

**SEEING IS BELIEVING**  
Measuring success using a new 3D skin-imaging device for wrinkles, redness, roughness and pigmentation.

**VENUS MEDICAL BEAUTY**

**CUTERA**

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**Assessment by word**

One of the main goals to the patient of the V-3D system is that it does not just show damage and imperfections, but also measurement can take during a skin assessment program. This allows an objective measurement of the depth of wrinkles, the roughness of skin and the extent of sun damage, pigmentation and redness so that the treatment you can use what has improved and by how much. It is satisfying for patients to see the amount of 3D or 2D measurement in skin texture and wrinkles other than to the current treatment of something else. For the doctor, V-3D imaging allows a thorough assessment of the skin and helps determine the most useful treatments. For example, if a patient reports a significant change in skin texture and wrinkles, the V-3D measurement will give a good read. If a patient combined with a laser and skin treatment in the same problem, a patient would also be advised using the V-3D system for skin measuring. Redness and roughness, early redness and pigmentation using V-3D, can also be used to measure how to the skin, a patient plan to be used to target these conditions but often go over on the skin. At the end of treatment program, V-3D images are taken to see the changes over time so you know exactly how your skin has improved and how close you are to achieving perfect skin.

**Seeing is believing. Measuring success using a new 3D skin-imaging device for wrinkles, redness, roughness and pigmentation.**

by Dr Peter Prendergast

If you think your skin is pretty good, you might want to take a closer look. MIRAVEX, a spin-out from Trinity College has recently developed the world's first portable 3D skin imaging device to measure wrinkles, skin texture, colour and sun damage. We are privileged at Venus Medical Beauty to be the first to use the ANTERA 3D prototype device and are working with MIRAVEX and the School of Physics in Trinity to develop this remarkable skin imaging technology. A quick scan tells you how rough your skin is, how deep your wrinkles are and what degree of sun damage and redness you have. Now you can transform your skin with lasers, peels, injectables and skin tightening machines and see the proof that they work by measuring the improvement over time.

Aesthetic medicine is a science as much as it is an art. To create or enhance beauty, as well as having an artistic eye, we must understand and measure proportions, symmetry, volume and colour. First, we identify what we are striving to correct or improve and then use the best techniques and technologies to do so. Despite modern digital photography, most classifications for wrinkles, lines, sun damage, and colour are vague or arbitrary. With the ANTERA 3D skin-imaging device, all the elements of aging skin, and those features associated with attractiveness, including skin smoothness, clarity, and evenness are visualized and measured accurately. ANTERA 3D measures the depth of lines and wrinkles,

roughness of skin, distribution of melanin (brown) and haemoglobin (red) in the skin and captures three-dimensional images of facial features to assist enhancement and contouring.

### **Guaranteed to work**

One of the main values to the patient of the ANTERA 3D analysis is that it shows not only skin damage and imperfections, but also improvement over time during a skin rejuvenation programme. This allows an objective assessment of the depth of wrinkles, the roughness of skin and the extent of sun damage, pigmentation and redness, so that after any treatment, you can see what has improved and by how much. It is satisfying, for example, to see for yourself a 25% or 55% improvement in skin texture and wrinkles rather than to be unsure how each treatment is benefiting you. For the doctor, ANTERA 3D imaging allows a thorough assessment of the skin and helps determine the most useful treatments. For example, if melanin sun-spots are a significant feature, intense-pulsed light or chemical peel treatments will give a good result. If sun-spots combined with wrinkles and skin roughness is the main problem, excellent results are achieved using the fractional CO<sub>2</sub> laser for skin resurfacing. Redness and vessels, easily visible and quantifiable using ANTERA 3D, are best treated using vascular lasers. In this way, a tailored plan is devised to target those problems that show up most on the scan. As the course of treatments progresses, further images are taken to plot the changes over time so you know exactly how your skin has improved and how close you are to achieving perfect skin.

