –WHO THE POLICY APPLIES TO AND ANY SPECIFIC EXCLUSIONS

2.1 Who does this policy apply to?

This guidance is relevant to Allied Health Professionals (AHPs):

- Advanced Clinical Practitioner(ACP) (band 7 and above);
- Optometrists/ Orthoptists.

Enabling AHPs to be trained to perform YAG Laser Capsulotomies will contribute to the efficient delivery of the ophthalmology clinic services within UHL. This will enhance and develop patient-centred care through a process of enabling AHPs to perform roles previously only performed by medical staff. This will ensure that service provision will be more flexible and less reliant on the availability of doctors with the potential for increased capacity for treatment.

It will also enable national guidelines and service delivery targets to be met.

2.2 Exclusions:

The laser should not be performed by the AHP if:

- Informed consent is not obtained;
- The patient refuses treatment by the AHP;
- The referring consultant / senior clinician decide that the patient is not suitable for the AHP to perform due to any underlying comorbidity or other underlying medical condition;
- The patient has an underlying condition which will make it difficult for them to keep still – e.g., Parkinson's disease – or if there are any concerns that the patient will be unable to fixate; for example, patients with nystagmus should be referred on to the supervising consultant.
- The patient has only one eye.
- The patient is young (children and young adults).

This policy applies to UHL where the AHP YAG Laser Clinics will be carried out.

2.4 This practice will be carried out on a regular basis as required by the service.

Each AHP will have a planned list but also has the option to treat the patient from the clinical area as required.

3 DEFINITIONS AND ABBREVIATIONS

Term Definition

AHPs - Allied healthcare professionals

Anterior Capsulotomy - Capsule thickening in the front of the capsule bag

Capsule Opacification - Residual lens epithelial cells grow across this posterior capsule,

Cataract - Opacity of the lens

Cystoid Macular odema - An accumulation of fluid within the retina at the macular area

Intra ocular eye pressure - The fluid pressure inside the eye

Posterior Capsulotomy - Capsule thickening in the back of the capsule bag

Nd:YAG Laser capsulotomy - Yttrium Aluminium garnet is the laser used to perform a capsulotomy

Retinal detachment - Separation of the neurosensory retina from the pigment epithelium

resulting in capsule opacification.

4 ROLES – WHO DOES WHAT

4.1 AHP responsabilities

AHP undertaking the training is responsible for keeping up to date, accurate training records as required by this policy. They are also required to audit their patient records on an annual basis (once signed off as competent to practice independently) reporting on outcomes to the supervising consultant or designated deputy.

Once all competencies are completed, the AHPs will then invest their time in training new junior doctors to support the competencies sign off.

This will support their continuous commitment to learning and training alongside with junior doctors. AHP has a duty of care to ensure that the patient that is being treated is fully informed of the risks and benefits of the YAG laser treatment.

Patients will be given a written information leaflet informing them that the treatment will be performed by the AHP ensuring the patient is aware of the benefits of these clinics. The leaflet will also explain the potential risks of the treatment. Patients will be informed that they can refuse their treatment by the AHP if they have any concerns.

4.2 Responsibilities within the Organisation

Include all those who are required to support/use/comply with the policy for example (use job titles rather than names):

a) Board Director Lead

To provide sufficient time and support for the AHP to achieve the requirements of the individualized learning programme prior to them expanding their sphere of practice. This means that the trainee will have a dedicated training role and staff in training will be in addition to normal staffing levels and will not be expected to carry out additional roles during training

- To provide the medical personnel to train the designated AHP ensuring that training lists are not oversubscribed.

- To provide trust indemnity for the AHP providing they adhere to the policy and procedure document.

- The training manual and protocol must be accessible at all times and updated as required and published to the intranet.

- The Trust must ensure documented evidence is maintained to ensure evidence is available of competency of practice through audit for the AHP performing the procedure.

b) Consultant ophthalmologist's responsibilities to the AHP:

- To ensure the AHP has achieved a satisfactory knowledge base from which to perform this enhanced role – the consultant will formally examine the AHP to ensure she/he has the knowledge base required.

- To provide adequate time for the AHP to observe Nd: YAG laser procedure and to subsequently supervise and assess the AHP's procedural skills.

- To be available to support or have a deputy available for supporting the AHP during an Nd: YAG laser clinic

c) Trust Management's responsibility

- To provide sufficient time and support for the nurse/ optometrist to achieve the requirements of the individualized learning programme prior to them expanding their sphere of practice.

- To provide the medical personnel to train the designated nurse / optometrist

d) Stakeholder Engagement and Communication

- This policy was developed by the AHP team, Mr. I. De Silva & management. Stakeholder engagement with consultants and other relevant staff via appropriate meetings and email communication.

5. POLICY IMPLEMENTATION AND ASSOCIATED DOCUMENTS –WHAT TO DO AND HOW TO DO IT

This policy will be implemented and disseminated immediately following ratification to all staff involved with the Nd:YAG Laser capsulotomy procedure and will be communicated to key stakeholders and policy users via email, and highlighted at directorate Board meetings.

This document will initially be reviewed after one year then every three years (maximum) thereafter.

