



Original article

Sexual activity resumption after total hip arthroplasty: A satisfaction survey in 101 patients

Grégoire Rougereau^{a,b,*}, Camille Rabot^a, Emmanuel de Thomasson^{a,c}, Idriss Tourabaly^{a,d}, Christian Mazel^a, Tristan Langlais^e, Didier Ollat^a^a Département de chirurgie orthopédique, institut Mutualiste Montsouris, 42, boulevard Jourdan, 75014 Paris, France^b Département de chirurgie orthopédique et traumatologique, hôpital de la Pitié-Salpêtrière, université de la Sorbonne, 47–83, boulevard de l'Hôpital, 75013 Paris, France^c Département de chirurgie orthopédique, clinique Arago, 187, rue Raymond-Losserand, 75014 Paris, France^d Département de chirurgie orthopédique, clinique Maussins-Nollet, 67, rue De Romainville, 75019 Paris, France^e Département de chirurgie orthopédique pédiatrique, hôpital Purpan, université de Toulouse, Toulouse, France

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ABSTRACT

Background: We are not aware of studies conducted in France to assess information provided by surgeons about the impact of total hip arthroplasty (THA) on sexual activity or sexual activity resumption after THA. The objectives of this study in a cohort of patients seen after THA were to evaluate: (1) the time to sexual activity resumption, (2) whether sexual activity resumption was discussed with the surgeon and whether the patients wanted information on this point, and (3) the modalities and experience of sexual activity resumption according to demographic features.

Hypothesis: Age and sex influence the timing and modalities of sexual activity resumption after THA.

Methods: We conducted a single-centre prospective cohort study in consecutive patients who received follow-up for 6 months after THA. Each patient completed an anonymised questionnaire on preoperative sexual activity, modalities of postoperative sexual activity resumption, information delivered by the surgeon, and expectations regarding the delivered information. The patients also specified their age and sex on the questionnaire.

Results: Of 101 included patients, 49 were still sexually active before surgery. Of these 49 patients, 35 (71.4%) reported no difference in the frequency of sexual activity before and after THA. Only 4 (8.2%) patients did not resume sexual activity during follow-up. Older age was associated with a lower demand for information [odds ratio, 0.95; 95% confidence interval: 0.91–0.99 ($p = 0.01$)]. Compared to the females, the males more often recovered similar sexual activity to that before surgery regarding frequency [18/20 vs. 17/29 ($p = 0.02$)] and quality of sexual positions [15/20 vs. 9/29 ($p = 0.003$)]. Males resumed sexual activity on average during the first 3 weeks [10/20 ($p = 0.02$)], compared to after 6 weeks for most females [13/29 ($p = 0.03$)]. Age was not associated with the time to sexual activity resumption [$\rho = 0.0868$; 95% confidence interval: -0.205 to 0.365 ($p = 0.56$)].

Discussion: Among patients who were sexually active before surgery, 71.4% reported having resumed the same frequency of sexual activity 6 months after surgery. The main difficulty in both males and females was fear of prosthetic hip dislocation, which was related in part to insufficient preoperative information. Males resumed sexual activity earlier than did females. In patients who were sexually active before surgery, age was not associated with the resumption of sexual activity after surgery.

Level of evidence: IV, prospective study with no control group.

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1. Introduction

Although studies of the impact of hip osteoarthritis usually focus on walking, sexual function is also affected [1,2]. The indications of total hip arthroplasty (THA) are expanding, and the procedure is being increasingly performed in ever younger patients for whom satisfying sexual activity is important to their well-being and constitutes a major surgical outcome [2–4].

* Corresponding author at: Département de chirurgie orthopédique, institut Mutualiste Montsouris, 42, boulevard Jourdan, 75014 Paris, France.
E-mail address: greg.rougereau@gmail.com (G. Rougereau).

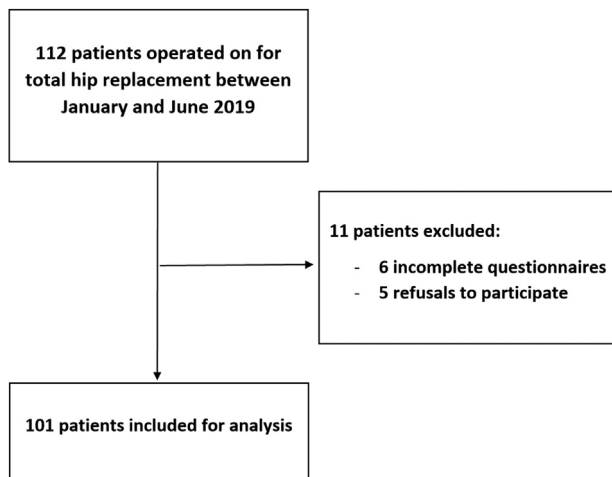


Fig. 1. Patient flow diagram.

