



National Ophthalmology Database Audit Eligibility Criteria

National Cataract Audit eligibility

Third year of the prospective cataract audit version

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2 Abbreviations

Abbreviation	Description
AC	Anterior chamber
COP	Clinical Outcomes programme
EMR	Electronic Medical Record
HQIP	Healthcare Quality Improvement Partnership
IOL	Intra-ocular lens
NCAPOP	National Clinical Audit and Patient Outcomes Programme
NHS	National Health Service
NOD	National Ophthalmology Database
PPV	Pars plana vitrectomy
RCOphth	Royal College of Ophthalmologists'

3 Acknowledgment

The National Ophthalmology Database Audit (NOD) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and is part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) and the Consultant Outcomes Programme (COP).

We would like to acknowledge the support and guidance we have received from the National Audit Steering Committee which includes professional members, ophthalmologists and optometrists, and patient and public representatives with individual lay members as well as patient support groups being represented. We thank the steering committee for reviewing this report.

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 Healthcare Quality Improvement Partnership (HQIP) commissioned The Royal College of Ophthalmologists (RCOphth) to perform the National Ophthalmology Audit building on the work of the RCOphth's National Ophthalmology Database (NOD) project. The national cataract audit is conducted on data concerning cataract surgery performed under the National Health Service (NHS) in England and Wales. The data is collected as part of routine clinical care on electronic medical record (EMR) systems and NHS Trust in-house data collection systems. The analysis is performed by the RCOphth NOD Audit statisticians based in Cheltenham General Hospital.

The initial 3 year grant from HQIP funded a 'legacy' analysis of cataract data to establish the methodology for the prospective cataract audit, the implementation of the national cataract audit and feasibility studies into outcomes of wet age-related macular degeneration, trabeculectomy surgery & visual field preservation in eyes with glaucoma and rhegmatogenous retinal detachment surgery. The feasibility studies have been completed and the national cataract audit has received funding from HQIP for a further 2 years. This document concerns the eligibility criteria for the prospective cataract audit analysis, which is revised annually.

The RCOphth NOD receives data collected on multiple systems that can have different ways to record 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 NHS choices, 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 level results do not.

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;

- Operations performed in either England or Wales.
- 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.

6 Eligible “Cataract” indications for surgery

An eligible cataract operation must have at least one of the “cataract” indications for surgery, if no “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
- 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.

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 luxation of lens	Yes	Yes
Anterior segment dysgenesis		Yes
Blow out fracture of orbit		Yes
Blunt injury of eye	Yes	Yes
Cataract following rupture of capsule	Yes	Yes
Closed angle glaucoma (congenital anomaly)		Yes
Closed fracture of orbit		Yes
Congenital cataract	Yes	Yes
Congenital ectopic lens	Yes	Yes
Congenital glaucoma (Broad thumb syndrome)		Yes
Congenital glaucoma (Chromosomal anomaly)		Yes
Congenital glaucoma (Other)		Yes
Congenital hereditary endothelial dystrophy		Yes

Congenital polar cataract	Yes	Yes
Congenital posterior polar cataract	Yes	Yes
Congenital telecanthus		Yes
Complete luxation of lens	Yes	Yes
Corneal congenital anomaly		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
Eyelid laceration (lower and/or upper lid)		Yes
Foreign body in anterior chamber	Yes	Yes
Foreign body in anterior segment of eyeball	Yes	Yes
Foreign body in sclera	Yes	Yes
Hyphaema completely filling anterior chamber	Yes	Yes
Injury due to explosion	Yes	Yes
Injury of globe of eye		Yes
Intraocular foreign body in vitreous		Yes
Leber congenital amaurosis		Yes
Lenz microphthalmia syndrome		Yes

Magnetic foreign body penetrating eyeball		Yes
Marfan's syndrome	Yes	Yes
Microphthalmos	Yes	Yes
Microphthalmos with cyst	Yes	Yes
No capsule present		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 eyeball		Yes
Open globe injury	Yes	Yes
Orbital foreign body	Yes	Yes
Penetrating eye injury	Yes	Yes
Penetrating eye injury (entry wound)	Yes	Yes
Penetrating injury by sharp object		Yes
Penetrating injury by 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
Primary congenital glaucoma		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 subluxation of lens		Yes
Subluxed cataractous crystalline lens	Yes	Yes
Subluxed (cataractous or clear)	Yes	Yes
Subluxed clear crystalline lens	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 dislocation of lens	Yes	Yes
Traumatic ectopia lentis	Yes	Yes
Traumatic enophthalmos	Yes	Yes
Traumatic enucleation	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	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
Trauma to the head	Yes	Yes
Type 1 congenital vitreous anomaly		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 / iris / sclera
- 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
- Chelation of cornea
- Cleaning of corneal flap
- Conductive keratoplasty
- Conjunctiva tumour excision
- Corneal collagen cross-linking
- Corneal epithelial debridement
- Corneal gluing
- Corneal limbal cell transplant
- Cryotherapy to ciliary body
- Cryotherapy to lesion of retina / conjunctiva
- 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
- 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
- Excision of lesion of iris
- 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
- LASIK
- LASEK
- 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 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
- Panretinal photocoagulation
- Panretinal photocoagulation - endolaser
- Panretinal photocoagulation – indirect laser
- Penetrating keratoplasty
- Phakic IOL
- Phototherapeutic keratectomy
- Posterior capsule capsulorhexis
- Posterior capsulotomy (intended)
- Posterior endothelial keratoplasty
- Posterior segment globe repair
- PRK
- Pterygium excision
- PVR membrane peel
- 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
- Revision of aqueous shunt to extraocular reservoir
- Secondary IOL
- Sclera 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

- 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.