

HTRS MEMBER SPOTLIGHT:

“New NIH grant supports ongoing UTSW investigation of debilitating complications of blood clots in teens”

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Dr. Ayesha N. Zia, MD, MSCs, leads the UTSW Pediatric Hemostasis Thrombosis Center. She also serves as Director of the Medical Center's Young Women's Blood Disorders Program. Her current research projects are focused on thrombotic outcomes, including functional limitations such as exercise intolerance and dyspnea on exertion and on improving diagnostic strategies, access to care, and quality of life in adolescents with heavy menstrual bleeding and bleeding disorders.

Dr. Zia has served HTRS in many capacities, including as past Vice Chair and upcoming Chair of the 2023 HTRS Scientific Symposium Planning Committee, as Faculty for HTRS ConECCTOR Network Meetings and Trainee Workshops, and as a member of our Publication Committee and Scientific Review Committee.

DALLAS – June 2021 –UT Southwestern will lead a multicenter investigation into why children and young adults experience decreased physical activity and shortness of breath after experiencing blood clots, thanks to a four-year \$2.97 million grant from the National Institutes of Health (NIH).

The incidence of pediatric blood clots, especially deep vein thrombosis (DVT) and pulmonary embolism (PE) in teens, has dramatically increased in the past decade, affecting, on average, 1 in every 200 hospitalized children in the U.S. The federal

grant, through the NIH's National Heart, Lung, and Blood Institute, will allow UT Southwestern to expand ongoing research into understanding and treating this emerging hematological problem.

Ayesha N. Zia, MD, MSCs, associate professor of pediatrics at UTSW and a pediatric hematologist at Children's Health, has been studying DVT (blood clots in extremities) and PE (blood clots in lungs) in children and young teens for the past five years with support from the NIH. The newly approved grant will allow her to continue her work while leading a consortium that includes UTSW, Children's, Texas Health Presbyterian Hospital Dallas, Cook Children's Medical Center in Fort Worth, Nationwide Children's Hospital in Columbus, Ohio, Johns Hopkins, UT Arlington, the University of Florida, and Emory University to determine the functional limitations that affect children with chronic thromboembolic disease.

"The focus of other investigations in children has been on the recurrence of blood clots and the prevention of bleeding associated with blood thinners," Zia says. "While highly relevant, these outcomes are not common in children and do not fully capture the functional limitations – exercise intolerance and shortness of breath – which frequently occur despite the use of blood thinners and which can impact these patients' quality of life."

The additional NIH support will allow Zia to expand her research, which has established that blood clots in children, whether they are involved in competitive athletics or casual exercise, often result in lower physical activity levels compared to pre-blood clot physical activity.

"The children we studied with blood clots cited leg symptoms, fatigue, and shortness of breath as the reasons for decreased physical activity levels," Zia says. "As a next step, I am investigating *why* these symptoms occur. We hope this research will provide new knowledge to understand, screen, diagnose, and manage exercise limitations following blood clots in children. We will study the lungs, heart, and muscles of blood clot survivors to understand the underlying mechanisms causing this problem."

Once the causes of exercise intolerance and shortness of breath are better understood, the investigators will work to develop effective and specific treatments, Zia says. These therapies could include exercise training to target the mechanism, pulmonary rehabilitation, and/or muscle training to allow recovery from blood clots.

Children's Medical Center Dallas, served by physicians from the UT Southwestern Pediatric Group, is the only hospital in North Texas nationally ranked in all 10 pediatric specialties in the U.S. News & World Report annual Best Children's Hospital rankings for 2021-2022.

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