### **Wrinkles and lines**

ANTERA 3D skin analysis measures the overall roughness of skin, and the depth and severity of fine and deep lines. Fine wrinkles appear as orange and green lines on the image, whereas very deep wrinkles appear purple in colour. The technology, which uses light-emitting diodes (LED) and complex software, makes a quantitative assessment and gives a measurement in microns. The improvement in wrinkles and skin texture is measured after treatments such as Botox®, fillers and laser skin resurfacing. Typically, forehead lines, frown lines and crows feet respond best to Botox®, deep wrinkles soften most with fillers, and fine lines and skin texture improves with lasers such as fractional CO<sub>2</sub>. Even pores are visible on a ANTERA 3D scan and subtle improvements in the smoothness of skin using non-ablative lasers are apparent and measurable.

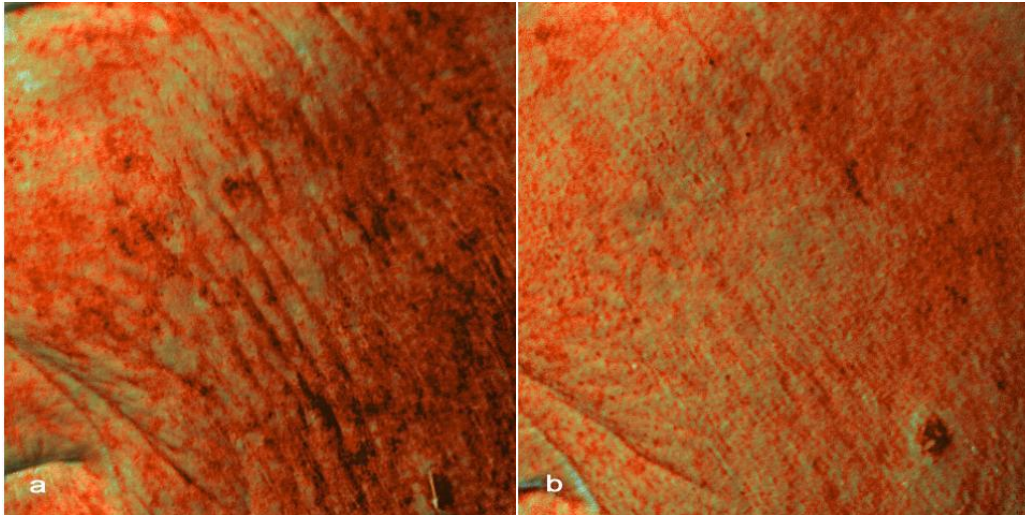
### **Pigmentation**

Acne rosacea, facial redness and 'broken veins' are effectively treated using vascular lasers such as the long pulse NdYAG laser. Identifying the size, extent and distribution of vessels is important and determines which laser and which settings to use to provide best results. A measurement of haemoglobin (the red

component of blood) is used to identify tiny blood vessels and follow the efficacy of laser vein therapy. The improvement in both the bumpiness and the redness associated with acne rosacea is now measurable with ANTERA 3D during non-ablative laser skin rejuvenation such as laser genesis using a 1064nm NdYAG laser. Melanin distribution, which appears as brown spots and patches, reflects sun damage. A ANTERA 3D image will easily reveal the extent of sun damage and can be a surprise to many who believe they have escaped the ravages of the sun over the years. A course of IPL treatments, a chemical peel, or laser skin resurfacing can reverse much of this, and provides a remarkable improvement as seen on a second image taken after the treatment.

Since acquiring and testing this exciting new technology, I have been amazed at just how much improvement we see in the skin following skin rejuvenation procedures. Texture, colour, wrinkles, and pores improve by up to 80%. Acne rosacea, acne scarring and sun damage disappear. Although we have always seen improvement, now we can measure it and see it more accurately, and more importantly we can tailor treatments precisely to meet the needs of our patients. For the patient, the first images can appear shocking, as the true extent of sun damage, unevenness in colour and texture, and extent of fine and deep lines becomes clear. However, it is extremely satisfying, thanks to the same imaging, to see the transformation into clearer and smoother skin following treatments. As well as wrinkles, texture, redness and brown pigmentation, ANTERA 3D allows stunning three-dimensional analysis of facial contours, hollows and features to facilitate the assessment before filler treatments for cheek, enhancement, lip enhancement and correction of under-eye hollows. Already, ANTERA 3D has some exciting applications and I am sure it will prove invaluable to cosmetic doctors, surgeons and dermatologists all over the world.

