



**Glaucoma
Australia**
Saving sight

Glaucoma News

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Our vision is for Australians to be free of glaucoma blindness

Visionary advancements in glaucoma care and hope on the horizon



Written by Glaucoma Australia

Although there is currently no cure, the future holds exciting promise for people around the world who are at risk of developing or are already living with glaucoma. **Several advancements in research, innovation, and medical advancements are paving the way for a future that is free of glaucoma blindness.**

It is this vision that drives everything we do at Glaucoma Australia, increasing awareness, driving early detection and testing, improving treatment adherence and quality of life and funding some of the brightest minds in Australian research.

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From the CEO



Dear friends and supporters,

I am delighted to share the first edition of Glaucoma News for 2025 with you, which is packed with more interesting and

educational articles on all things' glaucoma.

In this issue we explore the very important topic of mental health and how eye health professionals are being urged to focus on this area, given its strong links to glaucoma. Not only can it impact disease progression but also quality of life.

It is why our orthoptist patient educators are also trained health counsellors. I urge you to continue to access them through our SiGHTWiSE patient support program as often as you need to on 1800 500 880. This is a free service that we are proud to run because of your support..

World Glaucoma Week is also fast approaching (9 – 15 March) and our team is busy organising a special group of guest speakers for our popular Live Q&A event series. We will also be spreading the word across Australia to remind everyone on how important it is to get your eyes checked.

In closing, I would like to thank you for your kind support and acknowledge the generosity of our donors, corporate partners and eye health industry who enable us to continue to deliver our critical services.

Sincerely,

Adam Check
Chief Executive Officer

Cover Story

Visionary advancements in glaucoma care and hope on the horizon

Continued from page 1

When we look at the state of glaucoma today, despite its prevalence, glaucoma often goes undiagnosed until it has progressed significantly, causing peripheral vision loss which leads to 'tunnel vision' and ultimately, blindness if left untreated. While treatment options such as eye drops, laser therapy, and surgical options exist to manage intraocular pressure, we have yet to find a cure. The future of prevention and treatment is therefore a subject of intense focus in the medical and scientific communities around the world.

It is an exciting and rapidly evolving field, with researchers and medical professionals across the globe dedicating their efforts to advancements in early detection, innovative therapies and potential cures.

Early detection is one of the most promising avenues for a glaucoma-free future as an early diagnosis is crucial for managing glaucoma and preventing irreversible vision loss.

In recent years, there have been significant strides in improving diagnostic techniques. Advanced imaging technologies, such as optical coherence tomography (OCT) and Heidelberg retinal tomography (HRT) are allowing ophthalmologists to detect changes in the optic nerve and retina much earlier than before.

Additionally, the development of artificial intelligence (AI) and machine learning algorithms are showing great potential in identifying subtle patterns in eye scans that could indicate early signs of glaucoma.

These AI systems can analyse large datasets, including retinal scans and visual field tests, to identify patients who might be at high

risk, allowing for timely intervention before significant damage has occurred. This will ultimately make screening for glaucoma more accessible, affordable, and efficient, especially in underserved areas where eye care professionals are scarce.

Another promising area of research is the role of genetics with scientists uncovering the genetic factors that predispose individuals to glaucoma.

Genome-wide association studies (GWAS), allow the identification of several genetic variants linked to the disease allowing scientists to better understand genetic markers.

Moreover, these amazing advancements in personalised medicine, where treatments can be tailored to the genetic makeup of a patient, could revolutionise glaucoma care. Instead of relying on a one-size-fits-all approach, patients could receive targeted therapies that are more effective and have fewer side effects.

Precision drug therapies for example could one day lower intraocular pressure in a way that is uniquely suited to an individual's genetic profile.

Stem cell therapy and regenerative medicine are also hot topics in medical research, and glaucoma is no exception.

The possibility of using stem cells to regenerate damaged optic nerve fibres holds the potential to restore lost vision and **scientists are investigating how stem cells can be used to repair or replace damaged optic nerve tissue, a feat that could radically change the prognosis for glaucoma patients.**

Other regenerative medicine approaches are also being explored to restore the health of the optic nerve such as gene therapy to promote the growth of new nerve cells in the retina or optic nerve.



