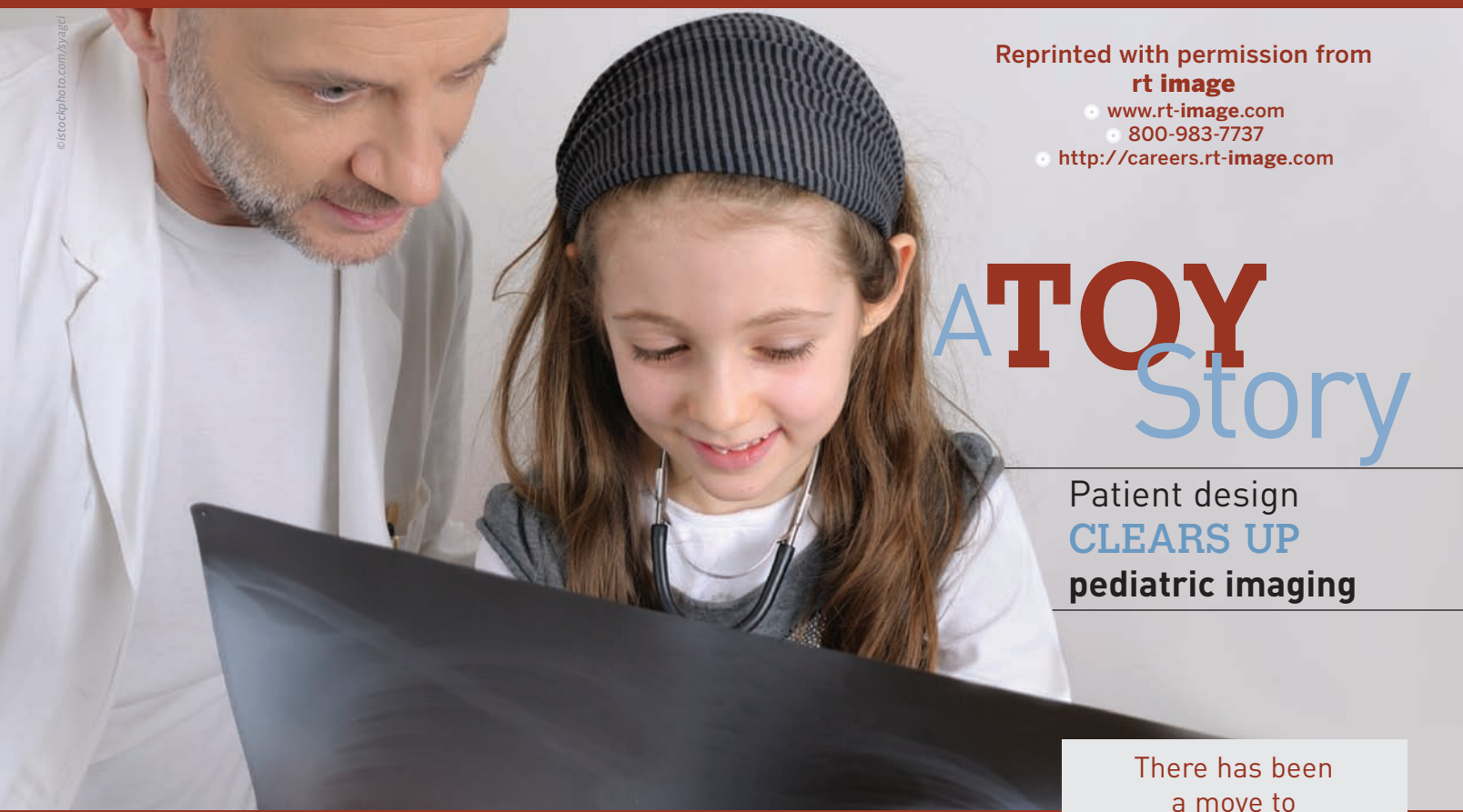

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A TOY Story

Patient design CLEARS UP pediatric imaging

By Bruce K. Browning, RT(R)

There has been a move to modernize pediatric imaging – and there is room for improvement with just a few simple upgrades in how you handle patients and **keep them informed of imaging procedures.**

REGARDLESS OF THEIR TRAINING OR SPECIALTY, many radiology technologists will radiograph a pediatric patient at some point in their career. A specialty in itself, pediatric radiology often requires a patient, considerate approach to obtain a high-quality diagnostic image – an attitude that may not always be prominent at high-traffic imaging centers.

As radiographic professionals, the No. 1 issue in X-ray imaging is motion – an obstacle that is even more prevalent in pediatric imaging. In my opinion, the best solution is cooperation.

The most common X-ray exam is of the chest, or what I call the triage exam. Depending on the chest X-ray, you can have one of three scenarios: there could be nothing wrong; the patient might be going home with a treatment plan; or they could be admitted to the hospital. The radiologist is the only official interpreter who is able to read radiographic images anteroposterior (AP) or posteroanterior (PA) – whether the scapula are in the lung field or not.

