Efficacy and Cost Savings of an Optometry-Led "One Stop" Cataract Pre-Assessment Service

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Background

- It is recognised that there will be a significantly increased demand for cataract surgery in the next 20 years. It is estimated that services will need to increase their capacity by 50% by 2035 in order to meet this future demand. [1]
- There will be the need to develop efficient pre-operative pathways as part of service re-design to allow the safe assessment of patients prior to surgery.

Purpose

- To report the efficacy and cost savings of an optometry-led "one-stop" cataract pre-assessment clinic as part of a service redesign.

Methods

- A 'one-stop' optometry led cataract pre-assessment clinic was introduced at University Hospital Hairmyres in November 2018.
- Patients were seen by a senior optometrist who had undergone enhanced training in cataract assessment.
- A risk stratification scoring system was developed to identify patients at higher risk of complications. (Box 1)
- Patients with a high risk stratification score would require a 'named consultant' for surgery.
- Those with a low score were listed for surgery and were not seen by a surgeon until the day of the operation.
- Pathways were developed to allow safe management of patients who were identified as having previously undiagnosed co-pathology.

Results

- Between November 2018 and March 2020, 1064 patients attended the "one stop" clinic.
- 87.4% were listed for surgery. (Figure 1)
- 21.4% were listed for surgery with a named consultant as a result of a risk stratification score of 3 or more.
- 6.3% were referred to other ophthalmic services after being identified as having other ocular co-pathology.
- 6.3% of patients declined surgery and were discharged.
- Less than 0.5% of cases were cancelled on the day of surgery as a result of previously unidentified pathology.

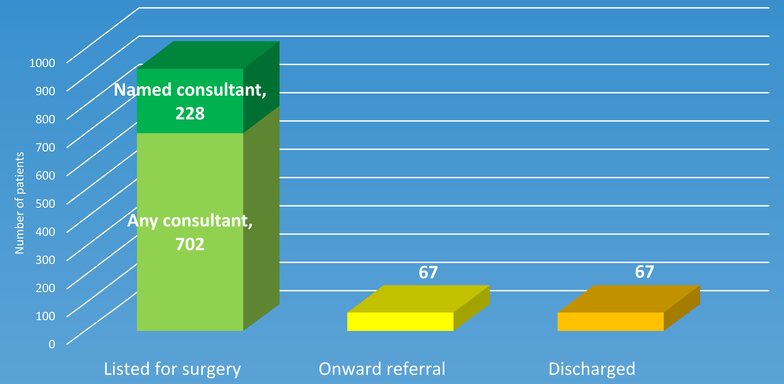
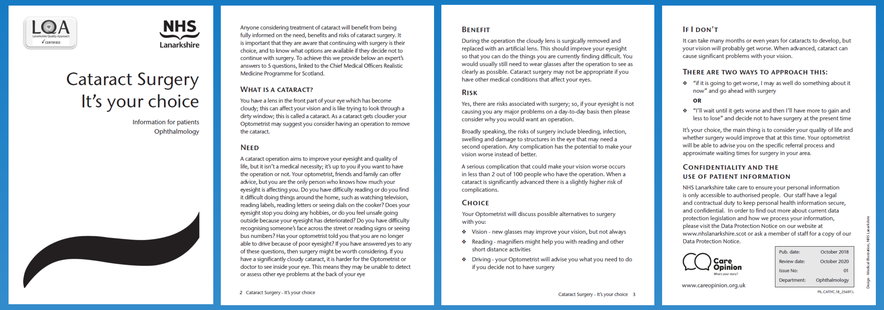


Figure 1. From a total of 1064 patients, 930 were listed for surgery. 228 patients required a named consultant as a result of having a risk stratification score of 3 or more. 702 patients were listed with a risk stratification score of 2 or less and suitable for any consultant to do. 67 patients were identified as having ocular co-pathology requiring further intervention before surgery. This included glaucoma (n=33) and exudative age related macular degeneration (n=10). Following discussion regarding risks and benefits of surgery, 67 patients elected not to proceed with surgery and were discharged.

Box 1. Risk stratification scoring system. Any patient with an additive score of 3 or greater required a "named consultant"

Brunescent / white cataract	3 points	Previous penetrating injury	3 points	Corneal scarring off central 3mm	1 point	Diabetic retinopathy	1 point
Pseudoexfoliation	3 points	Previous refractive laser	3 points	Shallow AC <2.5mm	1 point	Previous surgery / laser	1-3 points
Phacodenesis	3 points	Posterior polar cataract	2 points	Axial Length <21.5mm	1 point	Special order lens	3 points
Fuchs dystrophy with oedema	3 points	Fuchs dystrophy	2 points	>26.0mm	1 point	Requires general anaesthetic	3 points
Hypermetropia >+8D	3 points	Small pupil <3mm	2 points	>30.0mm	1 point	Existing patient	3 points
Myopia >-10D	3 points	Difficulty lying flat / co-operate	1- 2 points	Tamsulosin, Finasteride, Doxazosin	1 point each, max 2 points		
Corneal scarring central 3mm	3 points	Only eye	1 point	Age 90+	1 point		



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Anyone considering treatment of cataract will benefit from being fully informed on the need, benefits and risks of cataract surgery. It is important that they are aware that continuing with surgery is their choice, and to know what options are available if they decide not to continue with surgery. To achieve this we provide below an expert's answers to 5 questions, linked to the Chief Medical Officers Realistic Medicine Programme for Scotland.

