

Dual-modality DRS-FS discerns tumor from surrounding tissue

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percent and specificity 88 percent for discriminating tumor from surrounding tissue. Along the trajectory from healthy tissue to [tumor](#) there were significant spectral changes.

"The quantification of comprehensible parameters allows robust classification and facilitates extrapolation towards the clinical setting," the authors write. "The technique, here demonstrated in a needle-like probe, can be incorporated into surgical tools for optically guided surgery in the near future."

One author is an employee of Philips Research.

More information: [Abstract](#)
[Full Text \(subscription or payment may be required\)](#)

(HealthDay)—Dual-modality diffuse reflectance spectroscopy-fluorescence spectroscopy (DRS-FS) can differentiate tumor tissue from surrounding tissue in patients undergoing colorectal cancer resection, according to a study published in the September issue of *Lasers in Surgery and Medicine*.

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Gerrit C. Langhout, M.D., from the Netherlands Cancer Institute in Amsterdam, and colleagues examined the feasibility of dual-modality DRS-FS for discrimination between healthy and [malignant tissue](#) in colorectal surgery. A fiber-optic needle capable of dual-modality DRS-FS was used to measure surgical specimens from colorectal cancer patients immediately after resection. Scattering and absorption coefficients and intrinsic fluorescence were derived from model-based analyses. The researchers estimated volume fractions of chromophores. Along a trajectory from healthy [tissue](#) toward tumor, optical data were recorded.

The researchers identified spectral characteristics in 1,273 measured spectra from 21 specimens. For combined DRS and FS, the sensitivity was 95

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