

THE INSTITUTES AT NORTHWESTERN MEDICINE

INNOVATION ENGINES AT NORTHWESTERN MEDICINE NORTHWESTERN SCLERODERMA PROGRAM



NORTHWESTERN SCLERODERMA PROGRAM A MULTIDISCIPLINARY TEAM APPROACH FOR SCLERODERMA

The Northwestern Scleroderma Program was established in 2005 with the goal of promoting scleroderma clinical care and research at Northwestern. Our nationally recognized program, directed by John Varga, MD, delivers advanced multispecialty clinical care combined with cutting-edge research to bring about patient-focused results. To date, we have treated more than 1,000 patients, and our research has resulted in a number of significant innovations.

“Our focus is the patient as a whole,” says Dr. Varga. “On the clinical side, our rheumatologists work closely with Northwestern specialists in cardiology, pulmonary medicine, dermatology, nephrology, and gastroenterology who have scleroderma expertise. Our research offers a depth and breadth of programs, from molecular genetics, drug discovery, and biomarker screening, to the development and clinical evaluation of novel drugs and diagnostic tools.”

Pioneering Studies that Lead to Novel Therapies

The rapid pace of translating discoveries from the laboratory to the bedside has been a hallmark of the Northwestern Scleroderma Program. For example, the recent multicenter clinical trial of the cancer drug imatinib (Gleevec®) for the prevention and treatment of scleroderma resulted from the groundbreaking studies of the Scleroderma Research Laboratory.

To understand the mechanisms of tissue hardening, which is a hallmark of scleroderma, Swati Bhattacharyya, PhD, research assistant professor and a molecular biologist, and her colleagues conducted the earliest studies that identified a molecular pathway responsible for fibrosis. Imatinib (Gleevec®) was then shown to potentially normalize this pathway and reduce the development of skin thickening by Monique Hinchcliff, MD, MS, and her colleagues. Dr. Hinchcliff is assistant professor of

rheumatology and director of translational research at the Scleroderma Program. Preliminary results from clinical trials suggest that the drug may be beneficial for a subset of scleroderma patients with early disease.

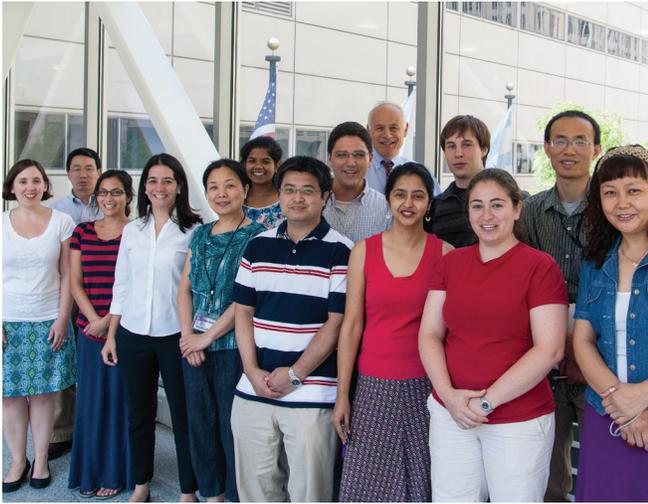
Grateful that Northwestern offers access to novel therapies, patient Amy Sandgren participated in the Gleevec® trial and noticed improvement of the skin fibrosis in her arms.

“Because scleroderma does not currently have a cure, it would be difficult for me to not try all the promising treatments that might help me and others,” says Sandgren. “It gives me great comfort and hope that the clinicians and staff [at Northwestern] provide research, proactive care, and personal support for people like me who are living with scleroderma.”



“We work to discover novel treatments for scleroderma that can be validated in preclinical studies and clinical trials, and we deliver integrated personalized medicine—matching the right treatments to the right patients. Ultimately, we hope to make a substantial impact on improving outcomes for patients with scleroderma.”

John Varga, MD, Director of the Northwestern Scleroderma Program and John and Nancy Hughes Professor at Northwestern University Feinberg School of Medicine



Discovering Biomarkers for Diagnosis and Treatment

Our Northwestern team is taking the lead in developing personalized medicine approaches for the treatment of scleroderma, focusing on the variability in disease manifestations and treatment responses from one patient to another. Our discoveries shed light on the cause and progression of the disease, help to identify patients at risk for complications, and predict responders to treatment. The goal is enhanced clinical decision-making by matching the right drug with the right patient. In a recent pilot study highlighting the potential of personalized medicine, Dr. Hinchcliff and colleagues at Northwestern and Dartmouth Medical School showed that skin biopsy gene expression signatures can identify patients who will positively respond to a particular therapy. According to Dr. Hinchcliff, there is the potential for adverse reactions including death with scleroderma therapies, and a delay in initiating appropriate therapy can be harmful. Selecting effective treatment for each patient is the major challenge facing physicians treating scleroderma patients.

