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New device to test a tumor's aggressiveness

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New device can easily test tumor's aggressiveness



Singapore: Scientists claim to have created a new instrument that can easily detect whether a tumor is aggressive in nature or not. This was a crucial and important breakthrough which took place to prevent the spread of cancer.

The device could accurately quantify the "squishiness" of tumor and thus determine its agressiveness. More aggressive tumors are stiffer, said the researchers. "This device does not damage the sample and this could allow some researchers to still perform the other tests on it," said Mr Mark Harrison, one of the leading author of the study at University of Southern California.

Previous squishiness detectors required consumption of time alignment and were highly sensitive to environmental vibration. Fibre optics are used by the new device which could take a signal from the industry of telecommunication.

This system has squished a sample on top of the optical fibre, by changing the laser polarization inside the Young's modulus that allowed the researchers to calculate in a predictable way.

"Instruments were able to measure a material's Young's modulus that already existed, but they are in large and required calibration at each time when they are moved," said Mr Andrea Armani, associate professor, University of Southern California and also a correspondence author. He noted, "Our device could be carried out from hospital room to another hospital room and does not need an engineer to operate it".

"Physical oncology completely represented a fresh approach in tackling the problem of cancer. It had the potential to provide huge insights to understand, treat as scientists and finally to prevent cancer throughout the world in humans," said Mr Peter Kuhn, professor, USC Dornsife College of Letters, Arts and Sciences. The study was published in Applied Physics Letters.