Canfield's 3D Imaging Products
Enhance Communication, Planning and Analysis

By Bob Kronemyer, Associate Editor

Three-dimensional (3D) imaging with the VECTRA product line from Canfield Imaging Systems (Fairfield, N.J.) provides surgeons, clinicians and researchers with precise volumetric surface imaging for meaningful patient communication, improved surgical and treatment planning and quantitative analysis. These 3D images also help surgeons educate the patient about a proposed procedure, and provide a realistic simulation of the expected outcome by modifying the patient's own image.

"We have significant experience with 3D imaging through the years, in surgical applications as well as in clinical research," said Rollin Read, the product manager at Canfield. "We believe 3D represents the future of medical photography. This technology not only improves on the visual feedback and documentation that currently exists, but also yields quantitative information which typically is not a component of standard practice for many plastic and aesthetic procedures."

Two core products in the VECTRA line are the VECTRA and the VECTRA CR (clinical research). Both allow a practitioner to use 3D images to objectively quantify different aspects of a medical or aesthetic condition. Clinicians can also generate a treatment plan based on actual true measurements and then evaluate the results of the final outcome with post-operative measurements. The speed of capturing a complete data set is less than 2 milliseconds, and the accuracy of data is well under 1 mm.

The scalability of the VECTRA system is also impressive. By adding components, a face system can be quickly adapted to a full 360° cranial system or to a full body system. "Practices will often expand and refine the types of procedures they offer," Mr. Read noted. "This has a corresponding impact on their imaging needs. The ability to scale things certainly adds value to a practice."

VECTRA provides broad capability, which is ideally suited for plastic and reconstructive surgery, cosmetic medicine, body contouring, craniofacial surgery and prosthetic development. "The VECTRA system has been optimized for both body and face imaging, within the same configuration," Mr. Read said. "Hence, the VECTRA system can be tailored to almost any portion of the body."

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VECTRA CR users tend to be more research-oriented physicians. "They may want to study a specific treatment," Mr. Read said. For instance, a recent installation incorporated a 360° body system for documenting body contouring procedures (e.g., mesotherapy or liposuction). VECTRA's quantitative measurements can be particularly useful in this type of application. "Sometimes it is difficult to visualize outcomes without actual images," Mr. Read stated.

"Our VECTRA product line truly creates a new paradigm in patient care," Mr. Read conveyed. During a consultation, "the patient can see themselves as they really are, with more detail than simply looking into a mirror." And with simulation, "the patient and doctor are able to arrive at an understanding of the procedure objective and anticipated outcome, thus improving patient satisfaction."

Precise, objective geometric information can also be used by the doctor to establish a treatment plan. "It is not simply a picture in his mind. It includes volumes and distances and actual information that can be used surgically," Mr. Read said. "A surgeon can use the system to objectively assess outcome efficacy, to help improve future procedures and effectively communicate with their peers."