

**To Find the Functional Outcome of Short Stem in Total Hip Arthroplasty by Using Oxford Hip Score**

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**Abstract**

**Background:** Total hip arthroplasty (THA) is a common orthopaedic procedure. For patients with hip pain due to a variety of conditions, THA can relieve pain, can restore function, and can improve quality of life.

**Methods:** This study included both prospective and retrospective cases, which was conducted in the Department of Orthopaedic Surgery, Indira Gandhi Medical College, Shimla. Patients operated in past with short stem were included in the study as retrospective cases. Informed consent obtained from every patients prior to commencement of the study.

**Results:** Average pre op OXFORD score was 12.04 and last follow up score was 40.54 with significant p-value of < .001

**Conclusion:** Oxford hip score improved from preoperative score of 12 to postoperative score of 40

**Keywords:** Oxford hip score, THA. Post –operative.

**Introduction**

Total hip arthroplasty (THA) is a common orthopaedic procedure. For patients with hip pain due to a variety of

conditions, THA can relieve pain, can restore function, and can improve quality of life. Despite the documented success of THA implants, uncemented stems present specific challenges, like the presence of proximal metaphyseal-distal diaphyseal mismatch in patients with excessively bowed femurs and large cancellous metaphyses, the ease of removal for revision surgery and the facilitation of minimally invasive approaches, such as the direct anterior approach.<sup>1</sup> Moreover, conventional cementless THA is associated with stress shielding of the proximal femur and thigh pain.<sup>2,3</sup> THA using a short femoral stem is particularly popular among younger patients in whom hip resurfacing is not appropriate, as it is associated with adverse reactions secondary to metalon-metal articulation. The first concept of the short stem was designed by Judet and Judet, though the long term results were not satisfactory.<sup>4</sup> However, short femoral stem can conserve bone, reduce stress shielding in the femur and reduce thigh pain.<sup>5</sup>

## Material and Methods

**Study background:** This study included both prospective and retrospective cases, which was conducted in the Department of Orthopaedic Surgery, Indira Gandhi Medical College, Shimla. Patients operated in past with short stem were included in the study as retrospective cases. Informed consent obtained from every patient prior to commencement of the study.

**Study Subject:** All the subjects who fulfill inclusion criteria were included in the study. Patients interrogated in detail regarding pain with special reference to whether it originated from hip only or from somewhere else. Any deformity of neck, spine, hip and chest expansion was tabulated. Special emphasis on neck and spine movements, allergy to metals/medications, any other generalized body diseases or affection likely to influence surgery or its outcome were evaluated and documented.

An exhaustive general physical and hip examination was done to know the patient's fitness for surgery, its expected outcome and postoperative rehabilitation plan to be carried out after surgery. Detailed spine and chest examination was done to see any anticipated difficulties during endotracheal intubation. Preoperative consultation with the anaesthetist was done and the need for special equipment was arranged which could be required if necessary

### Inclusion criteria

All age group patients with good bone stock, longer life expectancy who required THA for painful disabling hip included in the study.

### Exclusion criteria

1. Revision surgery
2. Active infection of hip joint
3. Mismatch between patient's expectations and outcome of surgery

### 4. Intra operative change of plan

## Observations and Results

This study was conducted in Department of Orthopaedic Surgery, Indira Gandhi Medical College, Shimla, Himachal Pradesh. Total 24 hips (19 prospective, 5 retrospective ) in 20 patients were taken for study. In four patients bilateral THA done using short femoral stem.

Mean age was 44 years. 30-60 years of age was the most common age group operated and males predominated in our study. Left side was operated most frequently than right, while in 20% patients were operated bilaterally and all of them were less than 50 years of age. Avascular necrosis with secondary osteoarthritis (60%) was the most common indication. One patient of fracture neck femur with polyarticular rheumatoid and one patient of fracture neck femur with ankylosing spondylitis was operated.

Table 1: Oxford Hip Score

	Pre op score %	Last follow up score %
0 to 19	100	0
20 to 29	0	4.2
30 to 39	0	25
40 to 48	0	70.8
TOTAL	100	100

Average pre op OXFORD score was 12.04 and last follow up score was 40.54 with significant p-value of < .001

## Discussion

Total hip arthroplasty is a well-documented surgical procedure which relieves pain and functional disability, improving the quality of life.

Average pre op OXFORD score was 12, increased to 32 at 6 weeks, 38 at 6 months and last follow up score was 40 while average pre op. In a study by Ronak et al<sup>6</sup> 89 patients were reviewed who were younger than 70 years with short femoral stem . They found that average pre op OXFORD score was 11, increased to 31 at 6 weeks, 36 at 6 months and last follow up score was 39

### Conclusion

Oxford hip score improved from preoperative score of 12 to postoperative score of 40

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