Dallas researchers get $2.3M to study rare childhood disease

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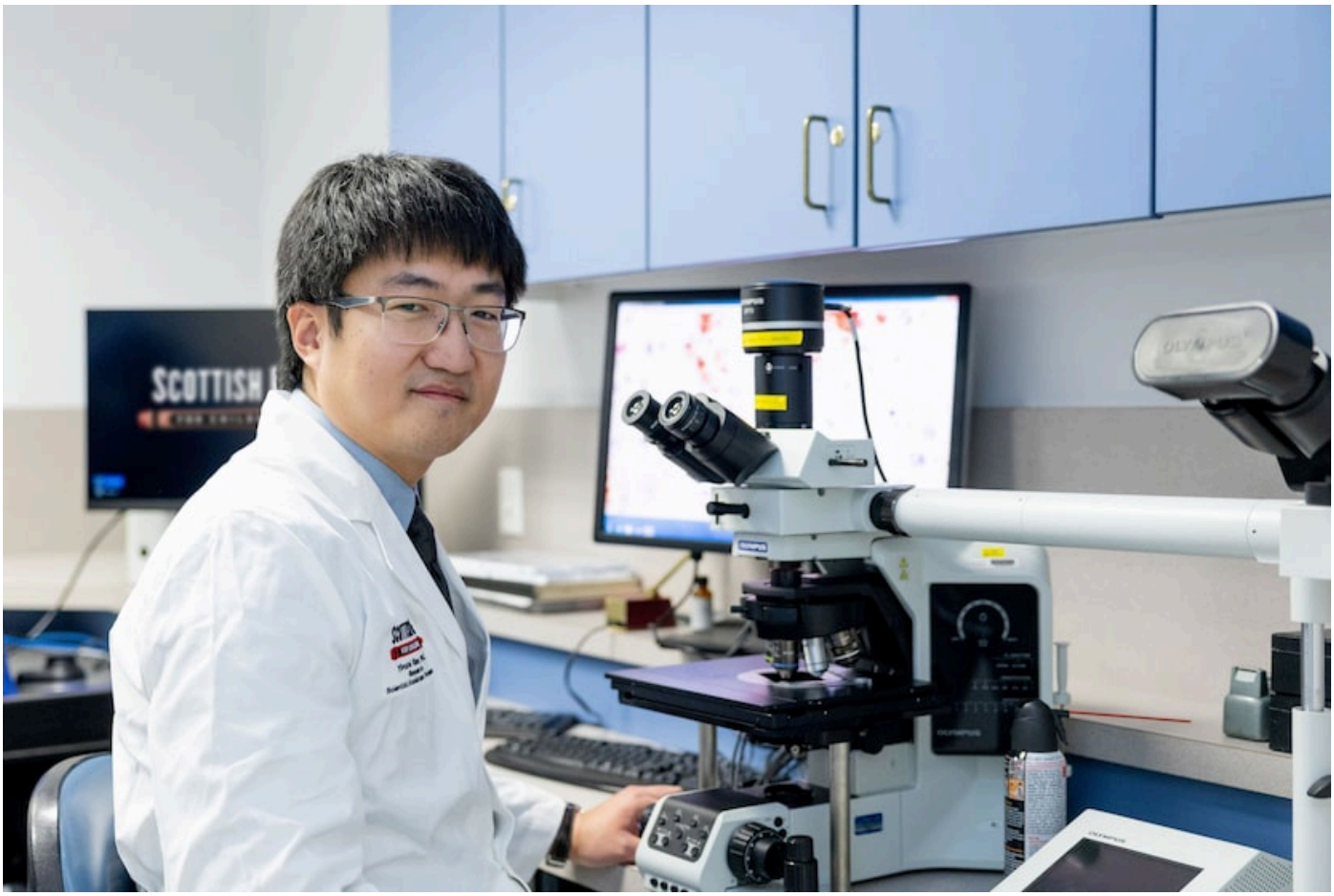
From left to right: assistant professor of orthopedic surgery at UT Southwestern Medical Center Yinshi Ren with pediatric orthopedic surgeon Dr. Harry Kim and assistant professor of orthopedic surgery at UT Southwestern Medical Center Chi Ma. Ren and Kim are involved in a five-year study that will explore why damaged bone fails to heal.
Scottish Rite for Children

A painful bone condition that affects nearly 20,000 Americans each year and that lies at the root of a rare childhood disease may be better understood thanks to a $2.3 million federal grant.

Scottish Rite for Children announced this month that researchers at the hospital received the award, which lasts five years, from the National Institutes of Health. The researchers will study osteonecrosis, a condition in which blood flow to part of a bone is reduced, causing bone cells to die and the tissue to weaken and break down. Osteonecrosis can affect adults and children. It may follow a traumatic injury or develop alongside diseases and other conditions that block or

damage blood vessels.

One form of osteonecrosis, Legg-Calve-Perthes disease, affects children. It happens when the blood supply to the ball portion of the hip joint is temporarily interrupted. Over time, this part of the bone loses its shape. The body tries to repair the damage, but healing is often slow and incomplete, leaving the bone weakened and vulnerable to collapse or deformity — changes that can lead to lasting hip problems.



Yinshi Ren is a researcher at Scottish Rite for Children and an assistant professor of orthopedic surgery at UT Southwestern Medical Center. His lab was awarded $2.3 million by the NIH to study osteonecrosis.
Scottish Rite for Children

Perthes disease affects about one in 12,000 children worldwide. There's currently no way to slow the disease; treatment typically centers on surgery and other interventions to protect the joint. The cause remains unclear, though researchers suspect genetic, lifestyle and environmental factors are involved. Joint stress, poor nutrition and obesity may play a role.

In the new study, researchers at Scottish Rite and UT Southwestern Medical Center will examine how a set of bone repair cells — stem cell-like cells that normally help rebuild tissue — behave during osteonecrosis. Early evidence suggests these cells may go off course, making fat instead of bone and releasing chemical signals that interfere with the regrowth of blood vessels, which are essential for healing.

“Understanding how bone and blood vessels regenerate in patients with osteonecrosis or Perthes disease could lead to new therapies that stimulate tissue repair,” Yinshi Ren, a researcher at Scottish Rite and assistant professor of orthopedic surgery at UT Southwestern Medical Center, said in a news release.

“This research is at the heart of our mission to give children back their childhood,” Robert Walker, president and CEO of Scottish Rite for Children, added in the release. “This work will shape the future of care and improve the lives of children for generations to come.”

Miriam Fauzia is a science reporting fellow at The Dallas Morning News. Her fellowship is supported by the University of Texas at Dallas. The News makes all editorial decisions.