



**ICHOM**

International Consortium for  
Health Outcomes Measurement

**CATARACTS  
DATA COLLECTION  
REFERENCE GUIDE**

Version 2.0.1

Revised: March 8th, 2017



Measuring

results

that matter

Visual  
acuity

Cataracts



We are thrilled that you are interested in measuring outcomes for your cataract patients according to ICHOM standards. It is our hope that this Reference Guide will facilitate the process of implementing our Standard Set and ensure collection of comparable data for global benchmarking and learning.

# Introducing ICHOM and the Reference Guide

ICHOM brings together patient representatives, clinician leaders, and registry leaders from all over the world to develop Standard Sets, comprehensive yet parsimonious sets of outcomes and case-mix variables we recommend all providers track.

Each Standard Set focuses on patient-centered results, and provides an internationally-agreed upon method for measuring each of these outcomes. We do this because we believe that standardized outcomes measurement will open up new possibilities to compare performance globally, allow clinicians to learn from each other, and rapidly improve the care we provide our patients.

Our Standard Sets include initial conditions and risk factors to enable meaningful case-mix adjustment globally, ensuring that comparisons of outcomes will take into account the differences in patient populations across not just providers, but also countries and regions. We also include high-level treatment variables to allow stratification of outcomes by major treatment types. A comprehensive data dictionary, as well as scoring guides for patient-reported outcomes is included in the appendix.

## Working Group Members for Cataracts

The following individuals dedicated both time and expertise to develop the ICHOM Standard Set for Cataracts in partnership with ICHOM, under the leadership of Professor Mats Lundström, Clinical Director of the European Registry of Quality Outcomes for Cataract and Refractive Surgery (EUROQUO).

**Australia**  
Nigel Morlet  
Konrad Pesudovs

**India**  
Haripriya Aravind  
**Malaysia**  
Goh Pik Pin

**Sweden**  
Mats Lundström  
Anders Boman  
Ingrid Kossler

**United Kingdom**  
John Sparrow  
**United States**  
Suzann Pershing  
Imran Mahmud

## Conditions and Treatment Approaches Covered for Cataracts

For Cataracts, the following conditions and treatment approaches (or interventions) are covered by our Standard Set.

<b>Conditions</b>	Symptomatic Cataract   Asymptomatic Cataract
<b>Treatment Approaches</b>	Phacoemulsification   Sutured Extracapsular Cataract Extraction   Sutureless Extracapsular Cataract Extraction   Intracapsular Cataract Extraction

# ICHOM Standard Set for Cataracts

## Case-Mix Variables

Patient Population	Measure	Supporting Information	Timing	Data Source
<b>Demographic Factors</b>				
All patients	Age	Date of birth	Pre-operative period	Clinical or administrative data
	Sex	Sex at birth		
<b>Baseline Visual Status</b>				
All patients	Pre-operative visual acuity	For surgical eye & fellow eye	Pre-operative period	Clinical
	Target refractive error	For surgical eye		
<b>Ocular Comorbidities</b>				
All patients	Glaucoma	N/A	Pre-operative period	Clinical or administrative data
	Macular degeneration	N/A		
	Diabetic eye disease	N/A		
	Amblyopia	N/A		
	Other	N/A		
<b>Prior Ophthalmic Interventions</b>				
All patients	Previous cataract surgery on fellow eye	N/A	Pre-operative period	Clinical or administrative data
	Previous corneal refractive surgery	N/A		
	Previous vitrectomy	N/A		
	Other	N/A		
<b>Technical Factors</b>				
All patients	Dense brown or white cataract	N/A	Intra-operative period	Clinical or administrative data
	Corneal opacities	N/A		
	Pseudoexfoliation	N/A		
	Pupil problems	N/A		

## Treatment Variables

Patient Population	Measure	Supporting Information	Timing	Data Source
All patients	Surgical technique	N/A	Intra-operative period	Clinical

