NICE National Institute for Health and Care Excellence

NICE Pathways

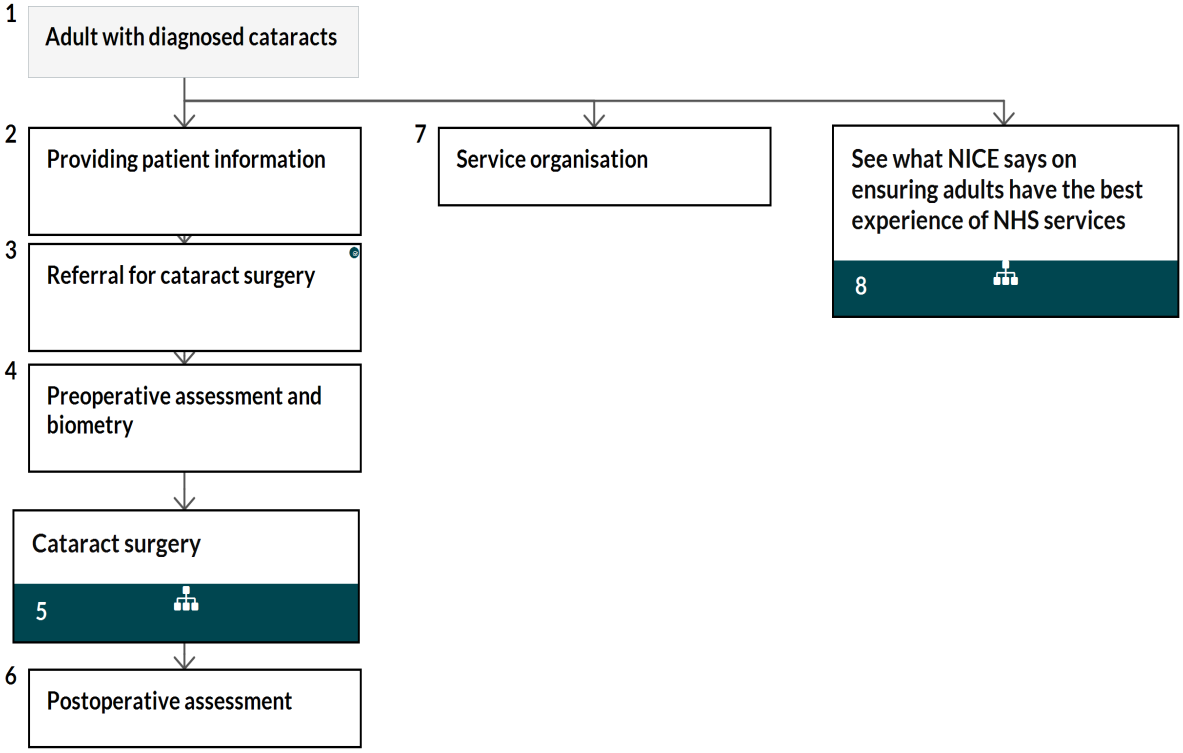
# Cataracts overview

NICE Pathways bring together everything NICE says on a topic in an interactive flowchart. NICE Pathways are interactive and designed to be used online.

They are updated regularly as new NICE guidance is published. To view the latest version of this NICE Pathway see:

http://pathways.nice.org.uk/pathways/cataracts
NICE Pathway last updated: 30 October 2020

This document contains a single flowchart and uses numbering to link the boxes to the associated recommendations.



## 1 Adult with diagnosed cataracts

No additional information

## 2 Providing patient information

Give people with cataracts, and their family members or carers (as appropriate), both oral and written information. Information should be tailored to the person's needs, for example, in an accessible format. For more guidance on giving information to people and discussing their preferences, see what NICE says on consent and capacity in patient experience in adult NHS services.

Also see recommendations in referral for cataract surgery [See page 3], preoperative assessment and biometry [See page 4], patient information on the day of cataract surgery and postoperative assessment [See page 7].

NICE has written information for the public on cataracts.

For guidance on eye tests for people living with dementia, see sensory impairment in NICE's recommendations on assessing and managing comorbidities in dementia.

## 3 Referral for cataract surgery

Base the decision to refer a person with a cataract for surgery on a discussion with them (and their family members or carers, as appropriate) that includes:

- how the cataract affects the person's vision and quality of life
- whether 1 or both eyes are affected
- what cataract surgery involves, including possible risks and benefits
- how the person's quality of life may be affected if they choose not to have cataract surgery
- whether the person wants to have cataract surgery.

Do not restrict access to cataract surgery on the basis of visual acuity.

**Patient information**

At referral for cataract surgery, give people information about:

- cataracts:
  - what cataracts are
  - how they can affect vision
  - how they can affect quality of life
- cataract surgery:
  - what it involves and how long it takes
  - possible risks and benefits
  - what support might be needed after surgery
  - likely recovery time
  - likely long-term outcomes, including the possibility that people might need spectacles for some tasks
  - how vision and quality of life may be affected without surgery.

## Quality standards

The following quality statement is relevant to this part of the interactive flowchart.

2. Referral for cataract surgery

## 4 Preoperative assessment and biometry

**Preventing wrong lens implant errors**

Before the preoperative biometry assessment, ensure that the person's correct medical notes are used by confirming the person's:

- name
- address **and**
- date of birth.

