



Healing Joints, Changing Lives

Rush's pioneering work earns national recognition

Rush has been at the forefront of bone and joint research and care for decades, influencing and improving the orthopedic field around the world. We break through barriers with trailblazing, collaborative research. Through innovative care and curiosity, our clinician-researchers, trainees and basic scientists demystify pain and find better solutions for those living with musculoskeletal conditions.

One of those solutions — 25 years in the making — has revolutionized the field's approach to restoring and repairing joints with cartilage defects.

Osteochondral allograft transplantation, or OCA, uses donor cartilage to repair large, damaged areas of cartilage. Surgeons remove the damaged area and match the donor specimen to the size and shape of the defect. This graft naturally integrates with the patient's bone to form a new cartilage surface, decreasing pain and swelling.

Brian J. Cole, MD, MBA, FAAOS, and his colleagues in the **Rush Department of Orthopaedics** have studied every aspect of the treatment from under the microscope to the operating room. Because of their research, a procedure that was once performed only at a few select academic medical centers has now become the field's leading and most reliable method for joint restoration. **The number of procedures performed has more than tripled in the last 15 years. Meanwhile, surgeons perform upwards of 300,000 cartilage restoration procedures annually in the U.S. OCAs represent a growing share of these surgeries.**

"When I finished my training in 1997, there were few solutions available to treat patients with articular cartilage or meniscal deficiency," Dr. Cole said. "While we had early exposure to cell-based cartilage transplantation and other commonly performed procedures, the orthopedic community did not have a firm understanding of outcomes, leading to unpredictable results."



Sports medicine physicians, left to right, Jorge Chahla, MD, PhD; Dr. Cole and Adam Yanke, MD, PhD

Rush's decades-long commitment to this work has shown near-universal benefits for patients, whether they are professional athletes or have active jobs and lifestyles. **With 85% of patients enjoying significant pain relief for more than 10 years**, the OCA is an important intervention to delay knee replacements, especially for people who want to remain active.

Life Beyond Pain: Brian's Story

Brian Hall, of Valparaiso, Indiana, was no stranger to knee pain. As a high school athlete, he had his first arthroscopic knee surgery at 14. As time went on, Hall's activities increased as he enjoyed life as a husband and father. He took up running, long bike rides, walks with his dog and extreme hiking — including five hikes in the Grand Canyon.

His knee pain persisted and worsened into his 50s, eventually affecting every aspect of his life. He was told a knee replacement was his only option. But when he saw **Adam Yanke, MD, PhD**, associate professor of orthopedic surgery and one of Dr. Cole's research and clinician partners, Dr. Yanke recommended the OCA. Hall's cartilage damage was relatively localized.

Within two weeks of surgery, Hall was pain-free for the first time since he could remember. He's since hiked the Grand Canyon for a sixth time.

Rewarding Progress in Treating Knee Conditions

In recognition of this pioneering research, the **Orthopaedic Research and Education Foundation** awarded its prestigious **Clinical Research Award** to Dr. Cole and his research team, including Dr. Yanke, **Jorge A. Chahla, MD, PhD**; **Susanna G. Chubinskaya, PhD**; and **Ron Gilat, MD**. One of the most respected awards in orthopedics globally, it recognizes outstanding clinical research related to musculoskeletal disease or injury.

"This award reflects the hard work of countless individuals, including more than 100 researchers from Rush," Dr. Cole said. "One of the most rewarding things for me is knowing that, as they build their careers, they use this knowledge from our research to provide pain relief to patients around the world."



Supporting Orthopedic Research is About Helping People

More people are experiencing the life-changing benefits of OCAs thanks to our community of donors, including grateful patients. Philanthropy keeps Rush at the forefront of novel solutions to improve bone and joint health. It ensures we can share our findings across the field and with the next generation of orthopedic experts.

To learn more about how bone and joint research at Rush helps people lead more active, healthier lives, contact:

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