What Really Matters in Total Joint Arthroplasty
Chitranjan S. Ranawat, MD
Clinical Professor of Orthopaedic Surgery
Weill Cornell Medical College
Hospital for Special Surgery
New York, New York

- Total Hip Replacement (THR) can last 25 - 30 years provided that following four factors be achieved:
  1. Restoring Anatomic Geometry
  2. Proper Bearing Surfaces
  3. Non-cemented Fixation
  4. Activity Level & BMI
- To reproduce the anatomic geometry, proper exposure with least damage to soft tissue is essential.
- Adequate reconstruction of anatomic geometry requires restoration of:
  1. Center of rotation
  2. Offset
  3. Vertical height or Center of Femoral Head to top of Lesser Trochanter distance
  4. Combined anteversion
- The choice of bearing surfaces and method of fixation are the two main aspects contributing to the longevity of THR.
- Most commonly used bearing surface is Metal on Highly Cross-linked polyethylene (HCLP). Other bearing surfaces include Ceramic on Ceramic, Ceramic on HCLP and Metal on Metal.
- Non-cemented fixation has been more popular compared to cemented THR due to its ease of use and durability.
- Patient factors that have negative impact on the longevity of THR include:
  1. Younger age, 30-60 years old
  2. Body weight > 85 kg
  3. participating in sporting activities
- These principles can be applied to knee and ankle replacement as well.

References:

Level of evidence: III