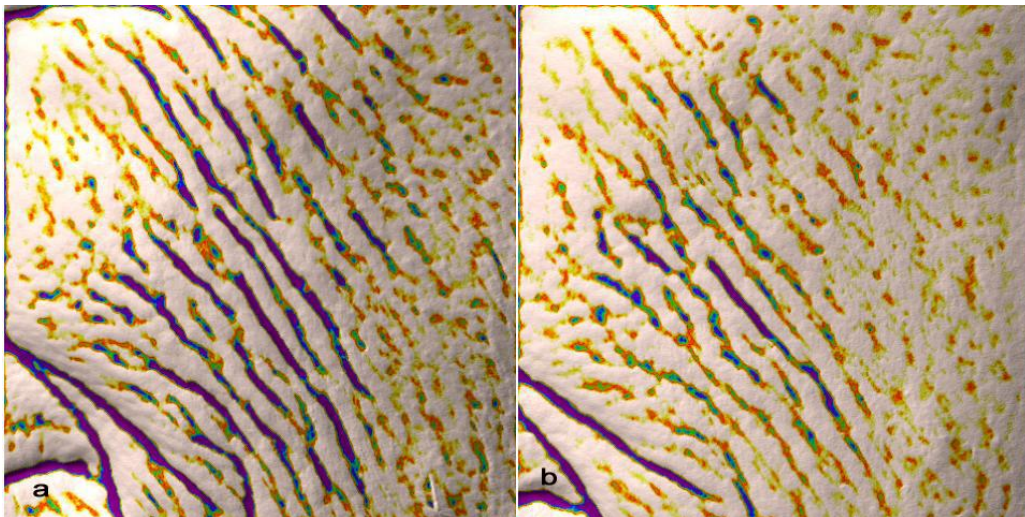
*For more information about ANTERA 3D skin analysis you may contact Dr. Guido Mariotto, E-mail: <mailto:info@miravex.com>, Tel: +353 (0)1 896 2020*



**Figure 1.**

**a)** Before ANTERA 3D image showing extensive melanin deposition (sun damage).

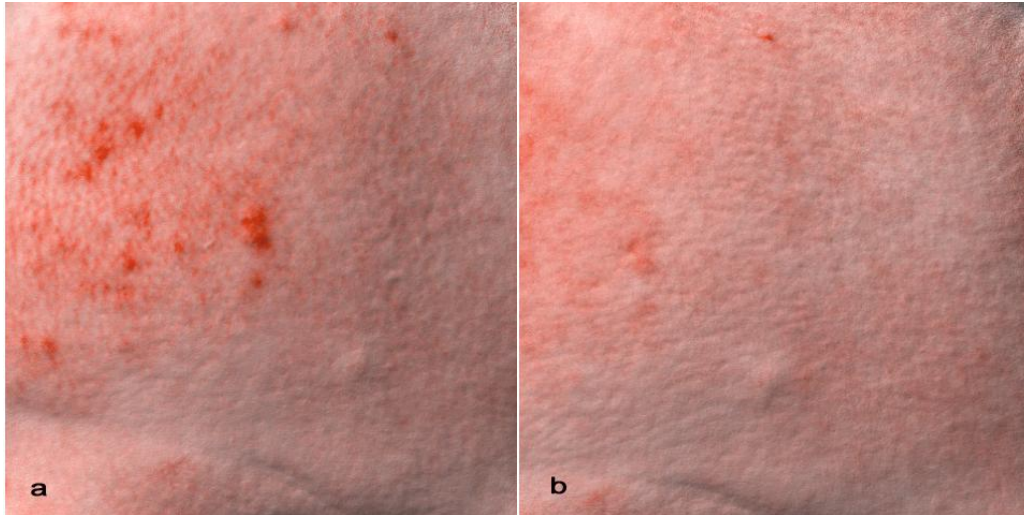
**b)** After one treatment with the fractional CO<sub>2</sub> laser with clearance of sun damage by 63%.



**Figure 2.**

**a)** Before. Deep furrows and lines (purple) along the cheek.

**b)** After. 72% improvement in the lines after one fractional CO<sub>2</sub> laser treatment.



**Figure 3.**

**a)** Before. Red vessels and bumpiness on the cheeks associated with acne rosacea.

**b)** After. Clearance by 55% after four laser genesis treatments using the NdYAG laser.



**Figure 4.**

3D image before a fillers treatment for rejuvenation around the mouth.