

From the Brink and Back

How one patient's struggle with infection led to a higher calling

DALIA AL-OTHMAN, now age 33, knows far too well the devastating toll hospital-acquired infections can have on the body—and the human spirit.

After breaking a piece of her femur in her left leg in February 2007, a break which resulted from wear and tear on the femur due to a previous childhood surgery to remove a cancerous tumor from the same leg, Dalia was admitted to the Beth Israel Deaconess Medical

Center (BIDMC) in Boston for a scheduled four-hour surgery so her surgeon could repair the thigh bone by inserting a metal plate.

What should have resulted in a five-to-six day hospital stay soon turned into an approximately

year-and-a-half medical nightmare, caused by a negative coagulase staphylococcus (staph) infection that she acquired while in the operating room.

It took 11 surgeries and five rounds (each lasting six to eight weeks) of intravenous Vancomycin, an extremely powerful antibiotic, to quell the infection and save Dalia's leg from amputation. Dalia was confined to a

wheelchair for eight months during the ordeal and was on crutches for another eight months following her final reconstructive surgery on April 17, 2008, in which she received a total femur and knee replacement.

"I almost lost my leg in 1990 due to bone cancer, and then I almost lost it again at the age of 31 because of the staph infection. My final surgery was over a year ago and I am still in physical therapy," Dalia notes. "I have to admit, maintaining a positive attitude throughout the whole experience was very difficult, but I was lucky to have the support of my family and friends, especially my mom, not to mention a wonderful team of doctors and surgeons."

Because of her previous philanthropic efforts related to cancer and a strong desire to put her recent patient experiences to good use, she set out to find an organization that was conducting research into hospital-acquired infections.

"I don't see the point of having a life-altering experience if you don't do anything with it afterward," Dalia says.

Through a mutual friend, Dalia connected with Jeanette Adams, Ph.D., R.N., clinical assistant professor of nursing, and Denise Korniewicz, Ph.D., R.N., F.A.A.N., a professor and senior associate dean for research at the School of Nursing and Health Studies. She and Adams both conduct research into the very same patient safety concerns that affected Dalia during her battle against the staph infection and other hospital-acquired infections.

"Because of Dalia's passion she is now very interested in patient advocacy and telling patients that they have a right to know and a right to ask questions about their care," says Korniewicz.

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After raising \$50,000 for the school (specifically to fund Adams' research into hospital-acquired infections) and another \$50,000 to start a Sarcoma Tissue Bank at the BIDMC, Dalia didn't stop there. She teamed up with David Yurman, a New York-based high-end jeweler, to host an extremely successful charity event in August at David Yurman's Boston boutique. Fifteen percent of the proceeds from jewelry sales that day will be divided equally between the two organizations.

"We raised \$9,600 that night, half of which went to UM, and those at David Yurman tell me it was one of their most successful charity events in Boston to date," Dalia says.

Through it all, Dalia, a lawyer by training who graduated from Harvard University in 1998 with a B.A. in English and a J.D. from Harvard Law School in 2001, has found a new mission in life: patient advocacy. She is currently writing a book that describes how

patients can survive chronic illness by becoming their own best advocates, and she plans to open up a patient advocacy business next year.

"The goal of the David Yurman event was to raise awareness for two very important causes: cancer and hospital-acquired infections, both of which are very close to my heart. I plan to do additional fundraising going forward on a much larger scale," she says.

"I suppose having the staph infection was a reminder of my higher calling," admits Dalia. "When I was sick with cancer at age 13, I always intended on doing lots of volunteer work and giving back to others who were sick. I thought about becoming a doctor. But I was so young then, and I went on to do other things in life. I think having the staph infection was a reminder of what I was supposed to be doing in my life."



Photo courtesy of David Yurman.

Improving Patient Care

Millions of patients fall in hospitals and other acute-care settings annually, resulting in moderate-to-severe injury and even death.

About 1.2 million U.S. hospital patients are infected with MRSA (methicillin-resistant staphylococcus aureus) each year. Facility-acquired wounds such as pressure ulcers are also on the rise.

Such patient safety concerns are the driving force for a group of faculty members who are making significant inroads into a wide range of patient safety issues by conducting research to affect quality patient care.

"Today, our group—along with our clinical partners—have been securing research funding for

several projects associated with patient advocacy, patient care, and evidence-based practice," says Denise M. Korniewicz, Ph.D., R.N., F.A.A.N., professor and senior associate dean for research at the school, and leader of the patient safety research team.

The Patient Safety Group is made up of Korniewicz, along with Jeanne Siegel, Ph.D. '08, M.S.N. '01, R.N., clinical assistant professor of nursing; Vivian Padron Fajardo, Ph.D. '05, M.S.N. '98, B.S.N. '85, R.N., clinical assistant professor of nursing; Mary Wyckoff, Ph.D., R.N., A.C.N.P., clinical assistant professor of nursing; Mimi Asher, M.S.N. '85, R.N. instructor; and Jeanette Adams, Ph.D., R.N., clinical assistant professor of nursing. Their goal? To nurture patient-safety oriented studies designed to advance nursing knowledge, improve patient outcomes and promote evidence based practice.

The group's first project is being conducted in collaboration with University of Miami Hospital and is funded by Hill-Rom, a medical technology company that specializes in innovative hospital and home medical equipment. Hill-Rom has created a special bed/mattress system that prevents patients from developing pressure ulcers and associated medical complications. The group is examining if the use of these mattresses in a clinical setting will reduce the incidence of pressure ulcers (Stage II or higher) to one percent or less. "We hope to have initial results soon," says Korniewicz.

Due to the success of the first study, Hill-Rom is funding a second study to examine if the use of a special Hill-Rom mattress, designed using Smart Silver™ technology, inhibits the growth of harmful bacteria and decreases the amount of microorganisms on a bed's surface.



Illustration by Philippe Laroche.



From left to right: Dr. Korniewicz, Dalia's mother Jennifer Mainwaring with dog Mango, Dalia Al-Othman, and Dr. Adams (far right). Right: David Yurman's signature Mosaic Cuff Bracelet.

The David Yurman Charity Event in Boston, which Dalia Al-Othman hosted on August 11, 2009, raised approximately \$4,800 for the University of Miami School of Nursing and Health Studies. This amount was in addition to the \$50,000 that Dalia raised independently for the University prior to the event.