

# Nurse Led Corneal Collagen Crosslinking operation Policy For Specialist Nurses Within the Corneal Specialist Nurse role in Ophthalmology Department

## **1. Introduction and Who Guideline applies to**

This document sets out the University Hospitals of Leicester (UHL) NHS Trusts Policy and Procedures and offers a framework and guidance to enable qualified Corneal specialist nurses and trainee specialist nurses in Corneal to perform Corneal Collagen Crosslinking (CXL) within the Corneal Speciality. Staff who may undertake this role will normally be on a statutory register (e.g. Nursing and Midwifery Council (NMC) and the practice of Nurse Led Corneal Collagen Crosslinking will be 'within normal scope of practice'. These are Corneal Specialist Nurses. The qualified nurse undertaking this procedure must be a first level registered nurse with at least two years experience as a corneal specialist nurse, and are competent to expand their sphere of practice with ophthalmic patients and undertake Corneal Collagen Crosslinking. There is no set timeframe expected for staff to undertake this role, this is down to the discretion of the individual CMG however it is recommended that where appropriate staff should have at least two years acute ophthalmic experience, within corneal specialist nurse role.

All staff who perform Nurse Led Corneal Collagen Crosslinking must be authorised by their line manager and Corneal consultant and carry out this activity as an integral part of the key responsibilities within their role and not considered outside their scope of professional practice.

This training relates only to registered nurses and does not incorporate any associated health care professionals. The procedure halts progression of keratoconus, and it should be undertaken within 3 months of listing to preserve vision. This policy will aid compliance to this standard.

It applies to Corneal Consultants and corneal fellows supporting training and development of Corneal Specialist Nurses to undertake CXL. Inclusions are patients listed for CXL who are over 18 years old, with a central cornea thickness of 400 microns and over. Exclusions include patients under 18 years old, patients with previous refractive surgery, corneal thickness of under 400 microns, atopic patients, and any patients who would like a the medical team to undertake surgery.

This ultimately will contribute to the efficient delivery of treatment of patients with progressive keratoconus within the out-patient's setting. Using clean room to increase available capacity within corneal theatres.

This policy covers use of the UHL safer surgery checklist for Ophthalmology Outpatients Department Safer Surgery Checklist (Appendix 1) and incorporates advice on site marking. It should be read in conjunction with other important polices that are relevant to safer surgery

It is essential that this policy is followed, as failure could result in the loss of the trust's indemnity and could result in investigation and management action being taken as considered appropriate. This could include formal action in line with the trust's disciplinary procedures for trust employees and/or other action in relation to other workers, which may result in the termination of an assignment, placement, secondment or honorary contract

## **2. Guideline Standards and Procedures**

The UHL Ophthalmology Outpatients Department Safer Surgery Checklist must be completed for every patient undergoing a surgical procedure, in the minor operation room.

The UHL Ophthalmology Outpatients Department Safer Surgery Checklist is a generic checklist that is applicable to all patients.

The checklist must be fully completed in black ballpoint pen and signed at each step by the Registered Practitioner involved in that aspect of the patient's care.

A copy of the completed checklist must be retained in the patient's notes or electronic clinical record. Under the exceptional circumstances where the checklist is not completed or is not retained, the reasons must be documented in the patient's notes by the operating surgeon. The set used is also recorded in the theatre book and patient notes by placing the manufacturer's label in the record of the operation.

The patient's addressograph label must be attached to the checklist. Where this is not possible, the patient's details must be handwritten on the document with S number, name, and date of birth as a minimum.

All members of staff involved in the perioperative care of patients

- Must follow the procedures laid down in this policy.
- Must accept responsibility for updating knowledge and skills to maintain competence.
- Must "Stop the Line" if they are aware that actions are potentially causing a threat to patient safety.

### **CXL procedure is described below**

An operating nurse and and runner (qualified nurse) will attend operating list, the staff will have a safety huddle to undertake the following

The team will:

- Check room and equipment and drugs including emergency equipment are available and functioning.
- Check the notes and surgical list before the list starts to ensure correct, act accordingly to change list to accommodate any issues before surgery starts. Ensure suitability of patient.
- Identify patient and bring into operating area

The operating nurse

- Checks patient history and any prior history of herpes simplex keratitis, ensure able to give informed consent. They have been informed of why and how surgery will be undertaken, ensure able to position as needed for procedure

- Explanation of Corneal Collagen Crosslinking, post operative care
- Explains risks and benefits
- Checks allergies
- Confirms which eye to be operated on, marking eye
- Completes informed consent, and files copy in medical notes, and one copy to patient
- Prepares for procedure

