

Clinical Dataset

Glaucoma procedure

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The Royal College of Ophthalmologists 18 Stephenson Way, London, NW1 2HD, T. 02037705322

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1. Introduction

A dataset comprises a set of defined variables representing clinical information about a patient with a given condition. Royal College of Ophthalmologists' datasets already exist for conditions including cataract, macular degeneration, and retinal detachment. Collection of agreed datasets allows comparison of outcomes across different platforms, including paper notes, proprietary electronic patient records and open-source databases. The benefits of this approach have already been seen in the national cataract dataset.

This document describes a proposed dataset for capturing the outcomes of intraocular pressure (IOP) lowering procedures. The dataset was developed by a subcommittee of the Royal College of Ophthalmologists Informatics and Audit Sub-committee in collaboration with the United Kingdom and Eire Glaucoma Society (UKEGS) and the European Glaucoma Society (EGS). A final draft of the dataset was sent to all members of UKEGS for comment and was further refined at the 2023 EGS members meeting.

2. Application

The purpose of this dataset is to represent an agreed set of clinical information which can be collected on patients undergoing IOP lowering procedures (surgical or laser procedures). As well as defining the items to be collected, the dataset also describes the data type for each clinical variable. Each item is categorised according to the scheme in the following table.

Category	
Mandatory	Data items which are essential for all applications, and must be collected
Desirable	Advised as valuable for audit or knowledge extraction purposes
Optional	Data items which are required for some applications, and may be collected

3. Scope

This dataset applies to patients undergoing surgical or laser IOP lowering procedures for glaucoma or ocular hypertension, including trabeculectomy, glaucoma drainage device surgery, non-penetrating glaucoma surgery, other bleb-forming surgeries, minimally invasive glaucoma surgery (MIGS), cyclodiode laser, and selective laser trabeculoplasty (SLT). The dataset also applies to bleb needling and bleb revision procedures aiming to lower IOP undertaken 12 months or more after the initial glaucoma surgery. Needling and bleb revision procedures undertaken within 12 months of the initial surgery should not be included as index procedures. Re-operations for complications of glaucoma surgery should also not be included as index procedures. The primary aim is to measure the efficacy of IOP lowering procedures. The dataset captures information on the operated eye only (index eye).

4. Principles

The data set is designed to comply with the following principles.

- 1. The data set should be a subset of information routinely collected The intention is not to burden already busy clinicians with additional work, so the data set should be constructed of items that are, or should be, recorded as part of the routine clinical management of the patient.
- 2. Items not required for likely analysis should be excluded
 The collection of data requires time and effort, and therefore the total number of items
 should be kept to a minimum. The range of analyses likely to be conducted on the data is
 largely predictable, and items not required for these analyses should be excluded.
- 3. Items in common with other College data sets should be congruent Several data items (for example visual acuity, IOP) will be common to other ophthalmic data sets. It makes sense to ensure that only one definition for each item is used throughout all data sets, particularly within a subspecialty.
- 4. The data set should be capable of implementation in an electronic patient record It is likely that the maximum benefit of the data set will only be achieved when information is being routinely collected using electronic patient record systems. It is therefore essential that it is capable of being implemented electronically.

5. Data types

Each item of the data set has a data type, from the list below. These correspond to data types available in most relational database management systems (RDMS), which generally form the core of EPR systems.

Туре	Description
NULL	A special entity representing an uncertain or unassigned value.
INTEGER	An integer value, normally unsigned (i.e. zero or positive values)
FLOAT	A floating-point value, positive or negative
BOOL	A value representing true or false
STRING	A value containing text (alphanumeric data) of unspecified length
ENUM	A value which represents one of a limited range of values
DATE	A value representing a date
DATETIME	A value representing a date and time

6. Glaucoma procedure dataset

Item	Description	Values/ Format
Patient ID	An identifier which will uniquely identify the patient. In England and Wales this could be the NHS number and in Scotland the CHI number. This would be removed in anonymised data sets.	
Year of birth	Patient's year of birth	INTEGER
Sex	Patient's Sex	ENUM (Male, Female)
Consultant	Identifier for consultant in charge of patient (to allow individual audits)	INTEGER
Ethnic category	The ethnicity of the patient using the classification used for the 2011 census.	ENUM (British, Irish, Any other White background, White and Black Caribbean, White and Black African, White, and Asian, Any other mixed background, Indian, Pakistani, Bangladeshi, Any other Asian background, Caribbean, African, Any other Black background, Chinese, Any other ethnic.

7. Pre-operative data

Preoperative data should be obtained from the visit immediately prior to or including the date of surgery. A 'look-back period' of up to 12 months from the date of surgery is permitted, with the most recent result used for each test. Data will only be collected for the index eye.

Item	Description	Values/ Format		
Pre-operative data				
Eye Laterality	Eye undergoing surgery (index eye)	ENUM (Right, Left)		
Type of glaucoma	Type of glaucoma in index eye	ENUM (See Appendix 1 - glaucoma preferred SNOMED terms)		
Visual acuity	Best recorded acuity in index eye	Visual acuity		
Ocular co-pathology	Ocular co-pathology (same categories used for cataract dataset)	ENUM (Corneal pathology, Uveitis, Vitreous opacification, diabetic retinopathy, age related macular degeneration, other macular pathology, retinal vascular occlusion, no view of fundus, optic nerve/CNS disease, Amblyopia (in eye for surgery), Other(specify))		
Prior refraction	Estimated refractive error in index eye prior to any form of refractive or cataract surgery. Look back period of any duration permitted.	ion ENUM (Myopia, Emmetropia, Hypermetropia)		
Refraction	Refractive error in index eye prior to any form of refractive or cataract as spherical equivalent. Look back period of any duration permitted.	FLOAT		
Axial length	Axial length of index eye (mm) Look back period of any duration permitted.	FLOAT		
CCT	Central corneal thickness in index eye (um). Look back period of any duration permitted.	INTEGER		
Anticoagulation	Use of anticoagulation (warfarin, any NOAC, heparin, any LMWH, clopidogrel, dipyridamole, but EXCLUDING aspirin)	BOOL (TRUE OR FALSE)		
Previous ocular surgery	Previous ocular surgery			
Date of cataract surgery	If pseudophakic or aphakic, date of previous cataract surgery to index eye. Date of surgery will coincide with the date of glaucoma surgery if performed as a combined procedure.	DATE or NULL		

