



# The View

News from the Ocular Repair Group at the Save Sight Institute

Welcome to *The View*, a newsletter for patients who wish to stay up-to-date on the latest research developments in ocular repair and regeneration.

We have assembled an expert multidisciplinary team of researchers, clinicians and scientists to investigate new and better ways to save sight, and I'm pleased to share some of our projects with you.

I'm especially pleased to introduce you to some of our team members, all passionate and motivated experts in the field of eye research.

The work that we do would not be possible without the generosity of donors and supporters. I thank these visionary individuals and organisations for the immense trust that they put in our team.

Unfortunately, funding for medical research in Australia has never been more uncertain, so the contributions of donors and supporters is more critical than ever.

As doctors and clinicians, we are reminded every day of why we do what we do. It is a privilege to care for patients. Ultimately, we hope that the new treatments and insights will make a real difference to people suffering from a variety of eye diseases and conditions.

Please like our facebook page [facebook.com/savesightinstitute](https://www.facebook.com/savesightinstitute) or sign up to our e-newsletter at [www.savesightinstitute.org.au](http://www.savesightinstitute.org.au) for more regular updates.



*Clinical Professor Stephanie Watson, head of the Ocular Repair Group at the Save Sight Institute, The University of Sydney.*

Clinical Professor  
Stephanie Watson

Ocular Repair Group  
Save Sight Institute



## Some of the projects currently underway:

### New Treatments for Dry Eye

Dry Eye and Blepharitis (eyelid inflammation) are common eye disorders, affecting up to 40% of people. Many of these people suffer ongoing discomfort despite available therapies, significantly impacting their quality of life.

We have developed a novel new eye drop which provides relief whilst uniquely addressing all of the underlying aspects.

Clinical trials have found decreased signs and symptoms of blepharitis and dry eye after use, treating both the cause and symptoms of the conditions, with less side-effects.

We are currently in the process of seeking funding for Phase 2 trials.

### Stem Cell Repair

Our novel and world-first stem cell transplantation technique, growing corneal stem cells on a contact lens (the carrier) and then transferring them to the ocular surface on the patient, has already successfully restored sight to a number of patients.

Stem cells play an important role in restoring clear vision and comfort to the surface of the eye.

Our research in this area continues, with a particular focus on the factors which causes stem cell failure such as long-term contact lens wear and cornea infection as triggers. These triggers promote stem cell repair of the ocular surface.

### Serious Ocular Infections Project

Eye infection can irreversibly damage the eye, resulting in vision loss and even blindness. Prompt and appropriate use of antimicrobials (an agent that kills microorganisms or inhibits their growth) is critical when it comes to saving sight, but antimicrobial resistance is emerging as a significant problem. We will determine the pattern of pathogenic microbes and prevalence of antimicrobial resistance in microbial keratitis (infection of the eyes' window, the cornea).

Our team will also help identify eye infection earlier and more accurately by using 'state of the art' imaging techniques.

Furthermore, we aim to improve microbial keratitis management by understanding more about organism and host interactions. We will ask patients about their experience of eye infection so that treatment and services can be tailored to patients needs.

These projects are supported by the Sydney Eye Hospital Foundation, Allergan and the University of Sydney Medical School's Kickstart Grant, and are being carried out in association with the Sydney/ Sydney Eye Hospital's Nursing department.



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## Some of our team members:



Dr Dana Robaei  
Project: Serious Ocular Infections

“Ophthalmology offers real and discernible improvements in quality of life. I want to ensure that treatments I offer really work and are backed by strong evidence, hence my interest in clinical research. I hope that my research into corneal infections results in meaningful policies that can be implemented nationally.”



Dr Kenneth Ooi  
Project: Dry Eye Treatment

“As both an ophthalmologist and researcher, I am motivated to find new and better ways of treating debilitating and frustrating conditions such as dry eye and blepharitis. I see every day the impact that these conditions have on my patients.”



Dr Nicole Carnt  
Project: Serious Ocular Infections

“I am privileged to work alongside patients who are motivated to raise awareness of the serious risks of corneal infections, and who want to help other people cope with its consequences. This has reinforced my drive to help others see clearly, and I really enjoy being part of such an integrated team of doctors, researchers and patients all working towards a shared goal.”



Dr Maria Cabrera-Aguas  
Project: Herpes Simplex Virus Keratitis

“As a little girl I was diagnosed with amblyopia (lazy eye) and underwent rigorous treatment to recover the vision in my right eye. This experience encouraged me to study medicine and public health, and ultimately to work on this important project where I am able to contribute to better delivery of eye health care.”



Pauline Khoo  
Project: Serious Ocular Infections

“Having grown up around eye-health practitioners, I understand the importance of sight and the detrimental impact that vision loss can have on individuals, families and even communities. It’s a privilege to be part of a team that makes a real difference to people who suffer from corneal infections.”



Amanda Dinh  
Project: Fight Corneal Blindness

“As a clinical research orthoptist and research coordinator, I’m so proud to be a part of this institution where my passion for helping others can come to life. I hope my contributions in research will help make a difference in restoring sight, because so many people in Australia and globally suffer from serious eye diseases. I’m so pleased to be part of such a meaningful project.”

## Save Sight Registries

This project utilises a sophisticated registry technology platform, developed at the Save Sight Institute, to efficiently collect high quality national and international data within clinical environments.

For keratoconus (a condition resulting from an irregular shaped cornea) we are looking at the safety and effectiveness of treatments.

Evidence-based management guidelines, evaluation of new interventions and a true indication of patient related outcomes will be the results, informing the profession's

approach to treating keratoconus in the future.

This project is supported by Keratoconus Australia and the Ophthalmic Research Institute of Australia.

## Link Between Breast Cancer Treatment and Dry Eye

We have conducted the first prospective survey study of breast cancer patients on aromatase inhibitors (stops the production of oestrogen), and have found an increase in the occurrence of dry eye. We continue to investigate this link.

This project is supported by the Ophthalmic Research Institute of Australia.

## New treatments for Viral Blindness

Herpes simplex keratitis is a leading cause of infection blindness in developed nations and is commonly seen by ophthalmologists.

Our group is developing Australian guidelines for anti-viral therapy for this infection, ultimately aiming to preserve vision for those people affected.

This project is supported by the Sydney Eye Hospital Foundation.

# Support Eye Research

We can't do what we do without the support of our patients and community. Our research is funded 100% by grants, donations and bequests. To help us find new and improved ways to save sight please consider making a donation to the Ocular Repair Group via our donation form or online at [savesightinstitute.org.au](http://savesightinstitute.org.au) (selecting 'Ocular Repair Group' from the gift form). You can also call (02) 9382 7306 to make a credit card donation. **Donations over \$2.00 are tax deductible.** Save Sight Institute is a centre of The University of Sydney.

### Our Team:

Dr. Daniel Barthelmes, Dr. Martina Bosch, Dr. Maria Cabrera-Aguas, Dr. Nicole Carnt, Dr. Yi Chiao-Li, A/Prof. Nick DiGirolamo, Amanda Dinh, A/Prof. John Foster, Dr. Holly Inglis, Dr Lisa Keay, Pauline Khoo, Dr. Kenneth Ooi, Dr. Dana Robaei, Dr. Jack Tan, Prof. Stephanie Watson

### Our Supporters:

Sydney Eye Hospital Foundation, Keratoconus Australia, Ophthalmic Research Institute of Australia, NHMRC, Cornea & Contact Lens Society of Australia, NSW Health.



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