Although these approaches are still in their early stages, the progress made so far is promising, offering a glimpse into a future where glaucoma could be not just managed, but potentially reversed.

We are also seeing more effective, less invasive drugs and surgical interventions. The pharmaceutical industry is making great strides in developing new treatments for glaucoma, developing more effective drugs that could target the underlying causes. Another exciting area of research is the development of neuroprotective drugs that not only lower the intraocular pressure but also protect the optic nerve from further damage.

These drugs could help preserve vision even in patients who are already showing signs of optic nerve damage. In addition, sustained-release drug delivery systems, such as implantable devices or contact lenses that release medication gradually, could improve

patient adherence to treatment by reducing the frequency of application and making treatment more convenient.

Surgical options for glaucoma are another area of innovation. Traditional glaucoma surgeries, such as trabeculectomy or glaucoma drainage implants, have long been the gold standard for reducing IOP in patients with moderate to advanced glaucoma.

However, these procedures often involve significant risks, such as infection, scarring, or hypotony (overly low eye pressure), as well as prolonged recovery times that can affect patients' daily lives. In recent years, minimally invasive glaucoma surgeries (MIGS) have emerged as an exciting alternative, offering quicker recovery times and fewer complications.

Laser surgeries, such as selective laser trabeculoplasty (SLT), are already less invasive alternatives to traditional surgical approaches, however, the next generation of glaucoma surgeries could involve even more refined, targeted techniques such as robotic assistance or microsurgery tools that offer highly precise interventions. These developments and refinement of these techniques represent a significant step forward in reducing the treatment burden and improving outcomes for glaucoma patients.

Whilst we cannot predict when a glaucoma-free future will arrive, advances in early detection, personalised treatments and stem cell therapy suggest that we are getting a step closer to a glaucoma-free future. With global efforts focused on improving treatment options and finding a cure, we may very well witness a

world where glaucoma is either preventable or completely reversible. Imagine that!

Until that time, patients with glaucoma can take comfort in the rapid progress that is being made in glaucoma research and the promising new technologies that are already beginning to transform glaucoma diagnosis, care and patient outcomes.

With continued investment in scientific research, education, and healthcare, the dream of a glaucoma-free future is not just a distant hope which is an achievable reality.

Remember, regular eye screening and testing remain essential, as they offer the best opportunity for early detection and effective treatment and management of glaucoma. ●



Research News

Mental health plays a role in glaucoma progression

Written by Insight News

Ophthalmologists and other eyecare professionals are being urged to address patients' mental health after new research linking it with glaucoma.

Researchers in America have established a link between the two, with each feeding the other and possibly worsening the patients' mental and ocular health.

"Factors like anxiety, depression, and allostatic load – the cumulative burden of stress on one's mind and body – are intertwined with the effects of glaucoma," said Dr Sarah Van Tassel, director of the Glaucoma Service and Glaucoma Fellowship at Weill Cornell Medicine Ophthalmology in New York City.



"For instance, patients with glaucoma may experience psychological disturbances that reduce their vision-related quality of life, and they may be at greater risk of depression than others," she said.

Dr Van Tassel suggested that having glaucoma can contribute to a patient's stress and depression and, conversely, stress and depression might influence factors that contribute to the progression of the disease.

The researchers reviewed a number of studies, including several linking visual field (VF) defects with both the incidence of falls and the fear of falling. Among these, a three-year study of 342 patients with primary open-angle glaucoma found that inferior peripheral VF defects were significantly associated with fear of falling.

They concluded that anxiety could affect glaucoma progression through "stimulation of the autonomic nervous system, however the mechanism is not known".

"It's a complex web of interactions, and it's not as well understood in eye disease [as in some systemic diseases]," said Dr Van Tassel.

But they believed that some patients "may be at greater risk for depression, including those who are female, live in isolation, have a low income, engage in substance abuse, and are older".