5.1 Equipment required performing YAG laser

- All eye drops must have their expiry dates checked before use:
- Proxymethacaine and fluorescein eye drops
- Tropicamide 1% eye drops
- Iopidine 1% eye drops
- Oxybuprocaine hydrochloride eye drops
- Viscotears gel (for capsulotomy lens)
- Capsulotomy lens

- Cleansing wipes to clean lens and laser slit lamp in between patients, as per infection control policy
- Tissues
- Capsulotomy lens
- Slit lamp
- Disposable tonometer heads
- YAG laser

5.2 Prior to YAG Laser session commencing

- Review the patient's notes and ensure the patient has been referred for treatment by an Ophthalmologist. Confirm that a fundus examination has taken place by a doctor or professional who is deemed competent in fundus examination and details of the examination are recorded in the patient's notes. If not, a fundus review must be obtained prior to any laser treatment taking place.
- Check that there is a doctor available in clinic.
- Turn the laser machine on, ensure power setting is at the lowest (usually **1mJ** starting power, increased gradually depending on thickness of posterior capsular opacification) and that the focusing switch is set to posterior mode, (some machines will need to be manually offset, please observe local manual) and on single shot burst only. Turn off again until ready to use.
- Clean YAG capsulotomy lens with approved wipes as per infection control policy.

5.3 Preparation of the patient

- Introduce yourself to the patient and ask the patient to confirm their identity in line with trust policy, to ensure that the patient is treated with dignity and respect and to prevent errors of misidentification.
- Confirm patient allergy status and past medical history to prevent any untoward side effects from medications used for this procedure.
- Ask patient if there have been any changes to their ophthalmic history since last seen – e.g., increased flashes and floaters; if yes, the patient will need to be reviewed

by a doctor. This is to ensure that there are no untoward complications from laser treatment.

- The patients will be provided with UHL patient information leaflets (PILS) onYAG capsulotomies.

YAG laser capsulotomy treatment for your eye (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: OCT of the relevant part of the eye if requested prior in the patient's records;

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 clinician.

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 clinician (AHP).

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) and have been approved by the Laser Protection Advisor.

5.4 Procedure

• Sit patient at the YAG laser machine and ensure their position is comfortable

• Turn laser machine on using code if required and switch to standby mode

• Insert x1 drop of oxybuprocaine hydrochloride eye drops -following professional standards for administration of eye drops

• Rinse capsulotomy lens in sterile water and dry

• Put 1cm of Viscotears gel onto contact lens

• Insert contact lens by asking patient to look up; once inserted, ask the patient to look straight ahead

- Start with minimum power to break capsule (usually 1mJ starting power, increased gradually depending on thickness of posterior capsular opacification).
- Apply initial shots away from the visual axis
- Aim the beam just behind the posterior capsule
- Perform capsulotomy with a complete circular technique to avoid pitting the lens
- Check the visual axis is clear
- Remove contact lens, by asking the patient to squeeze their eyes shut; it will lift off the eye)
- Remove contact lens and clean with alcohol wipe
- Instill one drop of Iopidine 1% to the treated eye as per evidence based of reducing IOP pressure spikes following YAG Capsulotomy.

5.4.1 Post-procedural aftercare

- Give patient written after care advice and a contact telephone number in case they have any cause for concern, such as severe pain, dramatic drop in visual acuity. Inform patient they can return to Eye Emergency Department at Royal Infirmary if they experience any problems.
- 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.
- Ask patient to attend their own optometrist within four weeks to see if their glasses prescription requires adjustment, unless the patient has a history of glaucoma or other co-morbidity where they need referral back to clinic.

5.5 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.

6 EDUCATION AND TRAINING REQUIREMENTS

6.1 Qualifications and training

From the point of registration, each practitioner must adhere to their code of professional conduct (Nursing and Midwifery Council (NMC), 2008; General Optical Council 2009 & Health and Care Professions Council ,2001; NMC,2019) and is accountable for his / her practice. The Nurse's code of conduct provides firm guidance on decisions about expansions to the scope of practice can be based.

The Code of professional conduct for nurses states:

"As a professional, you are personally accountable for your actions and Omissions in your practice and must always be able to justify your actions"

- Treat people as individuals
- Ensure you gain consent
- Respect people's confidentiality
- Work effectively as part of a team
- Manage risk
- Use the best available evidence Keep your knowledge and skills up to date. Keep clear and accurate records in patients' hospital notes.

This procedure must be performed by a registered nurse (RN) level 1, qualified as Advanced Clinical Practitioner (ACP), who must hold an ophthalmic nursing qualification, an optometrist or an orthoptist. The optometrist (OO) and Orthoptists must be fully registered and have completed 3 years post graduate experience.

- ❖ The AHP must have completed the YAG laser training and be assessed as competent by their supervising consultant. This must include a series of formal lectures on YAG Capsulotomy, consenting, complications and personal study into risks and complications from YAG laser treatment.
- ❖ The AHP must be trained in consenting.
- ❖ The AHP must be satisfied with his/her own level of competence in accordance with the Nursing and Midwifery Council's guidelines (2008), The General Optical Council (2009) and Health Care Professions Council (2001).

