

# Prevalence and Predictors of Climacturia and Associated Patient/Partner Bother in Patients with History of Definitive Therapy for Prostate Cancer

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## INTRODUCTION

- Climacturia is the involuntary loss of urine with orgasm.
- Climacturia is an under-reported complication of definitive therapy for prostate cancer (PCa) in the form of radical prostatectomy (RP) and/or radiation therapy (RT).**
- We performed a single institution retrospective study of all patients who presented to our Men's Health clinic over a three-and-a-half period.
- We sought to identify the **prevalence and predictors of climacturia and associated patient/partner bother in patients with and without prior PCa treatment.**

## METHODS

- All patients who presented to our Men's Health Clinic between February 2014 – November 2017 completed an 89-item intake questionnaire on sexual dysfunction and comorbidities.
- Presence of climacturia was assessed by the question: **“Do you ever accidentally urinate during orgasm/climax?”**
- Patient/partner bother was assessed by the question, **“Is the leakage bothersome to you or your partner?”**
- For patients with prior RP and/or RT for PCa, electronic medical records (EMR) were reviewed to extract other pertinent clinical parameters (e.g. stress urinary incontinence [SUI], erectile dysfunction [ED], presence of diabetes mellitus [DM], history of neurologic or spinal disease).
- Statistical analyses were performed using JMP Pro 14.1.0 software (SAS Institute, Cary, NC).
- Chi-square and Fisher's exact tests were used for categorical variables.
- T-test and Wilcoxon rank-sum test were performed to identify and assess risk factors associated with climacturia and bothersome climacturia in different patient groups.
- 2-tailed p value <0.05 was considered significant.

**Table 1. Prevalence of climacturia in patients with history of radical RP and/or RT for prostate cancer (PCa).**

Prior PCa treatment, n (%)	192 (100)
RP alone, n (%)	139 (72)
Climacturia, n (%)	54 (39)
No climacturia, n (%)	77 (55)
Unknown, n (%)	8 (6)
RT alone, n (%)	22 (11)
Climacturia, n (%)	3 (14)
No climacturia, n (%)	18 (82)
Unknown, n (%)	1 (4.5)
RP + RT, n (%)	31 (16)
Climacturia, n (%)	16 (52)
No climacturia, n (%)	10 (32)
Unknown, n (%)	5 (16)

**Table 2. Univariable (top) and multivariable (bottom) analyses for predictors of the presence of climacturia in all patients. \*** indicates statistical significance.

Univariable analysis				
Variable	OR	95% CI	P value	N
Prior RP	28.0	16.9 – 46.5	<0.0001*	1,053
Prior RT	8.3	4.4 – 15.6	<0.0001*	1,053
ED	4.1	1.8 – 9.5	<0.0001*	1,024
Other prostate surgery	3.4	1.4 – 8.1	0.014*	1,053
Other pelvic surgery	1.4	0.6 – 3.2	0.4	1,053
Current smoker	1.0	0.5 – 2.0	0.9	973

Multivariable analysis (N = 1,024)			
Variable	OR	95% CI	P value
Prior RP	28.8	16.2 – 51.4	<0.0001*
Other prostate surgery	11.0	4.0 – 30.6	<0.0001*
Prior RT	2.7	1.3 – 5.9	0.011*
ED	1.6	0.6 – 4.0	0.3

**Table 3. Univariable (top) and multivariable (bottom) analyses for predictors of the presence of climacturia in patients with history of radical prostatectomy (RP) and/or radiation therapy (RT) for prostate cancer (PCa). \*** indicates statistical significance.

Univariable analysis				
Variable	OR	95% CI	P value	N
SUI	2.9	1.3 – 7.1	0.01*	176
Other neurologic disease	2.3	0.4 – 18.0	0.36	181
Other pelvic surgery	1.7	0.9 – 3.1	0.12	181
ED	1.3	0.1 – 28.9	0.8	181
BMI	1.2	0.6 – 2.4	0.7	146
Age	1.0	1.0 – 1.0	0.4	181
Spinal disease or treatment	0.9	0.2 – 3.0	0.8	181
Current smoker	0.6	0.1 – 2.4	0.5	179
DM	0.3	0.04 – 1.0	0.047*	181
Other prostate surgery	0.0	0.0 – 1.3	0.08	181

Multivariable analysis (N = 176)			
Variable	OR	95% CI	P value
SUI	2.9	1.2 – 7.1	0.015*
DM	0.15	0.01 – 0.8	0.02*

**Table 4. Univariable analysis for predictors of patient/partner bother in patients with both 1) history of radical prostatectomy (RP) and/or radiation therapy (RT) for prostate cancer (PCa), and 2) presence of climacturia. \*** indicates statistical significance. N/A = non-applicable due to insufficient numbers in the variables.

Variable	OR	95% CI	P value	N
Current smoker	3.4	0.3 – 75.8	0.3	68
Other neurologic disease	3.3	0.3 – 72.7	0.3	69
Age	1.0	1.0 – 1.1	0.8	69
Other pelvic surgery	0.9	0.3 – 2.3	0.8	69
BMI	0.9	0.3 – 2.9	0.84	51
SUI	0.7	0.2 – 2.3	0.6	66
Spinal disease or treatment	0.5	0.02 – 4.2	0.54	69
DM	0.0	0.0 – 2.5	0.15	69
ED	N/A	N/A	N/A	69
Other prostate surgery	N/A	N/A	N/A	69

## RESULTS

- Among 1,117 patients able to achieve orgasm, 192 patients (17%) had prior history of definitive therapy for PCa (RP alone = 139 [72%]; RT alone = 22 [11%]; RP + RT = 31 [16%]).
- Climacturia was reported by 39%, 14%, 52%, and 2.4% of patients with history of RP alone, RT alone, RP + RT, and neither RP nor RT, respectively (p <0.05 between all groups).**
- 33 to 45% of patients with climacturia noted significant patient/partner bother.**
- Factors significantly associated with climacturia were **prior RP, prior RT, history of other prostate surgery, and ED**, although ED was not significant on multivariable analysis.
- Significant reduction in climacturia prevalence was noted for patients who were ≥1 year out from RP, compared with patients who were <1 year out (31.5% vs. 56.5%, p = 0.02).
- Among patients with prior RP/RT, SUI was associated with increased risk of climacturia, whereas DM was associated with decreased risk. No factors were associated with patient/partner bother.
- Among patients with prior RP, nerve-sparing technique did not predict presence of climacturia but was associated with **reduced patient/partner bother (OR 0.06, 95% CI 0.01 – 0.55, p = 0.0015).**

## CONCLUSIONS

- Climacturia affects a significant proportion of patients with history of RP/RT for PCa, and many patients and their partners find this bothersome.
- Patients should be counseled on the risk of climacturia before undergoing RP/RT.**