

# COLLAGEN CONNECTION

Summer 2016

## ENVIRONMENTAL AND OCCUPATIONAL EXPOSURE STUDY

By Brandi Stevens, MD

Where you live and what kind of work you do can tell an important part of your life story. But can they lead us to better understanding scleroderma?

That’s a question the team at the Scleroderma Center is trying to answer. “There have always been a lot of questions about what causes certain problems to happen in scleroderma, or why it happens at all,” says Dr. Brandi Stevens, a pediatric rheumatology fellow. “There have been a lot of reports about people in certain occupations having a higher risk of scleroderma, but we know most people who get scleroderma do not necessarily have these kinds of jobs like coal mining.”

A popular hypothesis is that scleroderma and other related diseases (i.e. rheumatoid arthritis, lupus) have both genetic (hereditary) predispositions and environmental ‘triggers’. For scleroderma, there are reasons to believe that environment may be more important than genetics. The team, made up of Dr. Stevens, Dr. Robyn Domsic, and Dr. Thomas Medsger, are very interested in studying the environment experience by patients with scleroderma. Surveys are being mailed and given out during clinic



Jennifer Avolio, MBA, RVT

Jennifer received her Bachelor’s degree from the University of Akron in Speech-Pathology/Audiology (2004). She also holds a degree in Diagnostic Medical Sonography (2007) and a Master’s degree in Business (2006). Jennifer is a registered vascular sonographer that has worked in the vascular lab in both adult and pediatric hospitals, as well as in vascular surgery private practice for over 8 years.

Jennifer began her research career in the Vascular Clinical and Translational Research Center (VCTRC) at the University of Pittsburgh in 2014 after moving back to Pittsburgh from Virginia.

The VCTRC is a state of the art vascular studies unit intended to provide a comprehensive assessment of peripheral endothelial function and blood flow. Jennifer performs vascular studies that include ultrasound imaging of the brachial and carotid artery, peripheral arterial tone (using EndoPAT 2000), arterial waveform analysis (PWA), central aortic pressure, heart rate variability and parameters of vascular stiffness (augmentation index, Pulse wave velocity (PWV)).

Jennifer lives in the North Hills with her husband, John, their two cats and two dogs. She is an avid animal lover who does foster work with English and German shorthaired pointer rescues. In their spare time, Jennifer and John enjoy visiting hospitals and centers with their therapy dogs, Sebastian and Geno.

Her favorite things are hiking and going to baseball and hockey games.

appointments to get more information on past and present home addresses as well as work and home exposures. Dr. Stevens added “Similar studies have been done for other diseases, from autism to cancer, and have helped identify potential risk factors that might otherwise go unnoticed.”

If you would like to help by filling out one of these surveys, please contact Maureen Laffoon at [laffoonm@pitt.edu](mailto:laffoonm@pitt.edu) or ask for a questionnaire at your next clinic appointment.

IN THIS ISSUE	
Environmental study.....	1
Meet Jennifer Avolio.....	1
Walk With Tori 2016.....	2
Dr. Medsger Endowed Chair.....	3
Clinical Trial Updates.....	4
Organ Donation.....	5
SCORE Grant Award .....	6
Donor Acknowledgments.....	7
Faculty and Staff.....	8

## WALK WITH TORI 2016

For Tori Anderson, who was diagnosed with scleroderma on Valentine's Day 2008 – each step forward matters.

In 2011, she started the annual event, "Walk with Tori" with a small group of her family, co-workers, friends, and other local scleroderma patients. The fundraiser, now past its fifth year, draws hundreds of people, spreads awareness about scleroderma in the region, and has raised more than \$150,000 for the UPMC and University of Pittsburgh Scleroderma Center. The day, always held the second Sunday in September, includes a group walk around the Doubs Woods Park in Hagerstown, Maryland, fellowship, music and information about scleroderma. This year's walk will be held on Sunday, September 11th.

Before Tori decided to step down due to her battle with scleroderma, she was the lead singer of the band Possum Holler for nearly 20 years and a

country radio host at WAYZ FM in Greencastle, Pennsylvania for 17 years. Her goal is that the annual walk will give survivors a hope for a cure.

"The only thing for me to do is try and fix this for somebody," Tori says. "It is truly devastating to get that diagnosis. While I'm hoping to see a cure in my lifetime, the reality is, that's not likely. However, with continued support for research, it will happen one day."

Scleroderma research has truly progressed over the past several decades, leading to earlier diagnosis and treatment, reduced disabilities and better prognosis for survival, according to Dr. Thomas Medsger of the Scleroderma Center.

