MEDICAL TECH

DIGITAL EYES PEG SKIN CANCER

Coming soon to a doctor's office near you: A better, more effective way to spot melanoma.

To determine whether that sketchy blemish on your back is cause for concern, your doctor has had to rely on two imperfect tools: the eyeball and the biopsy knife. The latter is painful, not to mention pricey, and the former is easily duped. To wit: The occurrence of melanoma, the deadliest form of skin cancer, is growing at 4 percent a year, in part because the disease is so hard to spot.

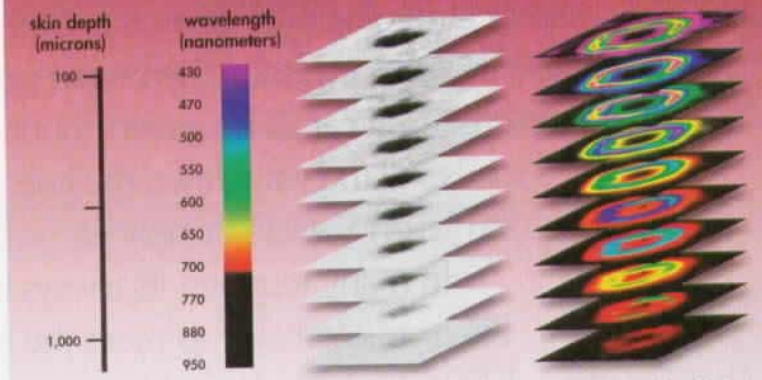
Now a new diagnostic device designed to catch melanomas during routine checkups (and likely to get the FDA nod by early next year) promises to keep the disease in check.

MelaFind, as it's called, harnesses the power of photonics—a technology based on the emission and capture of light waves. Part handheld device, part database, the probe is placed on a suspicious lesion. It emits 10 pulses of light, each of a different wavelength. The photons of light interact with healthy tissue differently than they would with cancerous tissue, and those different absorption and scattering patterns are captured as images. The images are analyzed and the data transmitted wirelessly to a docking station in the physician's office and from there to EOS—MelaFind's maker—which uses proprietary algorithms to score the specific case against a database of benign and malignant lesions. The diagnosis is sent back within 2 minutes of the initial imaging.

The device will allow doctors to detect tumors far earlier, and will arm them with more specific data about a case before they reach for the scalpel. The result: fewer unnecessary biopsies. Moreover, with its low cost—probably around $60 per use compared with a $300 biopsy—and expert diagnostic software, MelaFind can be used by any trained health worker in any doctor's office.—JESSIE SCANLON

THE HANDHELD WILL SEE YOU NOW

Skin cancer is one of the easiest diseases to treat, if caught early. But chaotic cell growth, the hallmark of cancer, is often invisible to the naked eye. MelaFind employs a range of light waves to safely probe beneath the skin, generating digital maps of the hidden tissue. Pattern-recognition software then analyzes the images for signs of disorder.



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PREDICTION

HEADLINE FROM THE FUTURE BY C.J. PETERS

2008 DEADLY FLU STRAIN WIPES OUT 20 MILLION

While the government spends big to combat the threat of bioterrorism, we are caught wholly unprepared when a lethal influenza pandemic sweeps the globe in 2008. The highly infectious flu strain has been mutating and gaining strength since the early part of the decade. Meanwhile, our society's demand for zero-risk vaccine testing, coupled with FDA regulatory barriers, stalls the development of lifesaving vaccines. It takes 20 million dead to shake up the U.S. drug-development process, enabling scientists to respond faster and better to runaway infectious diseases.

Virologist C.J. Peters is the director of the Biosafety Level 4 laboratory at the University of Texas Medical Branch in Galveston. He is the co-author of Virus Hunter.

ROSETTA IS OFF AT LAST! AFTER TWO POSTPONED LAUNCHES, ESA'S ROSETTA SPACECRAFT BEGINS ITS 10-YEAR COMET-HUNTING MISSION ON THE BACK OF AN ARIANE 5 ROCKET. ■