Lens	Status of lens in index eye	ENUM (Phakic, Phakic cataract, Aphakic, Aphakic Soemmerring ring,
		PC IOL, AC IOL, Phakic IOL, Angle supported IOL, Iris clip IOL)
Date of previous glaucoma procedures	Date of previous glaucoma surgery to index eye	DATE or NULL
Class of previous glaucoma procedure	Class of any previous glaucoma procedures to index eye (See Appendix 2 for further explanation of categories)	ENUM(None, trabeculectomy and related surgery, microshunts, aqueous shunts, non-penetrating glaucoma surgery, suprachoroidal drainage surgery, canal-based surgery, angle surgery, trabecular meshwork laser, iris laser, ciliary body surgery or laser)
Specific previous glaucoma procedures	Specific previous glaucoma procedures to index eye	ENUM (See Appendix 2 - Glaucoma procedures)
Other previous eye surgery	Any other previous non-glaucoma surgery to index eye	ENUM (list of other eye operations
Pre-op IOP		
Date of IOP	Date of most recent IOP measurement in index eye during look back period from date of surgery (must match date of medications)	DATE
IOP measurement method	Device used for tonometry for pre-op measurement	ENUM (applanation tonometer, ocular response analyzer, rebound tonometer, Tonopen, Pneumotonometer, other non-contact tonometer)
IOP index eye	Intraocular pressure in mmHg (IOPg should be used if using ocular response analyzer)	FLOAT
Number of topical glaucoma medications	Number of individual topical glaucoma medications taken to index eye (fixed dose combinations count as two medications)	INTEGER
Medication date	Date of medication number (must match date of IOP)	DATE
Oral acetazolamide	Was the patient taking oral acetazolamide on day of or day prior to IOP assessment?	BOOL (TRUE OR FALSE)
Peak IOP	Highest known IOP in index eye prior to surgery (in mmHg)	FLOAT
Date peak IOP	Date of peak IOP	DATE
Visual Fields		
Date of visual field	Date of most recent automated threshold visual field in index eye during look back period from date of surgery	DATE or NULL

VF test strategy	Visual field test strategy ENUM (Humphrey SITA Standard 24-2, Humphrey SITA Standard 10 Humphrey SITA Faster 24-2, Humphrey SITA Standard 10 SITA Fast 10-2, Humphrey SITA Faster 10-2, Other(specify	
Mean Deviation	Visual field mean deviation	FLOAT
Visual Field Index	Visual field index	FLOAT
VF False positives (%)	Visual field false positive percentage	INTEGER
Other tests		
Date of Optic Disc OCT	Date of most recent OCT RNFL in index eye during look back period from date of surgery	DATE or NULL
OCT device	Type of OCT device	ENUM (Topcon, Heidelberg, Ziess, Other)
Average RNFL thickness (micons)	Average RNFL thickness from OCT in index eye	FLOAT
Date of specular microscopy	Date of most recent specular microscopy in index eye	DATE or NULL
Corneal endothelial cell density	Central endothelial cell density measured by specular microscopy (cells/mm²)	INTEGER

8. Operation note

Common elements

Item	Description	Values/ Format
Admission type	Type of admission	ENUM (Outpatient, Day case, Inpatient)
Date	Date of surgery	DATE
Surgeon	Identifier for primary surgeon (to allow indvidual audits)	INTEGER
Surgeon grade	Grade of primary surgeon	ENUM (Consultant, Fellow, Specialist Registrar, other)
Anaesthetic	Type of anaesthetic	ENUM (Topical, Peribulbar, SubTenon, General, LAS) – allow more than one type

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Surgery note

Item	Description	Values/ Format		
Glaucoma procedure performed	Glaucoma procedure performed	ENUM (See Appendix 2 - Glaucoma procedures)		
IOP lowering revision glaucoma surgery	Is this procedure a revision of a previous glaucoma procedure and does it aim to lower IOP? Answer no if primary procedure or surgery is not at primary site, e.g. answer no for second trabeculectomy in same eye.	BOOL (TRUE OR FALSE)		
Mitomycin C (MMC)	Was MMC used intraoperatively?	BOOL (TRUE OR FALSE)		
MMC concentration	If used, concentration of MMC (in mg/ml)	FLOAT		
MMC duration	If used, MMC duration	ENUM (1 minute, 2 minutes, 3 minutes, 4 minutes, 5 minutes, subconjunctival injection)		
5- Fluorouracil (5FU)	Was 5FU used intraoperatively?	BOOL (TRUE OR FALSE)		
5-FU concentration	If used, concentration of 5FU (in mg/ml	FLOAT		
Other anti-scarring treatment at time of surgery	Was any other anti-scarring treatment used at the time of surgery? E.g. beta-irradiation	ENUM(beta-irradiation, anti-VEGF, other)		
Lens surgery	Was the glaucoma procedure combined with cataract surgery?	BOOL (TRUE OR FALSE)		
Cataract surgery complications	Unplanned events occurring during cataract surgery that in the opinion of the operating surgeon would potentially adversely affect the outcome	ENUM (Phaco wound burn, corneal oedema, iris damage/trauma, iris prolapse, hyphaema, simple zonule dialysis, zonule rupture no vitreous loss, zonule rupture with vitreous loss, PC rupture no vitreous loss, PC rupture with vitreous loss, lens fragments into vitreous, decentred IOL, IOL into vitreous, IOL exchange, choroidal /expulsive haemorrhage, operation cancelled, other)		
Glaucoma surgery intraoperative complications	Unplanned events occurring during glaucoma surgery that in the opinion of the operating surgeon would potentially affect the outcome (for procedures combined with cataract surgery, intraoperative complications related to cataract surgery are recorded separately)	ENUM(conjunctival tear, hyphaema, scleral perforation, vitreous loss, endothelial cell damage, iris damage, lens damage, aqueous misdirection, cyclodialysis cleft, device malposition, device removed, device not inserted, operation cancelled, other)		

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9. Postoperative data

Postoperative Interventions, complications, and re-operation for glaucoma (Multiple dates and interventions permissible)

ltem	Description	Values/ Format
Postoperative Interventions	Post-operative interventions not classified as complications. Note needling procedures undertaken more than 12 months after initial surgery should be treated as new index procedure.	ENUM (Removal of intraluminal stent from GDD, laser suture lysis, removal of releasable suture, 5-fluorouracil subconjunctival injection, MMC subconjunctival injection, Bevacizumab subconjunctival injection, rTPA intracameral injection, needling < 12 months after initial surgery, anterior chamber reformation performed at slit lamp, paracentesis, re-suture wound, subconjunctival steroid, laser iridotomy, laser iridoplasty, other(specify))
Date of postoperative intervention		DATE or NULL
Postoperative complications		ENUM (See Appendix 3)
Date of postoperative complication	Date complication first noted	DATE or NULL
Reoperation for complication	Additional surgery for glaucoma performed in the operating theatre (or vitreous tap, injection of intravitreal antibiotics performed in any setting).	ENUM(bleb revision for low pressure, bleb revision for high pressure <12 months after initial surgery, bleb revision for exposure, bleb revision for leak, vitreous tap, injection of intravitreal antibiotics, pars plana vitrectomy, drainage of choroidal effusions, removal of device, repositioning of device, strabismus surgery, other(specify))
Re-operation for glaucoma	Additional IOP lowering surgery for glaucoma performed in the operating theatre (or cyclodiode performed in any setting).	ENUM (See Appendix 2 - Glaucoma procedures)
Date of re-operation for glaucoma		DATE or NULL

12-to-24-month window outcomes

12-to-24-month outcome data should be obtained from the first visit after (or including) 12 months, but less than 24 months following surgery. If data are not available for all tests from the same visit, data should be taken from the first visit after (or including) and closest to 12 months but less than 24 months following surgery from which each test is available.

