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Semi-automated Non-invasive Diagnostics Method for Melanoma Differentiation from Nevi and Basal Cell Carcinomas

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The incidence of skin cancer is still increasing not only in Latvia but also in other parts of Europe [1]. Late tumor detection is the main reason of the high mortality associated with skin cancer. The accessibility of early diagnostics of skin cancer in Latvia is limited by several factors, such as high cost of dermatology services, long queues on state funded oncologist examinations, as well as inaccessibility of oncologists in the countryside regions – this is an actual clinical problem. The new strategies and guidelines for skin cancer early detection and post-surgical follow-up intend to realize the full body examination (FBE) by primary care physicians (general practitioners, interns) in combination with classical dermoscopy [2]. To implement this approach, a semi– automated method was established. Newly developed software analyzes 3 multispectral images of skin malformation at different wavelengths [3, 4]. First results show that it is possible to perform automatic image analysis by excluding a number of artifacts – skin hair, movement, skin curvature, direct reflection and get reliable melanoma differentiation from nevi and basal cell carcinomas.

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