To Tori, fighting scleroderma means maintaining a positive attitude while facing the daily challenges of her condition, which includes the stiffening and hardening of skin and connective tissue. She says that her care at the Scleroderma Center has been "nothing but the best," and there

are so many people who have made a truly positive difference her life: Dr. Medsger, Ray, Maureen, Mary, Dr. Zengbiao Qi (ZQ), Dana and the team which makes the trip to participate in the walk every year – to name a few. "I refuse to give up," she says. "I love life and everything that makes it so powerful."

Tori encourages everyone to give what they can, whenever they can. "Research is critical and a lot of people need a cure – I need a cure. I want a cure. I'm dying for a cure. Whether you give five dollars or fifty thousand dollars, every gift matters. It matters."

If you would like to learn more about how you can support the UPMC and University of Pittsburgh Scleroderma Center, please contact Gary Dubin at 412-647-9113 or [gdgary@pmhsf.org](mailto:gdgary@pmhsf.org).

## EVALUATION OF YOUR SYSTEMIC SCLEROSIS AT OUR CENTER

Because systemic sclerosis is a rare disease, it is generally very helpful for patients to have a clinical evaluation by a physician familiar with the disease and its complications. Often small aspects of care can make dramatic differences in your quality of life. Because of ongoing clinical trials and biomarker studies at the Scleroderma Center, it is generally possible to be evaluated as part of our ongoing clinical studies even if not insured through UPMC. This evaluation would assess the active issues with your disease and whether you could potentially be eligible for studies examining biomarkers of systemic sclerosis in skin and/or blood, or whether you might be eligible to participate in a clinical trial to see if a new medication might help your disease.



Tori (Seated) surrounded by her family and friends at the 2015 Walk. Photo courtesy of Triple-T Photography, Hagerstown, MD

**THOMAS MEDSGER, JR, MD,  
ENDOWED PROFESSORSHIP  
FOR ARTHRITIS RESEARCH**

On June 9, 2016, Dr. Thomas Medsger, was recognized by the University of Pittsburgh for more than 50 years of clinical service and research. Recently, the Thomas A. Medsger, Jr., MD, Endowed Professorship for Arthritis Research was established. The naming of an endowed chair is one of the highest academic honors bestowed upon faculty. An endowed chair provides funds to retain a faculty member and helps to support them in pushing the frontiers of their research and scholarship. The Medsger chair will be used to support excellence in research and teaching. Through these means it will help to improve patient care in the fight against Scleroderma.

Dr. Medsger came to the University of Pittsburgh in 1971 as an Assistant Professor of Medicine and Community Medicine. In 1977 he was promoted to Associate Professor and in 1984, promoted to Professor. He served as the Chief of the Division of Rheumatology and Clinical Immunology from 1983-1995 and again from 2002-2007. He also served as the Director of the Scleroderma Center from 2010-2015. Presently he is a Professor of Medicine, Emeritus.

Dr. Medsger is a national and international leader in systemic sclerosis. Over the years, he published over 400 refereed and invited publications. He created the University of Pittsburgh Scleroderma Registry which has

over 5,000 patients.

He described clinical and laboratory associations of five new SSc-associated serum autoantibodies. He has trained numerous rheumatology fellows, including three who went on to establish their own scleroderma centers.

To learn more about supporting the Medsger chair, please contact Gary Dubin at 412-647-9113 or dgary@pmhsf.org.



Professional photographer, Richard Kelly, poses with the photo he took of Dr. Medsger. The photo will be displayed at the Scleroderma Center.



Left to Right: Dr. Larry Moreland, Chief of the Division of Rheumatology and Clinical Immunology, Dr. Thomas Medsger, Dr. Robert Lafyatis, Dr. Mark Gladwin, Chairman of the Department of Medicine in the University of Pittsburgh School of Medicine



Left to Right: Maureen Laffoon, Dr. Kristen Veraldi, Dr. Cassie Torok, Dr. Robert Lafyatis, Dr. Thomas Medsger, Dr. Robyn Domsic, Dr. Patrizia Fuschiotti, Dana Ivanco, Dr. Zengbiao Qi

## CLINICAL DRUG TRIALS

Our Scleroderma Center is committed to participating in clinical trials. We feel it is vital step in working together to find a treatment for Scleroderma. Without clinical trials, our field will not advance. If you would like additional information regarding ongoing clinical studies at our Center, please contact one of our scleroderma research coordinators, Dana Ivanco at [des2@pitt.edu](mailto:des2@pitt.edu) or Maureen Laffoon at [laffoonm@pitt.edu](mailto:laffoonm@pitt.edu).