The resumption of sexual activity after THA therefore deserves to be discussed during the preoperative visit. Nonetheless, data in the literature suggest a reluctance of surgeons to broach this issue with their patients. Between 80% and 89% of patients regret this lack of information about the resumption of sexual activity after THA [5].

We are unaware of any published data on the resumption of sexual activity after THA in France. Consequently, we conducted a prospective cohort study to evaluate:

- the time of sexual activity resumption after THA;
- the expectations of patients regarding preoperative information about resuming sexual activity;
- possible associations linking demographic features to sexual activity resumption.

Our working hypothesis was that age and sex of the patient influence the time to and modalities of sexual activity resumption.

2. Material and methods

2.1. Patients

We conducted a single-centre study in consecutive patients who underwent THA performed by any of three senior surgeons between 1 January and 30 June 2019. Patients were included regardless of age, sex, reason for THA, surgical technique, and type of implant.

3. Methods

During the preoperative visit, the surgeon explained the survey to the patient orally and also gave the patient a printed information sheet. All patients who had THA performed during the inclusion period were reevaluated in person. The questionnaires were collected by two observers who had not participated in the management of the patients. Fig. 1 is the patient flow chart.

3.1. Assessment methods

Each patient was given a questionnaire during the visit 6 months after THA. The questionnaire evaluated the impact of hip osteoarthritis on sexual activity before surgery; the information delivered by the surgeon; the expectations of the patient regarding information about sexual activity, including the modality (oral or

in writing); and the modalities of sexual activity resumption (time, frequency of intercourse, difficulties encountered). The questionnaires were anonymised and the only reported demographic data were age and sex.

3.2. Statistical methods

The statistical analysis was performed using EasyMedStat (version 3.0.1) (Levallois-Perret, France). The Mann–Whitney U test was chosen to compare quantitative data and Fisher's test to compare qualitative data. Pearson's correlation coefficient was computed to assess the possible influence of age on sexual activity resumption. A multivariate logistic regression model was then built to evaluate the associations of age and sex with the various outcomes explored by the questionnaire. Multicollinearity was evaluated using the Belsley–Kuh–Welsch technique. Heteroscedasticity and normality of data distribution were determined using the Pagan test and the Shapiro–Wilk test, respectively. All p -values < 0.05 were taken to indicate significant differences.

4. Results

4.1. Study population and answers to the questionnaire items

Of 112 patients who had THA during the inclusion period, 101 were included (Fig. 1). The male/female ratio was 1/3 and mean age was 70.3 years [31–94]. Only 49 (48.5%) patients were sexually active before the THA. Among them, 30 (61.2%) reported a decrease in the quality or frequency of sexual intercourse before THA. The sexually active group had a younger mean age than did the group without sexual activity [65.1 vs. 75.1 years ($p < 0.0001$)].

In 96% of cases (97/101), the surgeon did not open a discussion about sexual activity during the preoperative visit. On the other hand, of the 49 sexually active patients before surgery, 38 (77.5%) would have liked to receive a brochure about sexual activity after the procedure.

Most patients (35/49, 71.4%) reported the same frequency of sexual intercourse as before the THA; only 8 (16.3%) reported a decrease and 2 (4%) an increase. The remaining 4 (8.2%) patients did not resume sexual activity during the 6 months following the THA. Only 2 patients with no sexual activity before the THA became sexually active after the THA; they were an 81-year-old male and a 72-year-old female. Of the 49 patients, 28 (57.1%) reported difficulty with resuming sexual activity, which was due most often to fear about causing dislocation of the prosthesis ($n = 24$) and less often to discomfort ($n = 4$), pain ($n = 1$), or a decline in libido ($n = 1$). These difficulties led to adjustments in sexual positions in 22/49 (46.8%) patients, which were temporary in all cases but one (21/22, 95.5%). Only 15/49 (30.6%) patients resumed sexual activity during the first 3 weeks after surgery.