- ❖ The AHP must have attended the local laser safety training study day prior to undertaking any practice.
- ❖ The AHP must undertake a period of observation of the procedure before practical training; we would expect minimum of 10 patients to be assessed for each part, dependent on the rate of acquisition of competencies.

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- The AHP must have attended the local laser safety training study day prior to undertaking any practice.
- The AHP must undertake a period of observation of the procedure before practical training; we would expect minimum of 10 patients to be assessed for each part, dependent on the rate of acquisition of competencies.

AHPs working within UHL must be aware that:

- Additional education and training are necessary for all practice not covered in previous training and education;
- They assume full accountability for their actions/omissions;
- They should maintain and improve professional knowledge;
- They should acknowledge limitations in knowledge and competency and decline any duties or responsibilities unless able to perform them in a safe competent manner;
- They must adhere to current policies and guidelines for practice;
- Delegation of work to other staff must be within their level of competence and to a degree appropriate to their role;
- Where appropriate, patients and informal carers must have sufficient knowledge and understanding to participate safely in the patients care;

- Any proposed expansion of practice must not compromise policies and procedures ratified by the trust;

- Once all competencies are completed, the AHPs will invest their time in training new junior doctors to support the competencies sign off.

7 PROCESS FOR MONITORING COMPLIANCE

7.1 The Trust will use a variety of methods to monitor compliance with the processes in this document (See Appendix 1).

In addition to the monitoring arrangements described above the Trust may undertake additional monitoring of this policy as a response to the identification of any gaps, or as a result of the identification of risks arising from the policy prompted by incident review, external reviews or other sources of information and advice.

This monitoring may include commissioned audits and reviews, detailed data analysis or another focused study, for example. Results of this monitoring will be reported to the committee and/or individual responsible for the review of the process and/or the risks identified.

Monitoring at any point may trigger a policy review if there is evidence that the policy is unable to meet its stated objectives.

The current and approved version of this document can be found on the Trust's intranet site. Should this not be the case, please contact the Risk and Safety team.

Definition of 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.

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

7.3 The SOP will 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.

8 EQUALITY IMPACT ASSESSMENT

If the policy will have any impact on equality, this should be described here. Otherwise the statements below should be inserted (see section 6.6 of the UHL Policy for Policies for more detail):

8.1 The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

8.2 As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

9 SUPPORTING REFERENCES, EVIDENCE BASE AND RELATED POLICIES

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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)

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

10 PROCESS FOR VERSION CONTROL, DOCUMENT ARCHIVING AND REVIEW

This policy has the approval of the Clinical Governance committee and has been ratified by the Management Executive Board.

10.1. Dissemination and implementation

This policy will be implemented and disseminated immediately following ratification to all staff involved with the Nd:YAG Laser capsulotomy procedure and will be communicated to key stakeholders and policy users via email, and highlighted at directorate Board meetings.

The updated version of the Policy will then be uploaded and available through INsite Documents and the Trust's externally-accessible Freedom of Information publication scheme. It will be archived through the Trusts PAGL system.

10.2. Review of the policy

This document will initially be reviewed after one year then every three years (maximum) thereafter.

10.3. Document Control and Archiving

The current and approved version of this document can be found through INsite Documents and the Trust's externally-accessible Freedom of Information publication scheme. It will be archived through the Trusts PAGL system.

Should this not be the case, please contact the Quality and Compliance team.

Previously approved versions of this document will be removed from the intranet by the Quality and Compliance team and archived on the corporate governance shared drive.

Any requests for retrieval of archived documents must be directed to the Quality and Compliance team.

APPENDIX 1: POLICY MONITORING TABLE

The top row of the table provides information and descriptors and is to be removed in the final version of the document

What key element(s) need(s) monitoring as per local approved policy or guidance?	**Who will lead on this aspect of monitoring? Name the lead and what is the role of other professional groups**	**What tool will be used to monitor/check/ observe/asses/ inspect Authenticate that everything is working according to this key element from the approved policy?**	**How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?**	**How will each report be interrogated to identify the required actions and how thoroughly should this be documented in e.g. meeting minutes.**
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements Who or what committee will the completed report go to.**
Complications following YAG laser	• Risk and safety team • Non-medical personnel performing YAG Laser	Incident forms on Datix	On going	Clinical governance
Any patient who is dissatisfied with the treatment delivered by Non-medical personnel	• PALS • Patient experience committee • Ophthalmology Service	Complaints incident forms	On going	Clinical governance

History and patient's management	Mr. Ian De Silva (EED consultant) Mr.S. Banerjee (Retinal consultant)	Audit	Every 2 years	Management executive

Appendix 2: Patient Information Leaflet for *Ophthalmic Laser Procedures* Available at:
Having laser iridotomy treatment for glaucoma (leicestershospitals.nhs.uk)
YAG laser capsulotomy treatment for your eye (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

CONTENTS

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.

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 causalty.

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.

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.

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.

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".

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.

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.

Name (BLOCK CAPITALS) and Position	*Signature*	*Date*

Return to: *Laser Protection Supervisor*