



The ROYAL COLLEGE of
OPHTHALMOLOGISTS



NATIONAL OPHTHALMOLOGY DATABASE
AUDIT

National Ophthalmology Database Audit

National Cataract Audit eligibility

Fourth year of the prospective cataract audit version

May 2020

Document authors

Paul HJ Donachie

John M Sparrow

Document Location

The master copy of the document can be found in the RCOphth shared drive

Version History

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.1	Paul Donachie	08/04/2019	John Sparrow	08/04/2018	New VR indications added
1.2	Paul Donachie	06/05/2020			Audit year 4 changes

Contents

Section		Page number
1	The RCOphth NOD audit team	4
2	Abbreviations	5
3	Acknowledgements	6
4	Introduction	7
5	Cataract Inclusion/Exclusion criteria	8
6	Eligible "Cataract" indications for surgery	9
7	Ineligible "Cataract" indications for surgery and diagnoses	11
8	Combined vitreoretinal indication for surgery with a pars plana vitrectomy	16
9	Ineligible operative procedures	18

1 The RCOphth NOD audit team

RCOphth project clinical lead

Professor John M Sparrow - Consultant Ophthalmologist and Honorary Professor of Ophthalmic Health Services Research and Applied Epidemiology

RCOphth project executive lead

Ms Kathy Evans – Chief Executive, Royal College of Ophthalmologists

The RCOphth NOD audit project office:

Ms Beth Barnes – Head of Professional Standards

Ms Martina Olaitan – RCOphth NOD Audit Project Manager

The Royal College of Ophthalmologists

18 Stephenson Way

London

NW1 2HD

Tel: +44 (0) 20 7935 0702

Fax: +44 (0) 20 7383 5258

Email: noa.project@rcophth.ac.uk

The RCOphth NOD delivery unit:

Mr Paul Henry John Donachie – RCOphth NOD Medical Statistician

Professor Peter Scanlon – Consultant Ophthalmologist

Gloucestershire Retinal Research Group office

Above Oakley Ward

Cheltenham General Hospital

Gloucestershire

GL53 7AN

Phone: 03004 22 2852

Email: ghn-tr.nod@nhs.net

2 Abbreviations

Abbreviation	Description
AC	Anterior chamber
EMR	Electronic Medical Record
FB	Foreign Body
IOL	Intra-ocular lens
NHS	National Health Service
NOD	National Ophthalmology Database
PPV	Pars plana vitrectomy
RCOphth	Royal College of Ophthalmologists'

3 Acknowledgment

The Royal College of Ophthalmologists National Ophthalmology Database Audit (RCOphth NOD) is governed by the RCOphth and conducts the National Cataract Audit (NOA).

We also acknowledge the support of the hospitals that are participating in the national ophthalmology audit and thank our medical and non-medical colleagues for the considerable time and effort devoted to data collection. All participating centres are listed on the RCOphth NOD website (www.nodaudit.org.uk).

It is with deep regret that we note the death of our friend and colleague Robert Johnston, who sadly died in September 2016. Without his inspirational vision, determination and career long commitment to quality improvement in ophthalmology this work would not have been possible

4 Introduction

The Royal College of Ophthalmologists (RCOphth) is the governing authority for the National Ophthalmology Database Audit (NOD) and conducts the National Cataract Audit on data concerning cataract surgery. The audit is open to all providers of National Health Service (NHS) funded cataract surgery and providers of private funded cataract surgery in England, Guernsey, Scotland, Northern Ireland and Wales. The data is collected as part of routine clinical care on electronic medical record (EMR) systems or in-house data collection systems and the analysis is performed by the RCOphth NOD Audit statistician based in Cheltenham General Hospital.

The RCOphth NOD receives data collected on multiple systems that can have different formats for recording the information. For this reason, the terminology used in this document is the wording used in the supplied information.

National Cataract Audit results are reported to The Care Quality Commission, on the audit website (www.nodaudit.org.uk) and in annual reports. At the end of a reporting cycle, aggregated centre level data is uploaded to data.gov and is accessed by the Getting It Right First Time Programme. Centre level results include operations performed by trainee surgeons, and publically available named surgeon results do not.