4.2. Associations of age and sex with the impact of osteoarthritis and the demand for information

Older age was associated with a decreased adverse impact of hip osteoarthritis on sexual activity [$\rho = -0.4078$; 95% CI: -0.558 ; -0.231 ($p < 0.0001$)], whereas sex was not [12/28 vs. 23/73 ($p = 0.35$)]. The demand for information about sexual activity was lower in the older patients [$\rho = 0.2844$; 95% CI: 0.094 ; 0.46 ($p = 0.004$)] and in the females [8/28 vs. 41/73 ($p = 0.01$)].

By multivariate analysis, the association linking older age to less demand for information was confirmed [OR = 0.95; 95% CI: 0.91; 0.99 ($p = 0.01$)]. However, sex was no longer linked to information demand [OR = 2.65; 95% CI: 1.0; 7.02 ($p = 0.05$)]. Fig. 2 illustrates the distribution of the demand for information according to age.

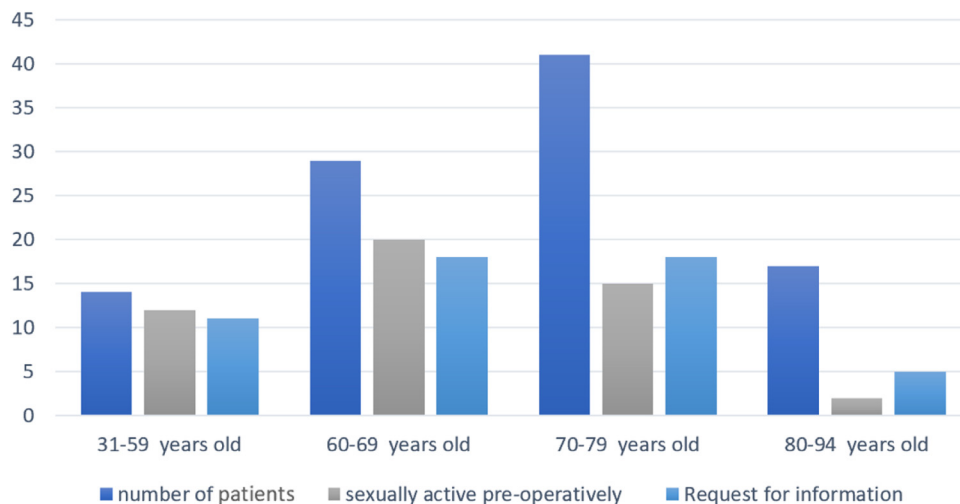


Fig. 2. Desire for information according to age and preoperative sexual activity.

4.3. Associations of age and sex with resumption of sexual activity

In the group of 49 patients who were sexually active before the THA, compared to the females, the males more often resumed a level of sexual activity that mirrored their preoperative level, with an identical frequency of intercourse in 90% of cases [18/20 vs. 17/29 ($p=0.02$)] and no need to adapt their sexual positions in 75% of cases [15/20 vs. 9/29 ($p=0.003$)] (Table 1).

Resumption of sexual activity occurred earlier in the males, within the first 3 weeks in 50% of cases [10/20 vs. 5/29 ($p=0.02$)]. The females resumed sexual activity more gradually over time, chiefly after the 6th postoperative week [13/29 vs. 3/20 ($p=0.03$)]. Fig. 3 depicts the distribution between males and females. Age was not associated with the time to sexual activity resumption [$\rho=0.0868$; 95% CI: -0.205 ; 0.365 ($p=0.56$)].

5. Discussion

Hip pain and stiffness [1,6,7], a decline in libido related to certain analgesic medications, or back pain secondary to the postural compensation [2] all contribute to limit sexual activity. These factors start to adversely impact sexual activity about 2 ½ years after the first symptoms [6]. THA has been reported to improve or allow the resumption of sexual activity in 65% of patients in the immediate postoperative period and in 85% after 4 years [8]. We found that 71.5% of patients who were previously sexually active resumed their usual sexual activities. Whereas the frequency of sexual intercourse has been reported to increase after THA in 27% to 43.5% of patients, this proportion was only 4% in our study [5,9]. We believe this difference is ascribable to the short follow-up. In addition, our estimation that 8.1% of patients had not resumed their previous sexual activity 6 months postoperatively may be an overestimation. Indeed, Nunley et al. [9] reported that only 1.3% of patients stopped all sexual activity during a follow-up period of more than 2 years.

