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Chennai: Chennai-based Trauma and Orthopaedic Hospital - TOSH - that specializes in high end primary and revision joint replacements, inaugurated a dedicated stem cell and regenerative medicine unit in orthopaedics and an exclusive operation theatre for stem cell procedures at its hospital premises on July 27th.

The operation theatre was inaugurated by Dr Seok Jung Kim, Director of Cell Therapy Center of Catholic University Medical College, Korea. The stem cell and regenerative medicine unit was inaugurated by Dr A A Shetty, Adjunct Professor of Stem Cell Research And Regenerative Medicine, NITTE University.

At TOSH, the physicians have exploited stem cell centrifuging technique for single stage knee cartilage replacement surgery. The press release indicated that this facility is one of a kind in India and the physicians at TOSH introduced a new single stage technique based on stem cell technology for regeneration of damaged or worn-out cartilage in knee arthritis in 2012.

Surgeries using stem cell technology is developing at a rapid pace, the role of stem cell therapy in orthopaedics is gaining importance all over the world. The ability of stem cells to transform into bone and cartilage has given a new dimension in the treatment of osteoarthritis, fracture non union, ligament tears. Stem cells have shown significant clinical results in early knee osteoarthritis and cartilage defects.

Now, recent advances in stem cell centrifuging techniques have led to the introduction of the new concept of single stage knee cartilage replacement surgery.
At the press conference, physicians at TOSH explained that in their new technique the stems cells are harvested and centrifuged in the operation theatre itself. The stem cell concentrate is then mixed with a special fibrin gel and fixed directly at the site of cartilage damage through an arthroscopic procedure (keyhole surgery). As the fixation is immediate, the patient is allowed to partial weight bear and is also able to walk the very next day of surgery.

In TOSH Hospital over the past two years many patients have undergone such surgeries. The results were said to be very encouraging; and most patients have shown excellent progress. Encouraged by good results and outcome of stem cell application, TOSH decided to set up a stem cell and regenerative medicine unit in orthopaedics at the hospital. The unit will offer stem cell therapies for knee arthritis, fracture non unions, avascular necrosis of hip, sport injuries and chronic ligament tears. The unit will be headed by Dr. A. A. Shetty and Dr. Seok Jung Kim as the scientific adviser.

The physicians at TOSH believe that this technique will set a new bench mark in the treatment of knee arthritis and will also prove to have a cost advantage over joint replacement. The stem cell-based surgery will help young, middle-aged and elderly patients with early arthritis. TOSH also assures that the stem cell kit used for this technique is FDA/CE approved and is safe and effective.