

Giving Radiology A Change of Scenery



TESS USA's virtual windows aren't just for show

By Kathleen A. O'Shaughnessy

"It's like falling into an abyss."

That's how Ernesto Machado likes to describe the experience of visiting the windowless and frequently underground areas in which many radiologic procedures take place--especially radiation therapy.

"[The cancer treatment centers] are the most discouraging, hopeless, spiritless places in the hospital," said Machado, who spent a great deal of time in the cancer units of hospitals while accompanying his father to a yearlong series of cancer treatments.

It was largely this personal experience that in 1993 led Machado to found Therapeutic Environmental SolutionS Inc., of Winston-Salem, N.C. Better known as TESS USA, the company provides specially manufactured backlit photographs to hospitals and other health care facilities.

Believing that more positive surroundings might create more positive attitudes in patients, Machado engaged in extensive research into environmental psychology and used his background in marketing to develop and found TESS. While the original target market, radiation oncology departments, remains significant and close to Machado's heart, TESS has expanded to provide its products to a wide range of health care arenas, particularly MR imaging suites, in which TESS utilizes a fiber optic light system that does not interfere with the magnetic forces in the MR units.

The flagship product of the TESS line is the "virtual window."

"It's something very special; we're the only company that has one," noted Machado. The window, which is surrounded by an attractive oak frame, looks just like a real window; it even provides viewers with a realistic perspective of a nature scene.

In reality, however, the virtual window is a light box used to illuminate a photograph shot on special film. Built to fit hospital specifications, each window contains its own power supply and is only 3 inches deep so it will not get in the way of moving equipment, etc. Indeed, the window's depth is something of a minor engineering miracle. Traditionally, the light bulbs are visible behind the images in any light box less than 5 or 6 inches deep. But an engineering firm hired by Machado solved the problem by employing special reflectors to disperse light. In TESS

windows, "the lightbulbs are only an inch behind the duritransparency, but they can't be seen," Machado said.

The virtual windows, along with their variation, virtual skylights (ceiling panels with a view to nature), can be used in many areas of the radiology department. In some cases, several windows are grouped together, creating a panoramic view of a scene. Altoona Hospital, Altoona, Pa., for example, has a four-panel, country floral garden woods scene in its Open MRI procedure room.

"Together the panels give the impression of looking outside into the lush scenery and can easily be viewed by patients as they undergo MRI procedures," said Rick Reeves, the facility's director of community and public relations. The hospital plans to add similar panels to another procedure room now under construction.

"[Panoramas] are very dynamic," Machado said. "When you're walking into a radiology or radiation oncology division, you already have a life-threatening disease, or the premonition that you're not right. Walking past the lighted windows instead of just down a gloomy corridor helps you enter the room for treatment or diagnosis in a calmer state of mind."

Similarly, in MR imaging rooms, as well as in an increasing number of mobile MR units, patients can look up and concentrate on a clear blue sky or a lush canopy of tree branches and leaves while undergoing a frequently frightening procedure.

The foundation of TESS, Machado said, is his "passionate" belief in the health-value of aesthetics. When patients have something beautiful to look at while waiting for or undergoing medical procedures, "they're calmer, they're reflecting on something other than themselves (and their health)," he asserted.

All of the pictures are taken for TESS by photographer Andrew A. Wagner. "He has a sensitivity for looking at nature," said Machado, noting that Wagner has traveled to many exotic places, from Montana's glaciers to Amsterdam's Keukenhof Gardens to Virgin Gorda's beaches, to take a variety of pictures of nature at its most beautiful. Using a special camera and film, Wagner must also shoot these pictures taking into account that they will be backlit. Sometimes he can wait for hours for the proper positioning of the sun, said Machado.

In a recent innovation, TESS is now offering a series of interchangeable pictures reflecting the changing seasons. Hospitals can remove and store a duritransparency image of a lake in the summer, for example, and replace it with one of that same lake in fall, winter or spring. Especially for radiation oncology, where patients often must return time and again, the change "keeps the images fresh and stimulating," said Machado, adding that staff also benefit from the change of scenery and improved environment.

"The staff and personnel working there day in and day out are under as much stress as anybody else," he said. "Every patient who comes in transmits their stress and the employees transmit it to each other and back to the patients. Bringing nature to these areas is just as beneficial for them as for the patients."

Growing numbers of hospitals are requesting virtual windows, he said, and not just for traditionally windowless areas like radiology. TESS is currently working on windows for 13 birthing suites under construction in a West Virginia hospital. Machado said he believes all hospitals eventually will have to address the issue of their environments in order to thrive in the health care market.

"As the health care field grows increasingly competitive, professional prowess will remain important, but how [hospitals] treat the patient and how they're perceived as treating the patient will be just as important," he explained. With patients as consumers, "experiential care," in which everything is geared toward creating a positive experience for the patient, will become a priority.

"Patients want to go to, and will return to, a place where they feel their psychological comfort is as important as their physical well-being," he said. *

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