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TULANE | MEDICINE

RESEARCH FUNDING HITS NEW HEIGHTS

A CHANGING ENVIRONMENT IN MEDICAL EDUCATION

MORE THAN SKIN DEEP


n Bah M.D., PhD.

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FACULTY PROFILE

MORE THAN SKIN DEEP

JUST AS THE EYES ARE THE MIRROR OF THE SOUL, the skin reflects the body's general health—or the systemic diseases that threaten it.

Dr. Erin Boh, who chairs the department of dermatology at Tulane University School of Medicine, specializes in treating complicated, chronic diseases like severe psoriasis and cutaneous t-cell lymphoma. Unlike most dermatologists, who find scant need for listening to hearts and lungs, she uses her stethescope every day in her medical dermatology practice.

"Psoriasis responds exquisitely to stress—by getting worse," says Boh, who earned a Tulane PhD in biochemistry in 1980 and her Tulane MD degree in 1985 before joining the faculty in 1990. "For example, in atrial fibrillation, when the patient's heart is not functioning correctly, it puts stress on the body."

She smiles as she remembers her diagnosis of atrial fibrillation in a patient whose psoriasis had become severe after years in a controlled state. She called his cardiologist to report her findings. "He said, 'I didn't know a dermatologist owned a stethoscope!' He couldn't believe I knew what atrial fibrillation was. He was very impressed."

Referring physicians and the patients who come from throughout the Gulf Coast and South Central states are impressed as well. Boh and the six other members of the department use treatment methods that are the most advanced available between Birmingham and Houston.

Tulane dermatology clinics—at Tulane Medical Center, in Covington and at the VA Hospital in Biloxi—see about 1,000 patients a month. In addition, others are seen in clinics at the Medical Center of Louisiana/New Orleans.

LEADING-EDGE APPROACH TO COMPLEX CASES

Many of Boh's patients suffer from psoriasis, a disease that can be difficult to treat. About 2 to 3 percent of the population copes with the condition. "It's a tremendously uncomfortable disease," she says. "Patients can be itchy from head to toe." There is no cure, but, with treatment, some patients remain symptom-free for years.

Then things can change. "Psoriasis can be totally stable, and out of the blue it becomes totally unstable," she explains. "Maybe psoriasis patches are just on elbows or knees for years, but now 80 percent of the body is covered. That's how people get sent to us. And we have to think about what triggered it."

Boh and her team use those stethoscopes along with other tools to screen for systemic disease, and they have found undiagnosed prostate cancer, breast cancer or lung cancer in some of their patients.

"Most people who have a flareup do have some stress," Boh says. "But most of the time it's a lost job or a new baby—not cancer."

Boh is active in the national psoriasis circles, where she is an acknowledged expert. She directs the research symposium for the National Psoriasis Foundation and is deputy editor of the foundation's magazine.

The department has six to 10 clinical research studies underway at any given time. An eight-year longitudinal study looks at co-morbidity factors in psoriasis—including arthritis, heart abnormalities and metabolic syndrome. Another project is evaluating a biologic to treat psoriatic arthritis.

Boh is also investigating a chemical that can block an enzyme called Janus-kinase-1 inhibitor that, in turn, is pivotal in the activation of T-cells. Once those T-cells are activated in a person with psoriasis, the whole immune system is turned on, the inflammatory cytokines that relay messages between immune system cells go to work, and skin lesions, arthritis, insulin resistance and heart issues can result. "This study will look at patients of all ages, whether their previous treatment has been systemic or topical, and see the impact of the drugs," she explains. Other studies are examining a substance which blocks the whole T-cell activation process.

Boh also works with Tulane oncologists in a cutting-edge treatment for a form of non-Hodgkins lymphoma. Tulane is the only site in Louisiana using extracorporeal photopheresis (ECP) to treat cutaneous T-cell lymphoma and graft-host disease. "We have a special bent for this rare form of lymphoma that arises spontaneously in the skin," says Boh, noting that only about 100 such machines are in use in the United States.

