

E-Mentoring Program Offers Real-Time Global Radiology Education

WHILE MUCH has been made of how computers have facilitated radiologists' work of diagnosis and treatment, a new RSNA international e-mentoring program has seized upon technology as a way to connect—in real time—radiology educators with students half a world away.

Senior mentor William Brant, M.D., a professor of radiology at the University of Virginia, kicked off the program by visiting Nairobi, Kenya, last October to meet 17 first- and second-year radiology residents at Aga Khan University and assess their curriculum and needs. He then spent many hours over the next six months discussing—via Webcam—image-based case studies with the residents. He also built Webinars, developed teaching files and encouraged the residents to keep practice logs and participate in a discussion board and weekly face-to-face meetings with their fellow students.

A major goal of the program, said Dr. Brant, was to have an international radiology mentoring structure with the ability to develop and apply evidence-based practices in radiology.

The residents in east central Africa weren't the only ones learning something during the process, he added.

"The same way that I can challenge them with cases, they can provide me with cases that I can use to challenge my residents here," said Dr. Brant. "They sent me some great cases of tropical diseases and other things that people may have heard of in medical school, but you don't see in the U.S. That's a fascinating part of the exchange. They



William Brant, M.D., center, served as senior mentor of an e-mentoring program for radiology residents at Aga Khan University in Nairobi, Kenya. The residents said they especially appreciated how the program encouraged them to discuss various cases among themselves. Pictured, from left, are Drs. Brian Bwombuna, Twahirwa Nebayosi, Joyce Sande, Peter Chacha, Sheila Waa and Ruth Wanjohi.

have a lot more cases of tuberculosis and with far different manifestations than what we have in the U.S."

Another goal of the program, he said, was to develop the residents as a "community of learners," meaning that they can teach each other. "I would send the residents on a weekly basis a series of challenging cases as unknowns," said Dr. Brant. "Since I had

William Brant, M.D.

been there, I knew what they could see or recognize. I'd send one case per resident and then they would meet and discuss their cases. I would challenge them with questions and tried to give them cases they had not seen before."

RSNA plans to continue to refine the e-mentoring program and expand it to training institutions in other geographic regions.

RSNA was assisted in planning and executing the e-mentoring proj-

ect by John Parboosingh, M.B.Ch.B., F.R.C.S.C., F.R.C.O.G., a professor emeritus at the University of Calgary and a community learning consultant. "RSNA's e-mentoring project highlights two recent advances in postgraduate education," said Dr. Parboosingh. "First, collaborative learning, an essential component of lifelong learning, can be explicitly fostered and evaluated through resident communities of learners. Second, technology enables residents to benefit from expert teachers and role models from other programs and countries.

"Enthusiasm, dedication and flexibility of all stakeholders are pivotal to the success of a program of this nature," Dr. Parboosingh continued. "But most important, RSNA has provided the leadership to enable these advances in medical education to be explored."

Nairobi Hospital Well-Equipped

Dr. Brant, assisted by Aga Khan University radiology professor Jeffrey Rees M.B.Ch.B., D.M.R.D., L.M.C.C.,

F.R.C.P.C., F.R.C.R., program coordinator Timona Obura, M.B.Ch.B., M.Med., and a few other radiology faculty members, uploaded the cases to a Web site from which the residents could download the cases to their computers.

After three initial weekly sessions, Dr. Brant talked to the residents live online once a month for two hours, using a commercial program that allowed him to share his desktop with the students. "We were able to discuss the cases live and the delay was less than a second, so that was not bad," said Dr. Brant.

While many government hospitals in Africa are very poor and lacking equipment, Dr. Brant noted that Aga Khan is fairly well-funded. "It has been there for a long time and in the past five years they have decided to make post-graduate education one of the functions of the hospital, with the hopes that it leads to a medical school," he said. "I think this hospital will be a good training ground for more radiologists to work in Kenya."

Dr. Brant added that Aga Khan has most of the same equipment as he has available at the University of Virginia, something very important to the program. "They had top notch ultrasound, state-of-the-art MR and a multislice CT scanner," said Dr. Brant. "Their biggest deficiency was plain radiography, believe it or not."

The University of Virginia's radiology department currently has three to four times as many clinical faculty and residents as Aga Khan. "We have many

more people with subspecialties, and for that reason we hoped this program would supplement their onsite learning by expanding their exposure to more cases and more subspecialty radiology," said Dr. Brant.

Joyce Sande, M.D., one of residents involved in the e-learning project, said exposure to a "spectrum of pathology" was one of the main reasons the program was a success. "While we do see a lot of normal exams, which is still of use, the experience we got from the sessions built our confidence in terms of conditions that we may face in the future," Dr. Sande said.

Program Prompts Discussion Among Residents

Residents said the program benefited them in other ways as well. "The way in which it was run encouraged us to discuss various cases together," said Dr. Sande. "In doing this, we were able to enhance each others' strengths and minimize weaknesses. This is especially so because during the discussions different points were raised by different residents such that at the end of a discussion, we all had made fullest use of each case."

Dr. Brant, who traveled to see the residents in person again in mid-June, said he believes that "everyone involved considers this program a great venture," but notes there initially might have been some hesitation on the part of the Aga Khan residents.

"I think at first they thought they may be guinea pigs of a sort, since this

is a pilot, but ultimately the residents felt that this program was very beneficial," he said.

While RSNA has over the years supported a lot of international education, he said, the e-mentoring program creates a "real-time" opportunity for supplementing education in developing countries, said Dr. Brant.

"A lot of faculty can participate and assist programs in developing countries at a much lower cost," he said. "We can therefore have a continuing relationship that can really develop over the years."

S.M. Faisal Mosharraf, M.B.B.S., who supervised the e-mentoring sessions and facilitated discussion on the Aga Khan end, praised the project as novel and innovative but said there is room from improvement. Residents learned from the sessions, he said, however more must be done to encourage them to apply their new knowledge to their day-to-day work.

"I think we have to further think and bring some innovative ideas to make the project a complete success," said Dr. Mosharraf.

Dr. Sande said she would recommend the program to other residents.

"It has helped in my studies by giving me guidelines on how to approach self-directed learning, and the time taken to explain the cases has give us a strong foundation because it will be difficult to forget what was learned," she said. "When you understand why certain pathology occurs and why it appears as it does, the memory is grounded deeper." □

Pediatric Radiologists Thrust Radiation Safety into Spotlight

Continued from Page 9

than one is a great way to reduce dose while reducing scan times."

One of the simplest ways to cut dose, Drs. Zeman and Goske point out, remains the same—scanning only the necessary area. "For example, if you have a child who has chronic hip dislocation, has had surgery to reduce the hip and is in a cast, the only way to look

through the cast to see the hip is with a CT scan," said Dr. Goske. "However, we only need to see gross anatomy, so we can bring the dose way down and do a very short spiral, maybe 3 centimeters. The referring doctor may order a scan of the pelvis, but we don't need the whole pelvis. We just need a couple of centimeters through the hip joint.

"The third phase of the Image Gen-

tly will be reaching out to parents," Dr. Goske continued. "But we must first remind radiologists, radiology technologists and physicists, and then referring physicians."

Added Dr. Zeman, "We are not currently positioned to be the gatekeepers of the entire referral process, but we can be the gatekeepers of patient dose." □