Appendix L: Research recommendations

L.1 Indicators for referral for cataract surgery

Research recommendation 1	What is the association between preoperative vision- and health-related quality of life, and postoperative vision-related quality of life, health-related quality of life, and self-reported postoperative improvement?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Preoperative predictor variables	• Vision-related quality of life • Health-related quality of life
Outcomes	• Visual acuity • Visual function • Vision-related quality of life • Health-related quality of life • Patient satisfaction
Study design	Prospective cohort studies
Subgroups	Particular consideration should be given to people with learning disabilities/ cognitive impairment, or any other groups who may find it more difficult to self-report their own symptoms or quality of life.

Potential criterion	Explanation
Importance to patients, service users or the population	It is currently difficult either to identify those groups of individuals who may achieve the largest gains from surgery, or to provide people with accurate information about what their potential gains may be. Robust information around the link between preoperative patient characteristics and outcomes would be useful both for prioritisation of surgery, and to help better inform individuals about the levels of gain they may individually expect to get from surgery.
Relevance to NICE guidance	High priority: it is currently not possible to make specific recommendations on how preoperative quality of life data should link to decisions, either for prioritisation or to inform discussions with individuals considering surgery.
Current evidence base	In contrast to the data linking preoperative visual acuity and visual function with postoperative visual acuity and visual function, there is a no evidence on how preoperative vision- and health-related quality may impact on postoperative outcomes and levels of satisfaction for people having cataract surgery.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that prospective cohort studies in this area should be feasible.

L.2 Measuring quality of life in people with cataracts

Research recommendation 2	What vision-specific quality of life measures best capture visual changes in a population with cataracts?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Measures	Vision-related quality of life instruments, including: • VFQ-UI • EQ-5D+vision
Outcomes	Properties of vision-related quality of life: • Acceptability • Reliability • Validity • Responsiveness
Study design	Psychometric development and validation studies
Subgroups	Particular consideration should be given to people with learning disabilities/ cognitive impairment, or any other groups who may find it more difficult to self-report their own symptoms or quality of life.

Potential criterion	Explanation
Importance to patients, service users or the population	Although visual acuity is still commonly used to decide whether cataract surgery is needed, it is a crude measure that will often fail to detect other vision problems that may justify surgery (for example, glare and loss of colour vision). The best possible decision-making aids would be measures of preoperative and postoperative vision-related quality of life, which could then be used to identity groups of people who do not have an improvement in quality of life after surgery. The development and validation of suitable vision-specific quality of life measures would aid the decision-making process for cataract surgery.
Relevance to NICE guidance	High priority: it is currently not possible to make specific recommendations about which quality of life instruments should be preferred in a population with cataracts, which in turn makes it difficult to accurately quantify the benefits of cataract surgery in terms of quality of life.
Current evidence base	There are currently no validation vision-related quality of life instruments that have been shown to have good psychometric proprieties (reliability, validity, responsiveness) in a population undergoing cataract surgery. Currently, most prioritisation criteria for cataract surgery are based primarily on visual acuity and visual function (usually measured using the VF-14), which capture only part of the impact of a cataract on quality of life.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that psychometric studies in this area should be feasible.

L.3 Biometry techniques

Research recommendation 3	What is the effectiveness and cost-effectiveness of biometry techniques in adults undergoing phacoemulsification cataract surgery with a history of corneal refractive surgery?
Population	Adults (18 years and over) with a history of corneal refractive surgery undergoing phacoemulsification cataract surgery with intraocular lens implantation
Interventions	• Ultrasound biometry • Keratometry
Comparators	• Optical biometry • Topography
Outcomes	• Deviation from predicted refractive outcome, expressed as a spherical equivalent • Resource use and costs
Study design	Randomised controlled trials or within person comparisons of different formulas

Potential criterion	Explanation
Importance to patients, service users or the population	The number of individuals undergoing corneal refractive surgery is increasing, and a significant number of these individuals will eventually develop age-related cataracts. The corneal changes resulting from different types of refractive surgeries provide a challenge in undertaking accurate biometry assessments. In the absence of good evidence on the most appropriate techniques in this population, there is a risk that visual outcomes following surgery will continue to be worse in this group than in those without prior refractive surgery.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for biometry techniques in people with a history of refractive surgery based on the available evidence.
Current evidence base	Only two retrospective case series were identified for the population of people with a history of corneal refractive surgery, and therefore there was only a very limited evidence base available from which to make recommendations.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the proportion of individuals undergoing cataract surgery who have had prior refractive surgery is increasing) that randomised controlled trials in this area should be feasible.

