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HELEN KELLER HOSPITAL NOW OFFERING HIGHLY ADVANCED ROBOTIC-ARM ASSISTED JOINT REPLACEMENT PROCEDURES WITH STRYKER'S MAKO SYSTEM

Innovative Robotic Technology Allows Surgeons to Personalize Total Knee, Partial Knee and Total Hip Replacement Procedures to Each Patient in Northwest Alabama

[Sheffield, Ala., May 14, 2019] – Helen Keller Hospital is the first hospital in Northwest Alabama to offer robotic-arm assisted total knee, partial knee and total hip replacements with Stryker's Mako System. This highly advanced robotic technology transforms the way joint replacement surgery is performed, enabling surgeons to have a more predictable surgical experience with increased accuracy.^{i,ii,iii,iv}

The demand for joint replacements is expected to rise in the next decade. Total knee replacements in the United States are estimated to increase by 673 percent by 2030, while primary total hip replacements are estimated to increase by 174 percent.^v Yet studies have shown that approximately 30 percent of patients are dissatisfied after conventional surgery.^{vi}

This is one of the reasons, the surgeons from North Alabama Bone and Joint came to us with the idea of purchasing the Mako System. "With Mako, we can provide each patient with a personalized surgical experience based on their specific diagnosis and anatomy," said Paul Storey, President of Helen Keller Hospital. "Using a virtual 3D model, Mako allows surgeons to create each patient's surgical plan pre-operatively before entering the operating room. During surgery, we can validate that plan and make any necessary adjustments while guiding the robotic-arm to execute that plan. It's exciting to be able to offer this transformative technology across the joint replacement service line to perform total knee, total hip and partial knee replacements." The surgeons that will be using the Mako System are, Dr. Jeffery Goodman, Dr. Jeff Hovater, Dr. A.E. Joiner, Dr. John Mann, Dr. Johnathan Wright, and Dr. John Young. The first surgery will be performed this month.

The Mako Total Knee, partial knee and total hip application are treatment options designed to relieve the pain caused by degenerative joint disease. Through CT-based 3D modeling of bone anatomy, surgeons can use the Mako System to create a personalized surgical plan and identify the implant size, orientation and alignment based on each patient's unique anatomy. The Mako System also enables surgeons to virtually modify the surgical plan intra-operatively and assists the surgeon in executing bone resections.

Stryker's Mako has been in the news recently throughout all of Alabama. The University of Alabama's head coach, Nick Saban, had hip replacement surgery that was assisted by the Mako system. Saban was

up using a walker the day after the surgery and a cane two days after. He was back to work within the week.

“We are proud to be the first hospital in Northwest Alabama to offer this highly advanced robotic technology in our area,” said Paul Storey, President of Helen Keller Hospital. “The addition of Mako to our orthopedic service line further demonstrates our commitment to provide the community with outstanding healthcare.”

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ⁱ Nawabi DH, Conditt MA, Ranawat AS, Dunbar NJ et al. Haptically guided robotic technology in total hip arthroplasty: a cadaveric investigation. *J Engineering in Medicine*. 2012;227(3):302-309.

ⁱⁱ Ilgen R. Robotic assisted total hip arthroplasty improves accuracy and clinical outcome compared with manual technique. 44th Annual Advances in Arthroplasty Course. October 7-10, 2014, Cambridge, MA.

ⁱⁱⁱ Anthony I, Bell SW, Blyth M, Jones B et al. Improved accuracy of component positioning with robotic-assisted unicompartmental knee arthroplasty. *J Bone Joint Surg Am*. 2016;98-A(8):627-35.

^{iv} Hampp EL, Scholl LY, Prieto M, Chang T et al. Robotic-arm assisted total knee arthroplasty demonstrated greater accuracy to plan compared to manual technique. *MAKTKA-AJA-9_12509*

^v Kurtz S, Ong K, Lau E, Mowat F et al. Projections of primary and revision hip and knee arthroplasty in the United States from 2005 to 2030. *J Bone Joint Surg Am*. 2007;89:780-5.

^{vi} Christiaan Keurentjes J, Fiocco M, So-Osman C, et al. Patients with severe radiographic osteoarthritis have better prognosis in physical functioning after hip and knee replacement: a cohort-study. *PLOS One*. 2013; 8(4): 1-8.