Immediately after the preoperative biometry assessment:

- check that the biometry results include the person's name, address, date of birth and hospital number
- either
  - use electronic data transfer to upload the biometry results to an electronic health record **or**
  - securely fix the printed biometry results to the person's medical notes

- do not transcribe the results by hand.

At the preoperative assessment:

- discuss the refractive implications of different intraocular lenses with the person
- base the choice of intraocular lens on the person's chosen refractive outcome
- record the discussion and the person's choices in their medical notes.

Also see preventing wrong lens implant errors in cataract surgery.

**Biometry techniques**

Use optical biometry to measure the axial length of the eye for people having cataract surgery.

Use ultrasound biometry if optical biometry:

- is not possible **or**
- does not give accurate measurements.

Use keratometry to measure the curvature of the cornea for people having cataract surgery.

Consider corneal topography for people having cataract surgery:

- who have abnormally flat or steep corneas
- who have irregular corneas
- who have significant astigmatism
- who have had previous corneal refractive surgery **or**
- if it is not possible to get an accurate keratometry measurement.

**Biometry formulas**

For people who have not had previous corneal refractive surgery, use 1 of the following to calculate the intraocular lens power before cataract surgery:

- If the axial length is less than 22.00 mm, use Haigis or Hoffer Q.
- If the axial length is between 22.00 and 26.00 mm, use Barrett Universal II if it is installed on the biometry device and does not need the results to be transcribed by hand. Use SRK/T if not.
- If the axial length is more than 26.00 mm, use Haigis or SRK/T.

Advise people who have had previous corneal refractive surgery that refractive outcomes after

cataract surgery are difficult to predict, and that they may need further surgery if they do not want to wear spectacles for distance vision.

If people have had previous corneal refractive surgery, adjust for the altered relationship between the anterior and posterior corneal curvature. Do not use standard biometry techniques or historical data alone.

Surgeons should think about modifying a manufacturer's recommended intraocular lens constant, guided by learning gained from their previous deviations from predicted refractive outcomes.

**Second-eye prediction**

Consider using 50% of the first-eye prediction error in observed refractive outcome to guide calculations for the intraocular lens power for second-eye cataract surgery.

**Risk stratification**

Consider using a validated risk stratification algorithm for people who have been referred for cataract surgery, to identify people at increased risk of complications during and after surgery.

Explain the results of the risk stratification to the person, and discuss how it may affect their decisions.

To minimise the risk of complications during and after surgery, ensure that surgeons in training are closely supervised when they perform cataract surgery in:

- people who are at high risk of complications **or**
- people for whom the impact of complications would be especially severe (for example, people with only 1 functional eye).

Explain to people who are at risk of developing a dense cataract that there is an increased risk of complications if surgery is delayed and the cataract becomes more dense.

**Patient information**

At the preoperative outpatient appointment, review and expand on the topics in patient information in referral for cataract surgery [See page 3], and give people information about:

- the refractive implications of different intraocular lenses (see above)
- types of anaesthesia

- the person's individual risk of complications during or after surgery (for example, the risk of postoperative retinal detachment in people with high myopia; also see risk stratification above)
- what to do and what to expect on the day of cataract surgery
- what to do and what to expect after cataract surgery
- what support might be needed after surgery
- medicines after surgery (for example, eye drops) and medicines that people may be already taking (for example, anticoagulants)
- the refractive implications after previous corneal refractive surgery, if appropriate (see biometry formulas above)
- bilateral simultaneous cataract surgery, if appropriate (also see bilateral surgery in surgical timing and technique).

## 5 Cataract surgery

See Cataracts / Cataract surgery

## 6 Postoperative assessment

Consider collecting patient visual function and quality-of-life data for entry into an electronic dataset.

Do not offer in-person, first-day review to people after uncomplicated cataract surgery.

**Patient information**

At the first appointment after cataract surgery, give people information about:

- eye drops
- what to do if their vision changes
- who to contact if they have concerns or queries
- when it is appropriate to get new spectacles and how to do so
- second-eye cataract surgery if there is a cataract in the non-operated eye
- arrangements for managing ocular comorbidities.

**Occurrence of wrong lens implant errors**

If a wrong lens is implanted, refer to NHS England's Never Events policy, and together with the

whole multidisciplinary team:

- undertake a root-cause analysis to determine the reasons for the incident
- establish strategies and implementation tools to stop it from happening again.

## 7 Service organisation

Commissioners and service providers should ensure that the following are in place:

- Processes that identify complications after surgery and ensure that there is prompt access to specialist ophthalmology services.
- Processes to ensure that the UK Minimum Cataract Dataset for National Audit is completed.
- Arrangements so that healthcare professionals discuss second-eye cataract surgery with people who have a cataract in their non-operated eye.

## 8 See what NICE says on ensuring adults have the best experience of NHS services

See Patient experience in adult NHS services

## Sources

Cataracts in adults: management (2017) NICE guideline NG77

## Your responsibility

### Guidelines

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

### Technology appraisals

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take these recommendations fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this interactive flowchart is at the discretion of health professionals and

their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Commissioners and/or providers have a responsibility to provide the funding required to enable the recommendations to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

**Medical technologies guidance, diagnostics guidance and interventional procedures guidance**

The recommendations in this interactive flowchart represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take these recommendations fully into account. However, the interactive flowchart does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the recommendations, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this interactive flowchart should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.