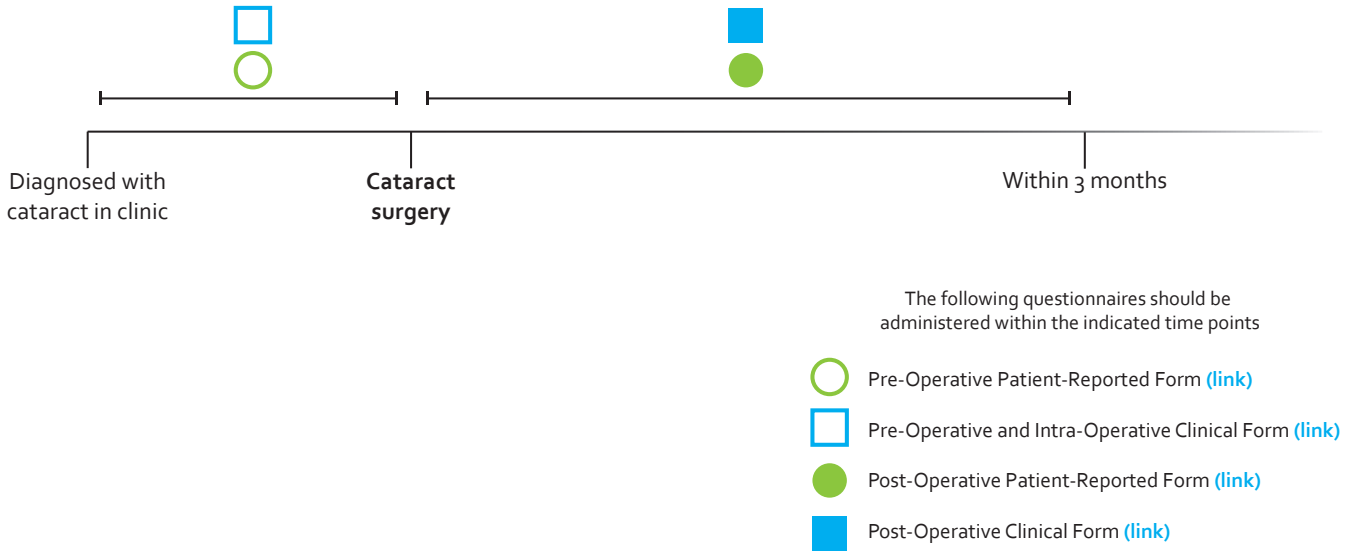
## Outcomes

Patient Population	Measure	Supporting Information	Timing	Data Source
<b>Intra-Operative Complications</b>				
All patients	Capsule problems	N/A	Intra-operative period	Clinical
	Dropped nucleus or lens fragment into vitreous	N/A		
	Other	N/A		
<b>Post-Operative Visual Status</b>				
All patients	Post-operative visual acuity	For surgical eye & fellow eye, assessed separately	Post-operative period	Clinical
	Post-operative refractive error	For surgical eye		
<b>Post-Operative Complications</b>				
All patients	Return to operative theater	Excluding cases unrelated to intra-operative or post-operative complications	Post-operative period	Clinical or administrative data
	Endophthalmitis	N/A		
	Persistent corneal edema	N/A		
	Other	N/A		
<b>Patient-Reported Visual Function</b>				
All patients	Vision-related activity limitation	Tracked via Catquest-9SF	Pre-operative period; Post-operative period	Patient-reported

# Follow-Up Timeline and Sample Questionnaires

The following timeline illustrates when Standard Set variables should be collected from patients, clinicians, and administrative sources. Links to the sample questionnaires may be found in the legend below.

Example 1: Patient diagnosed with cataract and later receives cataract surgery



## Collecting Patient-Reported Outcome Measures

Cataracts Survey Used	Licensing Information	Scoring Guide
Catquest-9SF	The Catquest-9SF is free for all health care organizations, and a license is not needed for use. Contact <a href="mailto:mats.lundstrom@karlskrona.mail.telia.com">mats.lundstrom@karlskrona.mail.telia.com</a> if you have any questions or require translations. A PDF of the Catquest-9SF questionnaire can be found <a href="#">here</a> .	To facilitate the scoring of the Catquest 9-SF, scoring instructions are provided in the Appendix on <a href="#">page 8</a> .

## The Growing ICHOM Community

By implementing the ICHOM Standard Sets, you become part of an expanding, international community of innovative health care providers dedicated to improving value for patients. Already, more than 40 institutions from nearly 20 countries have begun measuring outcomes according to ICHOM standards. To learn more about how ICHOM can assist your organization in implementing outcome measurement, contact us at [implement@ichom.org](mailto:implement@ichom.org), or visit <http://www.ichom.org/measure>.







