Eczema

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Dr. Beck is a board-certified dermatologist who is internationally recognized as an expert in the pathophysiology and treatment of atopic dermatitis. She has been funded by the NIH and other granting agencies for over 20 years and her work has been acknowledged by a number of prestigious awards, honors, and patents. Her research in atopic dermatitis (AD) focuses on three interrelated areas. First they seek to fully characterize the epithelial tight junction (TJ) defects observed in patients with AD at the molecular level. Next, they strive to understand how these barrier defects affect the development of inflammation deeper in the tissue. And finally, they have devised studies to better understand why key bacteria-fighting white blood cells do not seem to migrate to the skin in subjects with AD.

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Breakthrough to Benefit Millions

The most common form of eczema—Atopic Dermatitis (AD)—is a chronic inflammatory skin disease that affects up to 20% of our nation's children and 9% of adults. While we do not know the cause of AD, we believe it arises from a combination of patients' genetic makeup and environmental influences. Sufferers endure intense and often chronic itch followed by significant dermatitis that can lead to skin infections. There is no way to prevent or cure this disease so treatments are focused on reducing the intensity of established disease. The appearance of the skin lesions as well as the profound itch commonly seen in this disease adversely affects the physical, emotional and social well being of both children and adults, as well their caregivers. Not surprisingly, the effect it has on quality of life measures comparable to that observed with psoriasis, diabetes and hypertension.

For more than 20 years, UR Medicine's Lisa A. Beck, M.D. has been a leader in AD research and patient care. She has the largest registry of AD patients in the world, and patents that include identifying a unique skin barrier defect that predisposes patients to AD. She is now studying what proteins may lead to this skin abnormality and how this might be reversed. She and others have observed that bleach baths provide considerable relief for patients with AD and her lab is trying to understand whether bleach baths may reduce inflammation, improve skin barrier function and—in conjunction with another of our scientists, Dr. Steven Gill—determine whether they normalize the balance of skin microbes (e.g. bacteria that inhabit our bodies called the "microbiome") and, in so doing, affect the susceptibility to AD.

Dr. Beck's work to identify and refine ways to enhance skin-barrier function will likely lead to new breakthroughs in controlling other diseases like asthma or inflammatory bowel disease—which, like AD, are characterized by barrier disruption of the airways or intestines, respectively.

With your help, we can propel our pre-clinical novel observations into new treatments for not only atopic dermatitis, but for a variety of other inflammatory diseases as well.

Your Gift Will Help Us *Improve Dermatological Care for Millions*

We have a tremendous opportunity to carry this breakthrough research in atopic dermatitis to the next level, helping to reduce the effects of atopic dermatitis for millions of sufferers. With your support, we can expand our fight against this chronic disease to benefit people in a wide variety of ways. Join us today to have an impact in Rochester, across the nation, and around the world.

ENDOWED PROFESSORSHIPS—$1,500,000 *to* $2,000,000 OR MORE

Endowed professorships are permanent funds that honor acclaimed leaders who perform groundbreaking research, mentor junior faculty, and attract and retain talented fellows, residents, and students. They are among the most coveted and defining rewards that a faculty member can receive, recognizing and fostering excellence. Professorships also serve as a powerful recruitment or retention tool, drawing new faculty of established distinction from around the world and keeping innovative faculty from being recruited to other major medical centers.

ENDOWED FELLOWSHIP—$750,000 OR MORE

Fellowships provide "protected time" for M.D. clinicians to hone their skills and devise and explore an important dermatologic question, or for Ph.D. scientists to conduct in-depth research that advances dermatologic health. These fellowships provide permanent support that enable and encourage fellows to apply their talents toward bettering our understanding of AD as opposed to working in another field of study. Because research funding for skin diseases is much more difficult to obtain it is often a challenge to attract the most talented clinicians or scientists to work in this field.

RISING STAR FUNDS—$250,000 *to* $500,000 *(Multi-year)*

Support at this level can help the best and brightest, early-career M.D. or Ph.D. researchers fund promising science that may be too cutting-edge to attract external funding from traditional avenues of support like the National Institutes of Health (NIH). This high-risk work is often high yield and is a vital feature of most scientific breakthroughs.

BRIDGE FUNDS—$100,000

The best science is achieved by talented, collaborative and complementary investigators working as a team. As government research funds have become more restrictive, it is increasingly difficult for all investigators—including even well-established investigators—to sustain uninterrupted National Institutes of Health (NIH) funding, and this is especially true for new investigators who struggle to renew their first grants. These interruptions for even one investigator can have a significant, negative impact on team research. Private philanthropy is an essential stopgap measure to sustain promising science and highly meritorious research projects.

PILOT PROJECTS/SEED FUNDS—$50,000 *to* $100,000 *(annually)*

Gifts for seed funding are "risk capital" for a promising researcher who has the potential to make groundbreaking discoveries that will impact people here and around the world. As an example, these funds can allow an investigator to perform a pilot study to test a specific hypothesis or may allow an investigator to perform more in-depth and highly sophisticated assays on an already funded study. Funds invested today in innovative research help scientists and clinicians provide exceptional care. They can also be leveraged many times over, bringing external funding, jobs, and economic growth to the Rochester community.

ANNUAL FELLOWSHIPS—$25,000 *to* $75,000

These fellowships support an aspiring scientist or clinician, for one year, while providing training and mentorship in the laboratory or health care setting.

TECHNOLOGY FUND—*A wide variety of options are available*

Your support of technology will help us provide the latest state-of-the-art equipment to train our young researchers, and to better characterize the disease of atopic dermatitis afflicting patients that we serve.

COMMUNITY OUTREACH/PATIENT- AND FAMILY-CENTERED CARE FUND—*A wide variety of options are available*

There are many ways in which you can impact the programs and services we offer to patients with AD. For example, your support of recruitment, professional training, and continuing education opportunities for our health care workforce will help ensure that we encourage new ideas, widely disseminate new information and lead the nation in clinical care. Your gift can also help us expand our services to the people who need them most.

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For more information about how your gift can make an impact, please contact Jon Sussman at (585) 276-4976, or at jon.sussman@rochester.edu.