

## ORIGINAL RESEARCH

# Satisfaction of Patients after Urethral Reconstruction

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Received: December 2020; Accepted: January 2021; Published online: January 2021

**Abstract:** **Introduction:** Urethroplasty is one of the most common and important reconstructive procedures in the field of urology. In order to improve patient's condition, medical man needs to be acquainted with this technique. We aimed to evaluate quality of life and satisfaction of patients with Urethroplasty in the reconstructive urology department of Shohada-e-Tajrish Hospital, during 1995-2016. **Materials and Methods:** This study was a retrospective cohort. Sampling was done by census method. The patients' demographic information, cause and duration of urethral stricture, type and frequency of procedures, daily fluid intake, urinary obstruction symptoms, the quality of marital relations, and the quality of life of patients before and after the surgery, were evaluated. **Results:** The mean age of the patients was 36.6 years. 46.4% of the patients had moderate and more than moderate marital satisfaction after surgery, while this preoperative satisfaction was 48.2% ( $P>0.05$ ). Patients' quality of work life and job satisfaction was significantly higher than before surgery ( $P=0.05$ ). In 90.3% of the patients, urination status had no or little negative impact on their daily life after surgery. Also, 86.9% of the patients did not have weak urinary flow during follow-up. 88% of the patients were satisfied with the outcome of their surgery. Patients' satisfaction with their physical health after surgery was 82.1%. **Conclusion:** In general, it is inferred that Urethroplasty is associated with a high success rate and patient satisfaction, and also improves their quality of life.

**Keywords:** Quality of life; Satisfaction; Success; Urethroplasty

Cite this article as: Torabi Niaki S A, Aliakbari F, Sharifian R, Hosseini M A, Hosseini J. Satisfaction of Patients after Urethral Reconstruction. Mens Health J. 2021; 5(1): e7.

## 1. Introduction

Urethroplasty is a common urological procedure that can be performed on individuals from a wide range of age groups, from children to the elderly. The main etiology of urethral stricture is trauma (accident and falling from a height etc.) leading to the injury of urethra (1). The main type of Urethroplasty is anastomotic Urethroplasty. This surgery is successful in more than 90% of cases (2). In some patients, surgery may need to be performed in several stages (3). Postoperative complications are the most important items that lead to treatment failure as well as patient dissatisfaction (4). In

general, however, successful surgery leads to a significant improvement in the quality of life of the patients.

Out of urethroplasty complications, which occurs close to a quarter of patients, fistula, infection, necrosis, scarring and stenosis of the urethra are the most resolvable complications (5, 6). Difficulties of surgery in the postoperative phase of Urethroplasty can manifest in various ways such as changes in urine flow as well as sexual function, leading to reduced satisfaction and/or need for reoperation (7). The reconstructive urology department of Shohada-e-Tajrish Hospital is the main center in the country to refer patients for complex Urethroplasty or operations that have been failed. In our study, we evaluated the success rate of such surgeries, and their impact on the quality of life and satisfaction of patients admitted to the reconstructive urology department during 1995-2016.

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## 2. Materials and Methods

This study was a retrospective cohort. Complicated patients, from all across the country, who referred to our reconstructive urology department of Shohada-e-Tajrish Hospital in Tehran, were enrolled. Patients were selected from available files in our center. The sample size of the study was 328 participants. Sampling was conducted by census method and through a general review of files from 1995 to 2016. We included patients who underwent Urethroplasty, could be followed up easily, and were willing to participate and complete the questionnaires. The questionnaire consisted of 22 items that examined patients' demographic information, cause and duration of urethral stenosis, type and frequency of procedures, daily fluid intake, urinary obstruction symptoms, the quality of marital relations, and the quality of life of patients before and after the surgery. The questionnaire was completed with the help of patients' existing files and telephone calls if necessary.

The data were analyzed using SPSS software, version 20. Mean, standard deviation, percentage and frequency were used for continuous and discrete and nominal data. Other tests used included Pearson's correlation, ANOVA, and Chi-square, and the significance level was 0.05.

The study was also approved by the Ethics Committee of Shahid Beheshti University of Medical Sciences.

## 3. Results

The mean age of the patients was 36.6 years. 38.5%, 38.7% and 23.8% of the patients, were under diploma, diploma and academic education, respectively. The cause of urethral stenosis and history of prior Urethroplasty are presented in Table 1. The duration of involvement of patients from the time of stenosis to the time of surgery was less than 6 months in 14.9%, 6-12 months in 18.6%, and more than one year in 65.5%. (Table 1).

Obstructive symptoms of patients were recorded in Table 2 (Table 2).

10.7% of patients were completely and slightly dissatisfied with the outcome of their surgery. The main causes of dissatisfaction include erectile dysfunction (8.5%), difficult urination (8.2%), catheterization (7%), and urinary incontinence (5.8%) (Table 3). According to the patients' follow-up protocol after urethral reconstruction and catheter removal, they were visited 6 times in the first year and three times in the second year. In this study, 69.5% of patients referred to the urology clinic at least 3 times a year after surgery and catheter removal, 12.5% had two visits, 8.8% had one visit, and 7.6% had no referral to the clinic. 14.6% of patients required an intervention after operation, this intervention was required only once in 8.8% of the patients, twice in 3%, three times in 1.5%, and four times in 1.2%. Other than this, pa-

tients' satisfaction about their physical health after surgery was 82.1%. Although patients' marital life satisfactions after surgery showed a slight decrease compared to before, it was not statistically significant. 46.4% of patients had more than average satisfaction after surgery and this satisfaction was 48.1% before surgery. Patients' job satisfaction after operation was significantly higher than before ( $P=0.05$ , table 4).

## 4. Discussion

Urethroplasty is one of the most common and important procedures in the field of reconstructive urology and knowing its results can help optimize the findings. Therefore, this study was performed to evaluate the success of surgery from the perspective of patients, their quality of life, and satisfaction of Urethroplasty. In one study was observed the effect of Urethroplasty on quality of life and urinary symptoms of 183 patients over 15 years. 69% of patients in their study reported better quality of life after Urethroplasty and obstructive urinary symptoms were significantly improved in 63% of the patients ( $P<0.001$ ) (8).

In a retrospective study in 2013, Jackson and colleagues examined the urinary symptoms of 38 patients after anterior Urethroplasty. Total LUTS scores after 2 years of Urethroplasty were changed from 12 before operation to 4 after operation ( $P<0.0001$ ). In addition, 72% (33 patients) reported that their quality of life had improved, 8 patients (17%) had not changed, and 5 patients (11%) had worsened within two years of follow-up. 87% of patients were satisfied or completely satisfied with their operation (9). The above results were similar to our study. In another study, 169 patients with a history of Urethroplasty were examined and it was found that 1% of them developed erectile dysfunction. No sexual complication affecting ejaculatory function was observed (10). In our study, the most common causes of dissatisfaction in patients were erectile dysfunction, lower urinary tract symptoms, the presence of a urinary catheter, and urinary incontinence.

In a review, the most common complications seen in patients undergoing Urethroplasty included urinary problems, ejaculation disorders, erectile dysfunction, penile shortness or curvature, dissatisfaction with the appearance of the penis, and abnormalities in sensing the penis (11). Another study showed no difference between the quality of marital life of patients in the two phases before and after the surgery (8). In our study, despite the larger sample size, the quality of marital life in patients did not show a significant difference, but the job satisfaction in patients showed a significant improvement. In a prospective study in the United States, 52 patients with a history of anterior Urethroplasty were studied. They observed that 20 cases (38%) had side effects, which resolved spontaneously in 18 patients over a period of approximately

**Table 1:** Preoperative records and patient demographics.

	Variable	Frequency	Percentage
<b>Education</b>	Under diploma	123	37.05
	Diploma	127	38.7
	University degree	78	23.8
Underlying cause of duct stenosis	Infection	17	5.2
	Congenital	68	20.9
	Straddle	62	19.1
	PFUI	152	46.8
	Iatrogenic	13	4
	Other	13	4
Duration of involvement	Less than 6 months	49	14.9
	6-12 months	61	18.6
	More than 12 months	215	65.5
	Unknown	3	0.9
Frequent surgical interventions in the past	Zero	170	51.8
	Once	109	33.2
	More than once	49	15

6 months (12).