# Scoring Guide for the Catquest-9SF

## Introduction

The Catquest is a patient reported outcome questionnaire that has been developed using modern psychometric theory called Rasch analysis. Rasch analysis uses a statistical model to generate the most accurate questionnaire results.

## How to analyse the results of the Catquest questionnaire

1. Firstly, you will need access to a conversion spreadsheet. These are specific for individual populations, so please contact ICHOM for the spreadsheet that's most appropriate for you.
2. Once you have the spreadsheet and once the patient has completed the questionnaire, enter the raw results for each question and for each patient into sheet 1 of the spreadsheet.

Example:

	1	2	3	4	5	6	7	8	9
1	4	3	2	3	2	4	2	3	3
2	ETC.								
3									

Each patient i.e. patient 1, 2, 3

Raw questionnaire results

Questions in the Catquest

3. Rasch scores specific for your population are shown on sheet 2 of the spreadsheet.
4. The rash scores for each individual patient along with each patient mean and standard deviation will be displayed on sheet 3.

## Interpretation of the results

The Catquest-9SF should be used before and 3 months after cataract surgery.

There are no normative data but the higher positive mean value a person achieves, the more activity limitation in their daily lives. The more negative the mean value, the less activity limitation.

When we compare the mean score before surgery with the mean score after surgery, our first wish is that there is an improvement, with less activity limitation after surgery. In a routine cataract population, the score will improve with surgery in about 90% of cases. The majority of preoperative patients have a score between -1.0 and 1.0. The majority of postoperative patients have a score between -3.0 and -4.5.

# Introduction to the Data Dictionary

This data dictionary is designed to help you measure the ICHOM Cataracts Standard Set as consistently as possible to the Working Group recommendation. ICHOM is actively preparing for benchmarking efforts based on this data, and all data submitted for comparisons will need to be transformed into the following data structure if not already structured as such. **We are happy to provide an Excel version of this data dictionary for technical use.**

Please timestamp all variables. Some Standard Set variables are collected at multiple timepoints, and we will ask you to submit these variables in a concatenated VARIABLEID\_TIMESTAMP form for future analyses. For example, VARIABLEID\_BASE (baseline); VARIABLEID\_6MO (6 month follow-up); VARIABLEID\_1YR (1 year follow-up), etc.

## Case-Mix Variables

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<b>Variable ID:</b>	N/A
<b>Variable:</b>	Patient ID
<b>Definition:</b>	Indicate the patient's medical record number
<b>Supporting Definition:</b>	This number will not be shared with ICHOM. In the case patient-level data is submitted to ICHOM for benchmarking or research purposes, a separate ICHOM Patient Identifier will be created and cross-linking between the ICHOM Patient Identifier and the medical record number will only be known at the treating institution
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	On all forms
<b>Data Source:</b>	Administrative or clinical
<b>Type:</b>	Numerical
<b>Response Options:</b>	According to institution

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## Demographic Factors

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<b>Variable ID:</b>	AGE
<b>Variable:</b>	Age
<b>Definition:</b>	Please indicate patient's date of birth
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Date by DD/MM/YYYY
<b>Response Options:</b>	DD/MM/YYYY

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<b>Variable ID:</b>	SEX
<b>Variable:</b>	Sex
<b>Definition:</b>	Please indicate patient's sex at birth
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	1 = Male 2 = Female 999 = Undisclosed

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## Baseline Visual Status

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<b>Variable ID:</b>	VISACUUNCRT_PRE
<b>Variable:</b>	Pre-operative distance visual acuity: Uncorrected, right

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<b>Definition:</b>	Indicate the distance visual acuity measured uncorrected in the right eye
<b>Supporting Definition:</b>	Details such as distance, chart type, and specific equipment will be left to each institution
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Results reported in format chosen by institution
<b>Variable ID:</b>	VISACUCORRT_PRE
<b>Variable:</b>	Pre-operative distance visual acuity: Corrected, right
<b>Definition:</b>	Indicate the distance visual acuity measured best corrected in the right eye
<b>Supporting Definition:</b>	Details such as distance, chart type, and specific equipment will be left to each institution
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Results reported in format chosen by institution
<b>Variable ID:</b>	VISACUUNCLT_PRE
<b>Variable:</b>	Pre-operative distance visual acuity: Uncorrected, left
<b>Definition:</b>	Indicate the distance visual acuity measured uncorrected in the left eye
<b>Supporting Definition:</b>	Details such as distance, chart type, and specific equipment will be left to each institution
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Results reported in format chosen by institution
<b>Variable ID:</b>	VISACUCORLT_PRE
<b>Variable:</b>	Pre-operative distance visual acuity: Corrected, left
<b>Definition:</b>	Indicate the distance visual acuity measured best corrected in the left eye
<b>Supporting Definition:</b>	Details such as distance, chart type, and specific equipment will be left to each institution
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Results reported in format chosen by institution
<b>Variable ID:</b>	VISACUUNI_PRE
<b>Variable:</b>	Pre-operative distance visual acuity units
<b>Definition:</b>	Indicate the distance visual acuity units
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Single answer
<b>Response Options:</b>	1 = Snellen 2 = Decimal 3 = LogMAR
<b>Variable ID:</b>	SPHERERT_TAR
<b>Variable:</b>	Target refraction: Spherical, right
<b>Definition:</b>	Indicate the spherical target refraction, which has been agreed pre-operatively, in

