

# Acri.LISA® bifocal intraocular lens (Carl Zeiss UK) versus AcrySof® IQ ReSTOR® multifocal intraocular lens

<b>Submission date</b> 16/07/2010	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 06/09/2010	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 02/06/2015	<b>Condition category</b> Eye Diseases	<input type="checkbox"/> Individual participant data

**Plain English summary of protocol**  
Not provided at time of registration

## Contact information

**Type(s)**  
Scientific

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## Additional identifiers

**Protocol serial number**  
MAUV1007

## Study information

**Scientific Title**

Evaluation of post-operative dysphotopsia and spectacles independence after bilateral multifocal intraocular lens (IOL) implantation for cataract surgery and refractive lens exchange: Acri.LISA® 366D versus AcrySof® SN6AD1 randomised clinical trial

## **Study objectives**

Spectacle independence is a central aim in modern cataract surgery. Although bilateral monofocal intraocular lens (IOL) implantation, aiming for emmetropia (perfect vision) or low myopia (shortsightedness), leads to high levels of patient satisfaction in distance vision, spectacle dependence for reading and other near vision tasks is the usual result. With increasing demands for complete spectacle independence after cataract surgery, multifocal IOLs have been introduced widely in cataract surgery. These have resulted in less spectacle dependence for patients. However, a variable number of patients do complain of problems with glare, haloes and lights especially in the hours of darkness (dysphotopsia symptoms). Dysphotopsia symptoms may vary significantly from patient to patient. The actual incidence of dysphotopsialike symptoms after cataract surgery and multifocal IOL implantation is unknown and most likely quite underestimated.

The Acri.LISA® 366D bifocal intraocular lens (IOL) features a uniform refractive/diffractive optic design to reduce halo and glare side effects associated with multifocal intraocular lens implantation. We aim to examine whether the Acri.LISA® design advantages are reflected in greater freedom from optical side effects such as dysphotopsialike symptoms and similar spectacle freedom after surgery in comparison to one of the current marketleading multifocal IOLs, the AcrySof® SN6AD1.

We propose to conduct a multicentre, prospective randomised controlled trial of 188 patients requiring bilateral cataract surgery. Patients enrolled in the study will be randomised to receive either one of the lenses mentioned above, and their satisfaction with the lens (both subjective and objective) will be assessed at one visit 4 - 6 months post-operatively.

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

Not provided at time of registration

## **Study design**

Patient- and observer-masked prospective randomised controlled trial

## **Primary study design**

Interventional

## **Study type(s)**

Treatment

## **Health condition(s) or problem(s) studied**

Cataracts

## **Interventions**

We plan to randomise patients who have no significant ocular copathology, and are undergoing bilateral sequential cataract surgery or bilateral sequential refractive lens exchanged to either bilateral implantation with an Acri.LISA® multifocal IOL or an AcrySof® IQ ReSTOR® multifocal IOL.

#### **Surgery:**

Surgery for lens removal and IOL implantation will take place as per standard procedure and will be undertaken by Consultants only. Surgery for the second eye will take place between 1 to 4 weeks after surgery for the first eye. Post-operative follow-up appointment at Moorfields Eye Hospital four months after second eye operation (both eyes, maximum 1.5 hours duration).

#### **Intervention Type**

Other

#### **Phase**

Not Applicable

#### **Primary outcome(s)**

The presence of dysphotopsia symptoms (absent, mild, moderate, severe). Dysphotopsia (glare/haloes/visual disturbances) will be assessed with a questionnaire.

Primary and secondary outcomes to be measured 4 - 6 months post-operatively.

#### **Key secondary outcome(s)**

1. Autorefraction and aberrometry and pupil size measurement using the Tracey aberrometer
2. Manifest subjective refraction and spectacle corrected monocular visual acuity measurement
3. Composite scoring of unaided visual acuity; distance and near monocular photopic. Binocular photopic distance, intermediate (50 - 60 - 70 cm) and near (40 cm) visual acuity. Binocular mesopic intermediate (70 cm), distance and near (using neutral density filters NoirU23). The composite scoring system is to be developed during the trial. Visual acuities will be measured using the New ETDRS logarithmic acuity card (Precision Vision).
4. Maximum binocular reading speed at patient preferred distance (IReST)
5. Binocular Near Reading speed
6. Binocular Contrast sensitivity - Pelli-Robson under photopic/mesopic conditions
7. Forward light scatter (C-quant)
8. Spectacle dependence questionnaire
9. Visual satisfaction questionnaire
10. Quality-of-life questionnaire (QIRC score)
11. Visual disability questionnaire - Catquest-9SF patient outcome questionnaire
12. Intra and postoperative complications
13. Slit lamp findings (dilated pupil): IOL centration
14. Adverse event recording (email and CRF)

Primary and secondary outcomes to be measured 4 - 6 months post-operatively.

#### **Completion date**

01/09/2012

## **Eligibility**

#### **Key inclusion criteria**

1. Patients undergoing sequential bilateral cataract surgery or refractive lens exchange
2. Patients that want to be spectacle independent
3. Male or female, aged 21 years and above

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

1. Any significant ocular co-morbidity (amblyopia, age-related macular degeneration [ARMD], glaucoma, etc) precluding post-operative visual acuity (VA) of 20/30 or better or poor zonular /capsular stability (e.g. after trauma/severe pseudoxanthoma elasticum [PXE])
2. Corneal astigmatism more than 1.50 D on IOLMaster keratometry. Corneal astigmatism between 1.00 - 1.50 D will be reduced using standardised limbal relaxing incisions (LRI).
3. IOLMaster biometry not possible
4. IOL power less than 10D or greater than 30D
5. Professional night drivers, pilots, and other occupations for which induced dysphotopsia may be career threatening
6. Patients with severe psychiatric disorders
7. Vulnerable groups
8. Poor mobility
9. Poor comprehension of written English

**Date of first enrolment**

01/09/2010

**Date of final enrolment**

01/09/2012

**Locations****Countries of recruitment**

United Kingdom

England

**Study participating centre**

**Moorfields Eye Hospital NHS Foundation Trust**

London

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# Sponsor information

## Organisation

Moorfields Eye Hospital NHS Foundation Trust (UK)

## ROR

<https://ror.org/03zaddr67>

# Funder(s)

## Funder type

Industry

## Funder Name

Acri.Tec GMBH (Germany) - A Carl Zeiss Meditec Company

# Results and Publications

## Individual participant data (IPD) sharing plan

## IPD sharing plan summary

Not provided at time of registration

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/04/2015		Yes	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes