Embargoed for release at 9:30 a.m. CT on March 4, 2026.

For More Information:

Nicole Winston-Ramirez	847-384-4162	winston-ramirez@aaos.org
Deanna Killackey	847-384-4035	killackey@aaos.org

IMPACT Award Presented to the ROCK Research Study Group for Advancing Care of Osteochondritis of the Knee

NEW ORLEANS (March 4, 2026)—The 2026 Improving Musculoskeletal Patient Care Through Outcomes Research (IMPACT) Award was presented to Kevin Shea, MD, FAAOS and the Research in Osteochondritis of the Knee (ROCK) Research Study Group, recognizing 15 years of collaboration to advance prevention and treatment strategies for knee osteochondritis dissecans (OCD).

OCD predominantly affects adolescents and, if left untreated, can rapidly progress to osteoarthritis. Without substantial evidence-based research to inform decision-making, this research deepened the understanding of the etiology, clinical presentation, imaging appearance and treatment of OCD.

To read more about the award, please click here.

"OCD often affects young athletes at the peak of their athletic activity," said Dr. Shea, lead researcher and orthopaedic surgeon at Stanford University. "In the short term, the loss of physical activity can have a substantial psychosocial impact. In the long term, research shows that untreated OCD can lead to osteoarthritis in less than 15 years. Our goal is to maximize joint function so people can stay physically active for the rest of their lives."

In 2010, AAOS released a Clinical Practice Guideline (CPG) on the Diagnosis and Treatment of OCD, which includes a series of recommendations to help clinicians make decisions based on the best available evidence. This CPG highlighted areas where research was limited, pointing to the need for further understanding of OCD.

As a result, ROCK was established by Dr. Shea, Theodore Ganley, MD, FAAOS (Children's Hospital Philadelphia) and Eric Wall, MD, FAAOS (Cincinnati Children's Hospital), and also includes members: James Carey, MD, MPH, FAAOS (University of Pennsylvania); John Polousky, MD, FAAOS (Akron Children's Hospital); Carl Nissen, MD, FAAOS (University of Connecticut); Henry B. Ellis, Jr., MD, FAAOS (Texas Scottish Rite for Children); and Eric Edmonds, MD, FAAOS (Rady Children's Hospital, Matt Milewski, MD, FAAOS and Benton Heyworth, MD, FAAOS (Boston Children's Hospital).

Today, ROCK is an international, multicenter research consortium and currently includes over 70 active members, including surgeons, veterinarians, physical therapists, and radiologists, working on more than 100 open research questions. Since 2014, ROCK members have enrolled more than 1,900 patients across 25 academic centers and published numerous etiology, classification, epidemiologic, healing prediction, and surgical journal articles.

Inter- and Intra-Observer Reliability Studies for Radiographs, MRI, and Arthroscopy Classification
Without consistent classification standards for the clinical or radiographic description of knee OCD, it was difficult for orthopaedic surgeons to assess disease severity, prognosis and healing across studies. One ROCK study reviewed 300 arthroscopy videos of knee OCD and developed a highly reliable six-category arthroscopic classification system.

"We examined X-ray, MRI and arthroscopy classification systems using standardized case examples," said Dr. Shea. "Large groups of surgeons reviewed these cases and classified each to assess consistency. While X-ray and arthroscopy demonstrated overall reliability, MRI proved more challenging for classification. We will continue to refine MRI classification as an ongoing priority."

Prospective Cohort Studies to Identify Independent Predictors of Healing
With a reliable classification system in place, ROCK built a comprehensive database to collect high-quality data from participating centers. All patients under the age of 25 who presented for evaluation of knee pain with MRI and/or X-ray evidence of an OCD lesion were invited to participate in the registry.

Using machine learning tools, the group developed prediction algorithms that account for age, sex, lesion size and stability, and skeletal maturity, among others. These multivariate models help predict which lesions are most likely to heal without surgery. The study identified lesion location at the posterior aspect of the condyle on sagittal MRI (a side view) and at the medial or lateral-most locations on coronal MRI (a view separating the anterior from the posterior) as significant predictors of increased nonoperative treatment success.

“We know that over 50% of patients with knee OCD do not heal with nonoperative treatment and ultimately require surgery, and the healing rates for older adolescents and young adults are even lower” said Dr. Shea. “These algorithms allow us to give families data-informed estimates of the healing potential of nonoperative treatment. While it’s not perfect, it provides a patient- and family-centered tool that supports shared decision making. As our database grows, these prediction algorithms will improve.”

Randomized Controlled Trials to Establish Optimal Surgical Technique
ROCK also conducted a randomized controlled trial to determine the optimal surgical methodology for two primary OCD drilling techniques, since there was a lack of data to compare the relative effectiveness.

Over a five-year period, ROCK studied patients who had undergone trans-articular drilling, which passes through intact cartilage, compared with those who received retro-articular drilling, which avoids cartilage and drills into the bone behind it. The purpose of drilling is to stimulate blood flow into bone regions that need more circulation.

Moving forward, ROCK is focused on using advanced machine learning to enhance the precision and consistency of patient care. By developing an AI-driven platform capable of automatically identifying and quantifying clinically relevant features from radiographs, CT scans, and MRI studies, such as lesion size, fragment stability, subchondral bone quality, and cartilage integrity, ROCK aims to advance personalized treatment strategies and improve outcomes for patients with knee OCD. Additionally, future research will examine the role of biological stimulants and adjuvants to healing, including growth factors, bone grafting, stem cell therapies, and other biologic approaches beyond surgical technique alone.

# # #

About AAOS
With more than 39,000 members, the American Academy of Orthopaedic Surgeons is the world’s largest medical association of musculoskeletal specialists. The AAOS is the trusted leader in advancing musculoskeletal health. It provides the highest quality, most comprehensive education to help orthopaedic surgeons and allied health professionals at every career level to best treat patients in their daily practices. The AAOS is the source for information on bone and joint conditions, treatments and related musculoskeletal healthcare issues; and it leads the healthcare discussion on advancing quality.

Follow the AAOS on Facebook, X, LinkedIn and Instagram.

Disclosure/Funding and Conflicts of Interest

For a list of disclosures, funding and conflicts of interest, email media@aaos.org.