<b>Supporting Definition:</b>	the right eye
<b>Inclusion Criteria:</b>	For surgical eye
<b>Timing:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Data Source:</b>	Pre-operative period
<b>Type:</b>	Clinical
<b>Response Options:</b>	Free text
<b>Variable ID:</b>	Spherical target refraction
<b>Variable:</b>	SPHERELT_TAR
<b>Definition:</b>	Target refraction: Spherical, left
<b>Supporting Definition:</b>	Indicate the spherical target refraction, which has been agreed pre-operatively, in the left eye
<b>Inclusion Criteria:</b>	For surgical eye
<b>Timing:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Data Source:</b>	Pre-operative period
<b>Type:</b>	Clinical
<b>Response Options:</b>	Free text
<b>Variable ID:</b>	Spherical target refraction
<b>Variable:</b>	CYLRT_TAR
<b>Definition:</b>	Target refraction: Cylinder, right
<b>Supporting Definition:</b>	Indicate the cylinder target refraction, which has been agreed pre-operatively, in the right eye
<b>Inclusion Criteria:</b>	For surgical eye
<b>Timing:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Data Source:</b>	Pre-operative period
<b>Type:</b>	Clinical
<b>Response Options:</b>	Free text
<b>Variable ID:</b>	Cylinder target refraction
<b>Variable:</b>	CYLLT_TAR
<b>Definition:</b>	Target refraction: Cylinder, left
<b>Supporting Definition:</b>	Indicate the cylinder target refraction, which has been agreed pre-operatively, in the left eye
<b>Inclusion Criteria:</b>	For surgical eye
<b>Timing:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Data Source:</b>	Pre-operative period
<b>Type:</b>	Clinical
<b>Response Options:</b>	Free text
<b>Variable ID:</b>	Cylinder target refraction
<b>Variable:</b>	AXISRT_TAR
<b>Definition:</b>	Target refraction: Axis, right
<b>Supporting Definition:</b>	Indicate the axis target refraction, which has been agreed pre-operatively, in the right eye
<b>Inclusion Criteria:</b>	For surgical eye
<b>Timing:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Data Source:</b>	Pre-operative period
<b>Type:</b>	Clinical
<b>Response Options:</b>	Free text
<b>Variable ID:</b>	Axis target refraction
<b>Variable:</b>	AXISLT_TAR
<b>Definition:</b>	Target refraction: Axis, left
<b>Supporting Definition:</b>	Indicate the axis target refraction, which has been agreed pre-operatively, in the left eye
<b>Inclusion Criteria:</b>	For surgical eye
<b>Timing:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Data Source:</b>	Pre-operative period
<b>Type:</b>	Clinical
<b>Response Options:</b>	Free text
<b>Variable ID:</b>	Axis target refraction

