

IIT-Gn develops an eye for stroke

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Ahmedabad: Stroke has left heart attack behind in terms of morbidity. Every three seconds, somebody suffers a stroke worldwide.

India has a major contribution to the high number of stroke cases, with 3,800 patients every day. In such a scenario, IIT-Gandhinagar has developed a technique that not only provides an eye-gaze based diagnostic and prognostic tool but also operant conditioning for post-stroke therapy.

Funded by the Indian and French governments, the invention, called SmartEye, relates to a system for diagnosis and therapy of a person suffering from psychomotor symptoms. As participants look into visual simulations, an eye tracker detects anomalies in fixa-

tion and blinking patterns. Special gaze features convey abnormalities in graphical displays.

“Visual problems due to brain injury are often overlooked during initial treatment, lengthening rehabilitation period. Our cost-effective system uses quantitative interpretation from images of the eye to identify gaze-related indices as biomarkers of stroke. A patient is asked to look towards a slowly moving visual stimulus on the computer screen, and an integrated web-camera looks in the patient’s eyes to capture gaze-related indices as biomarkers of stroke condition,” said IIT-Gn assistant professor Uttama Lahiri, who worked with Dr Anirban Dutta (from INRIA, France) and Dr Abhijit Das (Institute of Neurosciences, Kolkata).