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Item	Description	Values/ Format		
12-month date	Date of first visit during ≥12 to <24-month window following surgery	DATE		
Visual acuity	Best recorded acuity in index eye Visual acuity			
First IOP during ≥12 to <24-mo	onth window following surgery			
Date of IOP	Date of first IOP measurement in index eye during ≥12 to <24-month window (must match date of medications)	DATE or NULL		
IOP measurement method	Device used for tonometry	ENUM (applanation tonometer, ocular response analyser, rebound tonometer, other non-contact tonometer, Tonopen)		
IOP index eye	Intraocular pressure in mmHg (IOPg should be used if using ocular response analyser)	FLOAT		
Number of topical glaucoma medications	Number of individual topical glaucoma medications taken to index eye (fixed dose combinations counted as two medications)	INTEGER		
Medication date	Date of medication number (must match date of IOP)	DATE or NULL		
Oral acetazolamide	Was the patient taking oral acetazolamide on day of or day prior to IOP assessment?	BOOL (TRUE OR FALSE)		
First visual field during ≥12 to	<24-month window following surgery			
Date of visual field	Date of first 24-2 threshold visual field during ≥12 to <24-month window	DATE or NULL		
VF test strategy	Visual field test strategy	ENUM (Humphrey SITA Standard 24-2, Humphrey SITA Fast 24-2, Humphrey SITA Faster 24-2, Humphrey SITA Standard 10-2, Humphrey SITA Fast 10-2, Humphrey SITA Faster 10-2, Other(specify)		
Mean Deviation	Visual field mean deviation	FLOAT		
Visual Field Index	Visual field index	FLOAT		
VF False positives (%)	Visual field false positive percentage	INTEGER		
First OCT during ≥12 to <24-m	onth window following surgery			
Date of OCT RNFL scan	Date of first OCT during ≥12 to <24-month window	DATE or NULL		
OCT device	Type of OCT device used	ENUM (Topcon, Heidelberg, Zeiss)		
Average RNFL thickness from OCT in index eye	Average circumpapillary RNFL thickness	INTEGER		
Date of most recent specular microscopy in index eye after and closest to 12 months following surgery	Date of first specular microscopy during ≥12 to <24-month window	DATE or NULL		
Central endothelial cell density	Measured by specular microscopy (cells/mm²)	INTEGER		

The same data should be collected during a 24-to-36-month window and annually thereafter.

10. Authors

- Ian Rodrigues FRCOphth
- Anthony Khawaja FRCOphth
- Andrew J Tatham FRCOphth

On behalf of The Royal College of Ophthalmologists Informatics and Audit Sub-committee

Appendix 1. Glaucoma SNOMED diagnosis terms

Disorder	Aetology	Status	Non lateralised term		La	teralised term	Notes
None			1109141000000102	No evidence of	1296749001	No evidence of glaucoma of left eye	
None		1109141000000102	glaucoma (situation)	1296748009	No evidence of glaucoma of right eye		
				Driver	1296752009	Primary ocular hypertension of left eye (disorder)	
	Primary		1110081000000100	Primary ocular	1296751002	Primary ocular hypertension of right eye	
	,			hypertension (disorder)	1296754005	Primary ocular hypertension of bilateral eyes (disorder)	
					1296780006	Ghost cell ocular hypertension of left eye	
			1285573001	Ghost cell ocular	1296779008	Ghost cell ocular hypertension of right eye	
				hypertension (disorder)	1296835001	Bilateral ghost cell ocular hypertension	
				Ocular hypertension due	1296836000	Hemolytic ocular hypertension of left eye	
				to hemolysis following	1296838004	Hemolytic ocular hypertension of right eye	
			1286829004	intraocular hemorrhage (disorder)	1296837009	Bilateral haemolytic ocular hypertension	
						Ocular hypertension of left eye due to	
					1296839007	anterior segment anomaly	
				Ocular hypertension due		Ocular hypertension of right eye due to	
		1286804005	to anterior segment	1296840009	anterior segment anomaly		
				anomaly (disorder)		Bilateral ocular hypertension due to	
Ocular					1296841008	anterior segment anomaly	
hypertension					Ocular hypertension of left eye due to		
			O a vida u la vida u a i a u	Ocular hyportopolog due	1296544008	ocular vascular disorder	
	Secondary	1285719009	Ocular hypertension due to ocular vascular disorder (disorder)	1296601002	Ocular hypertension of right eye due to ocular vascular disorder		
					Bilateral ocular hypertension due to ocular		
					1296545009	vascular disorder	
				Ocular hypertension due		Ocular hypertension of left eye due to	
					1296717001	angle recession	
		1285572006	to angle recession		Ocular hypertension of right eye due to		
			1203372000	(disorder)	1296718006	angle recession	
				(district)		Bilateral ocular hypertension due to angle	
					1296719003	recession	
						Ocular hypertension of left eye due to	
				Ocular hypertension due	1296699007	increased episcleral venous pressure	
			1286787007	to increased episcleral		Ocular hypertension of right eye due to	
			007.07.007	venous pressure	1296700008	increased episcleral venous pressure	
				(disorder)		Bilateral ocular hypertension due to	
					1296701007	increased episcleral venous pressure	

			40000000	Ocular hypertension of left eye due to	
		Ocular hypertension due to intraocular hemorrhage (disorder)	1296702000	intraocular haemorrhage	
	1285739008		400070000	Ocular hypertension of right eye due to	
			1296703005	intraocular hemorrhage	
			1296704004	Bilateral ocular hypertension due to intraocular hemorrhage	
			1230704004	intraoculai nemornage	Release
			1336216009	Ocular hypertension due to intraocular neoplasm of left eye	date 1 June 2024
	1285575008	Ocular hypertension due to intraocular neoplasm (disorder)	1336217000	Ocular hypertension due to intraocular neoplasm of right eye	Release date 1 June 2024
			1336218005	Bilateral ocular hypertension due to intraocular neoplasm	Release date 1 June 2024
		Ocular hypertension due	1296619006	Ocular hypertension of left eye due to ocular surgery	
	1285707001	to ocular surgery (disorder)	1296618003	Ocular hypertension of right eye due to ocular surgery	
			1296620000	Bilateral ocular hypertension due to ocular surgery	
		Ocular hypertension due to ocular vascular	4000=44000	Ocular hypertension of left eye due to	
			1296544008	ocular vascular disorder	
	1285719009		1296601002	Ocular hypertension of right eye due to ocular vascular disorder	
		disorder (disorder)	1290001002	Bilateral ocular hypertension due to ocular	
			1296545009	vascular disorder	
			1296484001	Ocular hypertension of left eye due to retinal detachment	
	1285731006	Ocular hypertension due to retinal detachment (disorder)	1296483007	Ocular hypertension of right eye due to retinal detachment	
		(disorder)	1296485000	Bilateral ocular hypertension due to retinal detachment	
		Ocular hypertension	1296478004	Ocular hypertension of left eye caused by silicone oil	
	1285579002	caused by silicone oil (disorder)	1295530007	Ocular hypertension of right eye caused by silicone oil	
		(3.551461)	1295532004	Bilateral ocular hypertension caused by silicone oil	
	1285740005	Ocular hypertension due to systemic syndrome	1295514004	Ocular hypertension of left eye due to systemic syndrome	
	.2557 10000	(disorder)	1295515003	Ocular hypertension of right eye due to systemic syndrome	