What is a cataract?

You have a lens in the front part of your eye which has become cloudy; this can affect your vision and is like trying to look through a dirty window; this is called a cataract. As a cataract gets cloudier your Optometrist may suggest you consider having an operation to remove the cataract.

Need

A cataract operation aims to improve your eyesight and quality of life, but it isn't a medical necessity; it's up to you if you want to have the operation or not. Your optometrist, friends and family can offer advice, but you are the only person who knows how much your eyesight is affecting you. Do you have difficulty reading or do you find it difficult doing things around the home, such as watching television, reading labels, reading letters or seeing dials on the cooker? Does your eyesight stop you doing any hobbies, or do you feel unsafe going outside because your eyesight has deteriorated? Do you have difficulty recognising someone's face across the street or reading signs or seeing bus numbers? Has your optometrist told you that you are no longer able to drive because of poor eyesight? If you have answered yes to any of these questions, then surgery might be worth considering. If you have a significantly cloudy cataract, it is harder for the Optometrist or doctor to see inside your eye. This means they may be unable to detect or assess other eye problems at the back of your eye

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Benefit

During the operation the cloudy lens is surgically removed and replaced with an artificial lens. This should improve your eyesight so that you can do the things you are currently finding difficult. You would usually still need to wear glasses after the operation to see as clearly as possible. Cataract surgery may not be appropriate if you have other medical conditions that affect your eyes.

Risk

Yes, there are risks associated with surgery; so, if your eyesight is not causing you any major problems on a day-to-day basis then please consider why you would want an operation.

Broadly speaking, the risks of surgery include bleeding, infection, swelling and damage to structures in the eye that may need a second operation. Any complication has the potential to make your vision worse instead of better.

A serious complication that could make your vision worse occurs in less than 2 out of 100 people who have the operation. When a cataract is significantly advanced there is a slightly higher risk of complications.

Choice

Your Optometrist will discuss possible alternatives to surgery with you:

- Vision - new glasses may improve your vision, but not always
- Reading - magnifiers might help you with reading and other short distance activities
- Driving - your Optometrist will advise you what you need to do if you decide not to have surgery

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If I don't

It can take many months or even years for cataracts to develop, but your vision will probably get worse. When advanced, cataract can cause significant problems with your vision.

There are two ways to approach this:

- "If it is going to get worse, I may as well do something about it now" and go ahead with surgery
  OR
- "I'll wait until it gets worse and then I'll have more to gain and less to lose" and decide not to have surgery at the present time

It's your choice, the main thing is to consider your quality of life and whether surgery would improve that at this time. Your optometrist will be able to advise you on the specific referral process and approximate waiting times for surgery in your area.

Confidentiality and the use of patient information

NHS Lanarkshire take care to ensure your personal information is only accessible to authorised people. Our staff have a legal and contractual duty to keep personal health information secure, and confidential. In order to find out more about current data protection legislation and how we process your information, please visit the Data Protection Notice on our website at www.nhslanarkshire.scot or ask a member of staff for a copy of our Data Protection Notice.

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Figure 2. To assist with the consenting process, a four page document about cataract surgery was developed in conjunction with Public Health, based on the Chief Medical Officer for Scotland's Annual Report "Realistic Medicine". This was used in the community by the referring optometrist to ensure only patients wishing surgery were referred. When seen in the one stop clinic, a full discussion on the indications, risks , benefits and outcomes of surgery was undertaken by the senior optometrist, so that only patients wishing to proceed were listed.

Cost Analysis

- Based on the cost of a consultant session when compared with a senior optometrist, there was an estimated £10,200 saving for NHS Lanarkshire over the reported period.

Conclusion

- HEE Centre for Workforce Intelligence Dashboard predicts a growth of <10% from 2014-2023 in consultant ophthalmologists, which is in stark contrast to the predicted 50% increase in demand for cataract operations. [2] This gap in the workforce market can be filled by senior optometrists and Health Care Professionals with appropriate training, supervision and pathways.
- We have found that the introduction of an optometry led 'one-stop' pre-assessment clinic with robust patient pathways has led to the development of a safe and efficient cataract pre-assessment service.

References

1. RCOphth. The Way Forward: Cataract. 2016.
2. https://www.hee.nhs.uk/our-work/hee-national-data-function/ecollection/strategic-workforce-collection