As the inventor of the Browning Ball, a device to improve the patient/technologist relationship along with exam performance, the ultimate goal is to produce an image by clearing the lung field of the scapula. After all, isn't the goal of the exam to remove all body parts from the image upon being read? The Browning Ball helps improve common obstacles of scapula obstruction in pediatric imaging.

FORM TO FUNCTION

During a standard day at the hospital, parents always accompany their children into the exam room. I find myself repeating the following instructions: "Put your child in the chair and you stand behind them with arms outstretched to the sides."

I give the parent a lead apron with my right hand, so my left hand is free to attend to the patient, if necessary. I back away, showing parents how to hold the patients' arms and a small lead apron on the lap. I check the X-ray tube for centering and collimation, move to the exposure switch, and take the image. The same drill and instructions are repeated for the lateral view. This used to be my routine. Now, I use the Browning Ball.

While there are several methods for removing the scapula from the lung field – such as raising the arms above the patient's head, or having the patient positioned sitting or supine with arms raised – these do not address the fears, frustrations, and impatience of pediatric patients when surrounded by foreign diagnostic equipment.

The idea for the Browning Ball materialized when I noticed that I was not removing the scapula in my images. Frustrated, I thought about ways to solve this problem.

Adult patients can hug the upright chest unit for their exams or put their shoulders on the chest Bucky. But children cannot hug the chest unit because it's too wide. If they try to do this, the back of their head extends into the upper chest of the image – like hugging the side of a barn.

In my experience, children don't let me help them position in this way and resist being imaged in a PA position. However, they let me do the AP position.

WHAT'S IN A NAME?

The prototype process for the Browning Ball began simply one morning with a call to Creative Foam Medical Systems in Bremen, Ind., which supplies foam patient positioners and table pads for imaging equipment manufacturers. I pitched my idea and the process was in motion.

Contrary to its name, the Browning Ball is not actually sphere-shaped. Instead, the sides are shaved down as a safety feature to help keep the ball from rolling when it is not in use. Also, the shape is easier for a child to hold, compared with something completely round.

The polyscan vinyl coating on the foam of the Browning Ball resists fluids rather than absorbing them, and it is seamless, so it cannot cause imaging artifacts or harbor bacteria, which are important when working with children. And, because the Browning Ball is made of foam or sponge, and is essentially the same density as air, no change in exposure factors is necessary.

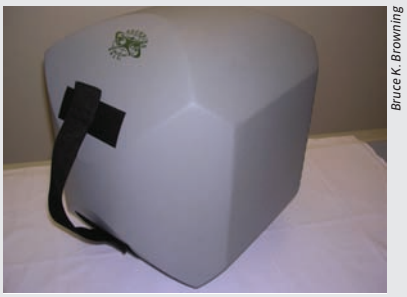
When using the ball, radiology technologists should select an appropriately sized cassette and place it lengthwise with the patient at either end of an X-ray table. Then, place the patient's back against the cassette for the AP projection. The patient should hug the ball against the chest, with the chin on top of the ball and the hands out of the primary beam. The standing wall Bucky can be lowered and adjusted for patients of different heights.

However, the Browning Ball does not completely eliminate parental assistance – they can still lend valuable moral support by being present during the process. And if the ball seems too heavy, they can help hold it without being in the primary beam. As another benefit, after using the Browning Ball, children are not frightened if they have to return to the X-ray department.

With the Browning Ball, clearing the lung fields can be done more often – in fact, it clears the lung fields all the time. Other demonstrated uses include clearing the kidneys, ureters, bladder, and upright abdomen.

CHANGING THE FIELD

There has been a move to modernize pediatric imaging – and there is room for improvement with just a few simple upgrades in how you handle patients and keep them informed of imaging procedures. For example, at the point of contact, an ordering doctor could use a DVD to show patients how to hold their breath, a simple direction that cuts exam time. For instance, perhaps you have noticed that when children say the word "cheese," they exhale, and then inhale to resume breathing. Some children say "cheese" for up to 10 seconds, and to get this right it has to be practiced to get the timing correct upon exposure. A radiology technologist has to have the rotor primed and ready to catch the inhalation. With a DVD that demonstrates proper breathing, a radiology technologist can trim crucial time when there is a line of patients waiting.



Bruce K. Browning

The Browning Ball can improve exam performance.

In my experience, waiting rooms are showing television shows or cartoons as "positive distractions" for patients. Instead, a simple video in the waiting room can demonstrate the complete exam for parents, how it is performed, and the various ways they can help obtain the best diagnostic image. This gives the pediatric patient and parents knowledge going forward, which makes them better prepared and, hopefully, decreases a child's movement during a procedure.

Simply put, the Browning Ball contributes to the array of positioning aids for radiology technologists and has the potential to increase the number of unobscured chest films. It also provides an opportunity to improve patient-technologist relations: while a technologist sets up the procedure, the patient can play with the ball, which changes the exam to a game and makes restraints unnecessary.

Bruce K. Browning, RT(R), is a pediatric radiographer at Kaiser Permanente, Southern California Medical Group, in Panorama City, Calif. Visit www.browningball.com to view a demonstration video. Direct questions and comments to editorial@rt-image.com.