			Bilateral ocular hypertension due to	
		1295516002	systemic syndrome	
		1295510008	Phacolytic ocular hypertension of left eye	
400000000	Ocular hypertension due		Phacolytic ocular hypertension of right	
1286830009	to disorder of lens	1295511007	eye	
	(disorder)	1295512000	Bilateral phacolytic ocular hypertension	
			Glaucomatocyclitic crisis of left eye	
	Glaucomatocyclitic crisis	1296842001	(disorder)	
29538005	(disorder)	1296843006	Glaucomatocyclitic crisis of right eye	
	,	1296844000	Bilateral glaucomatocyclitic crisis	
			Ocular hypertension of left eye due to	
		1296690006	aphakia	
	Ocular hypertension due		Ocular hypertension of right eye due to	
1110121000000102	to aphakia (disorder)	1296691005	aphakia	
	(, , , , , , , , , , , , , , , , , , ,		Bilateral ocular hypertension due to	
		1296692003	aphakia	
			Ocular hypertension of left eye due to	
		1296705003	neovascularisation	
1110101000000100	Ocular hypertension due to neovascularization (disorder)		Ocular hypertension of right eye due to	
1110131000000100		1296706002	neovascularisation	
			Bilateral ocular hypertension due to	
		1296711000	neovascularisation	
			Ocular hypertension of left eye due to	
		1296613007	ocular trauma	
1440444000000100	Ocular hypertension due		Ocular hypertension of right eye due to	
1110141000000109	to ocular trauma	1296543002	ocular trauma	
	(disorder)		Bilateral ocular hypertension due to ocular	
		1296614001	trauma	
			Ocular hypertension of left eye due to	
	Ocular burgartancia:	1296602009	pigment dispersion syndrome	
1110101000000106	Ocular hypertension due to pigment dispersion		Ocular hypertension of right eye due to	
111010100000106	syndrome (disorder)	1296610005	pigment dispersion syndrome	
	syndrome (disorder)		Bilateral ocular hypertension due to	_
		1296612002	pigment dispersion syndrome	
			Ocular hypertension of left eye due to	
	Opular humantanaism.	1296616004	pseudoexfoliation	
111000100000100	Ocular hypertension due		Ocular hypertension of right eye due to	
1110091000000103	to pseudoexfoliation	1296615000	pseudoexfoliation	
111000100000100	(disorder)		Bilateral ocular hypertension due to	
111000100000100	,			
1110001000000100		1296617008	pseudoexfoliation	
62011000000100	,	1296617008	pseudoexfoliation Ocular hypertension of left eye caused by	

				Ocular hypertension caused by corticosteroid	1296477009	Ocular hypertension of right eye caused by corticosteroid Bilateral ocular hypertension caused by						
				(disorder)	1296479007	corticosteroid						
				Ocular hypertension due		Ocular hypertension of left eye due to						
					1295508006	uveitis						
			1110111000000108		1295507001	Ocular hypertension of right eye due to uveitis						
					1295509003	Bilateral ocular hypertension due to uveitis						
					1295498000	Secondary ocular hypertension of left eye	To be used					
				Secondary ocular	1200 100000	Secondary ocular hypertension of right	only if above					
			1110151000000107	hypertension (disorder)	1295500004	eye	options are not					
					1295502007	Bilateral secondary ocular hypertension	applicable					
				1295493009	Ocular hypertension of left eye	To be used						
	Not specified	4210003	Ocular hypertension	1295492004	Ocular hypertension of right eye	only if above						
		Not specified	Not specifie	u	4210003	(disorder)			options are not			
				1295494003	Bilateral ocular hypertension	applicable						
				Primary angle closure suspect (disorder)	1296999005	Primary angle closure suspect of left eye						
			1128111000000103		1296998002	Primary angle closure suspect of right eye						
					1297000008	Bilateral primary angle closure suspect						
			1111471000000102	Acute primary angle closure (disorder)	1296986007	Acute primary angle closure of left eye						
	Primary				1296987003	Acute primary angle closure of right eye						
				Primary angle closure (disorder)	1296989000	Bilateral acute primary angle closure						
		NI			1297223003	Primary angle closure of left eye						
		Non-acute 1	1111561000000108		1297222008	Primary angle closure of right eye						
					1297224009	Bilateral primary angle closure Acute angle closure of left eye due to						
Angle Closure					1297245002	neovascularisation						
(no glaucoma)			4444504000000400	Acute angle closure due to neovascularization		Acute angle closure of right eye due to						
giaucomaj			1111521000000100	(disorder)	1297246001	neovascularization						
				(disorder)		Bilateral acute angle closure due to						
					1297247005	neovascularisation						
	Secondary	ondary Acute		A. da anala da a	1297257006	Acute angle closure of left eye due to uveitis						
			1111491000000103	Acute angle closure due to uveitis (disorder)	1297256002	Acute angle closure of right eye due to uveitis						
					1297258001	Bilateral acute angle closure due to uveitis						
								1111511000000106		1297346004	Phacomorphic secondary acute angle closure of left eye	

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				Phacomorphic	1297345000	Phacomorphic secondary acute angle closure of right eye		
				secondary acute angle	1287343000	Phacomorphic secondary acute angle		
				closure (disorder)	1297347008	closure of bilateral eyes		
					1231341000	Postoperative acute angle closure of left		
					1297336001	eye		
				Postoperative acute	1237330001	Postoperative acute angle closure of right		
			1286844003	angle closure (disorder)	1297335002	eve		
				angle closure (disorder)	1237333002	Bilateral postoperative acute angle		
					1297337005	closure		
					1297337003	Acute angle closure of left eye caused by		
					1297226006	drug		
				Acute angle closure	1291220000	Acute angle closure of right eye caused		
			1285709003	caused by drug	1297225005	by drug		
				(disorder)	1231223000	Bilateral acute angle closure caused by		
					1297227002	,		
					1231221002	Acute angle closure of left eye due to		
				Acute angle closure due to congenital malformation of angle of		congenital malformation of angle of		
					1297260004	anterior chamber of left eye		
					1297200004			
			1286832001			Acute angle closure of right eye due to congenital malformation of angle of		
		_	1200032001	anterior chamber of eye	1297259009	anterior chamber of right eye		
				(disorder)	1291209009	Acute angle closure of bilateral eyes due		
					(disorder)		to congenital malformation of angle of	
					1297261000	anterior chamber of bilateral eyes		
							1297304008 Secondary acute angle closure of left ey	
					1297304000		only if above	
			1111481000000100	Secondary acute angle	1207202002	Secondary acute angle closure of right	options are	
				closure (disorder)	1297303002	eye	not	
					1297305009	Bilateral secondary acute angle closure	applicable	
				Angle closure squaed by	1297333009	Angle closure of left eye caused by drug		
			1285708006	Angle closure caused by drug (disorder)	1297332004	Angle closure of right eye caused by drug		
				urug (uisorder)	1297334003	Bilateral angle closure caused by drug		
						Angle closure of left eye due to congenital		
		Non-acute				malformation of angle of anterior chamber		
				Angle closure due to	1297340005	of left eye		
				congenital malformation		Angle closure of right eye due to		
			1286831008	of angle of anterior		congenital malformation of angle of		
			chamber of eye	1297339008	anterior chamber of right eye			
				(disorder)		Bilateral angle closure due to congenital		
						malformation of angle of anterior chamber		
					1297341009	of bilateral eyes		
			1286843009		1297056007	Postoperative angle closure of left eye		

