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NZ-based startup develops eye drops to treat keratoconus

November 8, 2022 | News

University spin-out aims to treat eye disease keratoconus non-invasively



A new University of Auckland spin-out company, TheiaNova, is working to introduce a groundbreaking, non-invasive treatment for the eye disease keratoconus.

Keratoconus affects the cornea, the clear tissue that covers the front of the eye, causing the collagen in the cornea to break down, becoming thin, distorted and characteristically conical in shape. This leads to reduced and distorted vision, sensitivity to light and, in severe cases, tearing of the cornea.

Existing treatment for moderate cases involves surgery, with transplant required for severe cases. New Zealand (NZ)-based University of Auckland researchers discovered keratocytes could be reprogrammed to produce a type of collagen normally only expressed in the embryonic stage of development.

With further work, the researchers found this discovery could be applied to strengthen the corneas of patients with keratoconus and prevent further damage.

The next step was to secure investment to launch the first human study. Bridgewest Ventures NZ has stepped up to provide that backing. TheiaNova is also supported by UniServices and Callaghan Innovation.

After the completion of a small-scale human trial, TheiaNova will look for further investment to take its treatment through regulatory clearance.