## Ocular Comorbidities

<b>Variable ID:</b>	GLAU
<b>Variable:</b>	Glaucoma
<b>Definition:</b>	Indicate if the diagnosis of glaucoma has been made and documented in the patient's clinical notes prior to the time of surgery or immediately after surgery
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	MACDEGEN
<b>Variable:</b>	Macular degeneration
<b>Definition:</b>	Indicate if the diagnosis of macular degeneration has been made and documented in the patient's clinical notes prior to the time of surgery or immediately after surgery
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	DIABEYE
<b>Variable:</b>	Diabetic retinopathy and/or diabetic macular edema
<b>Definition:</b>	Indicate if the diagnosis of diabetic retinopathy and/or diabetic macular edema has been made and documented in the patient's clinical notes prior to the time of surgery or immediately after surgery
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	AMBLY
<b>Variable:</b>	Amblyopia
<b>Definition:</b>	Indicate if the diagnosis of amblyopia has been made and documented in the patient's clinical notes prior to the time of surgery or immediately after surgery
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	OTHER
<b>Variable:</b>	Other
<b>Definition:</b>	Indicate if there is any other diagnosis documented in the patient's clinical notes and not included in the list of baseline clinical status risk factors that is likely to significantly impact the outcome of surgery
<b>Supporting Definition:</b>	Other: e.g. uveitis, vitreous hemorrhage, optic nerve disease, and retinal detachment
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Pre-operative period

**Data Source:** Clinical or administrative data  
**Type:** Single answer  
**Response Options:** 0 = No  
 1 = Yes

## Prior Ophthalmic Interventions

**Variable ID:** PREVCATSURG

**Variable:** Previous cataract surgery on fellow eye

**Definition:** Indicate if the patient has had previous cataract surgery on the fellow eye that has been documented in the patient's clinical notes

**Supporting Definition:** N/A

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period

**Data Source:** Clinical or administrative data

**Type:** Single answer

**Response Options:** 0 = No  
 1 = Yes

**Variable ID:** PREVCORSURG

**Variable:** Previous corneal refractive surgery on operative eye

**Definition:** Indicate if the patient has had previous corneal refractive surgery on the eye that will undergo cataract surgery that has been documented in the patient's clinical notes

**Supporting Definition:** N/A

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period

**Data Source:** Clinical or administrative data

**Type:** Single answer

**Response Options:** 0 = No  
 1 = Yes

**Variable ID:** PREVVIT

**Variable:** Previous vitrectomy on operative eye

**Definition:** Indicate if patient has had a previous vitrectomy in the eye undergoing cataract surgery, documented in patient's clinical notes

**Supporting Definition:** N/A

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period

**Data Source:** Clinical or administrative data

**Type:** Single answer

**Response Options:** 0 = No  
 1 = Yes

**Variable ID:** OTHEROPINT

**Variable:** Other interventions on operative eye likely to negatively impact the clinical outcome

**Definition:** Indicate if the patient has had any other prior ophthalmic intervention that has been documented in the patient's clinical notes that is likely to negatively impact the clinical outcome

**Supporting Definition:** Other: e.g. filtering surgery and pterygium excision

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period

**Data Source:** Clinical or administrative data

**Type:** Single answer

**Response Options:** 0 = No  
 1 = Yes

## Technical Factors

**Variable ID:** BWCAT

<b>Variable:</b>	White or dense brown cataract
<b>Definition:</b>	Indicate if there was a clinical diagnosis of white or dense brown cataract made prior to cataract surgery and documented in patient's clinical notes
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Intra-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	COROPA
<b>Variable:</b>	Corneal opacities
<b>Definition:</b>	Indicate if there were corneal opacities observed and documented in patient's clinical notes either prior to cataract surgery or during cataract surgery
<b>Supporting Definition:</b>	Non-significant: opacities present but not impairing view of surgical field Significant: impairing view of the surgical field (iris and lens capsule)
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Intra-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = None 1 = Non-significant 2 = Significant
<b>Variable ID:</b>	PSEUDOEX
<b>Variable:</b>	Pseudoexfoliation
<b>Definition:</b>	Indicate if there was a clinical diagnosis of pseudoexfoliation made either prior to cataract surgery or during cataract surgery, and documented in patient's clinical notes
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Intra-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	PUPIL
<b>Variable:</b>	Pupillary problems
<b>Definition:</b>	Indicate if there were pupillary problems (e.g. miosis, floppy iris syndrome) observed either prior to cataract surgery or during cataract surgery, and documented in patient's clinical notes
<b>Supporting Definition:</b>	Non-severe: pupillary problems noted but not requiring a significant modification of surgical technique, and are unlikely to affect outcome Severe: pupillary problems (e.g. miosis, floppy iris syndrome) that require a significant modification of surgical technique and present a threat to surgical outcome
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Intra-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = None 1 = Non-severe 2 = Severe