L.4 Biometry formulas for people without a history of corneal refractive surgery

Research recommendation 4	How effective are newer intraocular lens formulas (for example, Barrett, Olsen, T2) compared with standard formulas for phacoemulsification cataract operations on eyes without a history of corneal refractive surgery, especially for long and short axial lengths?
Population	Adults (18 years and over) without a history of corneal refractive surgery undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	New lens formulas for phacoemulsification cataract surgery, including: • Barrett Universal II • Olsen • Ladas • T2
Comparators	Standard lens formulas used for phacoemulsification cataract surgery
Outcomes	• Deviation from predicted refractive outcome, expressed as a spherical equivalent • Resource use and costs
Study design	Randomised controlled trials or within person comparisons of different formulas

Potential criterion	Explanation
Importance to patients, service users or the population	Appropriately applied intraocular lens (IOL) formulas are paramount to improving predictive accuracy and patient satisfaction following cataract surgery and IOL implantation. Despite significant technological advancement in ophthalmology, it is widely recognised that many of the currently used IOL formulas were developed more than 20 years ago, and therefore newer formulas may provide better refractive outcomes for individuals.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for biometry formulas in people without a history of refractive surgery based on the available evidence.
Current evidence base	Whilst there are studies on the majority of newer formulas, the number of people in these studies with either short (<22.00mm) or long (>26.00mm) is consistently small, meaning that recommendations can be made with much less confidence in these groups.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials in this area should be feasible.

L.5 Biometry formulas for people with a history of corneal refractive surgery

Research recommendation 5	What is the effectiveness of different intraocular lens formulas for eyes after prior corneal refractive surgery, as measured in a prospectively collected multi-centre study?
Population	Adults (18 years and over) with a history of corneal refractive surgery undergoing phacoemulsification cataract surgery with intraocular lens implantation
Interventions	Lens formulas for phacoemulsification cataract surgery, including: • Barrett Universal II • Olsen • Ladas • T2
Comparators	Standard lens formulas used for phacoemulsification cataract surgery
Outcomes	• Deviation from predicted refractive outcome, expressed as a spherical equivalent • Resource use and costs
Study design	Randomised controlled trials or within person comparisons of different formulas

Potential criterion	Explanation
Importance to patients, service users or the population	Appropriately applied intraocular lens (IOL) formulas are paramount to improving predictive accuracy and patient satisfaction following cataract surgery and IOL implantation, and there are particular challenges in accurate prediction in people with a history of corneal refractive surgery. In the absence of good evidence on the most appropriate formulas in this population, there is a risk that visual outcomes following surgery will continue to be worse in this group than in those without prior refractive surgery.
Relevance to NICE guidance	Medium priority: it was not possible to make recommendations as part of this guideline due to the lack of evidence, and randomised controlled trials would enable recommendations to be made in future updates of the guideline.
Current evidence base	There is currently a total absence of large, prospective studies in this population, with the evidence base consisting entirely of small or retrospective studies, meaning we can very low levels of confidence in the results.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the proportion of individuals undergoing cataract surgery who have had prior refractive surgery is increasing) that randomised controlled trials in this area should be feasible.