The research also suggested treatments to help ease anxiety and depression, and its potential ongoing impact on glaucoma.

Other tools included good education, low vision and social services, and mental health therapy. ●

If you are struggling with anxiety or stress, our health counsellors are available free of charge on 1800 500 880

The benefits of regular monitoring your glaucoma

Written by Zeinab Fakh, Specsavers Optometrist

Glaucoma is a lifelong condition. Early detection by an eye health professional is important, as any loss of vision is often irreversible. Once diagnosed, it is important that you keep up with the regular eye health appointments recommended by your optometrist or ophthalmologist.

This ongoing monitoring is essential to catch any changes in your vision and ensure your treatment is as effective as possible. Most changes related to glaucoma don't have any symptoms, so while it's unlikely you will notice anything, small variances can be picked up with a visit to your eye care professional and treated early, which will protect your sight.

Monitoring your treatment

Even if you have already commenced treatment for your glaucoma, your prognosis may still change over time. The purpose of glaucoma treatment is to adequately lower your eye pressure, however, even treatments that have been working for you for many years may not be effective forever. That's why your treatment plan needs to be monitored by your ophthalmologist or optometrist. In certain instances, this may mean adjusting and changing things as your condition requires.

Routine follow-up appointments

Visiting your local optometrist for regular eye tests will allow early detection of glaucoma, and referral to an ophthalmologist for a tailored treatment plan which is an essential component in actively managing your glaucoma.

Optometrists are primary eye care providers who can perform pressure checks and assess your peripheral vision and optic nerve to detect

any changes early. Attending follow-up appointments also gives your eye health professional the chance to tell you about new and emerging forms of glaucoma treatment options and a referral to a specialist for an ophthalmic assessment and further treatment options.



Co-care between optometrists, ophthalmologists and your GP

Fortunately, there is a network of readily accessible community healthcare professionals who work together to help you monitor and manage your glaucoma, and ensure you get the best vision outcomes.

Your local optometrist is a great option if you cannot see your ophthalmologist routinely or in a timely manner. Optometrists can advise if

your treatment is working, and if any changes in your eye are detected they will then liaise with your ophthalmologist to either alter your treatment or assist you to see them earlier.



To make sure you have the very best care, your ophthalmologist may ask you to see an optometrist in between appointments to ensure regular checks of your eye pressure and peripheral vision. Optometrists can also prescribe repeat prescriptions of your eye drops if you run out before your next appointment with your eye specialist.

Not only are optometrists and ophthalmologists available to help you manage your glaucoma,

your general practitioner (GP) can also be involved. A GP can prescribe your glaucoma medication if needed, but it is essential that you continue following up with your optometrist and ophthalmologist who will assess your eye health comprehensively.

How often you need to get your eyes assessed will vary depending on your situation. Your ophthalmologist will make this decision, but it can usually be around every 6 months.

Glaucoma support services

A glaucoma diagnosis and ongoing management can be overwhelming. Fortunately, there are free support services readily available through Glaucoma Australia to help guide you through the journey.

Glaucoma Australia have trained Orthoptist Patient Educators who are available to answer your questions, provide resources and information specific to your condition, offer emotional support and ongoing assistance through their SiGHTWiSE program.

They also make sure you feel empowered to attend your eye health appointments and keep on top of your treatment plan. You can call them on 1800 500 880 Monday to Friday AEDT.

As your glaucoma will be with you for life, ongoing monitoring of your condition is crucial for better long-term outcomes. It is reassuring, therefore, to know that there are a range of healthcare providers available to support you in managing this condition and making sure you receive the very best care. ●

Lifestyle, diet and exercise



Written by Glaucoma Australia

While glaucoma cannot yet be cured, adopting a healthy lifestyle can help preserve vision for longer. Regular exercise, which is tailored to an individual's needs, a balanced diet that is rich in antioxidants and protective lifestyle choices are the keys to a better quality of life.

Before embarking on any significant changes, it is important to work closely with your healthcare providers and ophthalmologist to develop a comprehensive care plan, that includes your prescribed glaucoma treatment.

