Early Detection Saves Sight

It’s your turn to be a CFEH client!

CFEH invites you to visit the Centre as a client, combining your own ocular imaging assessment with four CPD points and a better awareness of the patient experience at CFEH.

Your individual two-hour session will include:
• a one-on-one tour of the facilities with a CFEH optometrist;
• extensive examination of your eyes using CFEH advanced imaging equipment;
• insight into interpreting your own eye examination results in comparison to previous CFEH presenting clients;
• deeper understanding of what your clients experience when visiting CFEH.

Be quick as self-referred CPD appointments are limited. To book your place please download and complete the self-referral form at www.cfeh.com.au/publications.

“"I'm forever grateful for the service I received and everything the CFEH has done for me”

Jane, CFEH patient

case profile: Fleck dystrophy

27 year-old Katie is a full-time soft contact lens wearer of Caucasian background.

During a routine examination, her optometrist noted white flecks in both corneas (Figure 1 right eye).

Her best-corrected visual acuity with spectacles was 6/7.6-1 (right eye) and 6/7.6-2 (left eye).

Issues to consider:
• What tests might the optometrist request to further investigate the corneal flecks?
• How would you manage a patient whose routine examination presents this way?

Prof. Michael Kalloniatis
Centre Director

professional education and training services continue to grow and expand at CFEH.

As part of our unique approach to CPD, we have launched an innovative new self-referral campaign for registered optometrists.

Our popular Series of Continuing Professional Education (SCOPE) program also now incorporates interactive online ‘webinars’, which better cater to the needs of regional and remote optometrists, as well as to metropolitan practitioners who prefer to obtain their education from the comfort of their own home or practice.

An internet connection is all that is required, although headphones can also be very useful.

Bookings for online sessions are limited to maintain small-group sizes, and I encourage all optometrists to sign-up to our notification list and be the first to find out what’s on and when. To register please email your details to scope@cfeh.com.au.

I’d also like to draw your attention this month to an important public advocacy campaign which has recently been launched by our generous benefactors.

Guide Dogs NSW/ACT are calling on the government to ensure that the National Disability Insurance Scheme (NDIS) includes funding for orientation and mobility services, including canes and guide dogs.

You can help ensure the independence of all vision impaired people by visiting www.visionloss.org.au and leaving a message of support to count as your signature on the petition.

Let’s not leave people with impaired vision in the dark!

Please support this important initiative, which will benefit many of your patients in the future.

continued overleaf
Fleck dystrophy

Katie’s optometrist suspected a corneal dystrophy, referring her to CFEH for a comprehensive corneal assessment.

In good health, and happy with her vision, Katie reported no specific visual symptoms although she did have a family history of age-related macular degeneration (grandparents).

Pentacam images showed normal topography of the anterior and posterior corneal surfaces (Figure 2A and 2B). Average central corneal thickness was 527µm in the right eye (thinnest location measuring 520µm) and a slightly thinner value of 515µm in the left eye (thinnest location measuring 505µm).

Slit-lamp examination revealed numerous flat grey-white opacities in the stroma of both eyes from limbus-to-limbus. The intervening stroma was clear. There was no corneal staining in either eye with sodium fluorescein, and the epithelium and endothelium both appeared unremarkable.

Optovue Optical Coherence Tomography (OCT) and Pentacam Scheimpflug images through the cornea also revealed numerous flat grey-white opacities in the stroma of both eyes from limbus-to-limbus. These opacities appeared flat with OCT and were confined to a single stromal layer, and could be located in either the anterior, mid or posterior stroma (Figure 3A and 3B).

The irx3 Wavefront Aberrometer showed a slightly elevated number of higher-order corneal aberrations in both eyes. Measured as root-mean-square (RMS) wavefront error, and representing the averaged total amount of higher-order aberrations, a healthy eye with pupil diameter of 5mm will measure an RMS wavefront error between 0.20-0.30µm. Katie’s RMS wavefront error was 0.41µm in the right eye, and 0.38µm in the left eye.

Contact Confocal Microscopy in each eye revealed the presence of enlarged stromal keratocytes with internal hyper-reflective dots (Figure 4). The remaining stroma, epithelium and endothelium appeared normal.
spotlight on Fleck dystrophies

Fleck Corneal Dystrophy is an inherited condition of the anterior eye. Usually asymptomatic and non-progressive, the patient presents with scattered gray-white opacities resembling ‘flecks’, which can be seen with a slit-lamp examination (at any depth) of the stroma in the central and/or peripheral cornea.

Corneal epithelium and endothelium are unaffected and appear normal. Inheritance of this condition is usually autosomal dominant, and occurs almost always bilaterally, although some cases of highly asymmetric or unilateral presentation have been reported.

The corneal stroma between flecks remains clear and as a result vision in general, and visual acuity in particular, is unaffected. Corneal sensitivity in eyes with fleck dystrophy is usually normal, although decreased sensitivity has been reported in some cases. Corneal thickness is also typically normal.

Corneal flecks can vary in shape from round or oval to stellate, comma or wreath-shaped. The flecks also have a flat profile seen with the optical section of a slit-lamp or with other imaging devices, such as OCT.

Histology reveals some keratocytes with intracytoplasmic vacuoles containing granular to fibrogranular material. This anomalous material within keratocytes appears to be composed of glycosaminoglycans (GAGs) and lipid accumulation.

Confocal microscopy will show highly reflective dots within the body of affected keratocytes less than 1 µm in size. Other confocal microscopy findings reported in some studies are inclusions in basal corneal nerves and ovoid extracellular material, 50 to 70 µm in size, in the corneal stroma.

As fleck corneal dystrophy is asymptomatic, visually inconsequential and non-progressive, no medical or surgical intervention is required. Affected individuals can be monitored routinely, once the diagnosis is established.

Katie’s endothelial cell counts were normal at 2713 cells/mm² in the right eye and 2977 cells/mm² in the left eye (normal range for age is 2350 cells/mm² to 3650 cells/mm²). Endothelial morphology was unremarkable in each eye (Figure 5).

Katie was diagnosed with Fleck Corneal Dystrophy in each eye. As this dystrophy is non-progressive, and because Katie had no associated visual symptoms, treatment was not deemed necessary. Katie returned to her optometrist for continued monitoring and care, and was reassured of the benign nature of her condition.

SERVICES PROVIDED BY THE CENTRE ARE FREE OF CHARGE FOR YOUR PATIENTS, AND FOR YOU AS A REFERRER.
REFER TODAY BY CALLING 8115 0700!
Many of your patients may already need our help.
It's never too early for Guide Dogs NSW/ACT to help someone adapt to life with low vision - especially when all of the training and equipment is provided completely free of charge.

Best known for its amazing Guide Dogs, the organisation offers many other services which include:

- **Low Vision Services**: tailored one-on-one training in the home to maximise remaining vision. There is also a low vision clinic at Chatswood, delivered in partnership with UNSW School of Optometry.
- **Children’s Services**: we visit schools and pre-schools to educate staff on the needs of children with impaired vision, and review the environment to identify any hazards or barriers to learning and inclusion.
- **Programs for people with neurological vision impairment**.
- **Provision of electronic mobility aids and optical aids, and free training in their use**.
- **Orientation and Mobility (O&M) training to help people independently move safely around their own community**.

Guide Dogs instructors travel to all parts of NSW/ACT.

It’s easy to refer someone. With your patient’s permission, simply call (02) 9412 9300 or fill in an online referral form at guidedogs.com.au.

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**References**