Due to the different geographical locations and funding agreements, results can be reported for a devolved nation, NHS funded or private funded surgery depending on the reporting destination.

5 Cataract Inclusion/Exclusion criteria

Eligibility for any cataract analysis

Cataract operations are included in RCOphth NOD analyses if they comply with the conditions listed below; if not then they are excluded from cataract analyses;

- Operation performed in adults (aged 18 or above).
- Operation included a phacoemulsification procedure.
- Operation has a recorded date of surgery.
- Operative data includes a surgeon identifier.
- Operative data includes a valid grade of surgeon.
- Operation included a “cataract” indication for surgery (section 6).
- Operation without any of the ineligible cataract indications for surgery or diagnosis (section 7)
- Operation did not include any ineligible operative procedures (section 8).
- Operations that included a pars plana vitrectomy with no vitreoretinal indication for surgery and no other vitreoretinal procedures except for sponge and scissor vitrectomy or automated anterior vitrectomy.

National Ophthalmology Database Audit specific criteria

For the national ophthalmology database audit of cataract surgery further criteria apply, these are;

- For named centre and named surgeon results, at least 50 eligible operations are required.
- For published named surgeons a valid General Medical Council number is required.
- For post-cataract visual acuity (VA) loss, both a preoperative and postoperative VA measurement is required, operations performed in the final 2 months of an audit year are not included, and there has to be <40% of operations with missing VA data for a result to be produced for a centre or surgeon.

6 Eligible “Cataract” indications for surgery

An eligible cataract operation must have at least one of the “cataract” indications for surgery, if no valid “cataract” indication for surgery is recorded then the operation is excluded.

The following indications for surgery from the available data are classified as “cataract” indications for surgery;

- 1+ cortical cataract
- 1+ nuclear sclerotic cataract
- 1+ posterior subcapsular cataract
- 2+ cortical cataract
- 2+ nuclear sclerotic cataract
- 2+ posterior subcapsular cataract
- 3+ cortical cataract
- 3+ nuclear sclerotic cataract
- 3+ posterior subcapsular cataract
- Age-related cataract
- Aniseikonia
- Anisometropia
- Anterior polar cataract
- Anterior subcapsular cataract
- Atopic cataract
- Blue spot cataract
- Brunescant cataract
- Cataract
- Cataract extraction for anisometropia
- Cataract extraction for refractive reasons
- Cataract extraction for other reasons
- Cataract extraction for unknown aetiology
- Cataract extraction for visual improvement
- Cataract extraction to improve fundal view
- Cataract secondary to uveitis

- Clear lens extraction for anisometropia
- Clear lens extraction for refractive reasons
- Christmas tree cataract
- Coronary cataract
- Cortical cataract
- Diabetic cataract
- Dropped nucleus
- Dropped nucleus / retained lens fragments
- Drug induced cataract
- Familial cataract
- Hypermature cataract
- Infantile cataract*
- IOL in vitreous cavity
- Lamellar cataract
- Mature / white cataract
- Metabolic cataract*
- Missing (No indication for surgery recorded)
- Morgagnian cataract
- Non-significant cataract
- Nuclear sclerotic cataract
- Phacomorphic cataract
- Post-vitrectomy cataract
- Posterior subcapsular cataract
- Retrodot cataract
- Suture tip cataract
- Watercleft cataract

*Unless in a paediatric case which currently are not included in the RCOphth NOD analyses.

7 Ineligible “Cataract” indications for surgery and diagnoses

If any of the following indications for surgery are recorded as the indication for the cataract surgery then the operation is excluded from analysis. For the specified diagnosis, if any of these are recorded at any point prior to and including the day of cataract surgery, then the operation is excluded from analysis. When an ocular co-pathology is recorded as “other” and there is text to detail the condition, this information is treated as a diagnosis for exclusion purposes. Some of the conditions in Table 1 are recorded as indications for surgery, some as diagnosis and some as the accompanying text with ocular co-pathology data. For many, they can be recorded as an indication for surgery and/or a diagnosis. Some terms have been condensed as there are multiple methods or sub-types

