MAKOplastytm Knee Resurfacing

Houston Orthopedic & Spine Hospital, a state-of-the-art specialty orthopedic and spine facility in Houston is one of the few hospitals in the State of Texas to provide the MAKO Haptic Guided System tm –a robotic system that allows orthopedic surgeons to perform precision knee surgery through a much smaller incision. This minimally invasive procedure–called MAKOplasty–was approved by the FDA in 2005, and is currently being performed by only a few surgeons in the US, to include Dr. Tom Parr, of Sugar Land, Texas.



Only one side of the knee is worn out and painful.

Computed Tomography ("CT") scans of the patient's knee are loaded into the robot, and the surgeon works with the robot to define the precise,

minimally invasive cuts in the bone of the knee through a "keyhole" incision. This requires the surgeon to plan the surgery in advance, and each patient's surgery is unique.





The surgeon and the robot work together, through haptic technology. Haptic technology gives the surgeon tactile feedback to the surgery. Because the surgeon has defined the parameters of the procedure in advance, including exactly where and to what depth each cut is to be made, the robot then provides feedback by touch and audible signals. "The surgeon remains in control throughout the operation," Dr. Parr explains, "but the robot provides a greatly improved, precise degree of accuracy."



Only the damaged part was replaced with a special metal-on-plastic component.



For most patients, the minimally invasive surgery lets patients go home the day following their surgery, and return to their normal lifestyles as early as two weeks. MAKOplasty tm is a possible option when one or two of the three knee compartments are damaged.

"The baby boomers are limping onto the scene, with knees they damaged years ago. Yet they are not ready to just sit down and wait until their knees are bad enough to undergo total joint replacement," explains Dr. Parr. "MAKOplasty tm allows us to treat those patients now, with minimal down time so they are able to get back to playing tennis and golf without the pain they have felt for years. The precision offered by this technology will help ensure the greatest longevity for these implants for active people."