Whilst treatments such as eye drops, laser therapy, or surgery are essential for managing glaucoma and slowing down disease progression, lifestyle choices also play a crucial role in maintaining overall eye health.

Diet is important when it comes to glaucoma

management and good nutrition significantly impacts eye health. In fact, a balanced diet helps to reduce the risk of further optic nerve damage and obesity can increase the risk of conditions like diabetes, which may exacerbate this chronic eye condition.

Here are some dietary tips for managing glaucoma:

- o **Staying hydrated** can help to maintain intraocular pressure (IOP) within a normal range. In fact, drinking small amounts of water throughout the day rather than large quantities at once reduces spikes in IOP.
- o **Incorporating omega-3 fatty acids** reduces inflammation and improves blood flow. Good sources include fatty fish such as mackerel and salmon, chia, flaxseeds and walnuts.

- o **Eating plenty of antioxidant rich foods** such as citrus fruits, berries, spinach, kale, and bell peppers. Vitamins C and E help to combat oxidative stress, which can contribute to optic nerve damage.
- o **Limiting your intake of caffeine** as excessive amounts may temporarily increase IOP and this could be harmful for glaucoma patients.
- o **Consuming foods high in lutein and zeaxanthin** as these carotenoids reduce the risk of further vision loss. You can find these in corn, egg yolks, and dark leafy greens like kale and spinach.

Regular physical activity is also beneficial for overall health and can help to reduce intraocular pressure and improve blood flow to the optic nerve. However, certain precautions are absolutely necessary to avoid strain or injury and you should aim for at least 150 minutes of moderate aerobic exercise per week.

Recommended exercises include cycling and walking (as they can lower intraocular pressure and improve cardiovascular health). Yoga and stretching (incorporate poses that don't require prolonged inversion such as headstands which can increase intraocular pressure) and light to moderate strength training (which helps to maintain muscle health without excessive strain). It is important to avoid heavy lifting or breath-holding during exercises, as this can temporarily increase intraocular pressure.

In addition to diet and exercise, certain lifestyle changes can help preserve vision and improve

quality of life. These include scheduling regular eye exams to monitor intraocular pressure and assess any changes in your condition, protecting your eyes from harmful sunlight with UV blocking sunglasses and wearing protective eyewear when engaging in activities to avoid eye injuries.

Chronic stress can also contribute to increased intraocular pressure, so it is wise to incorporate relaxation techniques like meditation, deep breathing, or mindfulness into your daily life.

Poor sleep also affects blood flow and pressure regulation in the eyes, so it is important to maintain a consistent sleep schedule and elevate your head slightly while sleeping to prevent pressure buildup. Smoking should also be avoided as it reduces blood flow to the optic nerve and increases the risk of vision loss. ●



My Glaucoma Story

Thomas' Story

I was diagnosed with glaucoma 10 years ago, when I was 74 years old.

In early 2015, I became aware of a sensation of a fuzzy, blurry area in my field of vision, to the lower part of my eye, and whilst I was having my annual eye test for spectacles I mentioned this to my optician. He put me through some tests including a field of vision test (as well as my normal pressure test) and he suspected I had glaucoma in my right eye, although my pressures were not unusually high.

I have worn spectacles since I was 15 years of age as I was found to be myopic. I have had spectacles with changing prescriptions over the years and until 2015, I had not noticed any field of vision loss - at least none I was aware of.

Now my eye seems to be stable with pressures of 10-12, a little high but not extreme according to my ophthalmologist. I have been on eye drops for both eyes each day since diagnosis. He refers to my case as atypical as I did not have high eye pressures to begin with. Meaning, I think, regular eye pressure checks did not effectively indicate that I might have a problem.

Regardless of regular eye pressure tests showing no problem, it may be wise to have regular field tests, to provide early warning signs, especially for cases such as mine. Early treatment might be more affective in arresting the development of the disease. ●

If you wish to share your glaucoma journey visit www.glaucoma.org.au/share-your-story OR email your story and a photo (optional) to glaucoma@glaucoma.org.au



Let's get SiGHTWiSE

Glaucoma Australia's SiGHTWiSE patient support program offers FREE education, guidance and support to people living with glaucoma.

