

## NATIONAL INSTITUTES OF HEALTH AWARDS \$1.54M GRANT TO SCOTTISH RITE FOR CHILDREN FOR RARE DISEASES RESEARCH

Promising Hydrogel Could Help Kids Walk Again and Adults Avoid Invasive Surgery

**DALLAS (January 7, 2025)** – Every year, thousands of children and adults face the crippling effects of osteonecrosis. Now, thanks to a \$1.54 million NIH grant, researchers at Scottish Rite for Children and UT Southwestern Medical Center are studying a promising new treatment using hydrogel. Osteonecrosis is a painful condition where reduced blood flow causes bone tissue to die, which leads to the bone collapsing. For children, the condition often appears as Legg-Calvé-Perthes disease, a hip disorder that can leave young patients limping or even unable to walk.

The study's goal is to evaluate the treatment effectiveness of a pro-angiogenic bone coating (ABC) hydrogel, which is injected into the bone experiencing osteonecrosis. The gel is made mostly from natural ingredients, like gelatin and hyaluronic acid, and is designed to promote the growth of new blood vessels and support the healing and regeneration of damaged bone.

“The hydrogel works like a ‘smart glue.’ When it is injected into the injured bone, it quickly breaks down and clings to the bone where it is needed most,” says Chi Ma, Ph.D., senior research scientist at Scottish Rite for Children and assistant professor of orthopedic surgery at UT Southwestern. “This helps restore blood flow, stops the bone from breaking down further, and encourages the bone to heal, leading to a less invasive method for treating the progressive condition.”

According to the National Organization for Rare Diseases, osteonecrosis affects an estimated 20,000 people in the U.S. each year, including children, young adults and individuals undergoing treatments such as chemotherapy. In serious cases, the affected bone, often in the hip or knee, may collapse, making walking intolerable. Current treatments are limited and often involve invasive surgery or joint replacement, especially in advanced stages of the disease.

The hydrogel is designed to have unique features that make it a candidate for better treatment for osteonecrosis.

“Conducting groundbreaking research is a pillar of our institution,” says Scottish Rite for Children Chief of Staff Daniel J. Sucato, M.D., M.S. “We’ve had a relationship with UT Southwestern since 1948, and we’re grateful for this ongoing collaboration that allows us to focus on discovering new treatments, educating the next generation in pediatric orthopedics and providing the highest quality patient care.”

The ABC hydrogel as a treatment for osteonecrosis may offer hope not only for adults affected by the condition but also for children with Perthes disease. Perthes disease is a childhood hip disorder in which the blood supply to the ball of the hip's ball-and-socket joint is temporarily cut off. This disruption causes all or part of the bone to die. As the condition progresses, the ball begins to collapse. A child with Perthes may begin limping and eventually, may be unable to walk. This treatment aims to preserve the rounded shape that fits into the socket of the hip joint and reverse the progression of the disease for full recovery.

“At Scottish Rite for Children, we are dedicated to transforming the lives of children and their families by turning our research discoveries into meaningful treatments and life-changing outcomes,” says Robert L. Walker, president/CEO of Scottish Rite.

#### **About Scottish Rite for Children**

*Scottish Rite for Children has been dedicated to giving children back their childhood for more than a century. The institution is a world-renowned leader in the treatment of pediatric orthopedic conditions, such as scoliosis, clubfoot, hand differences, hip disorders, limb lengthening and reconstruction, sports injuries and fractures, as well as certain related arthritic and neurological disorders and learning disorders, such as dyslexia. The organization conducts innovative research and provides high-level education opportunities for medical professionals around the world. Scottish Rite operates two campuses, including a hospital in Dallas, Texas, and an ambulatory surgery center in Frisco, Texas, and is known for being a bright, child-friendly place that does not look or feel like a health care institution. Patients receive treatment regardless of their family's ability to pay. For more information about services available at the Dallas or Frisco campuses, volunteering or donating, visit [scottishriteforchildren.org](http://scottishriteforchildren.org).*