## Treatment Variables

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<b>Variable ID:</b>	SURGTEC
<b>Variable:</b>	Surgical procedure
<b>Definition:</b>	Indicate type of surgical procedure performed
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients
<b>Timing:</b>	Intra-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Single answer
<b>Response Options:</b>	1 = Phacoemulsification 2 = Sutured extracapsular cataract extraction 3 = Sutureless extracapsular cataract extraction 4 = Intracapsular cataract extraction

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**Intra-Operative Complications**

<p><b>Variable ID:</b> CAPSULEINT  <b>Variable:</b> Capsule breach  <b>Definition:</b> Indicate if there was any surgically caused communication between anterior segment and vitreous, specifically capsule breach  <b>Supporting Definition:</b> N/A  <b>Inclusion Criteria:</b> All cases of intra-operative communication between AC and vitreous, excluding cases in which communication between AC and vitreous existed prior to surgery  <b>Timing:</b> Intra-operative period  <b>Data Source:</b> Clinical  <b>Type:</b> Single answer  <b>Response Options:</b> 0 = No  1 = Yes</p>
<p><b>Variable ID:</b> ZONULESINT  <b>Variable:</b> Zonular dehiscence  <b>Definition:</b> Indicate if there was any surgically caused communication between anterior segment and vitreous, specifically zonular dehiscence  <b>Supporting Definition:</b> N/A  <b>Inclusion Criteria:</b> All cases of intra-operative communication between AC and vitreous, excluding cases in which communication between AC and vitreous existed prior to surgery  <b>Timing:</b> Intra-operative period  <b>Data Source:</b> Clinical  <b>Type:</b> Single answer  <b>Response Options:</b> 0 = No  1 = Yes</p>
<p><b>Variable ID:</b> VITPRO  <b>Variable:</b> Vitreous prolapse  <b>Definition:</b> Indicate if there was any surgically caused communication between anterior segment and vitreous, specifically vitreous prolapse  <b>Supporting Definition:</b> N/A  <b>Inclusion Criteria:</b> All cases of intra-operative communication between AC and vitreous, excluding cases in which communication between AC and vitreous existed prior to surgery  <b>Timing:</b> Intra-operative period  <b>Data Source:</b> Clinical  <b>Type:</b> Single answer  <b>Response Options:</b> 0 = No  1 = Yes</p>
<p><b>Variable ID:</b> LENSVIT  <b>Variable:</b> Lens fragments into vitreous  <b>Definition:</b> Indicate if there was any instance in which part of lens material (clearly visible significant part of nucleus) enters the vitreous (regardless of whether removed or not)  <b>Supporting Definition:</b> N/A  <b>Inclusion Criteria:</b> All cases in which lens matter enters the vitreous intra-operatively  <b>Timing:</b> Intra-operative period  <b>Data Source:</b> Clinical  <b>Type:</b> Single answer  <b>Response Options:</b> 0 = No  1 = Yes</p>
<p><b>Variable ID:</b> OTHER_INTRA  <b>Variable:</b> Other  <b>Definition:</b> Indicate if there was a significant complication that means prolonged time of surgery or change in surgical procedure or represents a threat to the visual outcome  <b>Supporting Definition:</b> Other: e.g. extensive bleeding in the anterior segment, flat chamber with high IOP, etc.</p>

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<b>Inclusion Criteria:</b>	Excluding harmless complications that do not affect surgery or are not a threat to the vision outcome, interrupted surgery (e.g. surgery that was not started)
<b>Timing:</b>	Intra-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes

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## Post-Operative Visual Status

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**Variable ID:** VISACUUNCRT\_POST

**Variable:** Post-operative distance visual acuity: Uncorrected, right

**Definition:** Indicate the distance visual acuity measured uncorrected in the right eye between 7 days and 3 months post operatively

**Supporting Definition:** Details such as distance, chart type, and specific equipment will be left to each institution

**Inclusion Criteria:** All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate

**Timing:** Post-operative period

**Data Source:** Clinical

**Type:** Free text

**Response Options:** Results reported in format chosen by institution

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**Variable ID:** VISACUCORRT\_POST

**Variable:** Post-operative distance visual acuity: Corrected, right

**Definition:** Indicate the distance visual acuity measured best corrected in the right eye between 7 days and 3 months post operatively

**Supporting Definition:** Details such as distance, chart type, and specific equipment will be left to each institution

**Inclusion Criteria:** All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate

**Timing:** Post-operative period

**Data Source:** Clinical

**Type:** Free text

**Response Options:** Results reported in format chosen by institution

---

**Variable ID:** VISACUUNCLT\_POST

**Variable:** Post-operative distance visual acuity: Uncorrected, left

**Definition:** Indicate the distance visual acuity measured uncorrected in the left eye between 7 days and 3 months post operatively