				Postoperative angle	1297054005	Postoperative angle closure of right eye	
				closure (disorder)	1297058008	Bilateral postoperative angle closure	
				,		Angle closure of left eye due to	
				Anala alagues de se	1297023006	iridocorneal endothelial syndrome	
			4000054007	Angle-closure due to		Angle closure of right eye due to	
			1286851007	iridocorneal endothelial	1297022001	iridocorneal endothelial syndrome	
				syndrome (disorder)		Bilateral angle closure due to iridocorneal	
					1297024000	endothelial syndrome	
		40000				Secondary angle-closure of left eye -	
				Anala alaguna dua ta	1300229003	synechial	
			1206052005	Angle-closure due to		Secondary angle-closure of right eye -	
			1286853005	posterior synechiae (disorder)	1300227001	synechial	
				(disorder)		Secondary angle-closure of bilateral eyes	
					1300230008	- synechial	
						Angle closure of left eye due to	
				Angle clearing due to	1297343007	neovascularisation	
			1111551000000105	Angle closure due to neovascularization		Angle closure of right eye due to	
			1111551000000105	(disorder)	1297342002	neovascularization	
						Bilateral angle closure due to	
					1297344001	neovascularisation	
			Angle closure due to	1297061009	Angle closure of left eye due to uveitis		
			1111541000000107		1297060005	Angle closure of right eye due to uveitis	
			uveitis (disorder)	1297062002	Bilateral angle closure due to uveitis		
			232080006	Plateau iris (disorder)	1296744006	Plateau iris of left eye	
		232			1296745007	Plateau iris of right eye	
					1296746008	Plateau iris of bilateral eyes	
					1297020009	Secondary angle closure of left eye	To be used
			1111501000000100	Secondary angle	1297019003	Secondary angle closure of right eye	only if above
			1111531000000103	closure (disorder)			options are
				,	1297021008	Bilateral secondary angle closure	not applicable
					1297002000	Acute angle closure of left eye	To be used
	Not			Acute angle closure	1297001007	Acute angle closure of right eye	only if above
	specified	Acute	1111451000000106	(disorder)			options are
	Specifica			(disorder)	1297004004	Bilateral acute angle closure	not applicable
		1			1237004004	Primary angle closure glaucoma of left	applicable
					1303339006	eye	
	Primary			Primary angle-closure	130000000	Primary angle closure glaucoma of right	
Angle Closure				glaucoma (disorder)	1303338003	eye	
Glaucoma			392288006		13033340008	Bilateral primary angle closure glaucoma	
			55220000		10000-0000		
	Secondary		1285332001		1285717006		
	Secondary		1285332001		1285717006	Drug-induced angle closure glaucoma of left eye	

	Angle closure glaucoma caused by drug	1285716002	Drug-induced angle closure glaucoma of right eye	
	(disorder)	1285718001	Drug-induced angle closure glaucoma of bilateral eyes	
	Glaucoma due to	1306787006	Glaucoma of left eye due to congenital chamber angle anomaly	Release date 1 May 2024
	congenital malformation of angle of anterior chamber of eye	1306782000	Glaucoma of right eye due to congenital chamber angle anomaly	Release date 1 May 2024
193552006	(disorder)	1306789009	Bilateral glaucoma due to congenital chamber angle anomaly	Release date 1 May 2024
	Aqueous humor	678471000119107 678481000119105	Aqueous humor misdirection of left eye Aqueous humor misdirection of right eye	
370504007	misdirect (disorder)	349231000119108	Bilateral aqueous humor misdirection of eyes	
		1331894003	Neovascular angle closure glaucoma of left eye	Release date 1 May 2024
	Neovascular angle closure glaucoma (disorder)	1331893009	Neovascular angle closure glaucoma of right eye	Release date 1 May 2024
232086000	,	1331895002	Bilateral neovascular angle closure glaucoma	Release date 1 May 2024
	Phacomorphic angle	1306768000	Phacomorphic glaucoma of left eye	Release date 1 May 2024
	closure glaucoma due to disorder of lens	1306778002	Phacomorphic glaucoma of right eye	Release date 1 May 2024
392300000	(disorder)	1306777007	Bilateral phacomorphic angle closure glaucoma	Release date 1 May 2024
		1304031008	Postoperative angle closure glaucoma of left eye	Release date 1 May 2024
	Postoperative angle- closure glaucoma (disorder)	1304033006	Postoperative angle closure glaucoma of right eye	Release date 1 May 2024
89215000	, ,	1304032001	Bilateral postoperative angle closure glaucoma	Release date 1 May 2024