In a study in India in 2011, 78 patients underwent Urethroplasty and it was found that, depending on the type of Urethroplasty, 10 to 28% of patients had voiding and sexual dysfunction. However, in total, 96% of the cases of these disorders improved spontaneously within 6 months (13). In our study, urinary and sexual complications were observed in 32.5% of patients, which is relatively similar to the mentioned study. In a retrospective study from 2013 to 2016, Hosseini and colleague examined erectile dysfunction in patients referred to the clinic of Shohada-e- Tajrish Hospital who were candidates for posterior Urethroplasty. Patients were assessed for erectile dysfunction before trauma, before Urethroplasty and after it by completing the IIEF-5 questionnaire. In addition, Doppler ultrasound of the penis was performed before and after surgery. 65 patients with a mean age of 30.6 years were included in the study. In this study, patients' erections were significantly reduced after trauma (mean IIEF score  $23.15 \pm 0.93$  to  $13.45 \pm 5.43$ ,  $P=0.001$ ) In addition, erectile dysfunction was more severe in patients with pelvic fractures ( $10.43 \pm 3.78$  vs.  $18.96 \pm 3.18$ ,  $P=0.001$ ). According to Doppler ultrasound of the penis and IIEF-5 questionnaire, Urethroplasty did not have a significant effect on patients' erectile function ( $P=0.26$ ). Finally, the authors concluded that complex urethral injuries are associated with more erectile dysfunction in patients and on the other hand, Urethroplasty does not cause erectile dysfunction (14). A study in China on 172 patients undergoing Urethroplasty showed dysfunction in marital life in 32.6% of patients in the preoperative phase which improved significantly in the postoperative phase (15). In a review, Urethroplasty had little effect on sexual dysfunction (16). In the present study, the quality of sexual life of patients after surgery did not change

much compared to before surgery.

## 5. Conclusion

Overall, based on the results obtained in this cohort study, it is inferred that Urethroplasty is associated with a high success rate and satisfaction in patients and also improves their quality of life. However, it is suggested that more studies be done in other medical centers in the country for comparison, to achieve more definite results and the necessary management planning for improving surgery outcomes. We did not assess long-term results, but it can be a suitable subject for a future longitudinal research.

## 6. Appendix

### 6.1. Acknowledgements

None.

### 6.2. Author contribution

All the authors have the same contribution.

### 6.3. Funding/Support

None

### 6.4. Conflict of interest

The authors declare that there is no conflict of interests regarding the publication of this paper.

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**Table 2:** Urinary symptoms of patients after duct repair surgery.

	Variable	Frequency	Percentage
Delay urination	Never	251	76.5
	Sometimes	25	7.6
	Occasionally	6	1.8
	Often	8	2.4
	Always	20	6.1
	unknown	18	5.5
Force of urine output	Normal	244	74.4
	Sometimes decreased	25	7.6
	Occasionally decreased	20	3
	Often decreased	15	4.6
	Always decreased	16	4.9
	unknown	15	5.5
Intermittency	Never	252	76.8
	Sometimes	24	7.3
	Occasionally	25	7.6
	Often	14	4.3
	Always	35	10.7
	unknown	19	5.8
Incomplete emptying	Never	187	57
	Sometimes	49	14.9
	Occasionally	25	7.6
	Often	14	4.3
	Always	35	10.7
	unknown	18	5.5
Post void dribbling	Never	207	63.1
	Sometimes	47	14.3
	Occasionally	29	8.8
	Often	11	3.4
	Always	15	4.6
	unknown	19	5.8
Negative effect of urination on daily life	never	239	72.9
	Little	57	17.4
	Somewhat	16	4.9
	So much	9	2.7
	unknown	7	2.1
Urine stream capacity (during last month)	Optimal	250	76.2
	Optimal to medium	18	5.5
	Medium to weak	17	5.2
	weak	23	7
	unknown	20	6.1

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**Table 3:** Patients 'satisfaction with surgery and reasons for patients' dissatisfaction.

	Variable	Frequency	Percentage
Satisfaction of operation outcomes	Completely satisfied	218	66.5
	Satisfied	71	21.6
	Dissatisfied	15	4.6
	Completely dissatisfied	20	6.1
	unknown	40	1.2
Etiology of dissatisfaction	Erectile dysfunction	28	8.5
	Difficult urination	27	8.2
	Indwelling urinary catheterization	23	7
	Urinary incontinence	19	5.8
	Other	10	3

**Table 4:** Job and sexual satisfaction of patients, before and after surgery.

	Variable		Frequency	Percentage
Sex satisfaction	Before op	high	129	39.3
		Moderate to high	15	4.5
		Moderate	14	4.3
		Mild to moderate	9	2.7
		Mild	112	34.1
	After op	unknown	49	14.9
		high	115	35.1
		Moderate to high	21	6.4
		Moderate	16	4.9
		Mild to moderate	9	2.7
Job satisfaction	Before op	Mild	125	38.1
		unknown	42	12.7
		high	190	57.9
		Moderate to high	17	5.2
		Moderate	27	8.2
	After op	Mild to moderate	4	1.2
		Mild	48	14.6
		unknown	42	12.8
		high	128	39
		Moderate to high	21	6.4
	Moderate	22	6.7	
	Mild to moderate	12	3.7	
	Mild	96	29.3	
	unknown	49	14.9	

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