#### The runner

- Completes WHO checklist with a minimum of 3 patient identifiers
- Checks allergies
- Confirms which eye to be operated on, observing correct site marking
- Hand hygiene
- Instills Oxybupracaine 1% and Tetracaine 1% and documents in notes as per PGD policy
- Ensures patient is comfortably positioned appropriately
- Prepares Corneal Collagen Crosslinking machine for treatment

#### Operating nurse

- Performs correct aseptic technique and sterile glove application
- Skin and eye cleansing, draping, reassuring patient
- Inserts lid speculum safely
- Applies Ethanol 18% for 30 seconds using a suction well
- Debrides epithelium with hockey stick (approximately 9mm in diameter)
- Irrigate eye with saline
- Checks thickness of cornea
- Commences riboflavin instillation & continues at appropriate 2 minute interval
- Aligns Corneal Collagen Crosslinking machine accurately, grossly aligning red cross-hairs with the centre of the cornea. Use remote control to fine tune centration, ensuring green dot is in the middle of the red cross-hairs
- Commence UVA exposure
- Fit bandage contact lens(if necessary)
- Instill local anaesthetic and mydriasis
- Remove speculum and drape. Clean skin
- Apply prophalactic antiboitic
- Correctly disposes of all waste, removes gloves and performs hand hygiene
- Drugs dispensed including one minim of local anaesthetic for use that day from TTO stock, or prescription given for hospital pharmacy
- Advised of normal recovery pattern, including levels of pain for 2-3 days, and correct action is any post operative complications.
- Discharge letter completed, copy given to patient if TTO created, or dictated if prescription given
- Documentation correctly completed
- Notes sent to correct destination

#### Post operative review

- Confirmation of patient identity with a minimum of 3 patient identifiers \*

- Checks allergies
- Document any untoward events offered by patient (e.g. visit to A&E)
- Check the visual acuity
- Complete ophthalmic examination
- If epithelial defect still present, advise patient to continue antibiotic treatment for a further week. and increase treatment with artificial tears if any evidence of delayed healing (punctuate epitheliopathy or irregular epithelium)
- All cases with unsatisfactory epithelial healing should be reviewed again one week later.
- If an unexpected event occurs, document and complete and report the incident as necessary.
- This procedure is necessary to facilitate communication within the team, meet legal requirements of practice and enable monitoring over a time period

### **3. Education and Training**

#### **All staff who undertake Nurse Led Corneal Collagen Crosslinking must:**

- Complete the training and assessment programme run by the Corneal Team in the Ophthalmology Department
- Have completed a period of supervised practice, the time span of which will be agreed by the assessor but ideally to be completed within 12 months.
- Have evidence of assessment and competency signed by an LCAT or other appropriate assessor
- The Corneal Consultant, Fellow, Specialist Registrar, Corneal specialist nurse will facilitate the practice sessions, to ensure the nurse has achieved a satisfactory knowledge base to support working practice and be available within the ophthalmology department to support the nurse during a nurse led minor operation session.
- The theoretical knowledge underpinning this procedure will be gained through working alongside medical/nursing colleagues. The competency framework developed for the 'Nurse Corneal Collagen Crosslinking' will be used as the assessment tool.
- The nurse preparing for this expanded role will undertake advanced training and assessment under the supervision of the Consultant, Fellow, Specialist Registrar or Corneal specialist nurse. This will include:
  - Observation of the Consultant, Fellow, Specialist Registrar, Corneal specialist nurse in ophthalmic theatre and outpatient minor operation room within ophthalmology department for Corneal Collagen Crosslinking.
    - Supervised practice by the Consultant, Fellow, Specialist Registrar or Corneal specialist nurse.
    - Practical summative assessment by the Consultant only.
    - The nurse will be assessed to ensure that they have the required level of competence before being allowed to see patients independently.

Staff new to the Trust and / or who have been trained elsewhere must:

- a) Provide evidence accepted by their line manager of the training and assessment of competence they have successfully completed. If the member of staff does not have any evidence of successful completion then they may need to undertake the Nurse Led Corneal Collagen Crosslinking. This must be discussed with their line manager
- b) Read the relevant Trust policies and undertake additional local training relating to equipment and documentation as required.
- c) Undertake a final sign off practical assessment by a Corneal Consultant

To be able to assess the knowledge and competencies of others in Nurse Led Corneal Collagen Crosslinking the assessor must:

- a) Be confident and competent in performing the skill and practice the skill regularly
- b) Have a sound knowledge of current policies and procedures
- c) Ideally be identified by the line manager as an LCAT assessor and have completed or be working towards a relevant mentor / assessor course.