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				Secondary angle-	1304267008	Secondary angle-closure glaucoma of left eye due to iridocorneal endothelial syndrome	Release date 1 May 2024
				closure glaucoma due to iridocorneal endothelial syndrome (disorder)	1304266004	Secondary angle-closure glaucoma of right eye due to iridocorneal endothelial syndrome	Release date 1 May 2024
			1137633000	Syndrome (disorder)	1304268003	Bilateral secondary angle-closure glaucoma due to iridocorneal endothelial syndrome	Release date 1 May 2024
				Angle closure glaucoma	1306329005	Angle closure glaucoma of left eye due to peripheral anterior synechiae	Release date 1 May 2024
			due to peripheral anterior synechiae (disorder)	1306328002	Angle closure glaucoma of right eye due to peripheral anterior synechiae	Release date 1 May 2024	
			314784002	(3.55.55.)	1306330000	Bilateral angle closure glaucoma due to peripheral anterior synechiae	Release date 1 May 2024
			Secondary angle-	1306332008	Secondary angle closure glaucoma of left eye Secondary angle-closure glaucoma of	To be used	
			closure glaucoma (disorder)	1306331001	right eye Bilateral secondary angle closure	only if above options are not	
			21571006		1306333003	glaucoma	applicable
					1306301007	Angle closure glaucoma of left eye	To be used
	Not specifie	nd.		Angle-closure glaucoma	1306298008	Angle closure glaucoma of right eye	only if above options are
	Not specifie	zu		(disorder)	157367210001191		not
			392291006		06	Bilateral angle-closure glaucoma	applicable
					1003615005	Open angle glaucoma suspect of left eye	
	Not	Suspect		Open angle glaucoma	1003616006	Open angle glaucoma suspect of right eye	
	specified		1003614009	suspect (disorder)	1003617002	Open angle glaucoma suspect of bilateral eyes (disorder)	
Onen Angle					1306884006	Normal pressure primary open-angle glaucoma of left eye	Release date 1 May 2024
Open Angle Glaucoma		Normal pressure		Normal pressure primary open-angle glaucoma (disorder)	1306885007	Normal pressure primary open-angle glaucoma of right eye	Release date 1 May 2024
			788995007	- ,	1306886008	Normal pressure primary open-angle glaucoma of bilateral eyes	Release date 1 May 2024
		Increased pressure	77075001	Primary open angle glaucoma (disorder)	1306287007	Primary open angle glaucoma of left eye	Release date 1 May 2024

Angle recession glaucoma (disorder) 392352004 Secondary glaucoma due to aphakia (disorder) 15374009 Open angle glaucoma caused by drug (disorder) 1306289005 Angle recession glaucoma of language recession glaucoma of left eye days at language recession glaucoma of left eye days at language recession glaucoma of left eye days at language recession glaucoma of langua	Release date 1 May of right eye 2024
Angle recession glaucoma (disorder) 1306607000 Angle recession glaucoma of 1 392352004 1306869002 Secondary glaucoma due to aphakia (disorder) 15374009 Open angle glaucoma caused by drug (disorder) 1306869002 348811000119108 Aphakic glaucoma of left eye due to aphakia (disorder) 348361000119103 Aphakic glaucoma of right eye due to aphakic glaucoma of right eye open angle glaucoma of right eye due to aphakic glaucoma of right eye approach of the properties of the p	2024
glaucoma (disorder) 1306607000 Angle recession glaucoma of 1 392352004 Secondary glaucoma due to aphakia (disorder) 15374009 Open angle glaucoma caused by drug (disorder) 1306869002 Bilateral angle recession glaucoma 348811000119108 Aphakic glaucoma of left eye 348361000119103 Aphakic glaucoma of right eye 349311000119106 Drug-induced open angle glaucoma eye Drug-induced open angle glaucoma right eye	
Secondary glaucoma due to aphakia 348361000119108 Aphakic glaucoma of left eye 348361000119103 Aphakic glaucoma of right eye 349311000119106 Bilateral aphakic glaucoma Drug-induced open angle glaucoma caused by drug 1285712000 eye Drug-induced open angle glaucoma right eye	
due to aphakia (disorder) 348361000119103 Aphakic glaucoma of right eye 349311000119106 Bilateral aphakic glaucoma Drug-induced open angle glau eye Open angle glaucoma caused by drug (disorder) 1285711007 Drug-induced open angle glau right eye	Release date 1 May coma 2024
15374009 (disorder) 349311000119106 Bilateral aphakic glaucoma Open angle glaucoma caused by drug (disorder) 1285711007 Bilateral aphakic glaucoma Drug-induced open angle glau pright eye	
Open angle glaucoma caused by drug (diporter) Open angle glaucoma caused by drug (diporter) 1285711007 Drug-induced open angle glau pright eye)
Open angle glaucoma caused by drug (diporder) Open angle glaucoma 1285712000 eye Drug-induced open angle glaucoma right eye	
caused by drug 1285711007 right eye	
1285710008 Drug-induced open angle glau bilateral eyes	
Secondary Ghost cell glaucoma 1306750003 Ghost cell glaucoma of left eye	
due to and following intraocular hemorrhage (disorder) 1306746005 Ghost cell glaucoma of right expressions of the contraction of the contract	
232088004 1306749003 Bilateral ghost cell glaucoma	Release date 1 May 2024
Glaucoma due to Pending input from paediatric	
anterior segment Pending input from paediatric	
45623002 anomaly (disorder) Pending input from paediatric	
Glaucoma of left eye due to control of the state of the s	ongenital Release date 1 May 2024
congenital malformation of angle of anterior chamber of eye 1306782000 chamber angle anomaly	Release
(disorder) Bilateral glaucoma due to congress of the state of the sta	Release

		1303889009	Glaucoma of left eye due to systemic syndrome	Release date 1 May 2024
	Open angle glaucoma due to systemic syndrome (disorder)	1303890000	Glaucoma of right eye due to systemic syndrome	Release date 1 May 2024
193555008		1303891001	Bilateral glaucoma due to systemic syndrome	Release date 1 May 2024
	Glaucoma due to	1303463002	Glaucoma of left eye due to vascular disorder	
	vascular disorder (disorder)	1303464008	Glaucoma of right eye due to vascular disorder	
19309007	(disorder)	1303462007	Bilateral glaucoma due to vascular disorder	
	Clausema equaed by	1303707002	Glaucoma of left eye caused by silicone oil	
	Glaucoma caused by silicone oil (disorder)	1303702008	Glaucoma of right eye caused by silicone oil	
715144004		1303708007	Bilateral glaucoma caused by silicone oil	
	Glaucoma due to intraocular neoplasm	1303701001	Glaucoma of left eye due to intraocular neoplasm	
		1303706006	Glaucoma of right eye due to intraocular neoplasm	
788947003	(disorder) 947003	1303704009	Bilateral glaucoma due to intraocular neoplasm	
		1336023002	Glaucoma due to cyst of left eye proper	Release date 1 June 2024
	Glaucoma due to ocular cyst (disorder)	1336022007	Glaucoma due to cyst of right eye proper	Release date 1 June 2024
275477002		1336024008	Bilateral glaucoma due to cyst of eye	Release date 1 June 2024
		1336007002	Glaucoma due to cyst of iris of left eye	Release date 1 June 2024
	Glaucoma due to cyst of iris (disorder)	1336008007	Glaucoma due to cyst of iris of right eye	Release date 1 June 2024
1335974003		1336009004	Bilateral glaucoma due to cyst of iris	Release date 1 June 2024

