

Never too late? Reflections on outcomes of intraocular lens dislocation surgery

On February 3, 2021, Marius Dalby defended his thesis, "Reflections from a randomized clinical trial of late in-the-bag intraocular lens dislocation surgery: Long-term clinical outcomes and a health economic evaluation," at the Faculty of Medicine, University of Oslo. His main supervisor was Professor Liv Drolsum (MD, PhD) at the University of Oslo, with co-supervisor Olav Kristianslund (MD, PhD).



Marius Dalby, MD, PhD,
Department of Ophthalmology, Oslo University
Hospital, University of Oslo

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Dislocation of an intraocular lens (IOL) inside the capsular bag may occur many years after uncomplicated cataract surgery and is often referred to as "late in-the-bag" IOL dislocation. The condition requires additional surgery and is one of the most common long-term complications after cataract surgery.

Late in-the-bag IOL dislocation primarily affects the elderly. The frequency of the condition has increased over recent decades because of a growing pseudophakic population. As cataract surgery has become more frequent and life expectancy has increased, it is no longer a rare disease. There are several surgical approaches available to treat late in-the-bag IOL dislocation; however, there has been no clear consensus on the preferred approach for different patients. This randomized clinical trial of late in-

the-bag IOL dislocation surgery compared IOL repositioning with scleral sutures to IOL exchange with a retropupillary iris-claw lens. This thesis aimed to perform a health economic evaluation and evaluate the long-term clinical outcomes of the two different treatments.

The long-term efficacy in terms of visual acuity was similar for the treatment groups, and the overall visual prognosis was good for these patients after surgical treatment. In terms of safety, the treatment groups had similar long-term complication profiles. The most common complication in both groups was cystoid macular edema (CME). Redislocation, a former argument against repositioning surgery, was rarely seen. The 2-year longitudinal corneal endothelial cell loss was similar for the two groups, suggesting

Key points:

- Late in-the-bag IOL dislocation is no longer a rare disease.
- Effective and safe treatments are available, with favorable long-term prognosis.
- Both IOL repositioning with scleral sutures and IOL exchange with a retropupillary iris-claw lens provide favorable outcomes.
- Cataract surgery should be performed, ideally with the IOL inside the capsular bag, even in cases with weak zonules.

equal safety for the corneal endothelium in the long term.

In the health economic comparison, repositioning surgery tended to be more cost-effective; however, adjustment for different surgical times tended to offset this difference in economic efficiency. Thus, cost-effectiveness alone was not considered sufficient to identify the superior method.

In conclusion, this thesis demonstrated the long-term efficacy, safety, and health economics outcome of two different surgical approaches to late in-the-bag IOL dislocation. The prognosis for these patients appears to be favorable, and both IOL repositioning with scleral sutures and IOL exchange with a retropupillary iris-claw lens are suitable treatments.

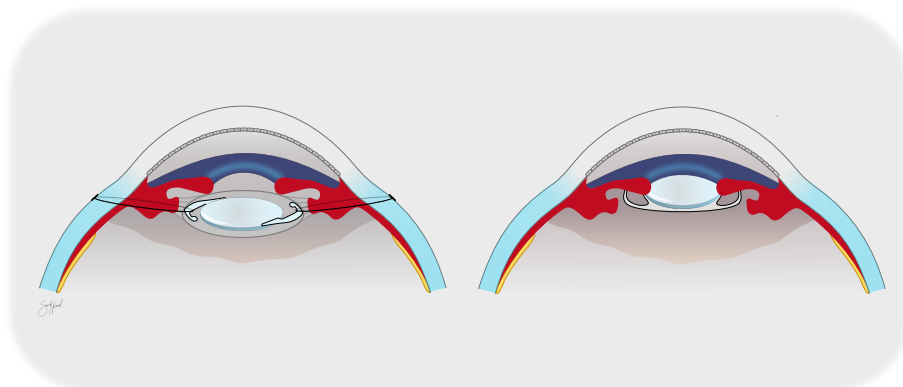


Figure 1. Illustration of the two surgical methods: IOL repositioning by scleral sutures and IOL exchange with an iris-claw lens.

Articles in the dissertation

1. Dalby, M., et al. Long-term Outcomes after Surgery for Late In-The-Bag Intraocular Lens Dislocation: A Randomized Clinical Trial. *Am. J. Ophthalmol.* 2019; 207: 184-194.
2. Dalby, M., et al. Longitudinal corneal endothelial cell loss after corrective surgery for late in-the-bag IOL dislocation: a randomized clinical trial. *J. Cataract Refract. Surg.* 2020; 46: 1030-1036.
3. Kristianslund, O., Dalby, M., et al. Cost-effectiveness analysis in a randomized trial of late in-the-bag intraocular lens dislocation surgery: repositioning versus exchange. *Acta Ophthalmol.* 2019; 97: 771-777.

Future Directions:

- Are surgical outcomes for this condition dependent on a highly specialized surgeon performing these surgeries regularly?
- Do the two procedures differ in the early postoperative period regarding inflammation, intraocular pressure, and frequency of CME?
- Can the surgical methods be further improved?