

Occupation after hip replacement for arthrosis

After hip replacement for primary arthrosis, 69/104 patients younger than 60 years returned to work within 2 years. Long preoperative sick leave increased the risk of both retirement and long postoperative sick leave. The retirement rate was also influenced by occupation, whereas sex, age, or bilateral operations had no influence on postoperative retirement nor on postoperative sick leave.

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Introduction

Pain relief, restoration of hip function, and improvement in activities of daily living after a successful total hip replacement are well documented (Visuri & Honkanen 1978, Salvati et al. 1981, Sutherland et al. 1982). However, little is known about the social implications of such surgery.

Hip function after a successful total hip replacement improves until a steady state is reached within 2 years after surgery (Murray et al. 1975, Murray et al. 1981). We investigated the patients' working status during the 2 years before and the 2 years after surgery in order to find preoperative factors for predicting the working capacity of patients operated on for primary arthrosis before the age of 60.

Patients and methods

During the 13-year period 1970-1982, 937 cemented total hip replacements were performed for primary arthrosis in our department. We investigated the 118 patients (76 men and 42 women) who were below the age of 60 at surgery and who lived in Malmöhus county 2 years before and 2 years after surgery. The mean age at arthroplasty was 54 (36-59) years; fourteen patients were under 50 years of age.

Intertrochanteric osteotomy of the femur had been performed in five patients before the preoperative 2-year investigative period and in two during this period. For 19 patients with bilateral arthroplasties performed within a 3-year period, the pre- and postoperative 2-year investigative periods were recorded until the first replacement and after the second replacement. Two hips were revised within 2 years because of infection; in one patient the prosthesis was exchanged and in the other it was extracted.

Information about sick leave, retirement, and the patients' occupations, including household work, was

obtained from the local Social Insurance Office, the hospital records, and from questionnaires. Retirement also included long term disability pension (Table 1).

The χ^2 test was used for statistical calculations.

Results

No differences could be found between the sexes or between ages. Therefore, data for both sexes and ages were combined.

Fourteen patients had retired before the hip replacement, nine mainly on account of their hip disease and five for other reasons (Figure 1). All of these patients remained retired postoperatively. A further 28 patients were retired within 2 years after surgery - 19 mainly and nine partly owing to their hip conditions. Nine postoperative retirements were partial, i.e., half or two thirds, the rest were full retire-

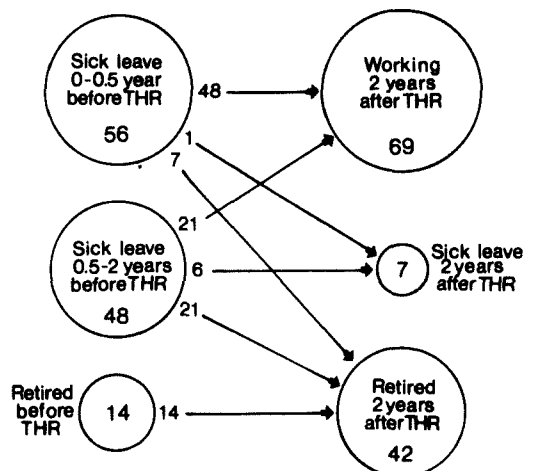


Figure 1. Preoperative and postoperative working status of 118 patients with primary arthrosis and under 60 years of age at total hip replacement.

Table 1. Occupation after hip replacement for arthrosis. Coded data.