Table 1: Ineligible indications for surgery and diagnoses

Indication / diagnosis	Exclude if indication for surgery	Exclude if a recorded diagnosis
Absent anterior chamber of eye	Yes	Yes
Adhesions and disruptions of iris and ciliary body		Yes
Anterior chamber angle recession		Yes
Anterior dislocation / luxation of lens	Yes	Yes
Anterior segment dysgenesis	Yes	Yes
Blow out fracture of orbit	Yes	Yes
Blunt injury of eye	Yes	Yes
Cataract following rupture of capsule	Yes	Yes
Choroidal rupture	Yes	Yes
Closed angle glaucoma (congenital anomaly)	Yes	Yes
Closed fracture of orbit		Yes
Congenital cataract	Yes	Yes
Congenital ectopic lens	Yes	Yes
Congenital glaucoma (Broad thumb syndrome)	Yes	Yes
Congenital glaucoma (Chromosomal anomaly)	Yes	Yes
Congenital glaucoma (Other)	Yes	Yes
Congenital hereditary endothelial dystrophy	Yes	Yes

Congenital polar cataract	Yes	Yes
Congenital posterior polar cataract	Yes	Yes
Congenital telecanthus		Yes
Complete luxation of lens	Yes	Yes
Corneal chemical injury	Yes	Yes
Corneal congenital anomaly	Yes	Yes
Dislocation of lens	Yes	Yes
Ectopia lentis	Yes	Yes
Ectopia lentis associated with anterior uveal tumour	Yes	Yes
Ectopia lentis associated with homocysteinuria	Yes	Yes
Ectopia lentis associated with hyperlysinaemia	Yes	Yes
Ectopia lentis associated with a hypermature cataract	Yes	Yes
Ectopia lentis associated with a large globe	Yes	Yes
Ectopia lentis associated with Marfan syndrome	Yes	Yes
Ectopia lentis associated with Weill-Marchesani syndrome	Yes	Yes
Ectopia lentis – dislocated cataractous crystalline lens	Yes	Yes
Ectopia lentis – dislocated clear crystalline lens	Yes	Yes
Ectopia lentis et pupillae	Yes	Yes
Ectopia lentis simple (no systemic associations / conditions)	Yes	Yes
Ectopia lentis – subluxed cataractous crystalline lens	Yes	Yes
Ectopia lentis – subluxed clear crystalline lens	Yes	Yes
Ectopic pupil	Yes	Yes
Enophthalmos due to trauma	Yes	Yes
Enucleated eye	Yes	Yes
Eyelid laceration (lower and/or upper lid)	Yes	Yes
Foreign body in anterior chamber	Yes	Yes
Foreign body in anterior segment of eyeball	Yes	Yes
Foreign body in sclera	Yes	Yes
Glaucoma associated with ocular trauma	Yes	Yes
Hyphaema completely filling anterior chamber	Yes	Yes
Injury due to explosion	Yes	Yes
Injury of globe of eye		Yes

Injury to vitreous body	Yes	Yes
Intraocular foreign body in vitreous		Yes
Leber congenital amaurosis	Yes	Yes
Lenticonus – anterior / posterior	Yes	Yes
Lenz microphthalmia syndrome		Yes
Magnetic foreign body penetrating eyeball		Yes
Marfan's syndrome	Yes	Yes
Microcornea	Yes	Yes
Microphthalmos ± cyst	Yes	Yes
Microspherophakia	Yes	Yes
Nanophthalmos	Yes	Yes
No capsule present	Yes	Yes
Non perforating wound of cornea	Yes	Yes
Old intraocular nonmagnetic foreign body in anterior chamber		Yes
Old intraocular nonmagnetic foreign body in vitreous		Yes
Open angle glaucoma (Anterior chamber cleavage syndrome)		Yes
Open wound of eyebrow / eyeball		Yes
Open globe injury	Yes	Yes
Orbital foreign body / lesion	Yes	Yes
Penetrating eye injury	Yes	Yes
Penetrating eye injury (entry wound)	Yes	Yes
Penetrating injury by sharp / unknown object		Yes
Penetrating injury due to glass		Yes
Penetrating wound of eye		Yes
Perforating corneoscleral wound		Yes
Perforating eye injury (entry and exit wound)	Yes	Yes
Perforating scleral wound		Yes
Peter's anomaly	Yes	Yes
Polar cataract	Yes	Yes
Posterior dislocation of lens	Yes	Yes
Post-traumatic macular scar		Yes
Post-traumatic retinal scar		Yes

