

Goggles To Identify Tumours In OR



In the near future, dual-mode imaging technology built into lightweight instruments, such as goggles, will facilitate the identification of tumours in real time. Surgeons cannot remove tumours until they know the precise location of the cancerous lesions, and the new technology will generate more precise images. Having accurate borders will enable the removal of only those cells, which cause disease.

Single Vs. Dual Mode Imaging

Currently, single-mode imaging is used by surgeons to locate cancerous cells. In many cases, it is difficult to know whether all of the malignant cells have been removed during a surgical procedure. Additionally, healthy tissue in the area of the lesion might be removed unnecessarily with single-mode imaging techniques.

Dual mode imaging is a combination of two methods. Near-infrared fluorescent imaging detects marked cancer cells. Meanwhile, visible light reflectance imaging is used to visualise the tissue contours. Together, they provide a clearer picture of the tissue being diagnosed and treated.

Improved Accuracy

There are significant advantages to combining different imaging modalities in the detection of cancer. Brian Applegate of Texas A&M University notes that diseases can be more accurately diagnosed when information comes from several different sources. In a study published in the journal *Optics Letters*, he discussed how biomedical markers, fluorescence lighting and optical imaging each contribute unique viewpoints of the cellular landscape.

The package, which blends the different methodologies, is impressively lightweight and minute, measuring approximately 25 millimetres across. The tiny dimensions enable it to be incorporated into instruments such as goggles and handheld devices. Surgeons can then utilise the tools easily in the operating room when decisions must be made reasonably quickly.

[Source: Business Standard](#)

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