L.6 Intraocular lens materials (short-term)

Research recommendation 6	What is the most effective material for square-edge lenses for preventing posterior capsule opacification and improving postoperative vision in cataract surgery?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Interventions	Square-edge IOLs made of the following materials: • Hydrophilic acrylic • Hydrophobic acrylic • Silicone-based
Comparator	Each other
Outcomes	• Levels of posterior capsule opacification • Rate of capsulotomy • Lens opacity • Glistenings • Visual acuity • Visual function • Quality of life • Dysphotopsia • Resource use and costs
Study design	• Randomised controlled trials

Potential criterion	Explanation
Importance to patients, service users or the population	Well conducted long-term randomised controlled trials reporting patient-important outcomes and adverse events would help to inform future recommendations on lens material choices for use in cataract surgery, in particular the trade-offs between visual outcomes and adverse events with different lens materials.
Relevance to NICE guidance	Moderate priority: the research would fill relevant gaps in the evidence base, in particular around newer designs of intraocular lens, but it is possible to make recommendations for lens materials in general in people undergoing cataract surgery based on the available evidence.
Current evidence base	Although there is high-quality evidence for the short-term visual outcomes and adverse event risks of different intraocular lens materials, lens design is advancing rapidly, and therefore currently available research may not be fully representative of all currently available lens technologies.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials in this area should be feasible.

L.7 Intraocular lens materials (long-term)

Research recommendation 7	What are the long-term outcomes of different choices of intraocular lens material following cataract surgery?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Interventions	• Hydrophilic acrylic IOL • Hydrophobic acrylic IOL • Silicone-based IOL
Comparator	Each other
Outcomes	• Posterior capsule opacification • Lens opacity • Glistenings • Visual acuity • Visual function • Quality of life • Dysphotopsia • Lens explantations • Resource use and costs
Study design	• Randomised controlled trials • Prospective cohort studies Studies should have long-term (at least 10 year) follow-up to ensure they capture all relevant differences

Potential criterion	Explanation
Importance to patients, service users or the population	Well conducted long-term randomised controlled trials reporting patient-important outcomes and adverse events would help to inform future recommendations on lens material choices for use in cataract surgery, in particular the trade-offs between visual outcomes and adverse events with different lens materials.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for lens materials in people undergoing cataract surgery based on the available evidence.
Current evidence base	Although there is high-quality evidence for the short-term visual outcomes and adverse event risks of different intraocular lens materials, there is a lack of evidence for longer-term outcomes. Lens design is advancing rapidly, and there are likely to be new designs becoming available in the near future that have not yet been evaluated.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials in this area should be feasible.

L.8 Lens explantations

Research recommendation 8	What are the long-term rates of and reasons for lens explanation after cataract surgery?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Interventions	Intraocular lens implantation, subdivided by IOL type: • Lens material (hydrophobic acrylic, hydrophilic acrylic, silicone-based) • Lens design (1-piece vs 3-piece) • Aspheric versus spheric • Clear versus blue-light filtering • Toric vs non-toric • Monofocal versus multifocal
Outcomes	• Type of lens explanted • Type of replacement lens implanted • Date explantation occurred • Reason for explantation took place
Study design	Registry study

Potential criterion	Explanation
Importance to patients, service users or the population	The development of a register of lens explanations would help to explore if a particular lens type needed to be explanted more than others, and allow the determination of when these take place and the reasons behind them. Such evidence would enhance understanding of possible issues pertinent to cataracts surgery, in particular whether there are certain lens types associated with rare but significant problems, either adverse events or dissatisfaction with visual outcomes, which require another surgical procedure to correct.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for lens choices in people undergoing cataract surgery based on the available evidence.
Current evidence base	There is currently no systematic record kept of lens explantations and the reasons behind them, nor are there research studies of a sufficiently long duration to address these questions.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials in this area should be feasible.