These results can be analysed according to the sex of the patients. Currey [1] demonstrated that the time to sexual activity resumption was longer in females and explained this finding by the frequent use of positions requiring marked abduction and external rotation of the hip. In addition, hip osteoarthritis develops earlier in females than in males [1,7], because hip dysplasia chiefly affects females [2,9]. Nonetheless, females reported better quality of sexual intercourse as well as a higher frequency after surgery, compared to the males [9]. In our study also, the females resumed

sexual activity later than did the males, and only 58.6% reported returning to their usual frequency, compared to 90% of males. This difference may be ascribable to the short follow-up, as several months may be needed to obtain a definitive result [8]. These good early results in males have been tempered by Nordentoft et al. [10], who identified erectile dysfunction in up to 26% of males after THA or total knee prosthesis. An interesting finding from our study is that sex was not associated with the occurrence of difficulties upon resuming sexual activity, which were chiefly due to fear of prosthesis instability. In the literature, the recommended time to sexual activity resumption ranges from 1 to 3 months [11]. This waiting time is chiefly advocated when a postero-lateral approach was used, as the risk of dislocation is then greater during the first few postoperative months. Some authors allow earlier resumption when an anterior approach was used [2,12–14]. Charbonnier et al. [15] assessed the risk of dislocation in a biomechanical study of the 12 most common sexual positions. Females were at greater risk for posterior hip instability in positions requiring flexion with an antero-superior cam effect, whereas males were at risk for anterior instability due to a postero-inferior cam effect [15]. These findings invite a discussion of whether the sex of the patient should guide the choice of the approach and also of the type of implant, depending on age and physical activities [16,17].

Mean age in our population is among the highest in the literature [2,4,5,7]. Although older age was a risk factor for absence of sexual activity in our study, a third of patients who were sexually active before the THA were 70 years of age or older. Some authors have suggested that the results obtained by Nordentoft et al. [10] regarding postoperative erectile dysfunction in males may be related to the mean age of 70.6 years in their population. In our study, among the 49 sexually active patients, a single male, aged 62 years, reported a decline in libido. Thus, age may be less important to consider than the level of sexual desire and preoperative sexual activity. Paradoxically, Nunley et al. [9] reported that patients younger than 40 years of age had a 4-fold longer time to sexual activity resumption compared to older patients. In our study, age did not correlate with the time to sexual activity resumption, but the population was 15 years older on average.

Age was the only factor associated with the desire to receive appropriate information. This finding may be ascribable to the fact that older patients were less often sexually active before surgery. Despite this, 77.5% of our patients would have welcomed information about sexual activity after THA. This proportion is greater than that of patients who were sexually active before the THA. The

Table 1
Associations of patient sex with resumption of sexual activity within 6 months after total hip arthroplasty.

Number (%)	Females n=29 (%)	Males n=20 (%)	p-value
Frequency of sexual intercourse after THA			
Unchanged	17 (58.6)	18 (90)	0.02
Decreased	7 (24.1)	1 (5)	0.19
Increased	2 (6.9)	0 (0)	0.51
Not resumed	3 (10.3)	1 (5)	0.63
Difficulties with resuming sexual activity	17 (58.6)	11 (55)	1
If yes, for what reason?			
Apprehension	14/17 (82.3)	8/11 (72.7)	0.65
Pain	0/17 (0)	1/11 (7.1)	0.39
Discomfort	3/17 (17.6)	1/11 (7.1)	1
Decreased libido	0/17 (0)	1/11 (7.1)	0.39
Change in sexual positions			
Temporary	17 (58.6)	4 (20)	0.009
Definitive	1 (3.4)	0 (0)	1
None	9 (31)	15 (75)	0.003
Time to resumption of sexual activity			
Within 3 weeks	5 (17.2)	10 (50)	0.02
During the 4th or 5th week	9 (31)	7 (35)	1
During or after the 6th week	13 (44.8)	3 (15)	0.03