Post-traumatic uveitis		Yes
Previous YAG capsulotomy	Yes	Yes
Primary congenital glaucoma		Yes
Pseudophakic	Yes	Yes
Pseudophakic - IOL centred	Yes	Yes
Pseudophakic - IOL decentred	Yes	Yes
Pseudophakic - IOL dislocated	Yes	Yes
Pseudophakic - IOL in ciliary sulcus	Yes	Yes
Pseudophakic - IOL in the bag	Yes	Yes
Pseudophakic - IOL partly in the bag	Yes	Yes
Pseudophakic - IOL subluxed	Yes	Yes
Pseudophakic - accommodating IOL	Yes	Yes
Pseudophakic - angle-supported IOL	Yes	Yes
Pseudophakic - multifocal IOL	Yes	Yes
Pseudophakic - multifocal toric IOL	Yes	Yes
Pseudophakic - scleral-fixated IOL	Yes	Yes
Pseudophakic - toric IOL	Yes	Yes
Pseudophakic bullous keratopathy	Yes	Yes
Pseudophakic corneal oedema	Yes	Yes
Pseudophakic macular oedema	Yes	Yes
Pseudophakic with a sutured posterior chamber IOL	Yes	Yes
Pseudophakic with an anterior chamber IOL	Yes	Yes
Pseudophakic with an iris claw / clip IOL	Yes	Yes
Retained foreign body in the eyelid		Yes
Retained magnetic intraocular foreign body	Yes	Yes
Retained non-magnetic intraocular foreign body		Yes
Rieger syndrome	Yes	Yes
Rupture of globe		Yes
Scleral rupture		Yes
Sequelae of injury of eye and orbit		Yes
Spherophakia		Yes
Spontaneous dislocation of lens	Yes	Yes

Spontaneous subluxation of lens		Yes
Subluxed cataractous / clear / crystalline lens	Yes	Yes
Symblephara	Yes	Yes
Traumatic	Yes	Yes
Traumatic aniridia	Yes	Yes
Traumatic cataract	Yes	Yes
Traumatic cicatrisation of the conjunctiva	Yes	Yes
Traumatic corneal abrasion	Yes	No
Traumatic cyclodialysis	Yes	Yes
Traumatic dislocation of lens	Yes	Yes
Traumatic ectopia lentis	Yes	Yes
Traumatic enophthalmos	Yes	Yes
Traumatic enucleation	Yes	Yes
Traumatic hyphaema	Yes	Yes
Traumatic iridodialysis	Yes	Yes
Traumatic iris atrophy	Yes	Yes
Traumatic iritis	Yes	Yes
Traumatic macular hole	Yes	Yes
Traumatic mydriasis	Yes	Yes
Traumatic optic neuropathy	Yes	Yes
Traumatic / perioperative choroidal detachment	Yes	Yes
Traumatic retraction of the eyelid	Yes	Yes
Traumatic subluxation of lens	Yes	Yes
Traumatic telecanthus	Yes	Yes
Traumatic wound dehiscence	Yes	Yes
Trauma to the head	Yes	Yes
Type 1 congenital vitreous anomaly		Yes
Unstable IOL	Yes	Yes
Vitreocorneal adhesions		Yes

8 Combined vitreoretinal indication for surgery and pars plana vitrectomy

If any of the following vitreoretinal indications for surgery are recorded as the indication for the cataract surgery and combined with a pars plana vitrectomy during cataract surgery, then the operation is excluded from analysis.