The approach of ECP is similar to dialysis, separating T-cells from a patient's own blood and incorporating psoralens into the cells, substances that make the T-cells more sensitive to the UVA light treatment as they pass through tubing. As the psoralens embed into the T-cells' DNA, "it changes the appearance of the T-cells so that the body believes they're invaders," explains Boh.

"We put the cells back into the patient and the patient's own immune system now sees cells as different. So it goes to work to get rid of them."

ECP is easy for the body to tolerate, Boh says. Patients who are treated with ECP are not sick and not immunosuppressed as a result of the treatment. "It's a very selective immunomodulating target. Patients' immune systems carry out the definitive response. And, in many cases, their disease goes into remission."

MORE SPACE FOR "STRONG DERM FAMILY"

Boh, an international specialist in photopheresis who has chaired the dermatology department since 2006, says that a planned move in June to new facilities in the Murphy Building (131 S. Robertson) from cramped quarters on the 15th floor of the Tidewater Building (1440 Canal) will offer more space to pursue clinical research.

She takes pride in what she calls "the strong derm family" at Tulane. "Our alumni come back to teach the residents," Boh says, giving accolades to the department's strong clinical faculty as well as its full-time academic physicians. "They're big names, nationally recognized leaders."

Four residents a year graduate from the program. Some go into practice in distant regions; others stay in the New Orleans area. Wherever residents choose to begin their careers, they are ready to go full steam ahead into practice.

"It's easy in a medical specialty to forget there's a whole person associated with those eyes or that skin. In medical dermatology, we have to deal with the whole person and the other diseases they have," Boh says.

"When our residents get out, they're well-equipped to do that. They're challenged that way. They get very good, well-balanced training—a lot of surgery, a lot of cosmetics. They get everything

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—DR. ERIN BOH

DR. ERIN BOH WITH RESIDENTS
Tulane's dermatology group works with complex cases, using treatments that are the most advanced between Birmingham and Houston.

they need to complete the residency and be board-eligible, but they also get that little extra."

THE MAKING OF A DERMATOLOGIST

Holder of the Joseph Chastain Professorship of Clinical Dermatology, Boh herself brought a little extra to her medical career, after earning a PhD in biochemistry where her research focused on chemiluminescence and photobiochemistry. "Even in the fifth grade, all I wanted to do was get a PhD," she says, "It didn't matter so much in what."

After graduating in December 1973 from Auburn University, the New Orleans native had nine months to fill before beginning a graduate program in entomology at LSU.

The first day she was home, her dad informed her she had to get a job. "He told me to go to Tulane and LSU med schools to look for work. I was sent to Dr. Norberto Schor, a professor of pathology, who is from Argentina and his accent can be a bit tough. At the end of my interview, he said, 'You seem to understand me!' So he hired me and I started working in pathology doing bench research."

When Dr. Schor told her he could help her pursue a PhD at Tulane, she selected biochemistry partly for convenience: Classes were held on the same floor as the lab where she worked. But soon it became her passion.

After she earned her doctorate and completed a year's fellowship supported by the American Heart Association, she started thinking about medicine. "I didn't have a job. One day I'm sitting in the cafeteria with Dr. Bob Garry, a professor of immunology and microbiology, who said, 'You can teach medical students, so go to med school. You'll have a job.' I really had no clue what it was about, except I would have a job.

"I remember vividly—even what I was wearing—the day it hit me in 1981 that I'm really supposed to be a doctor. Dr. Jim Storer, a pediatric dermatologist and neonatologist, gave a lecture in a freshman histology course on autoimmune blistering diseases in children. Sitting in the lecture—talking about biochemistry and molecular biology—I thought 'I'm going to be a dermatologist.'

"I never wavered from that point forward. It all fell into place. It's the best direction I ever had in my life."

Boh, who went to medical school a bit later than most, keeps in close touch with her classmates, hosting a recent reunion dinner for Tulane Medicine Class of '85 at her home.

"Never for a moment have I been able to think of anything else I'd like to do. There's nothing I would do differently. Even if I won the lottery, I would still do this."