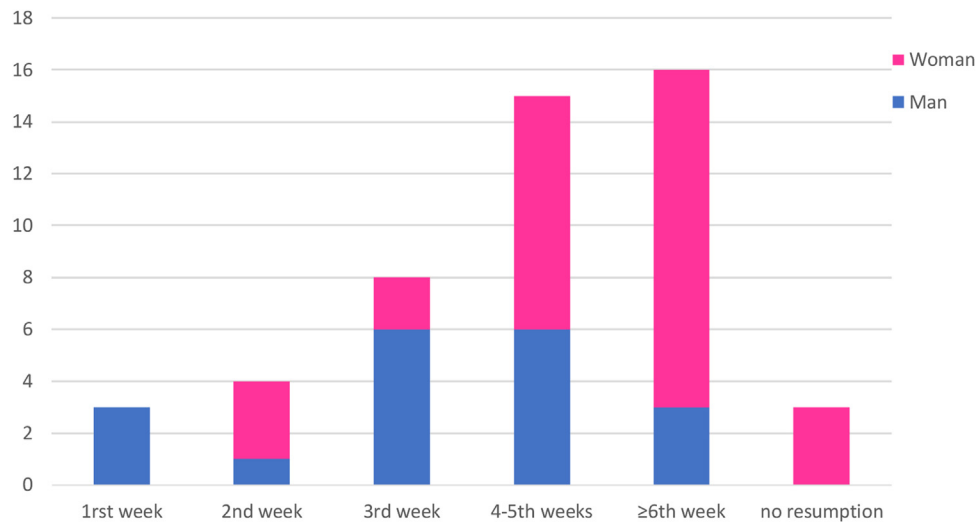


Fig. 3. Time to sexual activity resumption in the males (blue) and females (pink).

surgeons at our centre brought up the issue of sexual activity at only 4% of the patient visits. These findings are consistent with those by Dahm et al. [18], who reported that 89% of patients wanted more detailed information on this issue and that only 20% of surgeons habitually discussed sexual activity before the THA, but only during less than 5 minutes in 96% of cases. This intimate issue is rarely brought up by the patient if not invited to do so by the surgeon [18]. Meyer et al. [3] demonstrated that most females who had had THA compensated for this lack of information by using other sources such as Internet forums or brochures, as they were reluctant to raise such a private issue. This lack of information delayed sexual activity resumption by more than 4 months [3]. The paucity of both oral and written information is found across studies. In a study by Wall et al. [4], only 39% of 83 surgeons provided written information about sexual activity resumption after THA. However, patient information is mandated by law in France (Law of March 4, 2002) and is also the foundation for a high-quality relationship between the patient and the physician [19,20]. We agree with Laffosse et al. [2] that, at the least, an information brochure should be offered routinely to patients, irrespective of their age, to provide information about the time to and modalities of sexual activity resumption and about the high-risk sexual postures.

Our study has several limitations. First, many of the patients were not sexually active before the THA. The goal of the initial methodology was to evaluate the practices of surgeons and patients irrespective of age or sex. In contrast, many other studies focussed on younger patients. This unrestricted patient inclusion policy allowed us to show that patients who were not sexually active before the THA did not resume sexual activity within 6 months after the procedure. Nevertheless, some of these patients would have welcomed information on this issue, suggesting possible resumption of sexual activity later on, after the end of our short follow-up. Finally, because the questionnaires were anonymised, we were not able to collect data on the surgical approach or on the postoperative functional recovery score.

6. Conclusion

In conclusion, 71.4% of patients who had had THA resumed their prior sexual activity at a similar frequency within the first 6 months after the procedure. The mean time to resumption was 3 weeks in males and 6 weeks in females. Age was not associated with the time to resumption of sexual activity among the patients who were sexually active before the THA. The main reported difficulty with

resuming sexual activity was fear of hip dislocation, which was related in part to insufficient preoperative information. We therefore advocate that a brochure explaining the modalities of sexual activity resumption be routinely offered to patients before THA.

Disclosure of interest

C. Mazel is a scientific consultant for Clariance, Medtronic and Zimmer-Biomet, an activity that is unrelated to this study.

D. Ollat is a scientific consultant for Amplitude and Bard, an activity that is unrelated to this study.

The other authors declare that they have no competing interest.

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Authors' contributions

G. Rougereau analysed the data and wrote the article.

C. Rabot collected and analysed the data.

E. de Thomasson, I. Tourabaly and D. Ollat included patients and revised the article for important intellectual content.

C. Mazel revised the article for important intellectual content.

T. Langlais analysed the data and revised the article for important intellectual content.

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