		1335982003	Glaucoma due to cyst of ciliary body of left eye	Release date 1 June 2024
	Glaucoma due to cyst of ciliary body (disorder)	1335980006	Glaucoma due to cyst of ciliary body of right eye	Release date 1 June 2024
1335975002		1335985001	Bilateral glaucoma due to cyst of ciliary body	Release date 1 June 2024
		1303455003	Glaucoma of left eye due to ocular vascular disorder	Release date 1 March 2024
	Glaucoma due to ocular vascular disorder (disorder)	1303454004	Glaucoma of right eye due to ocular vascular disorder	Release date 1 March 2024
193562004		1303456002	Bilateral glaucoma due to ocular vascular disorder	Release date 1 March 2024
		1332297002	Glaucoma due to perforating injury of left eye	Release date 1 May 2024
	Glaucoma due to perforating injury (disorder)	1332298007	Glaucoma due to perforating injury of right eye	Release date 1 May 2024
66725002		1332299004	Bilateral glaucoma due to perforating injury	Release date 1 May 2024
		1303893003	Glaucoma of left eye due to retinal detachment	Release date 1 May 2024
	Glaucoma due to retinal detachment (disorder)	1303892008	Glaucoma of right eye due to retinal detachment	Release date 1 May 2024
788948008		1303894009	Bilateral glaucoma due to retinal detachment	Release date 1 May 2024
		1303889009	Glaucoma of left eye due to systemic syndrome	Release date 1 May 2024
	Glaucoma due to systemic syndrome (disorder)	1303890000	Glaucoma of right eye due to systemic syndrome	Release date 1 May 2024
193555008		1303891001	Bilateral glaucoma due to systemic syndrome	Release date 1 May 2024

		1306878008	Secondary open angle glaucoma of left eye due to ocular surgery	Release date 1 May 2024
	Open angle glaucoma due to ocular surgery (disorder)	1306877003	Secondary open angle glaucoma of right eye due to ocular surgery	Release date 1 May 2024
1285335004	,	1306879000	Bilateral secondary open angle glaucoma due to ocular surgery	Release date 1 May 2024
	Glaucoma with	678441000119100	Glaucoma of left eye due to increased episcleral venous pressure	
	increased episcleral venous pressure	678451000119103	Glaucoma of right eye due to increased episcleral venous pressure	
34623005	(disorder)	678431000119109	Bilateral glaucoma of eyes due to increased episcleral venous pressure	Release
		1306873004	Glaucoma of left eye with intraocular hemorrhage	date 1 May 2024
	Glaucoma with intraocular hemorrhage (disorder)	1306874005	Glaucoma of right eye with intraocular hemorrhage	Release date 1 May 2024
232087009		1306875006	Bilateral glaucoma with intraocular haemorrhage	Release date 1 May 2024
	Glaucoma due to	1304284002	Hemolytic glaucoma of left eye	Release date 1 May 2024
	hemolysis following intraocular hemorrhage (disorder)	1304285001	Haemolytic glaucoma of right eye	Release date 1 May 2024
392030001	(disorder)	1304282003	Bilateral haemolytic glaucoma	Release date 1 May 2024
	Open angle glaucoma	1304035004	Open angle glaucoma of left eye due to neovascularization	Release date 1 May 2024
	due to neovascularization	1304036003	Open angle glaucoma of right eye due to neovascularisation	Release date 1 May 2024
1111401000000105	(disorder)	1304034000	Bilateral open angle glaucoma due to neovascularization	Release date 1 May 2024
1111391000000107		1304027002	Open angle glaucoma of left eye due to ocular trauma	Release date 1 May 2024

		Open angle glaucoma due to ocular trauma	1304029004	Open angle glaucoma of right eye due to ocular trauma	Release date 1 May 2024
		(disorder)	1304030009	Bilateral open angle glaucoma due to ocular trauma	Release date 1 May 2024
		Phacolytic glaucoma	338761000119103	Phacolytic glaucoma of left eye	
		(disorder)	333151000119108	Phacolytic glaucoma of right eye	
	32893002	(disorder)	344531000119107	Phacolytic glaucoma of bilateral eyes	
		Pigmentary glaucoma	338721000119108	Pigmentary glaucoma of left eye	
		(disorder)	333111000119107	Pigmentary glaucoma of right eye	
	46168003	(disorder)	344491000119107	Bilateral pigmentary glaucoma of eyes	
			338481000119100	Pseudoexfoliation glaucoma of left eye	
		Pseudoexfoliation	332871000119103	Pseudoexfoliation glaucoma of right eye	
	111514006	glaucoma (disorder)	344251000119103	Bilateral pseudoexfoliation glaucoma of eyes	
	111314000		722321001	Open angle glaucoma of left eye caused by corticosteroid	
		caused by corticosteroid (disorder)	722329004	Open angle glaucoma of right eye caused by corticosteroid	
	1654001		721898008	Open angle glaucoma of bilateral eyes caused by corticosteroid	
			337081000119109	Uveitic glaucoma of left eye	
		(disorder)	331471000119105	Uveitic glaucoma of right eye	
	314033007	(disorder)	343161000119109	Bilateral uveitic glaucoma of eyes	
			1304261009	Uveitis-glaucoma-hyphema syndrome of left eye	Release date 1 Ma 2024
		Uveitis-glaucoma- hyphema syndrome (disorder)	1304260005	Uveitis-glaucoma-hyphema syndrome of right eye	Release date 1 Ma 2024
	392029006	(5.00.00.)	156798010001191 05	Bilateral uveitis-glaucoma-hyphema syndrome of eyes	Release date 1 Ma 2024
		Secondary open-angle	1303928003	Secondary open-angle glaucoma of left eye	To be use only if abo
		glaucoma (disorder)	1303927008	Secondary open-angle glaucoma of right eye	options are
	21928008		1303929006	Bilateral secondary open-angle glaucoma	applicable
			678471000119107	Aqueous humor misdirection of left eye	
ost-surgical Disorders		Aqueous humor	678481000119105	Aqueous humor misdirection of right eye	
cot ca. givai biooi aoio	370504007	misdirect (disorder)	349231000119108	Bilateral aqueous humor misdirection of eyes	

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		1303981006	Conjunctival blebitis of left eye following glaucoma surgery	Release date 1 May 2024
	Conjunctival blebitis following glaucoma surgery (disorder)	1303983009	Conjunctival blebitis of right eye following glaucoma surgery	Release date 1 May 2024
733310006		1303984003	Bilateral conjunctival blebitis following glaucoma surgery	Release date 1 May 2024
	Dislodgement of plate	1303978001	Dislodgement of plate of left eye due to and following glaucoma drainage surgery	Release date 1 May 2024
	due to and following glaucoma drainage	1303979009	Dislodgement of plate of right eye due to and following glaucoma drainage surgery	Release date 1 May 2024
1217656003	surgery (disorder)	1303980007	Bilateral dislodgement of plates of eyes due to and following glaucoma drainage surgery	Release date 1 May 2024
	Dislodgement of tube	1303742003	Dislodgement of tube of left eye due to and following glaucoma drainage surgery	
	due to and following glaucoma drainage	1303741005	Dislodgement of tube of right eye due to and following glaucoma drainage surgery	
1217658002	surgery (disorder)	1303743008	Bilateral dislodgement of tube of eyes due to and following glaucoma surgery	
		1306878008	Secondary open angle glaucoma of left eye due to ocular surgery	Release date 1 May 2024
	Open angle glaucoma due to ocular surgery (disorder)	1306877003	Secondary open angle glaucoma of right eye due to ocular surgery	Release date 1 May 2024
1285335004	(1306879000	Bilateral secondary open angle glaucoma due to ocular surgery	Release date 1 May 2024