Educating the Next Generation of Scleroderma Experts

Training is a vital focus for the Northwestern Scleroderma Program. Our residents and fellows from a variety of medical subspecialties receive intensive clinical and research training in scleroderma, which positions them to lead their own clinical and research programs. Ben Korman, MD, a physician-scientist and rheumatology fellow at Northwestern,



joined the Scleroderma Research Laboratory one year ago. He is receiving hands-off mentoring in basic and translational research, while continuing to participate in the care of patients with scleroderma. Dr. Korman's pioneering research exploring the connection between metabolism, obesity, and fibrosis in scleroderma has already garnered a prestigious grant from the National Institutes of Health, and the results may ultimately lead to novel treatment approaches for scleroderma.

Focusing on the Whole Patient

The Northwestern Scleroderma Program serves as a strong advocate for its patients. In addition to providing focused subspecialty expertise, our program embraces a holistic approach through the establishment of its integrated scleroderma team. We incorporate aspects of integrative medicine—including nutrition, sleep, meditation, and psychological care as well as physical therapy, wound care, and respiratory rehabilitation—to complement clinically proven and experimental therapies. The scleroderma team meets regularly to review patient care strategies, develop new treatment and diagnostic protocols, and establish novel research collaborations.

Annual patient education seminars provide the opportunity to learn about recommendations for managing scleroderma and to hear about the latest research and treatments from scleroderma experts. The seminars also foster connections among patients and their families, leading to the formation of supportive networks.

THROUGH NORTHWESTERN MEDICINE, WE ARE CREATING A NATIONAL EPICENTER FOR HEALTHCARE, EDUCATION, RESEARCH, COMMUNITY SERVICE, AND ADVOCACY.

Northwestern Medicine

Northwestern Memorial HealthCare and Northwestern University Feinberg School of Medicine are seeking to impact the health of humankind through Northwestern Medicine. We aspire to be the destination of choice for people seeking quality healthcare; for those who provide, support, and advance that care through leading-edge treatments and breakthrough discoveries; and for people who share our passion for educating future physicians and scientists. Our commitment to transform healthcare and to be among the nation's top academic medical centers will be accomplished through innovation and excellence.

As an Innovation Engine at Northwestern Medicine, the Northwestern Scleroderma Program is successfully combining multispecialty clinical care with groundbreaking research—all with a goal to bring forth results that focus on and best serve people with scleroderma. We invite interested friends to join us by providing philanthropic support that advances the studies of our exceptional clinician-scientists and basic investigators, as well as supports state-of-the-art scleroderma care and the training of our next generation of scleroderma experts.

Northwestern Scleroderma Program Faculty

Rheumatology

- John Varga, MD
Director, Northwestern Scleroderma Program
- Monique Hinchcliff, MD, MS
Director of Translational Research
- Benjamin Korman, MD
- Mary Carns, MS
Clinical Project Coordinator

Cardiology

- Benjamin Freed, MD
- Sanjiv Shah, MD

Clinical Psychology

- Lauren Miller, PsyD
- Judith Wilen, PhD

Dermatology

- Emily Keimig, MD
- Anne Laumann, MBChB, MRCP (UK)
- Bethanee Schlosser, MD, PhD

Gastroenterology

- Darren Brenner, MD
- Bethany Doerfler, MS, RD, LDN
- Ikuo Hirano, MD

Integrative Medicine

- Judy Fulop, MS, ND

Nephrology

- Cybele Ghossein, MD

Pediatric Rheumatology

- Marisa S. Klein-Gitelman, MD
- Michael L. Miller, MD

Plastic and Reconstructive Surgery

- Gregory Dumanian, MD
- Robert Galiano, MD

Pulmonary and Critical Care Medicine

- Sangeeta Bhorade, MD
- Michael Cuttica, MD
- Jane E. Dematte, MD, MBA
- Rishi Raj, MD

Vascular Surgery

- Mark Eskandari, MD
- Karen Ho, MD

For more information about the Scleroderma Program and giving opportunities, please contact:

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