**Supporting Definition:** Details such as distance, chart type, and specific equipment will be left to each institution

**Inclusion Criteria:** All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate

**Timing:** Post-operative period

**Data Source:** Clinical

**Type:** Free text

**Response Options:** Results reported in format chosen by institution

---

**Variable ID:** VISACUCORLT\_POST

**Variable:** Post-operative distance visual acuity: Corrected, left

**Definition:** Indicate the distance visual acuity measured best corrected in the left eye between 7 days and 3 months post operatively

**Supporting Definition:** Details such as distance, chart type, and specific equipment will be left to each institution

**Inclusion Criteria:** All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate

**Timing:** Post-operative period

**Data Source:** Clinical

**Type:** Free text

**Response Options:** Results reported in format chosen by institution

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<b>Variable ID:</b>	VISACUUNI_POST
<b>Variable:</b>	Post-operative distance visual acuity units
<b>Definition:</b>	Indicate the distance visual acuity units
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery), excluding patients that cannot cooperate
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Single answer
<b>Response Options:</b>	1 = Snellen 2 = Decimal 3 = LogMAR
<b>Variable ID:</b>	SPHERERT_POST
<b>Variable:</b>	Actual refraction: Spherical, right
<b>Definition:</b>	Indicate the record, within 3 months post operatively, of the spherical target refraction, which has been agreed pre-operatively, in the right eye
<b>Supporting Definition:</b>	For surgical eye
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Spherical target refraction
<b>Variable ID:</b>	SPHERELT_POST
<b>Variable:</b>	Actual refraction: Spherical, left
<b>Definition:</b>	Indicate the record, within 3 months post operatively, of the spherical target refraction, which has been agreed pre-operatively, in the left eye
<b>Supporting Definition:</b>	For surgical eye
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Spherical target refraction
<b>Variable ID:</b>	CYLRT_POST
<b>Variable:</b>	Actual refraction: Cylinder, right
<b>Definition:</b>	Indicate the record, within 3 months post operatively, of the cylinder target refraction, which has been agreed pre-operatively, in the right eye
<b>Supporting Definition:</b>	For surgical eye
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Cylinder target refraction
<b>Variable ID:</b>	CYLLT_POST
<b>Variable:</b>	Actual refraction: Cylinder, left
<b>Definition:</b>	Indicate the record, within 3 months post operatively, of the cylinder target refraction, which has been agreed pre-operatively, in the left eye
<b>Supporting Definition:</b>	For surgical eye
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Cylinder target refraction
<b>Variable ID:</b>	AXISRT_POST
<b>Variable:</b>	Actual refraction: Axis, right
<b>Definition:</b>	Indicate the record, within 3 months post operatively, of the axis target refraction, which has been agreed pre-operatively, in the right eye
<b>Supporting Definition:</b>	For surgical eye

<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Axis target refraction
<b>Variable ID:</b>	AXISLT_POST
<b>Variable:</b>	Actual refraction: Axis, left
<b>Definition:</b>	Indicate the record, within 3 months post operatively, of the axis target refraction, which has been agreed pre-operatively, in the left eye
<b>Supporting Definition:</b>	For surgical eye
<b>Inclusion Criteria:</b>	All patients undergoing cataract surgery (independent of method of surgery)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical
<b>Type:</b>	Free text
<b>Response Options:</b>	Axis target refraction