- 1 quadrant of retina detached
- 2 quadrants of retina detached
- 3 quadrants of retina detached
- 4 quadrants of retina detached
- Central serous retinopathy associated with retinal detachment
- Chronic rhegmatogenous retinal detachment
- Chronic rhegmatogenous retinal detachment - macula off
- Chronic rhegmatogenous retinal detachment - macula on
- Epiretinal membrane
- Epiretinal membrane associated with a macular hole
- Epiretinal membrane with macular pseudohole
- Epiretinal membrane with vitreomacular traction
- Idiopathic epiretinal membrane
- Lamellar macular hole
- Lamellar retinal hole
- Macular hole
- Macular hole associated with high myopia
- Pseudo-macular hole
- Removal of silicone oil
- Retinal detachment
- Retinal detachment associated with myopia
- Retinal folds associated with epiretinal membrane
- Retinal hole associated with myopia
- Rhegmatogenous retinal detachment
- Rhegmatogenous retinal detachment - macula off
- Rhegmatogenous retinal detachment - macula on

- Rhegmatogenous retinal detachment (> 2 previous operations for RD)
- Rhegmatogenous retinal detachment (1 previous operation for RD)
- Rhegmatogenous retinal detachment (2 previous operations for RD)
- Rhegmatogenous retinal detachment (primary)
- Rhegmatogenous retinal detachment associated with myopia
- Stage I macular hole
- Stage II macular hole
- Stage III macular hole
- Stage IV macular hole
- Unsuccessfully treated retinal detachment
- Untreated retinal break caused failed retinal detachment surgery
- Vitreomacular adhesion
- Vitreomacular traction
- Vitreomacular traction with incomplete posterior vitreous detachment

9 Ineligible operative procedures

If any of the operative procedures listed below were performed during cataract surgery then the operation is excluded from analysis. Some terms have been condensed as there are multiple methods or sub-types.

- Amniotic membrane transplant to cornea
- Anterior chamber tap
- Anterior lamellar keratoplasty
- Anterior segment trauma repair
- Argon laser peripheral iridoplasty
- Argon laser trabeculoplasty
- Artificial iris
- Aspiration of lens ± IOL
- Biopsy of lesion of cornea / conjunctiva / eyebrow / iris / sclera / skin
- Biopsy of retina / choroid – external approach
- Biopsy of retina / choroid – internal approach
- Bleb needling
- Bleb resuture / conjunctival suture
- Bleb revision
- Botulinum toxin to extraocular muscles
- Cautery of lesion of cornea / conjunctiva / sclera / skin
- Chelation of cornea
- Cleaning of corneal flap
- Conductive keratoplasty
- Conjunctiva symblepharon repair
- Conjunctiva tumour excision
- Conjunctival stem cell transplant
- Corneal collagen cross-linking
- Corneal epithelial debridement
- Corneal gluing
- Corneal limbal cell transplant
- Cryotherapy to ciliary body

- Cryotherapy to lesion of conjunctiva / cornea / retina
- Cyclodialysis surgery
- Cyclodiode
- Debridement of lesion of cornea
- Deep lamellar keratoplasty
- Deep sclerectomy with spacer
- Deep sclerectomy without spacer
- Descemet stripping automated endothelial keratoplasty
- Destruction of lesion of cornea
- Division of adhesions of conjunctiva
- Drainage of choroidal effusion
- Drainage of subretinal fluid through retina
- Drainage of supra-choroidal haemorrhage
- Ectropion repair - (by any method)
- Entropion repair other - (by any method)
- Entropion repair sutures
- Epi-LASIK
- Epimacular brachytherapy
- Epiretinal membrane peel
- Excision of lesion of canthus
- Excision of lesion of eyelid / iris / sclera
- Extracapsular cataract extraction ± IOL
- Excision of skin lesion / conjunctiva excision
- Exploration of cornea
- Eyelid excisional / miscellaneous biopsy
- Eyelid miscellaneous excisional biopsy
- Eyelid scar revision
- Eyelid surgery miscellaneous (other)
- Eyelid trauma full thickness laceration repair
- Facial palsy repair tarsorrhaphy
- Fibrovascular membrane delamination
- Fibrovascular membrane segmentation

