

Early detection of skin cancer: Artificial Intelligence can help to save lives

New imaging system made in Germany supports physicians in the rapid detection of new, altered and malignant moles

Digitisation has become an indispensable part of medicine. Nowadays, in certain areas Artificial Intelligence (AI) can support doctors with the same precision as an expert in their respective medical field. With the bodystudio ATBM master, FotoFinder Systems GmbH is now introducing an imaging system that enables physicians to take a new approach to the digital diagnosis of skin cancer. It delivers results in a matter of seconds and can significantly reduce the need for biopsies and excisions. Since 2013, FotoFinder has been focusing on earliest skin cancer diagnosis through Automated Total Body Mapping (ATBM) for fully automated photo documentation of the entire skin surface. Now, the company goes one step further with the new bodystudio ATBM master. Total Body Dermoscopy is the name of the method by which the entire skin surface is photographed with a special camera and flash system, without any reflections and with super-high resolution. This results in extremely clear clinical images that allow the physician to zoom into the full body photo to such an extent that the microscopic structure of a mole is already visible in the overview image. The doctor receives visual support from the fully automatic Bodyscan software, which quickly identifies the existing skin lesions in the whole body image and arranges them according to their relevance. In this way, the physician can quickly “scan” the moles visually without having to examine each one individually using a dermatoscope. Only the few moles that are atypical or suspicious are analysed with the digital dermatoscope. This leads to considerable time savings and enables the detection of even the smallest abnormalities. The waiting time for a diagnosis and thus patient uncertainty and anxiety are considerably reduced. In addition, this method reduces the sometimes painful excision of one or more tissue samples. “The future of skin cancer diagnostics lies in innovative, intelligent, time-saving solutions,” explains Kathrin Niemela, member of the FotoFinder management board. “Modern analysis methods are largely digital and support physicians in finding abnormalities in many ways.” Contrary to widespread opinion, most melanomas do not develop from an existing mole, but appear as new spots, “de novo”, on apparently healthy skin. In most cases, the disease begins with a barely perceptible spot, often just 1 millimetre in size, which can already contain a malignant cell population of thousands. It is precisely these extremely small lesions that are often overlooked in a classic dermatological examination. Whole-body cartography with the new master technology visualises the moles of a patient in such a way that new lesions become visible at a glance. The physician is supported in the analysis and risk assessment of skin lesions by the expert software Moleanalyzer pro, which works with a powerful AI-based deep learning algorithm. According to a clinical study carried out by the Department of Dermatology at Heidelberg University Hospital, Artificial Intelligence came up with more accurate diagnostic results than the medical specialists involved in the study – and it takes the system less than a second each time.* For patients, the use of Automated Total Body Mapping in combination with AI means greater reliability in the earliest detection of skin cancer. “Compared to the more intuitive approach of a physician, who also includes patient history or genetic predisposition in the diagnosis, the algorithm is absolutely objective in its analysis”, explains Kathrin Niemela from FotoFinder. “The larger, better and more unique the data basis is, the more intelligent the system becomes in a short period of time, thanks to continuous training. Nevertheless, Artificial Intelligence cannot replace human intelligence and experience in the detection of skin cancer: In the end, the doctor decides what to do.” FotoFinder bodystudio ATBM master is versatile: In addition to the platform for skin cancer diagnostics, the device offers optional modules for hair diagnostics, aesthetics as well as for the management of psoriasis patients using the PASIscan. System Launch Kathrin Niemela, member of the FotoFinder management board, will demonstrate FotoFinder bodystudio ATBM master at the “24th World Congress of Dermatology” from 10th to 15th June 2019 at booth no. G59 (Gate2) and will be happy to answer questions. Additional information about the imaging system can be found here: www.fotofinder.de

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