## RESIDENT'S FORUM

# [Translated article] RF-Three-Dimensional Total Body Mapping: The Future is at the Door

## FR-Mapeo corporal total en 3D: el futuro está llegando

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Two-step photography of suspicious melanocytic lesions makes it possible to detect changes in the lesions over time. Follow-up based on body mapping and digital dermoscopy of melanocytic lesions can detect melanoma in its early stages.[1]

This approach traditionally combined body mapping based on 2D clinical photographs with digital dermoscopic images of the lesions. Traditional follow-up recently changed with the development of new technologies that enable 3D monitoring.[2,3] While we realize that 3D follow-up is available in very few centers throughout the world, we believe it is relevant to highlight the potential of this type of total body mapping.

At present, no published studies discuss the superiority or noninferiority of these systems. However, some publications describe the design of protocols for prospectively selecting candidates for 3D total body mapping.[4,5] Koh et al.[4] studied the characteristics of nevi and their follow-up in randomly selected adults over a 3-year period in order to establish the precision of 3D systems, whereas Primiero et al.[5] sought to evaluate the efficacy of this approach in a population at high risk of melanoma by comparing standard follow-up with 3D follow-up in a clinical trial.

It is worth highlighting that these pioneering studies were based on the Vectra WB360 scanner (Canfield), which uses 92 cameras to make a 3D reconstruction of the patient. The system standardizes the photographs taken with polarized light, thus making it possible to link dermoscopic images with the avatars it reconstructs. Together with the identical amplification of the photographs, this facilitates detection of all of a patient's skin lesions and reveals early changes in the size, color, and appearance of new lesions compared with the baseline control. Furthermore, the clinical images are acquired in seconds. The program subsequently reconstructs the 3D model in a few minutes.[2,3]

Potential initial drawbacks before these systems can be adopted include the difficulty in reconstructing anatomical areas such as the soles and scalp, the currently high cost, and, given the size of the scanner, space requirements.[2,3]

Therefore, 3D monitoring seems able to improve early detection of melanoma. The coming years will see the emergence of this technology and the recognition of its usefulness in clinical practice, not only for monitoring pigmented lesions (together with improved artificial intelligence-based algorithms to detect changes in the lesions), but also as a means of automatically identifying and comparing the extension of inflammatory skin diseases using artificial intelligence-based algorithms, thus enabling us to accurately evaluate, for example, response to treatment.

These advances in dermatologic imaging, combined with artificial intelligence and deep learning, are shaping a future that is increasingly close and real and that will enhance the precision of clinical decision making.

## References

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