## Post-Operative Complications

<b>Variable ID:</b>	REOP
<b>Variable:</b>	Return to operative theater within 3 months
<b>Definition:</b>	Indicate if there was any return to an operating theater within 3 months of initial cataract surgery date
<b>Supporting Definition:</b>	Only include those cases caused by either an intra-operative or post-operative complication following cataract surgery
<b>Inclusion Criteria:</b>	Excluding cases when the reason for return to theater is not related to either an intra-operative or post-operative complication of initial cataract surgery
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	ENDO
<b>Variable:</b>	Endophthalmitis
<b>Definition:</b>	Indicate if there was post-operative severe intra-ocular inflammation within 3 months of initial cataract surgery date
<b>Supporting Definition:</b>	Due to suspected or proven intra-ocular infection attributed to the surgery
<b>Inclusion Criteria:</b>	All cases of suspected endophthalmitis, whether culture-proven (e.g. positive culture) or those with a negative culture that behave clinically like infection (e.g. respond to antibiotics)
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	COREDE
<b>Variable:</b>	Persistent corneal edema
<b>Definition:</b>	Indicate if there was a corneal edema starting immediately after surgery that does not completely resolve during the 3 month follow-up period
<b>Supporting Definition:</b>	N/A
<b>Inclusion Criteria:</b>	All cases of persistent corneal edema post-operatively
<b>Timing:</b>	Post-operative period
<b>Data Source:</b>	Clinical or administrative data
<b>Type:</b>	Single answer
<b>Response Options:</b>	0 = No 1 = Yes
<b>Variable ID:</b>	OTHER_POST
<b>Variable:</b>	Other
<b>Definition:</b>	Indicate if there was a significant post-operative complication within 3 months of



**Type:** Single answer  
**Response Options:** 1 = Very dissatisfied  
 2 = Fairly dissatisfied  
 3 = Fairly satisfied  
 4 = Very satisfied  
 5 = Cannot decide

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**Variable ID:** CATQUEST9SF\_Qo3  
**Variable:** Question 3 of Catquest-9SF  
**Definition:** 3. Do you have difficulty reading text in newspapers because of your sight?  
**Supporting Definition:** N/A  
**Inclusion Criteria:** All patients  
**Timing:** Pre-operative period  
 Post-operative period  
**Data Source:** Patient-reported  
**Type:** Single answer  
**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

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**Variable ID:** CATQUEST9SF\_Qo4  
**Variable:** Question 4 of Catquest-9SF  
**Definition:** 4. Do you have difficulty recognizing the faces of people you meet?  
**Supporting Definition:** N/A  
**Inclusion Criteria:** All patients  
**Timing:** Pre-operative period  
 Post-operative period  
**Data Source:** Patient-reported  
**Type:** Single answer  
**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

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**Variable ID:** CATQUEST9SF\_Qo5  
**Variable:** Question 5 of Catquest-9SF  
**Definition:** 5. Do you have difficulty seeing the prices of goods when shopping because of your sight?  
**Supporting Definition:** N/A  
**Inclusion Criteria:** All patients  
**Timing:** Pre-operative period  
 Post-operative period  
**Data Source:** Patient-reported  
**Type:** Single answer  
**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

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**Variable ID:** CATQUEST9SF\_Qo6  
**Variable:** Question 6 of Catquest-9SF  
**Definition:** 6. Do you have difficulty seeing to walk on uneven surfaces (for example cobblestones) because of your sight?  
**Supporting Definition:** N/A  
**Inclusion Criteria:** All patients  
**Timing:** Pre-operative period  
 Post-operative period

**Data Source:** Patient-reported  
**Type:** Single answer  
**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

---

**Variable ID:** CATQUEST9SF\_Qo7

**Variable:** Question 7 of Catquest-9SF

**Definition:** 7. Do you have difficulty seeing to do handicrafts, woodwork, etc. because of your sight?

**Supporting Definition:** N/A

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period  
 Post-operative period

**Data Source:** Patient-reported

**Type:** Single answer

**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

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**Variable ID:** CATQUEST9SF\_Qo8

**Variable:** Question 8 of Catquest-9SF

**Definition:** 8. Do you have difficulty reading subtitles on TV because of your sight?

**Supporting Definition:** N/A

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period  
 Post-operative period

**Data Source:** Patient-reported

**Type:** Single answer

**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

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**Variable ID:** CATQUEST9SF\_Qo9

**Variable:** Question 9 of Catquest-9SF

**Definition:** 9. Do you have difficulty seeing to engage in activity/hobby that you are interested in because of your sight?

**Supporting Definition:** N/A

**Inclusion Criteria:** All patients

**Timing:** Pre-operative period  
 Post-operative period

**Data Source:** Patient-reported

**Type:** Single answer

**Response Options:** 1 = Yes, very great difficulty  
 2 = Yes, great difficulty  
 3 = Yes, some difficulty  
 4 = No, no difficulty  
 5 = Cannot decide

# Reference Guide Revisions

Reference Guide Version	Location within Reference Guide	Content Change
2.0.1	Collecting Patient-Reported Outcome Measures	Catquest-gSF link repaired

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## ICHOM Contact Information

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