L.9 Contrast sensitivity and depth of focus

Research recommendation 9	What is the effect of differences in contrast sensitivity and depth of focus on overall visual function and quality of life?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Predictor variables	• Contrast sensitivity • Depth of focus
Outcomes	• Visual function • Quality of life • Patient satisfaction
Study design	• Prospective cohort studies • Cross-sectional studies

Potential criterion	Explanation
Importance to patients, service users or the population	This guideline identified differences in contrast sensitivity and depth of focus between different lens designs, but there was not good evidence linking these intermediate outcomes to either patient satisfaction or quality of life. Cross-sectional or cohort studies that looked at the correlations between contrast sensitivity/depth of focus and quality of life would help to better interpret the results from these clinical studies, and make it possible to judge whether these differences, which are clinically measurable, are actually meaningful to the individuals concerned.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for lens choices in people undergoing cataract surgery based on the available evidence.
Current evidence base	There is currently no evidence available linking the intermediate outcomes of contrast sensitivity and depth of focus to quality of life and patient satisfaction in people undergoing cataract surgery.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that psychometric studies in this area should be feasible.

L.10 Tinted versus colourless lenses

Research recommendation 10	What is the long-term effectiveness and cost-effectiveness of blue light filtering IOLs in reducing the incidence and/or progression of age-related macular degeneration?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	Blue-light filtering intraocular lenses
Comparator	Ultraviolet filtering (clear) intraocular lenses
Outcomes	• Incidence of age-related macular degeneration • Rates of progression of age-related macular degeneration • Visual acuity • Colour vision • Sleep problems • Depression • Quality of life • Resource use and costs
Study design	• Randomised controlled trials • Prospective cohort studies Studies should have long-term (at least 5 year) follow-up to ensure they capture all relevant differences

Potential criterion	Explanation
Importance to patients, service users or the population	With currently no evidence that blue-light filtering lenses are effective at reducing the incidence or progression of age-related macule degeneration, and evidence of some harms from these lenses, specifically on colour vision, this makes it difficult at present to justify the use of these lenses in clinical practice.
Relevance to NICE guidance	Medium priority: it was not possible to make recommendations as part of this guideline due to the lack of evidence, and randomised controlled trials or prospective cohort studies would enable recommendations to be made in future updates of the guideline.
Current evidence base	There is currently no evidence on the long term effectiveness of blue light filtering lenses with regards to the incidence or progression of age-related macular degeneration.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials or prospective cohort studies in this area should be feasible.

L.11 Monovision

Research recommendation 11	What is the effectiveness of different approaches to monovision (the degree of anisometropia) versus standard monofocal lenses?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	Monovision
Comparators	• Alternative approaches to monovision (the degree of anisometropia) • Standard monofocal lenses
Outcomes	• Visual acuity • Contrast sensitivity • Complications: glare and other optical aberrations • Visual function • Quality of life • Patient satisfaction • Resource use and costs
Study design	Randomised controlled trials

Potential criterion	Explanation
Importance to patients, service users or the population	The current evidence indicates that the approaches to monovision that have been tested in clinical studies do not give good outcomes for either distance vision or spectacle dependence, with current practice being to offer monovision in people who naturally have anisometropia. However, there are other approaches to monovision that may provide better outcomes, particularly in being able to simultaneously optimise for near and distance vision. Well conducted research to determine the effectiveness of postoperative monovision against the use of standard monofocal lenses would help to inform future recommendations for cataract.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for lens choices in people undergoing cataract surgery based on the available evidence.
Current evidence base	Whilst there are studies comparing monovision with standard intraocular lenses, there test only a subset of the possible approaches to monovision that could be adopted, and therefore still leave a substantial gap in the evidence base.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials in this area should be feasible.

L.12 Toric lenses

Research recommendation 12	What is the cost-effectiveness of toric lenses compared with on-axis or limbal relaxing incision surgery or non toric lenses with no further intervention for astigmatism in an NHS context, taking account of the whole pathway cost implications from pre- to postoperative phases, stratified by the pr-operative level of astigmatism?
Population	Adults (18 years and over) with preoperative astigmatism undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	Toric intraocular lenses
Comparator	• Corneal (limbal) relaxing incisions • On-axis surgery (incision is made on steepest axis to flatten it) • Non toric intraocular lenses
Outcome	Cost per quality-adjusted life year
Study design	Economic evaluation