**Eligibility:** Practitioners must fulfil the requirements of the policy in terms of qualifications and experience and have approval by the Lead Nurse and their line manager before undertaking training.

Practitioners must ensure that all training in development is in line with scope of practice and job description and must submit any application for training to their manager for endorsement.

The Training will be provided by Corneal consultants alongside the Corneal fellow and the Corneal nurses who are eligible to do Corneal Collagen Crosslinking.

### **The training programme**

There are two main parts to the training programme, Corneal Specialist Nurse competences, and the practical training comprises 2 aspects:

- Theoretical training
- Practical training
  - Observation of practice
  - Supervised practice:
    - preparation of patient
    - local anaesthetic administration
    - conducting Corneal Collagen Crosslinking
  - independent practice (supervised)
  - post operative review
  - final assessment

The member of staff must have completed the Corneal Collagen Crosslinking competences including both theoretical and practical components and have been assessed as competent by their supervising consultant or trainer. All training completion must be approved by an Corneal consultant if it has been delivered by other trainers before independent practice commences.

**Theoretical training** will be delivered in a number of ways:

- Attendance at an external unit with established practice.

- Locally delivered one to one training by consultants and non-medical health care professionals.
- One to one sessions with Corneal consultant or Corneal fellow or Corneal specialist nurse to informally cover key knowledge.

Topics which must be covered through these routes are as follows:

- Anatomy and physiology of the cornea
- Issues around infection control and local anaesthetic injections
- Pharmacology update
- Risk and legal issues around extended role development
- Latest clinical information on treatment and treatment delivery and up to date evidence underpinning this practice
- How to audit
- Consenting for minor operations
- Surgical safety checklist
- Process of conducting corneal collagen crosslinking
- Specialist equipment needed to perform procedure
- Recognition of complications and what actions to take.

The practitioner needs to undergo an assessment with a trainer to record their knowledge competencies and understanding of key trust policies and national requirements and obtain sign off. (appendix 3 corneal competence package)

### **Practical Training: Observation of practice**

On satisfactory completion of the theory training, and the Corneal specialist nurse can commence their period of observation whereby they shadow their assigned trainer(s) and follow each patient from assessment through to discharge. An observation of 10 patients are recorded on the competency assessment log sheet which is countersigned by the trainer, the next stage can begin. The first week post operative follow up will need to be observed for the 10 patients.

### **Practical training: Supervised Practice: Supervised practice**

The next step of the training pathway is to undertake Corneal Collagen Crosslinking under direct supervision of the Corneal Consultant, Corneal fellow, or Corneal Specialist nurse (deemed competent and ELCAT assessor).

On completion of ten preparations with completion of the signed competency sheet, the trainer, with the student, will decide if the practitioner can proceed to the next stage or whether further practice is required.

It will be expected for the trainee to observe post of recovery in clinic alongside this training.

**Practical training: Independence practice (supervised)** The next step of the training pathway will be for the specialist nurse undertake the procedure independently with supervision. If at this stage the specialist nurse is not yet ready to practice independently they must continue supervised practice until the trainer feels they are ready for a further assessment. The trainer must also be happy that the practitioner can undertake lists to the required safety and efficiency to practice independently.

The Nurse must adhere the protocol outlined above and show consistency through out independent practice.

The nurse will complete 10 independent procedures before completing final assessment by Corneal Consultant.

### **Practical training: Final assessment**

The final step of the training pathway will be for the specialist nurse to be assessed by the Corneal Consultant and deemed competent to undertake procedure independently.

If at this stage the trainee is not yet ready to practice unsupervised they must continue supervised practice until the trainer feels they are ready for a further assessment. The trainer must also be happy that the practitioner can undertake lists to the required safety and efficiency to practice independently a whole list.

All the competencies must be completed and signed off and audit of practice must occur at this stage and be approved by a Corneal consultant before undertaking independent practice. In addition, there should be evidence of reflective practice.

At all stages, the trainee must not be signed off as a competent practitioner unless the trainer and consultant are fully confident in the practitioner's ability to run independent lists.

The first 3 lists/clinics should occur with experienced surgeons nearby with some degree of supervision to ensure support is nearby and practitioners have gained the confidence to practice independently.