- Fixation of iris
- Flap lift – replacement
- Free conjunctival autograft
- Glaucoma examination under anaesthesia
- Goniosynaechiolysis
- Goniotomy
- Harvest fascia lata
- Implantation of intravitreal device
- Incisional keratectomy
- Insertion of corneal prosthesis / refractive corneal prosthesis
- Insertion of posterior segment sustained release device
- Insertion of Xen implant
- Intravitreal injection of tPA/Alteplase
- Internal limiting membrane peel
- Internal tamponade – Air
- Internal tamponade – C2F6 gas
- Internal tamponade – C3F8 gas
- Internal tamponade – Heavy liquid
- Internal tamponade – Heavy silicone oil (Densiron)
- Internal tamponade – SF6 gas
- Internal tamponade – Silicone oil
- Intracapsular cataract extraction ± IOL
- Iridocyclectomy
- iStent trabecular micro-bypass
- Lacrimal bypass surgery – (by any method)
- Lamellar keratoplasty
- Laser Assisted in Situ Keratomileusis (LASIK)
- Laser Assisted Sub-Epithelial Keratectomy (LASEK)
- Laser destruction of skin lesion
- Laser peripheral iridotomy
- Laser refractive keratectomy
- Laser suture following glaucoma surgery

- Laser thermal keratoplasty
- Limited macular translocation
- Macular laser
- Macular translocation 360 degrees
- Magnetic extraction of cornea / lens FB
- Micropulse diode laser trabeculoplasty
- Nd / YAG goniopuncture
- Orbital sclerotherapy
- Other cornea operation
- Other destruction of ciliary body
- Other specified excision of iris
- Other specified operation on ciliary body
- Other specified operation on iris
- Overlay scleroplasty
- Panretinal photocoagulation
- Panretinal photocoagulation - endolaser
- Panretinal photocoagulation – indirect laser
- Penetrating keratoplasty
- Phakic IOL
- Photodynamic therapy
- Photorefractive keratectomy (PRK)
- Phototherapeutic keratectomy
- Posterior capsule capsulorhexis
- Posterior capsulotomy (intended)
- Posterior endothelial keratoplasty
- Posterior segment globe repair
- Proliferative vitreoretinopathy (PVR) membrane peel
- Pterygium excision
- Radial optic neurotomy
- Recession of medial rectus muscle and resection of lateral rectus muscle of eye
- Removal of corneal rust ring / corneal foreign body
- Removal of foreign body from conjunctiva / cornea / eyelid / iris / lens

- Removal of intraocular foreign body
- Removal of releasable suture following glaucoma surgery
- Removal of silicone oil
- Removal of tamponading agent
- Repair of iridodialysis
- Retina vascular sheathotomy
- Retinal pigment epithelium translocation
- Retinectomy
- Retinopexy – 360 degree laser
- Retinopexy – cryotherapy
- Retinopexy – endolaser
- Retinopexy – indirect laser
- Retinopexy – other
- Retinopexy – slit lamp
- Retinotomy – drainage / relieving
- Retrobulbar injection into orbit
- Retropunctal cautery
- Revision of aqueous shunt to extraocular reservoir
- Secondary IOL
- Sclera expansion / imbrication / graft / suture / repair
- Scleral buckle – circumferential
- Scleral buckle – encircling
- Scleral buckle – radial
- Scleral buckle – revision / replacement
- Sector laser
- Selective laser trabeculoplasty
- Squint surgery / adjustable squint surgery / re-do squint surgery
- Sterotactic radiotherapy
- Strabismus & Paediatric examination under anaesthesia
- Subfoveal choroidal neovascularisation drugs band 1
- Subretinal injection (Avastin / tPA / Alteplase)
- Subretinal membrane / band removal

- Superficial keratectomy
- Surgical anterior capsulotomy
- Surgical iridoplasty
- Suture of conjunctiva
- Tarsorrhaphy – Central / lateral / medial / revision
- Tattooing of cornea
- Temporal artery bypass
- Therapeutic contact lens / placement on to cornea
- Trabeculectomy
- Trabeculotomy
- Trabectome
- Transpupillary thermotherapy
- Trans-scleral retinal diode laser
- Trepine of cornea
- Tube implant
- Unspecified excision of iris
- Unspecified operation on iris
- Viscoanalostomy
- Viscoanulostomy
- Viscogonioplasty
- Vitreoretinal examination under anaesthesia
- Vitreous biopsy
- YAG anterior capsulotomy
- YAG posterior capsulotomy

If “Examination under anaesthesia” is recorded for an operation conducted under general anaesthesia then this operation would be deemed ineligible for analysis.