



# Setting the Stage for Delivery of Safer Imaging

By Nicole Hardin, MS, RT(R)(M)(CIIP)

When Children's Hospital & Medical Center in Omaha first received the AHRA & Toshiba Putting Patients First grant, the plan seemed deceptively simple: transform the appearance of cutting edge imaging equipment into something less frightening and more welcoming to its pediatric patients.

An underwater theme carried through imaging suites and the waiting room, playing on the radiology department's physical location just one floor below the hospital's main atrium and entrance. The opportunity was taken to grow the theme, enhance the serenity of sea life and water, and create an environment both vibrant and soothing. Children's worked with a local designer to create custom decals featuring beautiful pictures of fish and water animals like turtles, dolphins, and sea lions. These were installed on the CT and MRI scanners, as well as throughout the waiting room. The scenes are eye-catching and, more importantly, they've helped create a more soothing environment of care. See Figures 1–4.

Atmosphere was just the first phase of a multi-staged effort to deliver safer imaging at Children's, though. Ultimately, the staff of fellowship trained pediatric radiologists knew that a less anxious child would be easier to image. The study tends to go more quickly so there's less exposure to radiation and, in some cases, there's no need for anesthesia. This would be an important step toward a long term goal of both reducing sedation and unnecessarily exposing children to potentially harmful radiation like that found in CT scans.

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Children's conducts more than 3200 CT scans annually. The technology is an important tool, particularly in situations when a rapid assessment is needed or specific body site images are required. Yet, concern regarding ongoing exposure to ionizing radiation persists and has captured numerous headlines in recent years. Children's committed a

multidisciplinary team led at the executive level to study CT dosing, conduct case reviews, support the national Image Gently campaign, educate referring physicians on safer imaging options, and increase general awareness among healthcare professionals that pediatric specialization in radiology is a necessity for children.



Figure 1 • Underwater theme on 1.5 T MRI system.



Figure 2 • Underwater theme on CT scanner.



Figure 3 • Underwater theme on 3T MRI system.



Figure 4 • Underwater theme in waiting area.

Over a six month period, Children's achieved measureable results:

- The hospital reduced the CT radiation dose administered to the lowest amount possible.
- The biggest areas of impact were noted in chest CTs for patients 0–12 months and 11 years and older, and abdomen-pelvis CTs for patients 5–10 years.
- 100% of the hospital's CT techs completed the American College of Radiology CT certification exam.
- Children's sustained the results of the quality improvement project through heightened internal awareness.

The value of the Putting Patients First grant in jumpstarting this process was significant. It provided a visual exclamation point—a catalyst for change first in appearance, then in process. Staff also tracked a performance improvement project designed to reduce radiation

dose. They first established consistent results from directing patients' attention to the colorful images in the room and then moved to the next stage—improving protocols and lowering radiation dose.

As radiologists and imaging technologists worked behind-the-scenes to maximize patient safety and the delivery of quality and cost effective care, families were experiencing the child friendly, age appropriate atmosphere as soon as they checked in. The decals gave patient families an unexpected moment of discovery. They quickly saw that Children's was dedicated to children and that it's a safe place for them and the best place for them to receive care.

In the months following the underwater transformation, patient satisfaction scores for the hospital's radiology services improved dramatically from 75% to 90%.

The Putting Patients First grant complemented Children's pediatric expertise

by creating an atmosphere even more appropriate for children and families. In a day and age when healthcare budgets are often earmarked for device upgrades, facility renovations, and other elements directly related to daily patient care needs, this grant gave Children's Radiology Center an opportunity to employ therapeutic visualization for both children and their families. Children's views this as a significant enhancement to cutting edge imaging capabilities and an unsurpassed commitment to the young patients it serves. ☸

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