Appendix 2. Classification and coding of glaucoma procedures

Category of surgery	Options	Snomed code	OPCS Code
Trabeculectomy and related surgery	Trabeculectomy	30880003	C60.1
	Bleb needling	408763006	C65.1
	Revision of trabeculectomy	314117007	C65.3
	Other or not-specified surgery related to trabeculectomy	N/A	N/A
Microshunts (tubes without plate)	PreserFlo	N/A	N/A
	Xen	N/A	N/A
	Other or not-specified microshunt surgery	N/A	N/A
Aqueous shunts (tube with plate)	Ahmed tube (FP7)	410443005	C60.5
	Ahmed clear path	410444004	C60.5
	Baerveldt 250	410444004	C60.5
	Baerveldt 350	410444004	C60.5
	Paul tube	410444004	C60.5
	Revision of aqueous shunt	440587008	C75.2
	Other or not-specified glaucoma tube shunt insertion	265291005	C60.5
	Other or not-specified aqueous shunt surgery		
		N/A	N/A
Non-penetrating glaucoma surgery	Deep sclerectomy without spacer	426056001	C52.2
	Deep sclerectomy with spacer	426966006	C52.1
	Viscocanalostomy	31297300	N/A
	Other or not-specified non-penetrating glaucoma surgery	N/A	N/A

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Suprachoroidal drainage surgery	Cypass	N/A	N/A
	iStar Medial STARflo	N/A	N/A
	Other or not-specified suprachoroidal drainage surgery	N/A	N/A
Canal based surgery	iStent / iStent inject / iStent W	819871000000106	C61
	Hydrus	819871000000106	C61
	Other or not-specified insertion of bypass stent through trabecular meshwork	819871000000106	C61
	Kahook Dual Blade	265292003	C61.3
	Trabectome	265292003	C61.3
	Trabeculotomy	N/A	N/A
	Goniotomy	265292003	C61.3
	GATT	265292003	C61.3
	OMNI	N/A	N/A
	iTrack	N/A	N/A
	Viscocanaloplasty	N/A	N/A
	Other canal based glaucoma surgery	N/A	N/A
Cataract surgery	Clear lens extraction for glaucoma	415282007	N/A
	Cataract extraction for any other reason	110473004	C74
Angle surgery	Goniosynechialysis	52150005	N/A
	Viscogonioplasty	81198005	N/A
	Surgical peripheral iridectomy	265289002	C62
	Other angle surgery	N/A	N/A
Trabecular meshwork laser	Selective Laser Trabeculoplasty	392028003	C61.1
	Argon Laser Trabeculoplasty	404636007	C61.1
	Micropulse Laser Trabeculoplasty	172485001	C61.1
	Goniopuncture	202727004	C61.4
	Other laser to trabecular meshwork	N/A	N/A
	I	1	1

Iris laser	Laser peripheral iridotomy Laser iridoplasty Other or not-specified laser treatment to iris	371345007 424830006 N/A	C62 C60.4 N/A
Ciliary body surgery or laser	Endoscopic Cyclophotocoagulation (ECP) Micropulse Transscleral Cyclophotocoagulation Transscleral Cyclophotocoagulation (Diode laser) High intensity focussed ultrasound (HiFU)	35137007 35137007 412733003	C66.4 C66.4
	Other or not-specified treatment to ciliary body	143821000000109 N/A	N/A N/A

N/A = Not available currently

Appendix 3. Postoperative complications

Main complications of glaucoma surgery in bold.

None	Displaced tubes	Injected bleb	Precipitation of exudate	Sympathetic ophthalmia
Accommodative difficulty	Dry cornea	Interface debris	Progression of diabetic retinopathy	Tumour recurrence
Angle closure glaucoma	Dry eye	IOL decentred	Progressive rapid optic	Under correction
Anterior capsulophimosis	Early loss of tubes	IOL in vitreous cavity	neuropathy (wipe out)	Unexpected refractive outcome
Anterior segment ischaemia	Ectasia	Iris incarceration in sclerostomy	Punctate keratitis	Visual loss (worse than 6/60
Bleb dysaesthesia	Encapsulated bleb / Tenons	Iris prolapse	Pupil block	within 6 months of operation)
Bleb leak	cyst	Iris to wound	Recurrence of initial problem	Vitreous haemorrhage
Blebitis	Endophthalmitis	Leaking wound (Seidel +ve)	Reduced colour vision	Vitreous in the AC
Burn creep under fovea	Epistaxis	Loss of field of vision	Reduction in vision	Vitreous prolapse
Cataract	Epithelial ingrowth	Lost / damaged corneal flap	Retained antimetabolite sponge	Vitreous to the section
Central toxic keratopathy	Exposed scleral buckle	Lost muscle	fragment	Webbing of surgical scar
Cheesewiring of tubes	Exposed suture	Macular fold	Retained soft lens matter	Wound dehiscence
Choroidal effusion /	Exposed Tenon's	Malignant glaucoma	Retinal detachment	Wound infection
detachment	External eye infection	Micro-striae	Retinal detachment - non	Wrong operation performed
Choroidal neovascular	Failure	Night vision problems	rhegmatogenous	Not recorded
membrane	Flap dislocation	Nyctalopia	Retinal tear	
Chronic fistula	Flap folds	Onset or progression of	Rupture of choroidal neovascular	Glaucoma device migration
Conjunctival recession	Flap infection	diabetic maculopathy (within 6	membrane	Cyclodialysis cleft
Corneal decompensation	Flat AC: lens-cornea touch	months)	Ruptured section	Bleb dysaesthesia
Corneal epithelial defect	Floaters after operation	Other	Scarring	Irregular astigmatism
Corneal epithelial staining	Foveal burn	Overcorrection	Scleritis	Conjunctival tear
Corneal graft rejection	Giant bleb	Pain	Shallow AC: iris-cornea touch	Glaucoma device related
Corneal haze	Glare	Peripheral anterior synaechiae	Silicone oil filling anterior chamber	peripheral anterior
Corneal oedema / striae /	Globe perforation	Phthisis	Slipped muscle	synechiae
Descemet's folds	Graft shrinkage	Poor cosmetic result	Sterile ulcers	Glaucoma device occlusion

Corneal scarring	Haloes	Posterior capsule opacification	Suprachoroidal haemorrhage
Cystoid macular oedema	Heavy liquid in the anterior	Posterior capsule opacification	Suture granuloma
Decentred ablation	chamber	- YAG indicated	Suture induced corneal abscess
Dellen	Hyperoleon	Posterior synaechiae	
Diffuse lamellar keratitis	Hyphaema	Post-operative eyelid bruising	
Dilated pupil	Hypotonous maculopathy	Post-operative eyelid oedema	
Diplopia	Hypotony	Post-operative ptosis	
	Implant or tube exposure	Post-operative uveitis	
1	1	1	