Potential criterion	Explanation
Importance to patients, service users or the population	Toric lenses have been established as being effective at reducing levels of postoperative astigmatism. However, without robust evidence of their cost effectiveness in people with differing levels of preoperative astigmatism, it is unlikely they will become uniformly available around the country.
Relevance to NICE guidance	Medium priority: it was not possible to make recommendations as part of this guideline due to the lack of evidence, and randomised controlled trials or prospective cohort studies would enable recommendations to be made in future updates of the guideline.
Current evidence base	There is clear evidence that toric lenses are effective at reducing levels of postoperative astigmatism, but evidence on their cost-effectiveness is much less clear. Although a cost–utility analysis of toric lenses was evidenced from the USA, it was not possible to relate the costs to a UK NHS perspective.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	The clinical data to populate an economic model in this area is already available, and therefore no further primary data collection is likely to be necessary in order to conduct an economic evaluation.

L.13 Limbal relaxing incisions

Research recommendation 13	What is the effectiveness and cost effectiveness of limbal relaxing incisions (in combination with any intraocular lens type) to reduce postoperative astigmatism?
Population	Adults (18 years and over) with preoperative astigmatism undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	Limbal relaxing incisions
Comparator	• On-axis surgery • No specific interventions to reduce postoperative astigmatism
Outcomes	• Visual acuity • Level of astigmatism • Patient satisfaction • Quality of life • Resource use and costs
Study design	Randomised controlled trials

Potential criterion	Explanation
Importance to patients, service users or the population	Limbal relaxing incisions represent a promising technique to reduce levels of postoperative astigmatism, particularly if toric lenses are not available as an alternative option. However, the current evidence base is not sufficiently robust so as to be able to make strong recommendations around their use, particularly in combination with lenses other than standard monofocal intraocular lenses.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for reducing postoperative astigmatism in people undergoing cataract surgery based on the available evidence.
Current evidence base	A limited evidence base was identified on limbal relaxing incisions in combination with monofocal intraocular lenses as a technique to reduce postoperative astigmatism, but none for limbal relaxing incisions versus no limbal relaxing incisions in combination with other types of intraocular lens
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (a significant proportion of people undergoing cataracts surgery have preoperative astigmatism) that randomised controlled trials in this area should be feasible.

L.14 Retinal detachment in people with high myopia

Research recommendation 14	What is the risk of postoperative retinal detachment in people with high myopia?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Outcome	Rates of retinal detachment
Study design	Prospective cohort studies

Potential criterion	Explanation
Importance to patients, service users or the population	If people with high myopia are at a substantially increased risk of retinal detachment, then prophylactic interventions to prevent retinal detachment in this group may well be justified. However, currently, in the absense of such evidence, it is not possible to recommend the widespread adoption of such an approach.
Relevance to NICE guidance	Medium priority: it was not possible to make recommendations as part of this guideline due to the lack of evidence, and randomised controlled trials or prospective cohort studies would enable recommendations to be made in future updates of the guideline.
Current evidence base	Although it is thought that people with high myopia are at an increased risk of retinal detachment following cataract surgery, there is currently a lack of evidence to support this.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (a significant proportion of people undergoing cataracts surgery have high myopia) that randomised controlled trials in this area should be feasible.

L.15 Capsular tension rings

Research recommendation 15	What is the long-term effectiveness of capsular tension rings in people with pseudoexfoliation undergoing cataract surgery?
Population	Adults (18 years and over) diagnosed with pseudoexfoliation undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	Capsular tension rings
Comparator	No capsular tension ring
Outcomes	• Postoperative complications • Visual acuity • Postoperative refraction • Resource use and costs
Study design	• Randomised controlled trials Studies should have long-term (at least 1 year) follow-up to ensure they capture all relevant differences