### CURRENTLY ENROLLING PATIENTS:

#### *The Effect of Atorvastatin on Microvascular Endothelial Function and Raynauds in Early Diffuse Scleroderma (TAMER):*

This is a NIH-supported single-center study (being done only in Pittsburgh). The purpose of this study is to examine the effect of atorvastatin (trade name Lipitor) on Raynaud symptoms and small blood vessel function in patients with early diffuse scleroderma. Scleroderma is characterized by blood vessel injury, immune system activation and fibrosis. The blood vessel injury is thought to be important early in the disease, and many think this may be the reason most scleroderma patients experience Raynaud as the first symptom. While atorvastatin reduces cholesterol, it is recognized to have many positive effects beyond cholesterol reduction. These include improvement of blood vessel function and reduction of fibrosis. Because of these effects, it is believed that atorvastatin will improve blood vessel function and Raynaud symptoms in patients with early disease. Early disease means <3 years of scleroderma symptoms for this study. The trial is 16 weeks and half the patients will receive

atorvastatin and half placebo. Atorvastatin (or placebo) is given as an “add-on” therapy. This means all medications can be continued while in this trial. There are only 3 visits over 16 weeks.

#### *A Study of Subcutaneous Abatacept to Treat Diffuse Sclerosis (ASSET):*

This study examines the safety and effectiveness of abatacept in patients with early diffuse scleroderma (<3 years of symptoms). Abatacept (trade name Orencia) is a medication which has been FDA-approved since 2005 for the treatment of rheumatoid arthritis. It is administered as an injection (at home) once weekly. In this study half the patients will receive drug and half the patients will receive placebo over one year. At the end of that year all patients are allowed to enter the open-label treatment where they are guaranteed to receive drug and not placebo.

#### *Rituximab (Rituxan) Study:*

Rituxan is an immunosuppressive drug originally designed to treat lymphoma, but has been FDA-approved to treat rheumatoid arthritis. Rituximab eliminates B cells from the blood stream. These cells participate in immune responses and may be responsible for some types of immune injury to tissues in patients with rheumatoid arthritis, lupus, and other related diseases, such as scleroderma. This study is directed at Scleroderma patients who have confirmed pulmonary arterial hypertension (PAH or high blood pressure in the lungs) regardless of how much skin thickening they have. Rituximab is given by vein twice, two weeks apart. Half of the patients will receive rituximab and half placebo. A right heart catheterization both before the study (to determine eligibility) and after 6 months on treatment (or placebo) is required.

Other PAH medications can be continued throughout the study. Patients will be followed for 1 year or until the B cells in their blood have returned.

#### *A Phase 2, Double-blind, Randomized, Placebo-controlled Multicenter Study to Evaluate Safety, Tolerability, Efficacy, and Pharmacokinetics of JBT-101 in Diffuse Scleroderma:*

JBT-101 is an experimental (investigational) drug that is chemically similar to a chemical in cannabis, or marijuana. However, this drug has been designed to avoid the “high” feeling of marijuana. This research study is being done to test the safety, tolerability, and efficacy of JBT-101 when it is given to subjects with diffuse cutaneous scleroderma of < 6 years of disease. JBT-101 is entirely manufactured from chemicals, not plant or animal products. This is a 16 weeks study. Patients will be able to remain on their current scleroderma medications. 2 out of 3 will receive therapy in this study, and 1 in 3 will receive placebo. There is an open label extension study for this trial.

#### *Pilot Study To Assess The Efficacy And Safety Of Riociguat Vs. Placebo In Scleroderma-Associated Digital Ulcers (RESCUE):*

This study examines the safety and effectiveness of Riociguat in scleroderma patients with digital ulcers. Riociguat is approved by the FDA for the treatment of pulmonary arterial hypertension (PAH). In this study half the patients will receive drug and half the patients will receive placebo. Patient must have an active digital ulcer at the time the trial starts. The total study time will be 36 weeks, with the potential for open label use of riociguat after the trial is completed.



**Barbara Horensky**

## **ORGAN DONATION FOR RESEARCH**

Barbara Horensky was diagnosed with diffuse systemic sclerosis with interstitial lung disease in 2000. She developed pulmonary hypertension in 2012. Her daughter, Bonnie George, accompanied her to the numerous doctor appointments over the years.

Bonnie states that her mother was always willing to participate in the research at our Center. She knew that it probably wouldn't help her, but she was always hopeful that it would help others in the future.

Barbara was admitted to UPMC Presbyterian on October 17, 2015 for complications of her disease. After several days of aggressive treatment and no improvement, the decision was made to keep her comfortable.

Dr. Robyn Domsic, Scleroderma Center Clinical Director, knew Barbara was an advocate for research. She mentioned the rapid autopsy program and spoke with Barbara and her daughters about donating her organs for research. Barbara agreed and both her and Bonnie consented to the procedure.

After a long courageous battle, Barbara died on Friday, October 30, 2015. Her heart and lungs were harvested for research within hours of her death.

"My mother lived her life wanting to help others," Bonnie said. "It helps knowing that in her death she continues to do that. My sister and I read articles about research being conducted for scleroderma or pulmonary hypertension and thought, Mom may have been a part of that. We miss her so very much, but it makes us proud that she is still helping others."

