

Title: Augmented Reality in Aesthetic Dermatology:
See "Deep Heating" Energy-based Skin Tightening in A New Angle

Name: Wen Hsien Ethan Huang
GeneHope Aesthetic Medical Group, Taiwan

Augmented reality (AR) is a type of technology in which an environment is enhanced through the process of superimposing computer-generated virtual content over real structure, enhancing the sensory perception of reality. Aesthetic dermatology is a field in which AR technology can be successfully utilized to enhance diagnosis, treatment, and education outcome. As we know, the higher therapeutic temperatures to achieve better results by the energy-based devices, the more patient discomfort and the increased need to use anesthetics to be paid off. It also prolongs the overall time needed for each session. The purpose of this study was to develop an efficient novel AR-based navigation system with thermal imaging technology for "deep heating" energy-based skin tightening and to discuss future trends in AR technology. Fourty healthy female patients between the ages of 35 and 60 (mean, 40 years), who wished to improve their facial skin laxity with noninvasive skin tightening devices from Sep 2016 to Sep 2017 were studied retrospectively. All patients were treated with combined microfocused ultrasound (Ultherapy) and radiofrequency (Thermage ThermaCool NXT)under real-time thermal monitoring with our novel AR-based navigation system in each session to further optimize tissue tightening. Our AR-based navigation system with thermal imaging technology was successfully used in these patients, directly displaying critical navigational information on to the surgical field. The novel AR assistance allowed for more precise identification, as well as a much safer and efficient practice in "deep heating" skin tightening. This study reports on an novel effective visualized approach for guiding "deep heating" energy-based skin tightening. Our AR-based navigation system with thermal imaging technology may lay a foundation for all energy-based device navigation. Given that many aesthetic procedures are defined by complex anatomy with great demand for accuracy and safety, our specialty should embrace such technology and remain at the forefront of its development, not only for patient’s safety, but also for being used in medical teaching.

Biography

Dr. Wen Hsien Ethan Huang was born on Mar. 07, 1965, in Taiwan. He is a qualified aesthetic surgeon and dermatologist both in China and Taiwan. He is the advocater of needle-hub thread lift (NHTL) and inventor of ThreaFa Tight® Series and also co-inventor of GeneHope Facial Analyzer 2.0 plus. He started working in aesthetic medicine since 1999 and later joined GeneHope group in the year of 2011. He is now president of Taiwan International Academy of Anti- aging Educator's Training, president of Threafa Tight ® Biotech Ltd. and CEO/CMTO at GeneHope Biotech Ltd. His work has centered around building a sustainable anti-aging path to the future, and in particular has unceasingly make effort to increase innovative patents in various territories and works steadily and makes solid progress to meet all the market requirements. He developed the innovative software-assisted NHTL technology which exhibits promising clinical results and offers a superior guideline for thread lifting. He is known for his prominent professional role both in China and Taiwan. His research interests include innovation of medical devices, aesthetic AVMR, Computer Vision (CV), Machine Learning (ML), Deep Learning (DL), aesthetic medical robotics.

Presenting author details
Full name: Wen Hsien Ethan Huang
Contact number: +886921846628
Twitter account:
Linked In account:
Session name/ number:
Category: Oral presentation