

PREOPERATIVE DIAGNOSIS: , Severe tricompartmental osteoarthritis, left knee with varus deformity.,POSTOPERATIVE DIAGNOSIS:, Severe tricompartmental osteoarthritis, left knee with varus deformity.,PROCEDURE PERFORMED: ,Left total knee cemented arthroplasty.,ANESTHESIA: , Spinal with Duramorph.,ESTIMATED BLOOD LOSS: ,50 mL.,NEEDLE AND SPONGE COUNT:, Correct.,SPECIMENS: , None.,TOURNIQUET TIME: ,Approximately 77 minutes.,IMPLANTS USED:,1. Zimmer NexGen posterior stabilized LPS-Flex GSF femoral component size D, left.,2. All-poly patella, size 32/8.5 mm thickness.,3. Prolong highly cross-linked polyethylene 12 mm.,4. Stemmed tibial component, size 2.,5. Palacos cement with antibiotics x2 batches.,INDICATION: , The patient is an 84-year-old female with significant endstage osteoarthritis of the left knee, who has had rapid progression with pain and disability. Surgery was indicated to relieve her pain and improve her functional ability. Goal objectives and the procedure were discussed with the patient. Risks and benefits were explained. No guarantees have been made or implied. Informed consent was obtained.,DESCRIPTION OF THE PROCEDURE: ,The patient was taken to the operating room and once an adequate spinal anesthesia with Duramorph was achieved, her left lower extremity was prepped and draped in a standard sterile fashion. A nonsterile tourniquet was placed proximally in the thigh. Antibiotics were infused prior to Foley catheter insertion. Time-out procedure was called.,A straight

longitudinal anterior midline incision was made. Dissection was carried down sharply down the skin, subcutaneous tissue and the fascia. Deep fascia was exposed. The tourniquet was inflated at 300 mmHg prior to the skin incision. A standard medial parapatellar approach was made. The quadriceps tendon was incised approximately 1 cm from the vastus medialis insertion. Incision was then carried down distally and distal arthrotomy was completed. Patellar tendon was well protected. Retinaculum and capsule was incised approximately 5 mm from the medial border of the patella for later repair. The knee was exposed very well. Significant tricompartmental osteoarthritis was noted. The osteophytes were removed with a rongeur. Anterior and posterior cruciate ligaments were excised. Medial and lateral meniscectomies were performed. Medial dissection was performed subperiosteally along the medial aspect of the proximal tibia to address the varus deformity. The medial compartment was more affected than lateral. Medial ligaments were tied. Retropatellar fat pad was excised. Osteophytes were removed. Using a Cobb elevator, the medial soft tissue periosteum envelope was well reflected. Attention was placed for the preparation of the femur. The trochlear notch was ossified. A rongeur was utilized to identify the notch and then using an intramedullary drill guide, a starting hole was created slightly anterior to the PCL attachment. The anterior portal was 1 cm anterior to the PCL attachment. The anterior femoral sizer was positioned keeping 3 degrees of external rotation. Rotation was also verified using the transepicondylar

axis and Whiteside line. The pins were positioned in the appropriate holes. Anterior femoral cut was performed after placing the cutting guide. Now, the distal cutting guide was attached to the alignment and 5 degrees of valgus cut was planned. A distal femoral cut was made which was satisfactory. A sizer was positioned which was noted to be D. The 5-in-1 cutting block size D was secured with spring pins over the resected bone. Using an oscillating saw, cuts were made in a sequential manner such as anterior condyle, posterior condyle, anterior chamfer, and posterior chamfer. Then using a reciprocating saw, intercondylar base notch cut and side cuts were made. Following this, the cutting block for High-Flex knee was positioned taking 2 mm of additional posterior condyle. Using a reciprocating saw, the side cuts were made and bony intercondylar notch cut was completed. The bone with its attached soft tissue was removed. Once the femoral preparation was completed, attention was placed for the preparation of the tibia. The medial and the lateral collateral ligaments were well protected with a retractor. The PCL retractor was positioned and the tibia was translated anteriorly. Osteophytes were removed. The extramedullary tibial alignment guide was affixed to the tibia and appropriate amount of external rotation was considered reference to the medial 1/3rd of the tibial tubercle. Similarly, horseshoe alignment guide was positioned and the alignment guide was well aligned to the distal 1/3rd of the crest of the tibia as well as the 2nd toe. Once the alignment was verified in a coronal plane, the tibial EM guide was well secured and then posterior