The autopsy service at UPMC supports ongoing research for interstitial lung disease and various other conditions, all pre-approved by the Committee for Research and Education Involving the

Deceased (CORID). The research for interstitial lung disease is done with STAT "rapid" autopsies at any hour of the day or night so as to obtain tissue within the optimal timeframe.

Scleroderma patients and their family members are invited to inquire about rapid "warm" autopsy and tissue donation for our Center's research. The goal is to learn as much as possible about scleroderma and apply new knowledge to diagnosis and advance treatment options for other patients with the disease.

Note:

A special "thank you" to Bonnie George for her willingness to discuss this sensitive topic and for sharing her mother's story.

### **FAQ Regarding Rapid Autopsies**

**Q:** Will an autopsy prevent a viewing at the funeral?

**A:** No. A limited autopsy procedure does not touch the face or arms and will not prevent a viewing from taking place.

**Q:** How soon after death does a Rapid Autopsy have to be?

**A:** It is optimal to perform the tissue collection within six hours of death.

**Q:** What is the consent process?

**A:** The study consent form is signed by the patient themselves if they are capable, and can otherwise be signed by a next of kin prior to death.

**Q:** Can I change my mind after I consent?

**A:** Yes, as with all of our research, you can withdraw your consent at any time.

## DR. KATHRYN TOROK AWARDED THE KAO FAMILY FOUNDATION SCORE GRANT

Dr. Kathryn (Cassie) Torok, a pediatric rheumatology faculty member of our University of Pittsburgh Scleroderma Center of UPMC, was recently awarded one of the 2 Scleroderma Foundation Multi-Center Collaborative Research (SCORE) awards this year, titled, "Identifying Juvenile Scleroderma Immunophenotype Subsets". This award was developed by the Scleroderma Foundation to encourage multi-institutional collaboration given the rarity of scleroderma. Dr. Torok is the principal investigator, with other leading collaborators in pediatric rheumatology from across the nation, Dr. Suzanne Li from Hackensack University Medical Center, The Joseph M. Sanzari Children's Hospital in New Jersey, and Dr. Anne Stevens from the Children's Research Institute, Seattle Children's Hospital in Washington. This is the first pediatric-focused scleroderma SCORE grant awarded.

The overarching goal of the project is to identify specific immunophenotypes (cell types, inflammatory protein profiles and antibody types circulating in the blood) of pediatric Systemic Sclerosis (SSc) and Localized Scleroderma (LS) in order to biologically define clinical subsets of disease to enable improved management and outcomes. Dr. Torok and her team believe there will be both shared immunological profiles between the two overall types of disease, SSc and LS, and some unifying profiles, which will help determine clinic disease outcome measures, prognosis and potentially predict treatment response to medications as a long term goal. These investigations will

also provide the ground work for future laboratory studies investigating the predominant inflammatory and fibrotic biomarkers to help our understanding and hopefully, one day a cure, for pediatric scleroderma.

The proposed collaboration between pediatric SCORE sites (University of Pittsburgh, Seattle Children's Research Institute and Hackensack University) and the Childhood Arthritis and Rheumatology Research Alliance (CARRA) will take advantage of the established strengths of each site and the power of the CARRA registry and biorepository to enable the feasibility of this large-scale project. Dr. Torok and her team intend on recruiting pediatric SSc and LS patients across the nation through different CARRA centers. Recently, at the CARRA meeting held

# KGS2!

## Kids Get Scleroderma Too!

An educational and social event for patients and family.

### SAVE THE DATE

October 29<sup>th</sup>, 2016

Hackensack, NJ



Join our mailing list by emailing  
mbbkadylak@sclerodermatristate.org!



**SCLERODERMA  
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TRI-STATE CHAPTER



in Toronto, Canada in April, Drs. Torok, Li, and Stevens helped train other pediatric rheumatologists at the participating CARRA sites how to perform different clinical tools, such as skin scores, on SSc subject volunteers, to allow for standardized clinical measure collection across the sites. Enrollment will begin in July!

## PLEASE HELP IF YOU ARE ABLE

YES, kids get scleroderma too! Stopping this disease in the early stages is our Center's overall goal. Studying and understanding the key immune elements throughout the course of the disease will help us reach this goal. This requires a large number of pediatric scleroderma patients with clinical information tied to blood samples.

We are running out of space in our current freezer to store the pediatric research blood samples. Although this is a good thing to have so many samples over time, it also has pushed us to reach out to raise money for a **NEW FREEZER** to help keep collecting these precious samples. Please help us raise money to purchase a new freezer for the **PEDIATRIC SCLERODERMA REGISTRY** to ultimately help find better treatments for this disease in children and give them a better quality of life. Please visit:

<https://engage.pitt.edu/freezer>



***We would like to thank the following donors for their support of scleroderma research***

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