

## Experience Report:

### Benefits of non-polarized dermoscopy vs polarized light dermoscopy

by Michelle Avramidis

#### *HEINE dermatoscope range:*

##### *HEINE mini 3000® Dermatoscope*



##### *HEINE DELTA 20® Dermatoscope*



#### **About Michelle Avramidis:**

Michelle Avramidis is the Director of Skintography and Dermoscopy and has been involved in scientific research since graduating with a BSc from the University of Sydney, Australia in 1996. For ten years she worked at the Sydney Melanoma Diagnostic Centre at the Royal Prince Alfred Hospital, Sydney. Currently she is working at the Melanoma Institute Australia, a multidisciplinary unit with the largest database of melanoma patients in the world.

She has trained and worked with world-leading melanoma experts Professor Scott Menzies (Atlas of Dermoscopy by Professor Scott Menzies\*), Emeritus Professor William McCarthy and Professor John Thompson. She has a special interest in Total Body Photography and digital skin monitoring and, to date, has photographed over 6000 patients equating to over 25,000 lesions. She currently is cited in 11 publications on the subject of skin cancer.

With Australia having the highest rates of skin cancer in the world it is essential that we dedicate our research to finding a cure for this disease. This all starts with the technique of dermoscopy. It is stated in the Clinical Practice Guidelines for the Management of Melanoma in Australia and New Zealand that training and utilisation of dermoscopy is recommended for clinicians routinely examining skin lesions. Dermoscopy significantly improves the diagnostic accuracy of melanoma. This, in the opinion of Michelle Avramidis is best achieved by using an instrument from the HEINE dermatoscope range.

#### **Advantages of non-polarized dermoscopy:**

Most of the skin imaging in "Dermoscopy: An Atlas 3<sup>rd</sup> Edition" (by Menzies SW et al McGraw-Hill\*), was performed at the unit with a non-polarized dermatoscope.(HEINE dermatoscope) In fact, most of the literature on dermoscopy described to date is based on non-polarized dermoscopy.

Some of the advantages of using non-polarized dermoscopy were cited in a publication by Benvenuto-Andrade.C, Dusza.SW, Agero.AI et al: "Differences between polarized light dermoscopy and immersion contact dermoscopy for the evaluation of skin lesions." Arch Dermatol 2007 Mar: 143 (3):329-38. In their study they found that "...milia-like cysts, and comedo-like openings were better visualized with non-polarized dermoscopy, suggesting that non-polarized dermoscopy is more helpful for identification of seborrheic keratoses. Peppering, lighter colours, and blue-white areas were more evident under non-polarized dermoscopy, facilitating recognition of regression areas..."

\* Dermoscopy: An Atlas 3<sup>rd</sup> Edition by Menzies SW et al is recommended to all Doctors to learn about the key aspects and features of dermoscopy. Most of the images in the book have been taken by Michelle Avramidis using the HEINE dermatoscope.

## Examples from “Dermoscopy: An Atlas 3<sup>rd</sup> Edition by Menzies SW et al.”

### Dermoscopy view without oil application



The simple magnification x 10 improves the definition of this lesion remarkably. However, reflection of light from the stratum corneum distorts the view, resulting in poor detail of the underlying structure.

### Dermoscopy view with oil application (Non-polarized dermoscopy)



The addition of liquid to the surface prevents the random scatter of light at the stratum corneum-air interface. This essentially makes the non-pigmented epidermis “invisible” and allows the pigmented structure of the epidermis, dermo-epidermal junction and dermis to be seen. The result is a technique that enables characterization of more than 100 morphological features of pigmented lesions.

## Software: Working with “Dermoscopix”:

Michelle’s experience and expertise led her to develop Dermoscopix, a brand new software program specifically-developed for melanoma tracking by medical professionals. All the dermoscopic imaging is captured with the HEINE DELTA 20<sup>®</sup> Dermatoscope connected to a digital camera with the HEINE Photo Adaptor.

The HEINE DELTA 20<sup>®</sup> Dermatoscope produces superior-quality images. Having used all the dermatoscopes on the market, Michelle found the HEINE DELTA 20<sup>®</sup> Dermatoscope to be the most reliable with good colour quality, field of view and illumination. Having the choice of two different contact plates to attach to the dermatoscope head is very useful as well. Hard-to-reach areas like in the ear, side of the nose and between toes and fingers can be viewed by using the smaller contact plate. With the ability to connect the HEINE DELTA 20<sup>®</sup> Dermatoscope to a digital camera, sequential digital dermoscopic imaging can be performed. This technique is effective in detecting melanomas that lack some dermoscopic features of melanoma which may be missed by using dermoscopy alone.

## CONTACT

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