Case	A	B	C	D	E	F	G	H	I	Case	A	B	C	D	E	F	G	H	I
1	1	0	0	50	4	224	4	213	0	60	1	0	0	57	3	230	6		0
2	1	0	1	56,57	6		6		0	61	2	0	0	47	4	414	2	130	0
3	1	0	0	57	4	406	5		0	62	1	0	0	49	4	1	3	135	0
4	2	0	0	50	1	176	1	231	0	63	1	1	0	54	3	695	6		0
5	1	0	0	58	3	4	3	52	0	64	1	0	1	55,56	4	198	6		0
6	2	0	1	59,59	1	12	6		0	65	1	0	0	48	2	207	5		0
7	2	0	0	58	3	233	6		0	66	2	0	0	53	6		6		0
8	1	0	0	55	4	33	6		1	67	1	0	0	46	4	399	6		0
9	2	1	1	48,48	6		6		0	68	1	0	0	44	2	3	2	83	0
10	2	0	0	59	6		6		0	69	1	0	1	58,59	4	224	4	354	0
11	2	0	1	53,56	2	19	2	139	0	70	1	0	0	55	3	3	2	208	0
12	1	0	0	59	4	147	4	119	0	71	2	0	0	58	3	395	6		0
13	2	0	0	58	3	466	3	433	0	72	2	0	0	58	3	76	6		0
14	1	0	0	59	3	504	5		1	73	1	1	0	40	4	348	2	702	0
15	1	0	0	59	4	589	6		0	74	2	0	1	47,47	6		6		0
16	2	1	0	59	6		6		0	75	1	1	0	47	4	3	4	29	0
17	1	0	0	57	4	99	3	150	0	76	1	0	1	49,49	2	1	2	70	0
18	1	0	0	58	4	77	4	201	0	77	1	0	0	54	4	223	3	419	0
19	2	0	0	57	4	160	6		0	78	1	0	0	59	4	231	4	145	0
20	1	0	0	58	4	291	6		0	79	2	0	0	53	3	14	3	101	0
21	1	0	1	59,59	4	378	4	258	0	80	1	0	0	56	3	319	3	363	0
22	2	0	1	56,56	4	3	6		0	81	1	0	0	50	3	682	2	672	0
23	1	0	0	57	3	105	6		0	82	2	0	0	59	4	672	6		0
24	1	0	0	50	3	1	3	135	0	83	1	0	0	54	4	8	3	141	0
25	1	0	0	56	4	503	6		0	84	1	0	0	55	4	240	6		0
26	2	0	0	56	3	97	2	177	0	85	1	0	1	51,52	4	330	3	596	0
27	1	0	1	52,53	4	1	3	154	0	86	1	0	0	53	2	42	2	102	0
28	2	0	1	57,57	2	34	2	145	0	87	2	0	0	58	3	433	6		0
29	2	0	1	59,59	3	715	6		0	88	1	1	0	59	3	224	3	211	0
30	1	0	0	53	4	4	4	284	0	89	1	0	0	55	3	187	3	317	0
31	1	0	0	47	4	653	3	91	0	90	1	0	0	53	6		6		0
32	2	0	0	58	6		6		0	91	2	0	0	54	2	3	2	58	0
33	1	0	0	59	4	5	3	508	0	92	1	0	1	56,58	3	86	3	82	0
34	2	0	0	54	3	277	6		0	93	1	0	0	58	6		6		0
35	2	0	0	57	3	1	1	158	0	94	2	0	0	50	1	3	1	104	0
36	1	0	0	53	4	519	6		0	95	1	0	1	54,56	4	395	6		0
37	1	0	0	51	4	288	4	178	0	96	1	0	1	47,48	4	146	3	110	0
38	1	0	0	56	4	43	3	89	0	97	2	0	0	57	3	397	2	162	0
39	1	0	0	58	4	405	3	216	0	98	1	0	0	53	4	3	3	174	0
40	1	0	1	57,58	4	300	3	317	0	99	1	0	0	52	3	65	3	126	0
41	1	0	0	54	3	3	3	212	0	100	2	0	0	55	3	329	5		0
42	1	0	0	54	4	25	4	99	0	101	1	0	0	59	6		6		0
43	2	0	0	58	3	234	6		0	102	1	0	0	49	3	37	3	101	0
44	1	0	0	54	4	3	4	70	0	103	1	0	0	52	3	186	3	190	0
45	1	0	0	51	4	225	4	192	0	104	2	0	0	58	6		6		0
46	2	0	0	54	2	351	2	353	0	105	2	0	0	56	3	61	3	105	0
47	1	0	0	54	4	1	4	159	0	106	2	0	0	58	6		6		0
48	2	0	0	53	4	580	6		0	107	1	0	0	53	3	1	2	337	0
49	2	0	0	56	4	392	6		0	108	1	0	0	50	3	46	3	160	0
50	1	0	1	57,58	4	1	4	197	0	109	2	0	0	58	3	1	3	276	0
51	2	0	0	55	6		6		0	110	1	0	0	51	3	1	3	70	0
52	1	0	0	58	2	77	2	151	0	111	2	0	0	53	3	20	2	425	0
53	1	0	0	59	4	638	6		0	112	1	0	0	57	4	1	5		0
54	1	0	0	36	3	306	5		0	113	2	0	0	55	6		6		0
55	2	1	0	53	3	716	5		0	114	2	0	0	54	2	1	2	29	0
56	1	0	0	50	2	3	2	91	0	115	1	0	0	57	2	1	2	75	0
57	1	0	0	56	4	500	6		0	116	2	0	0	52	3	8	3	82	0
58	1	0	0	57	4	166	6		0	117	1	0	0	54	4	24	4	98	0
59	1	0	0	59	3	1	3	73	0	118	1	0	0	59	4	1	3	184	0

