



# Dislocated Thompson hemiarthroplasty—the management of the recurrent dislocator

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## KEYWORDS

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Thompson;  
Dislocation;  
Abduction brace;  
Redislocation;  
Traction;  
Hip

**Summary** Dislocation of a Thompson hemiarthroplasty of the hip is a serious complication with a high mortality rate. Previous papers have focused on surgical techniques to try and prevent dislocation. There is little in the literature on how to manage a patient after a dislocation.

Patients with a dislocated Thompson hemiarthroplasty over a 5-year period from 1997 to March 2002 were analysed. Attempts were made to identify factors which may contribute to redislocation. Our strategies for preventing redislocation were evaluated.

Of the 612 patients who received a Thompson hemiarthroplasty 23 patients (4%) dislocated. The average number of dislocations per patient was 2.4. Thirteen patients (57%) redislocated their prosthesis. Ten patients (43%) dislocated at least twice.

Seven patients (30%) had either a total hip replacement, Girdlestone's procedure or the hip was left dislocated. Out of 15 patients fitted with an abduction brace 8 (60%) redislocated. Out of 8 patients treated with traction 6 (75%) redislocated. The 6-month mortality for patients suffering a dislocation was 7/23 (30%).

If the prosthesis dislocates twice, the hip should be deemed unstable and consideration should be given to a revision procedure. Abduction braces and traction are ineffective in this condition and should be abandoned.

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## Introduction

Dislocation following hemiarthroplasty for fractured neck of the femur is a serious complication. Published dislocation rates vary depending on the type of prosthesis and the surgical approach, ranging from 2 to 12%.<sup>1,4,7,8</sup> Blewitt and Mortimore<sup>1</sup> found

the 6-month mortality rate after dislocation to be 65% and that increased to 75% in patients who dislocated again.

Several studies have looked at factors that may contribute to dislocation. Using a postoperative X-ray-scoring system to assess the quality of the hemiarthroplasty Kwok and Cruess<sup>5</sup> failed to prove an association between inappropriate neck length and dislocation. Paton and Hirst<sup>7</sup> and Keene and Parker<sup>4</sup> both showed dislocation was less after the antero-lateral compared to the posterior approach. Unwin and Thomas<sup>8</sup> showed that dislocations were more

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common after operations performed by junior surgical grades. Blewitt and Mortimore<sup>1</sup> found that patients' pre dislocation independence status influenced their survival post dislocation.

Although much is written on prevention and the consequences of hemiarthroplasty dislocation, there is a paucity of papers on the management of these patients. We aimed to evaluate our management of the dislocated Thompson hemiarthroplasty.

## Patients and methods

At the Royal Bolton Hospital patients with a dislocated Thompson hemiarthroplasty from January 1997 to March 2002 were identified by the following methods. We searched theatre records for hip relocation, open reduction and Girdlestone procedure. Clinical codes were used to identify admissions due to dislocated hip prosthesis. Patients with dislocated total hip replacements were identified and excluded. The departmental hip audits were cross-referenced to ensure no patients had been missed.

The patients' case notes were analysed for pre dislocation independence and mobility scores.<sup>1</sup> Confusion, dementia and mental impairment at the time of fracture surgery was noted. The operation notes were analysed to assess the type of approach, grade of surgeon and senior supervision. The mechanism of dislocation and the method of reduction were noted. The use of post reduction traction and abduction braces was also noted. All analyses were performed by one researcher (AN).

The hospital patient record system was used to analyse 6-month mortality. Where it was not clear from hospital records if a patient had died, the patient's General Practitioner was contacted.

## Results

From January 1997 to March 2002, 612 patients underwent Thompson hemiarthroplasty. Twenty-three patients (4%) were identified who suffered a dislocation of their prosthesis. Six were male and 17 were female. The mean age in years was 79.7 (age range 44–92 years). There were 55 dislocation events. The average number of dislocations per patient was 2.4 (range 1–5). The 30-day mortality post dislocation was 4/23 (17%). Seven patients (30%) died within 6 months of their hemiarthroplasty dislocating.

Of the 23 patients, 9 (39%) were either demented or confused pre-operatively. One patient had multiple sclerosis and suffered with excessive muscle

contractions; one patient had severe epilepsy and one patient was found to have dislocated as a result of joint infection. Pre-operatively the average independence score was 4.2 (range 3–5) and the average mobility score was 4.1 (range 2–5).

All 23 patients had undergone a direct lateral approach (this is the routine approach at our department). All had a cemented Thompson prosthesis inserted. Eight patients had their operation performed by a senior house officer under supervision (three by a registrar and five by a consultant). Eleven patients had their procedure performed by a registrar (two supervised by a consultant). Four patients were operated on by a consultant.

Twenty patients had a dislocation during their admission for fracture surgery, either on the orthopaedic or rehabilitation ward. For these patients the mean time to dislocate was 19.2 days following surgery. Two of the remaining patients dislocated their prostheses following a fall at home. The one remaining patient suffered a stroke after discharge, which led to seizures. He first dislocated his prosthesis during a seizure. [Table 1](#) below shows the causes of the 55 dislocation events.

Of the 23 patients that dislocated 13 patients (57%) redislocated. The average time to the second dislocation was 7.5 days. After the initial dislocation one patient was converted directly to a Girdlestone excision arthroplasty due to deep infection. The remaining 22 underwent reduction under anaesthetic. Postoperatively some patients underwent adjuvant treatments, such as skin traction, skeletal traction and the fitting of an abduction brace. Patients with recurrent dislocations were managed definitively by a Girdlestone procedure, total hip replacement or were left dislocated.

The analysis of the effectiveness of braces and traction methods is described in [Table 2](#). There were four patients who dislocated with an abduction brace fitted. Two of these patients had two dislocations within the brace.

**Table 1** The 55 dislocation events

Cause of dislocation	Dislocation events					Total
	1st	2nd	3rd	4th	5th	
Spontaneous in bed	15	11	9	5	3	43
Fall	3	1	0	0	0	4
Rolled in bed by nurses	2	0	0	0	0	2
Muscle spasms (MS)	1	0	0	0	0	1
Fit	1	0	1	1	0	3
Infected prosthesis	1	0	0	0	0	1
Getting out of bed	0	1	0	0	0	1
Number of patients	23	13	10	6	3	55

MS, multiple sclerosis.

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