

# **Total Hip Arthroplasty in the Pediatric and Young Adult Patient: A Single Center Experience**

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## **INTRODUCTION:**

Total hip arthroplasty (THA) in the pediatric and young adult population presents many unique challenges. The purpose of the present study was to review our institutional experience with THA in this population to determine: (1) the etiology of disorders requiring THA, and (2) the outcomes and complications associated with THA in this population.

## **METHODS:**

We retrospectively reviewed a cohort of pediatric and young adult patients less than 25 years old who underwent THA at our institution between 2000 and 2023. We identified 103 cases in 91 patients. We reviewed the patient demographics, indications for surgery, implants used, surgical techniques, and postoperative complications, including any revision procedures. Patient Reported Outcome Measures (PROMs) were also acquired, including The Western Ontario and McMaster Universities Osteoarthritis index (WOMAC), Veterans Rand (VR-12) and the Harris Hip Score (HHS) scores. Survivorship was evaluated using the Kaplan-Meier method using an endpoint of revision.

**RESULTS:** The mean age of patients was 21 years, ranging from 13 to 25 years at index surgery. There were 55 males and 48 females. The average follow up was 5.34+/-5.19 (range 3 months to 24 years). The most common primary diagnosis was avascular necrosis (AVN) (48.46%), most of which were medication induced secondary to chemotherapy or steroid use. The PROMs showed significant pain relief and improved function. The HHS total score improved from 46.73 to 96.2 at latest follow up ( $P<0.001$ ), the VR-12 physical from 29.18 to 14.42 ( $P<0.001$ ), and the WOMAC total from 43.74 pre-op to 86.41 post op ( $P<0.001$ ). The overall survivorship free of failure was 95% at 20 years. There were six revisions in this patient cohort.

## **DISCUSSION AND CONCLUSION:**

Total hip arthroplasty in patients under 25 years of age is a viable option for these young patients with end-stage hip disease. Avascular necrosis was the most common indication for THA in this patient population.