Key to data

A = Sex
 B = Intertrochanteric osteotomy
 C = Bilateral THR
 D = Age at surgery, years
 E = Type of preoperative work

1 = Male 2 = Female
 0 = No 1 = Yes
 0 = No 1 = Yes
 1 = Household 2 = Light
 3 = Moderate 4 = Heavy
 6 = Retired

F = Preoperative sick leave, days
 G = Type of work two years after surgery
 H = Postoperative sick leave, days
 I = Revision

1 = Household 2 = Light
 3 = Moderate 4 = Heavy
 5 = Still on sick leave
 6 = Retired
 0 = No 1 = Yes

Table 2. Association between duration of preoperative sick leave and work, and postoperative status two years after total hip replacement among 104 patients.

Type of preoperative work	Duration of preoperative sick leave (yr)	Household	Working	Still on sick leave	Retired	Total
Household	0-0.5	2	-	-	1	3
	0.5-1	-	-	-	-	-
	1-2	-	-	-	-	-
Light ^a	0-0.5	-	10	-	-	10
	0.5-1	-	1	1	-	2
	1-2	-	-	-	-	-
Moderate ^b	0-0.5	1	17	-	2	20
	0.5-1	-	4	2	4	10
	1-2	-	3	2	4	9
Heavy ^c	0-0.5	-	18	1	4	23
	0.5-1	-	9	-	3	12
	1-2	-	4	1	10	15
Total		3	66	7	28	104

^aLight work: e.g., office cleric.

^bModerate work: e.g., labourer in light industry.

^cHeavy work: e.g., farmer, labourer in heavy industry.

ments. Two years after arthroplasty, seven patients were still on sick leave and 69 patients had returned to work.

The risk of postoperative retirement increased with the duration of the preoperative sick leave ($P < 0.0001$), which was also influenced by the heaviness of the occupation (Figure 1 and Table 2). Bilateral arthroplasties had no influence on retirement.

There was a positive association between the duration of the preoperative and postoperative sick leaves ($P < 0.0004$) (Table 3). The type of work before and after surgery or bilateral arthroplasties had no influence on this association. No patients returned to heavier work

Table 3. Association between duration of preoperative and postoperative sick leave among 69 patients not retired preoperatively and back to work within 2 years after total hip replacement.

Duration of preoperative sick leave (yr)	Duration of postoperative sick leave (yr)			Total
	0-0.5	0.5-1	1-2	
0-0.5	37	9	2	48
0.5-1	2	8	4	14
1-2	3	2	2	7
Total	42	19	8	69

Table 4. Type of preoperative and postoperative work of 69 patients who were not retired preoperatively and who returned to work within 2 years after total hip replacement.

Type of preoperative work	Type of postoperative work				Total
	Household	Light	Moderate	Heavy	
Household	2	-	-	-	2
Light	-	11	-	-	11
Moderate	1	6	18	-	25
Heavy	-	2	14	15	31
Total	3	19	32	15	69

than that they had been doing before surgery (Table 4).

Neither one of the two patients with a revised prosthesis had returned to work 2 years after the initial operation; one was still on sick leave and the other had retired.

Discussion

Information is scarce about the influence of preoperative working status on social rehabilitation after total hip replacement. In our study, preoperative sick leaves exceeding 6 months increased both the risk of postoper-

ative retirement and the risk of long postoperative sick leave. Our retirement findings accord with those of Löfmark & Rydell (1984), who conducted a similar study of 63 patients. The findings might be explained by functional deterioration and a progressive decline in work motivation during the preoperative sick leave period. Long sick leave may also increase the risk of permanent replacement of the patient at work and may involve difficulties in finding a new job postoperatively. This might also explain the positive correlation between the heaviness of preoperative work and retirement. To diminish the risk of mechanical loosening of the prosthesis, the patients should avoid going back to heavy work. The prognosis of returning to work after surgery is poor for preoperatively retired patients (Wadensjö 1980, Kromann-Andersen & Jörgensen 1980, Jensen et al. 1985).

The rehabilitation after hip replacement might also be influenced by the economic and sociopolitical structure of the community, but such an analysis was not within the scope of our study.

We conclude that sick leave before hip replacement for primary arthrosis in preoperatively nonretired patients younger than 60 years should not exceed 6 months. Further delay of surgery increases the risk of retirement or long postoperative sick leave.

Acknowledgements

We thank the Social Insurance Office in Malmöhus County for providing information about sick leave and retirement. This study was sponsored by Sven and Dagmar Saléns Stiftelse and Stiftelsen för bistånd åt vanföra i Skåne, Helsingborg.

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