If you or someone you care for has been diagnosed with glaucoma, join our supportive community, and enjoy the sight-saving benefits of being SiGHTWiSE.

Enrol today

www.glaucoma.org.au/sightwise

Call our free support line

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Your Questions Answered



with Natasha Sikman

Natasha Sikman is one of Glaucoma Australia's Senior Orthoptists and Patient Educators. With her wealth of experience and expertise, Natasha explains how diabetes can cause diabetic retinopathy, which may subsequently lead to secondary glaucoma.

Q How can I tell if diabetes is affecting my eyes?

A Your eyes can be affected by diabetic retinopathy without any symptoms, therefore making regular eye checks with your optometrist or ophthalmologist essential if you have diabetes. Early on, you may not notice any changes, but as the condition progresses, symptoms like fluctuating vision, floaters, double vision, and impaired colour vision may appear. Fluctuating vision can indicate high blood sugar levels, which can cause blurred vision that typically clears up once blood sugar levels stabilise. Swelling in the macula, the eye's central area responsible for colour and clarity, can further impair vision. Monitoring blood sugar and seeking regular eye care is crucial.

Q Can I develop Diabetic Retinopathy even though my diabetes is always well-controlled?

A Yes. Patients with Type 1 diabetes, especially those who've had it for 20+ years, are at a higher risk of developing diabetic retinopathy due to variable blood sugar levels, inflammation, and blood vessel changes. Regular blood sugar monitoring, including fasting levels and HBA1C tests, help assess diabetes control. Fluctuating blood sugar is particularly harmful, as high

levels overfeed the retina, and low levels starve it, prompting the growth of weak, leaky blood vessels that damage the eye. While diabetes is progressive, maintaining stable blood sugar levels can slow its progression.

Q If one eye is affected, will the other eye suffer the same fate?

A The signs and symptoms of diabetic retinopathy may initially develop in one eye first, however in general both eyes are usually compromised, although perhaps not to the same degree. That is why it's crucial that the patients adhere to their regular eye appointments for any changes to be identified by their optometrist or ophthalmologist.

Q Can new treatments provide a definitive cure for Diabetic Retinopathy and Diabetic Macula Oedema?

A No. Treatments for diabetic retinopathy have significantly improved, slowing disease progression and reducing vision loss. Future treatments hold even more promise. Maintaining a healthy lifestyle, exercising, eating a balanced diet, following treatments, and having regular eye exams can help reduce the risk of damage from diabetes and glaucoma.

Q How have the new imaging tests changed the way Diabetic Retinopathy is studied??

A New imaging tests such as the Optical Coherence Tomography (OCT) provide very valuable information about the retina without any side effects or any discomfort to the patient. This is why these tests are frequently used when the patient visits their eye specialist. Just like in glaucoma, where the OCT is performed to assess any changes of the optic nerve or any thinning of the retinal nerve fiber layer (RNFL), an OCT in diabetic patients is performed to observe any changes such as early signs of swelling at the back of the eyes.

An OCT can also provide valuable information such as effectiveness of treatment received, whether or not the swelling has increased or decreased, particularly if the patient is receiving regular injections in the eyes to help reduce the diabetic swelling in the macula area. Tests like fluorescence angiography (FFA), where the dye is injected into the body and photographs are taken before and after the dye starts to travel through the blood vessels in the back of the eye, are now conducted less frequent and only when they are specifically needed to be done so. ●

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Leaving a gift in your Will is an incredibly forward-thinking way of giving that will benefit glaucoma patients for generations to come – your family, friends and neighbours who may be diagnosed in the future.

After looking after your loved ones, any gift is greatly appreciated and allows us to plan ahead, to invest in the research that will one day find a cure and continue to support and care for families impacted by glaucoma.

If you are considering leaving a gift in your Will to Glaucoma Australia, you can reach out to our Fundraising Manager for a confidential conversation on 1800 500 880 or via email at betty@glaucoma.org.au.

