

Bioluminescence imaging used for eye cancer detection

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At the moment, doctors rely on biopsy analysis to determine the progression of eye cancer. However, researchers now believe that a new technology, bioluminescence imaging (BLI), will allow doctors to detect tumors earlier and quickly choose a method of treatment that doesn't necessarily involve eye surgery.

BLI is a new technology that uses the making and giving off of light by an organism to map diseases in a non-invasive way. Scientists have harnessed this technology to delicately detect and monitor various diseases, including [eye cancer](#). BLI has several advantages over [biopsy](#) analysis, including in vivo monitoring, higher sensitivity, easier use and an overall more accurate correlation between cell numbers detected and [tumor](#) growth.

A study detailed in the Association for Research in Vision and Ophthalmology's peer-reviewed *Investigative Ophthalmology & Visual Science* ("Non-invasive visualization of retinoblastoma growth and metastasis via bioluminescence imaging") shows how the researchers, led by Qian Huang, MD, PhD, of the First People's Hospital in Shanghai, China, were able to effectively create human eye tumors in mice using particular genes to label eye cancer.

BLI was then performed on the mice using the NightOwl LB 981 Molecular Imaging System to monitor the growth and succession of these created tumors.

"BLI allowed sensitive and quantitative localization and monitoring of intraocular and metastatic tumor growth in vivo and thus might be a useful tool to study cancer biology as well as anti-cancer therapies," said Huang.

Eye cancer is the most common and aggressive form of cancer found in children under the age of 5. As with most cancers, locating the tumors during the early stages of the disease is key. "Eye removal is usually performed for larger tumors. Small tumors are treated using therapeutic approaches such as chemotherapy. Because of the fast progression, early detection is important for preservation of vision, eye retention and even survival," says Huang.

Source: Association for Research in Vision and Ophthalmology ([news : web](#))

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