Potential criterion	Explanation
Importance to patients, service users or the population	Evidence indicates that there are benefits from using capsular tension rings in people with pseudoexfoliation such as lower rates of zonular dehiscence and a higher proportion of IOLs being implanted successfully but these were only measured a short time after surgery. Well conducted randomised controlled trials in this population would help to show whether these benefits continued in the long term and so inform future recommendations on their use.
Relevance to NICE guidance	Low priority: the research would fill relevant gaps in the evidence base, but it is possible to make recommendations for capsular tension rings in people diagnosed with pseudoexfoliation undergoing cataract surgery based on the available evidence.
Current evidence base	There are currently two small randomised controlled trials of capsular tension rings in people with pseudoexfoliation, measuring zonular dehiscence and the proportion of intraocular lenses successfully placed in the bag. However, the trials do not report long-term follow-up on whether visual outcomes are different between the two groups.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (a significant proportion of people undergoing cataracts surgery have pseudoexfoliation) that randomised controlled trials in this area should be feasible.

L.16 Interventions to prevent endophthalmitis

Research recommendation 16	What is the effectiveness of postoperative antibiotic drops to reduce rates of endophthalmitis after cataract surgery?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Interventions	• Postoperative antibiotics vs no postoperative antibiotics • Different types of postoperative antibiotics vs. each other • Duration and frequency of postoperative antibiotics
Comparators	As listed in interventions
Outcomes	• Endophthalmitis rates: verified/confirmed/culture positive/suspected • Visual acuity • Adverse effects of treatment • Resource use and costs
Study design	Randomised controlled trials

Potential criterion	Explanation
Importance to patients, service users or the population	There is a lack of evidence on postoperative antibiotics to reduce rates of endophthalmitis, which may be because they are provided as part of standard good clinical practice in the UK. In addition, it is recognised that patients are invariably receiving other drops (for example, steroids), which are likely to be offered in combination with postoperative antibiotic drops, and often in a single-drop product. This makes it hard to identify the treatment that will be most effective in reducing rates of endophthalmitis after cataract surgery.
Relevance to NICE guidance	High priority: it is currently not possible to make specific recommendations about the use of postoperative antibiotics after cataract surgery.
Current evidence base	Currently only two RCTs have look at antibiotic drops to reduce rates of endophthalmitis, one looking at intraoperative antibiotics, and one looking at intracameral versus topical antibiotics.
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (the majority of individuals undergoing cataract surgery would be eligible) that randomised controlled trials in this area should be feasible.

L.17 Managing cystoid macular oedema

Research recommendation 17	What is the most effective postoperative medical management for cystoid macular oedema?
Population	Adults (18 years and over) undergoing phacoemulsification cataract surgery with intraocular lens implantation
Intervention	• Non-steroidal anti-inflammatory drugs • Steroidal anti-inflammatory drugs • Diamox • Periocular and intraocular steroids • Intraocular anti-vascular endothelial growth factors (anti-VEGFs)
Comparator	• No intervention • Each other
Outcomes	• Visual acuity • Macular thickness • Time to resolution • Further surgery • Adverse events • Quality of life • Resource use and costs
Study design	Randomised controlled trials

Potential criterion	Explanation
Importance to patients, service users or the population	Cystoid macular oedema is one of the more common postoperative complications of cataract surgery. There are a number of interventions that have been suggested to manage the condition, but it is unclear which results in the best long-term visual outcomes and lowest rates of further complications.
Relevance to NICE guidance	High priority: it is currently not possible to make specific recommendations about which quality of life instruments should be preferred in a population with cataracts, which in turn makes it difficult to accurately quantify the benefits of cataract surgery in terms of quality of life.
Current evidence base	Although there is evidence for using steroids and non-steroidal anti-inflammatory drugs (NSAIDs) in treating cystoid macular oedema, no evidence has been identified for interventions such as Diamox, steroidal anti-inflammatory drugs (SAIDs) or intraocular anti-vascular endothelial growth factors (anti-VEGFs).
Equality	No specific equality concerns are relevant to this research recommendation.
Feasibility	There is a sufficiently large and well defined population available (cystoid macular oedema is a reasonably common adverse events after cataract surgery) that randomised controlled trials in this area should be feasible.