slope was also aligned keeping the alignment rod parallel to the tibial crest. A built-in 7-degree posterior slope was considered with instrumentation. Now, the 2 mm stylus arm was positioned over the cutting block medially, which was the most affected site. Tibial osteotomy was completed 90 degrees to the mechanical axis in the coronal plane. The resected thickness of the bone was satisfactory taken 2 mm from the most affected site. The resected surface shows some sclerotic bone medially. Now, attention was placed for the removal of the posterior osteophytes from the femoral condyle. Using curved osteotome, angle curette, and a rongeur, the posterior osteophytes were removed. Now, attention was placed for confirming the flexion-extension gap balance using a 10 mm spacer block in extension and 12 mm in flexion. Rectangular gap was achieved with appropriate soft tissue balance in both flexion and extension. The 12 mm spacer block was satisfactory with good stability in flexion and extension. Attention was now placed for completion of the tibia. Size 2 tibial trial plate was positioned. Appropriate external rotation was maintained with the help of the horseshoe alignment rod. Reference to the tibial crest distally and 2nd toe was considered as before. The midpoint of the trial tray was collinear with the medial 1/3rd of the tibial tubercle. The rotation of tibial plate was satisfactory as required and the preparation of the tibia was completed with intramedullary drill followed by broach impactor. At this point, trial femoral and tibial components were reduced using a 12 mm trial liner. The range of motion and stability in both flexion

and extension was satisfactory. No further soft tissue release was indicated. I was able to achieve 0 degrees of extension and complete flexion of the knee.,Attention was now placed for the preparation of the patella. Using a patellar caliper, the thickness was measured to be 21.5 mm. This gives an ideal resection of 8.5 mm keeping 13 mm of bone intact. Reaming was initiated with a patellar reamer reaming up to 13 mm with the reaming alignment guide. Using a caliper, the resected patella was measured, which was noted to be 13 mm. A 32 sizer was noted to accommodate the resected surface very well. Drilling was completed and trial 32 button was inserted without any difficulty. The tracking was satisfactory. There was no evidence of any subluxation or dislocation of the patella. The trial components position was satisfactory. The alignment and the rotation of all 3 components were satisfactory. All the trial components were removed and the wound was thoroughly irrigated with Pulsavac lavage irrigation mechanical system. The resected surfaces were dried with a sponge. Two batches of Palacos cement were mixed. The cementing was initiated starting with tibia followed by femur and patella. Excess peripheral cement were removed with the curette and knife. The knee was positioned in extension with a 12 mm trial liner. Patellar clamp was placed after cementing the all-poly patella. Once the cement was set hard and cured, tourniquet was deflated. Hemostasis was achieved. The trial 12 mm liner was replaced with definitive Prolong highly cross-linked polyethylene liner. Range of motion and stability was verified at 0 degrees and

flexion of 120 degrees. Anterior-posterior drawer test was satisfactory. Medial and lateral stability was satisfactory. Patellar tracking was satisfactory. The wound was thoroughly irrigated. Hemostasis was achieved. A local cocktail was injected, which included the mixture of 0.25% plain Marcaine, 30 mg of Toradol, and 4 mg of morphine. The quadriceps mechanism and distal arthrotomy was repaired with #1 Vicryl in figure-of-8 fashion. The subcutaneous closure was performed in layers using 2-0 Vicryl and 0 Vicryl followed by 2-0 Vicryl proximally. The skin was approximated with staples. Sterile dressings were placed including Xeroform, 4x4, ABD, and Bias. The patient was then transferred to the recovery room in a stable condition. There were no intraoperative complications noted. She tolerated the procedure very well.