

2012 Cultural Competency Series

The Cultural Competency series tells the stories of UPMC employees who put patients and others first by being culturally competent and by recognizing each other's differences.



Traveling to a foreign country where you don't speak the language can be a little intimidating. Simple requests are met with puzzled smiles and shoulder shrugs, phrasebooks are passed back and forth in awkward attempts to communicate, and universal gestures like laughter are often the best way to bridge the gap.

Now imagine that you were in a foreign country not for vacation, but because you were there to learn how to use an incredibly advanced piece of technology that could save lives. That was the challenge facing four clinicians from the Istituto Mediterraneo per i Trapianti e Terapie ad Alta Specializzazione (ISMETT) in Palermo, Italy, which is a specialty hospital operated by UPMC. The clinicians traveled to the Mary Hillman Jennings Radiation Oncology Center at UPMC Shadyside to learn how to employ the TrueBeam™ radiotherapy system.

The four visitors from San Pietro — **Francesco Aquilanti, MD, Federico Bianciardi, MD, Vincenzo DeGennaro, and Barbara Nardiello** — visited the United

States for extended stays between March and May. Each of the doctors spoke a bit of English, but none was anywhere near fluent, which made learning about the TrueBeam system a challenge. Fortunately for them, the staff of the Radiation Oncology Department were there not only to help them learn, but to help them feel at home as well.

When the clinicians arrived, each was given a binder with a greeting in Italian, information about the Radiation Oncology Center and Pittsburgh,

and photos of smiling staff with easy-to-understand phrases, such as "Let us know what we can do!" and "We are here to help you!" They also were given baskets that were full of Pittsburgh cheer, with goodies such as chocolates and a Pittsburgh Pirates baseball cap.

The clinicians came to learn about stereotactic radiosurgery, a specific application of radiation oncology that is able to target a specific tumor with a very high dose of radiation while sparing the healthy tissue. The radiation oncologist and the surgeon work closely together during this procedure, with the surgeon marking exactly what needs to be treated while avoiding critical structures, and the radiation oncologist determining the course of the radiation therapy.

It is a state-of-the-art treatment — the Radiation Oncology Center at UPMC Shadyside was a leader in this application, with its CyberKnife® operational in 2000.

The newest technology, TrueBeam, only the second linear accelerator of its kind to be built, was commissioned in mid-2010. ISMETT will begin using its own TrueBeam unit in July, which is why the clinicians needed to learn as much as possible before returning to Italy. The language barrier almost prevented this.

"We did offer them a translator about a week into the training. I was just really concerned that they weren't learning at the level they could," says **Debra Pollak**, manager, Radiation Oncology. "They declined, because they felt so strongly that they really needed to master this. And then about two days later, it was like a light switch went on. It was amazing."

The TrueBeam machine is able to target tumors that might otherwise be untreatable because of the vital structures around it. Because it is able to deliver such a concentrated dose of radiation to such a specific area, only a few treatments are required. Patients also are required to lie perfectly still, in a very precise position, and the Radiation Oncology staff taught the visiting clinicians how to instruct patients in this area.

"We take a thermoplastic mask and put it in a water bath of 160 degrees, and that allows us to form it around the patient's head and shoulders," says **Amanda Rakow**, lead radiation oncology therapist. "Then it dries, and when the patient comes back for treatment, we place the mask back on so that the patient is in the exact position."

The patient's body also is immobilized using a mold that is similar to a bean bag, which is then vacuumed-sealed so that the patient can be kept in the exact position. However, because the TrueBeam targets tumors with such pinpoint precision, even immobilizing the patient isn't enough.

"We use a procedure called gating, which is based on the patient's breathing patterns," says **Rachel Kirin**, lead radiation oncology therapist. "We do a motion study and a CT

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scan to see how the tumor volume is moving as the patient breathes, and then our physicist creates a plan around that. When we begin the treatment, it's customized to how the tumor is moving when that person is breathing," she says. The radiation is then delivered only when the patient's breathing has paused, and the tumor isn't moving.

When it was time for the clinicians to return to Italy, they felt confident that they had learned what they needed to know to treat patients using the TrueBeam system. "The therapists were good at engaging them in the whole process, and creating a very relaxed and stress-free learning environment," says Ms. Pollak. "I do think they felt that they had mastered it by the time they left, and that they'll be very comfortable reaching out. They feel that this is a collaboration, and that we're here to support them."

The clinicians said that they enjoyed their stay in Pittsburgh, and during their time here, they took in a few of our cultural offerings. They attended a Pittsburgh Penguins game, although they found the speed and sudden violence of ice hockey a bit hard to follow compared to their national game of soccer. Basketball also is hugely popular in Italy, and the team was excited to travel to Philadelphia to see a professional game in person.

But coming from Palermo, they found the local cuisine a bit lacking. "They really didn't like our food," says Ms. Kirin, "except for Panera Bread."

*The best way to encourage cultural competency is by sharing outstanding examples. If you or someone you work with has helped a patient with special needs, tell us about it. Email your story to inclusion@upmc.edu, and if it's chosen, the story will be included in the Cultural Competency series in Extra. By treating people the way **they** want to be treated, we ensure that inclusion is at the core of everything we do.*

Surprising Facts About Hand Hygiene

Congratulations to **Matthew Joseph**, Pharmacy intern at UPMC Presbyterian, and winner of the hand hygiene "Busy Day" contest. The contest asked us to remember all the things **Chad Eckert's** hands touched in his winning hand hygiene video, "Busy Day." Thank you to all who submitted a response. You can view a list of all of the things Chad's hands touched in "Busy Day" on the Hand Hygiene site on Infonet.

Just like Chad's hands in "Busy Day," it is shocking how many surfaces we all come in contact with throughout our own busy days. Did you know the following facts about germs and infections?

1. Nearly 80 percent of all germs that cause sickness are spread by our hands.
2. A single germ can multiply to become more than 8 million germs in just one day.
3. Germs can stay alive on your hands for up to three hours.
4. There are between 2 million and 10 million bacteria between your fingertips and your elbow.
5. The number of germs on your fingertips doubles after you use the toilet.
6. You're likely to find more germs on a computer keyboard, telephone, or elevator button than on a toilet seat.
7. *Clostridium difficile* spores are not killed by alcohol or soap and water, but vigorous scrubbing dislodges the spores from the surface of your hands so they can be safely washed away.
8. Methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus* (VRE) have been shown to survive on surfaces from days to months.

While these facts might seem scary, here's one more important fact:

Cleaning your hands is the most effective way to stop the spread of infection.

To get more facts about hand hygiene, visit Infonet.

Follow the World Health Organization's Five Moments of Care to clean your hands:

1. Before touching a patient
2. Before a clean or aseptic procedure
3. After body fluid exposure risk
4. After touching a patient
5. After touching patient surroundings

HAND HYGIENE
**FIVE
MOMENTS
OF CARE**

