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Media Statement

### **DETECTING EYE DISEASE EARLIER POSSIBLE THANKS TO WA RESEARCH**

West Australian researchers have developed better methods for studying diabetic eye disease, paving the way for testing drugs that can help preserve sight.

In a study supported by Diabetes Research WA and led by Dr Lois Balmer at WA's Centre for Diabetes Research, scientists have fine-tuned a laboratory method used to study blood vessels in the retina.

"In studying blood vessel structure in mice retinas, we came up against a hurdle in that some particularly fragile retinal samples could not be examined using a well-established technique known as the trypsin digest method," said Dr Balmer.

"In order to overcome this issue, we optimised the technique which then enabled us to study these fragile samples and find a number of lesions paving the way for detection of retinal vascular changes early in a disease process."

Variation in the number of blood vessels in the retina – a thin layer of tissue on the inside back wall of the eye that send and receive visual information that allows us to see – can indicate the development of disease.

One form of retinal disease that is increasing is diabetic retinopathy, which can affect people with all forms of diabetes, and is the leading cause of acquired vision loss worldwide in middle-aged people. In its early stages, there are often no noticeable symptoms, making eye checks critical.

This research project was conducted using mouse strains from WA's world-leading genetic resource, The Gene Mine, and the results were published in the April 2017 edition of the Ophthalmology and Vision Science journal.

"We were also able to identify different retinal anatomy in the mice we studied, with wide variation in the numbers of retinal arteries and veins, and this was due to genetic variation," said Dr Balmer.

"We hope to build on our findings in a number of ways such as using retinal patterning metrics to predict particular health outcomes or to identify new genes that can affect the vascular makeup."

Diabetes Research WA, based at Royal Perth Hospital, was established in 1976 to stimulate research into diabetes in Western Australia and has distributed more than \$5.65 million dollars for this work.

For information, please visit [www.diabetesresearchwa.com.au](http://www.diabetesresearchwa.com.au) or call (08) 9224 1006.

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