



**Medical
Blueprints**

MYMOBILITY APP: NEW TECH HELPING HIP & KNEE REPLACEMENT PATIENTS RECOVER FASTER REPORT #3002

BACKGROUND: Arthroplasty, also known as joint replacement, is a surgery to replace a damaged joint with an artificial joint. This joint can be made of metal, ceramic, or plastic. The entire joint is typically replaced rather than replacing only the damaged part of the joint. The most common joints to be replaced are hips, knees, and shoulders. Before surgery, sometimes several tests are needed to evaluate overall health such as blood work, an electrocardiogram, and a chest X-ray. Some procedures require a CT scan or MRI for surgical planning. A new joint usually lasts about ten to 15 years, but results are different for everyone after surgery. If the joint replacement wears out after 15 years, it may be possible to revise it with a new joint.

(Source: <https://my.clevelandclinic.org/health/treatments/21649-arthroplasty-joint-replacement>)

A NEW APP TO AID IN RECOVERY: A new app that uses Apple technology connects patients and their surgical teams to deliver continuous data to optimize patient care and outcomes. This was one of the largest evidence-gathering clinical studies in orthopedic history. The study was designed to assess the impact of the app on outcomes and overall costs for joint replacement patients. During the study, patients used Zimmer Biomet's mymobility app with their iPhone and Apple watch. Researchers combined patient-reported feedback with continuous health and activity data to guide patients through pre- and post-op care and gain new insights that impacted the standard of care for these common surgeries. This new technology gives patients convenient notifications that make it easy for them to know and follow through on their individual recovery plan. Through mymobility, patients can access their rehabilitation exercises via videos on their iPhone.

(Source: <https://www.panoramaortho.com/zimmer-biomet-mymobility-apple-watch-clinical-study/>)

NEW TREATMENT USES STEM CELLS: A study that turned human stem cells into cartilage cells shows promise for repairing damaged joint tissue. The findings provide a potential new therapeutic strategy that may help repair damaged cartilage and prevent osteoarthritis. Researchers used a breed of miniature pig that is often used to test potential therapies. They modified stem cells and implanted them into experimentally damaged knees, which led to integration of the implanted stem cells and repair of the damaged cartilage. After six months, the repaired tissue had all the physical and molecular characteristics of undamaged cartilage, and even got thicker and more compressible which are qualities that help cartilage to cushion the joints. The study also found that the injected cells caused the pig's own body to start making cartilage cells to further help in damage repair. Scientists recommend when moving into human clinical trials, health care providers should screen patients carefully to determine who may have an immune reaction. Future studies will determine whether the successful repair of the cartilage reduces joint pain. However, scientists feel this new technique is a significant step toward better therapies for joints with damaged cartilage.

(Source: <https://www.nia.nih.gov/news/stem-cell-strategy-repairing-joint-damage-shows-promise-pig-model>)

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