After three months, the trainee should undergo a review of their independent practice with a trainer or consultant and should then undertake the required audit after the first 6 months or 100 cases and thereafter every year and regular reflective practice.

Audit will include following factors

- A record is kept of all patients treated by the nurse specialist
- Patients re-attend as an emergency patient
- Re-treatment rates
- Measures of the severity of keratoconus (K1, K2, corneal thickness, refraction, visual acuity)
- Cases of unusually severe or persistent corneal haze
- Delayed epithelial healing

### **4. Monitoring Compliance**

<b>What will be measured to monitor compliance</b>	<b>How will compliance be monitored</b>	<b>Monitoring Lead</b>	<b>Frequency</b>	<b>Reporting arrangements</b>
Reattendance as an emergency	Completion of data on spreadsheet, compiled and present by operating nurse for review by monitoring lead	Head of service	Initially 3 monthly  After 100 cases 1 yearly	Review of data and discussion re results with monitoring lead
Corneal infection				
Retreatment rates				
Measures severity of keratoconus (K1, K2, corneal thickness, refraction)				
Cases of unusually severe or persistent corneal haze				
Delayed epithelial healing				

### **5. Supporting References (maximum of 3)**

UHL Safer Surgery Policy: B10/2013

UHL Consent to Treatment or Examination Policy A16/2002

## **6. Key Words**

Corneal Collagen Crosslinking

Nurse-led

## APPENDIX 1



**UHL Safer Surgery Checklist – Ophthalmology Outpatients Department**  
 This Checklist MUST be used for each (elective or emergency) Procedure/Treatment performed outside of the main operating theatres

<b>Intended procedure:</b>		<b>Date:</b>
<b>Basic preparations (at the beginning of a session or a single case):</b>	<b>Before the start of a procedure:</b>	<b>After the procedure:</b>
<p>The Surgeon / Nurse / HCA checks and confirms that (TICK):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The procedure/treatment plan is documented in the medical notes. <input type="checkbox"/></li> <li><input type="checkbox"/> All equipment (including, medications) functioning and safe. <input type="checkbox"/></li> <li><input type="checkbox"/> Swab/sharps count recorded <input type="checkbox"/></li> <li><input type="checkbox"/> Has sterility of the instruments been confirmed <input type="checkbox"/></li> <li><input type="checkbox"/> Instrument set is complete (state missing items below)</li> </ul> <p>Anti-coagulant -yes/no Pacemaker-yes/no</p> <p>Notes:</p>	<p>The Surgeon must check and confirm with the patient and with a Nurse / HCA (TICK):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The patient's name / Hospital Number / Date of Birth <input type="checkbox"/></li> <li><input type="checkbox"/> What procedure, site and position are planned <input type="checkbox"/></li> <li><input type="checkbox"/> Is the surgical site marked <input type="checkbox"/></li> <li><input type="checkbox"/> Consent <input type="checkbox"/></li> <li><input type="checkbox"/> Has sterility of the instruments been confirmed <input type="checkbox"/></li> <li><input type="checkbox"/> Any allergies: No Yes: ____</li> </ul> <p>Notes:</p>	<p>The Surgeon / Nurse / HCA checks and confirms (TICK):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> What procedure have you performed and is it correctly recorded in the medical notes. <input type="checkbox"/></li> <li><input type="checkbox"/> All equipment is accounted for. <input type="checkbox"/></li> <li><input type="checkbox"/> Any equipment faults are reported. <input type="checkbox"/></li> <li><input type="checkbox"/> If applicable have the specimens been labelled and checked by both Surgeon and Nurse <input type="checkbox"/></li> <li><input type="checkbox"/> Has it been confirmed that instruments, swabs and sharps counts are complete. <input type="checkbox"/></li> <li><input type="checkbox"/> Post operative information leaflets given. <input type="checkbox"/></li> </ul> <p>Procedure notes:</p>
Signature (Surgeon): .....	Signature (Surgeon): .....	Patient ID label
Print name: .....	Signature (Nurse): .....	

The use of this checklist is mandatory. Its use will be audited at regular intervals.

<b>CONTACT AND REVIEW DETAILS</b>	
<b>Guideline Lead</b>	<b>Executive Lead</b>
<b>Michelle Rickerby Corneal Specialisy Nurse</b>	<b>Mr Savant Consultant Ophthalmologist</b>
<b>Details of Changes made during review:</b>	
<b>Amended introduction, reducing irrelevant information, reformatted in to new template, safer surgery information added, and amendments to include nurse prescribing, and TTO dispensing</b>	