

Robotic-assisted total knee replacements a first for Africa

A total knee replacement operation has been carried out using the state-of-the-art Mako robotic arm assisted surgery system for the first time in Africa.



“There is no national register for local total knee replacements currently, but with an estimated 8,000 to 10,000 total knee replacements taking place in South Africa each year, this technology could signal a new era in personalised joint replacement,” says orthopaedic surgeon, Dr Chris McCready.

The technologically advanced system for total knee replacement is already well established in Europe, the United States and the United Kingdom. The system, which can also be used for hip and partial knee replacements, was used in over 250,000 procedures internationally last year alone.

McCready says one of the major advantages of the robotic-assisted surgical system is that, prior to the surgery, it draws data from a computed tomography (CT) scan of the patient’s knee to develop a three-dimensional pre-operative plan that is unique to each individual.

Enhanced surgical precision

“This technology determines the dimensions for the surgical cuts to the bone surfaces, so that the best sized implanted joint components can be selected for each patient, and the placement and alignment of the implanted components can be planned in advance. During the operation, the robotic arm system provides detailed visual, auditory and tactile feedback to the surgeon, which helps to enhance surgical precision in positioning and aligning the knee implants,” he says.

“The robotic arm system, which is controlled by the surgeon at all times, provides an additional safeguard for the patient because it ensures that only the specific areas identified in the personalised pre-surgical plan can be operated on, and thus prevents damage to critical structures within the knee.

“Benefits for patients that have been noted in outcomes recorded internationally for this advanced surgical option include the achievement of a better balanced and more natural feeling implanted knee, less post-operative pain and quicker recovery time,” says McCready, who adds that it would take time to accumulate comparable local data.

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