



Penile Length Shortening Following Robot-Assisted Radical Prostatectomy: Impacts on Erections, Orgasms and Quality of Life

Farouk M. El-Khatib MD, Linda M. Huynh MSc, Edward Choi BS, Mohamad M. Osman BS, Faysal A. Yafi MD, Thomas E. Ahlering MD
UC Irvine Health; University of California – Irvine, Orange, CA USA

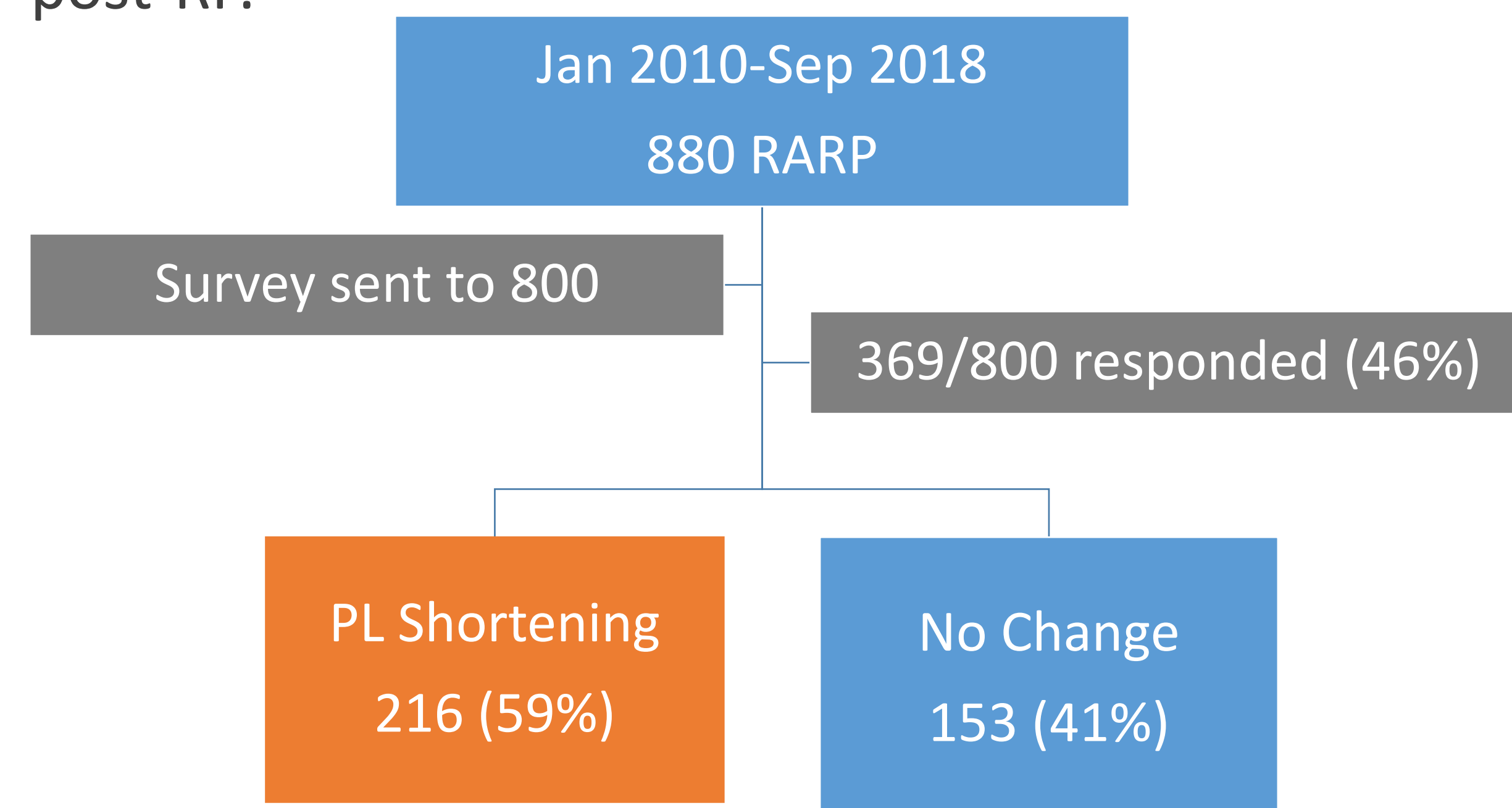


1. Introduction & Objectives

- Penile length shortening (PLS) is an underreported phenomenon following radical prostatectomy (RP). A recent survey via the Endourologic Society revealed that 45% of patients report PLS that falls between 25-100%.
- The present study seeks to identify risk factors of post-RP PLS and to explore its effects on erectile function and sexual bother.

2. Materials & Methods

From January 2010 through September 2018, 880 consecutive patients underwent RARP with a single surgeon. Of these, 800 patients had valid email addresses, and were sent an electronic survey assessing penile length shortening at least 1 year post-RP.



Penile length shortening was assessed as following:

- Do you feel that you have a shorter penis after radical prostatectomy?
- If you were to spend the rest of your life with orgasms the way they are now, how would you feel? (1: delighted to 7: terrible).

Answers were treated as a dichotomous variable and correlated with patient demographics using Student T-tests and the Fisher exact test.

3a. Results, Patient Demographics

Table 1. Clinical and oncological demographics, stratified by patient report of penile length shortening.

| | No PLS 153 (41%) | | Yes PLS 216 (59%) | | p |
|--------------------------|---------------------|-------|----------------------|-------|--------|
| | Mean | SD | Mean | SD | |
| Age (years) | 62.2 | 7.7 | 62.5 | 7 | 0.730 |
| Preoperative PSA | 7.9 | 8.3 | 7.9 | 6.9 | 0.998 |
| Preoperative AUA | 8.7 | 6.9 | 8.3 | 7.2 | 0.644 |
| Bother | 1.6 | 1.3 | 1.6 | 1.4 | 0.810 |
| Preoperative IIEF-5 | 20.3 | 6.1 | 19.4 | 6.7 | 0.185 |
| Body Mass Index | 26.2 | 3.1 | 27.6 | 3.8 | <0.001 |
| Prostate weight (g) | 50.9 | 16.7 | 56.2 | 24.6 | 0.017 |
| Preop Total Testosterone | 379.5 | 171.4 | 367.2 | 186.2 | 0.540 |
| Preop SHBG | 47 | 21 | 45.1 | 21 | 0.435 |
| Preop Free Testosterone | 6.3 | 3.6 | 6.3 | 4.4 | 0.955 |
| | N | % | N | % | p |
| Nerve-sparing | 136 | 89.5% | 18 | 8.3% | 0.136 |
| Gleason Grade Group | | | | | 0.120 |
| GGG1 | 35 | 23.0% | 37 | 17.1% | |
| GGG2 | 53 | 34.9% | 69 | 31.9% | |
| GGG3 | 37 | 24.3% | 52 | 24.1% | |
| GGG4 | 11 | 7.2% | 11 | 5.1% | |
| GGG5 | 6 | 3.9% | 23 | 10.6% | |
| Pathologic Stage | | | | | 0.003 |
| pT2 | 111 | 73.0% | 123 | 56.9% | |
| pT3/pT4 | 32 | 21.1% | 73 | 33.8% | |

Men with PLS had significantly lower 3M IIEF-5 (8.9 v. 9.3, $p=0.012$), but 9, 15, and 24M IIEF-5 was not significantly different.

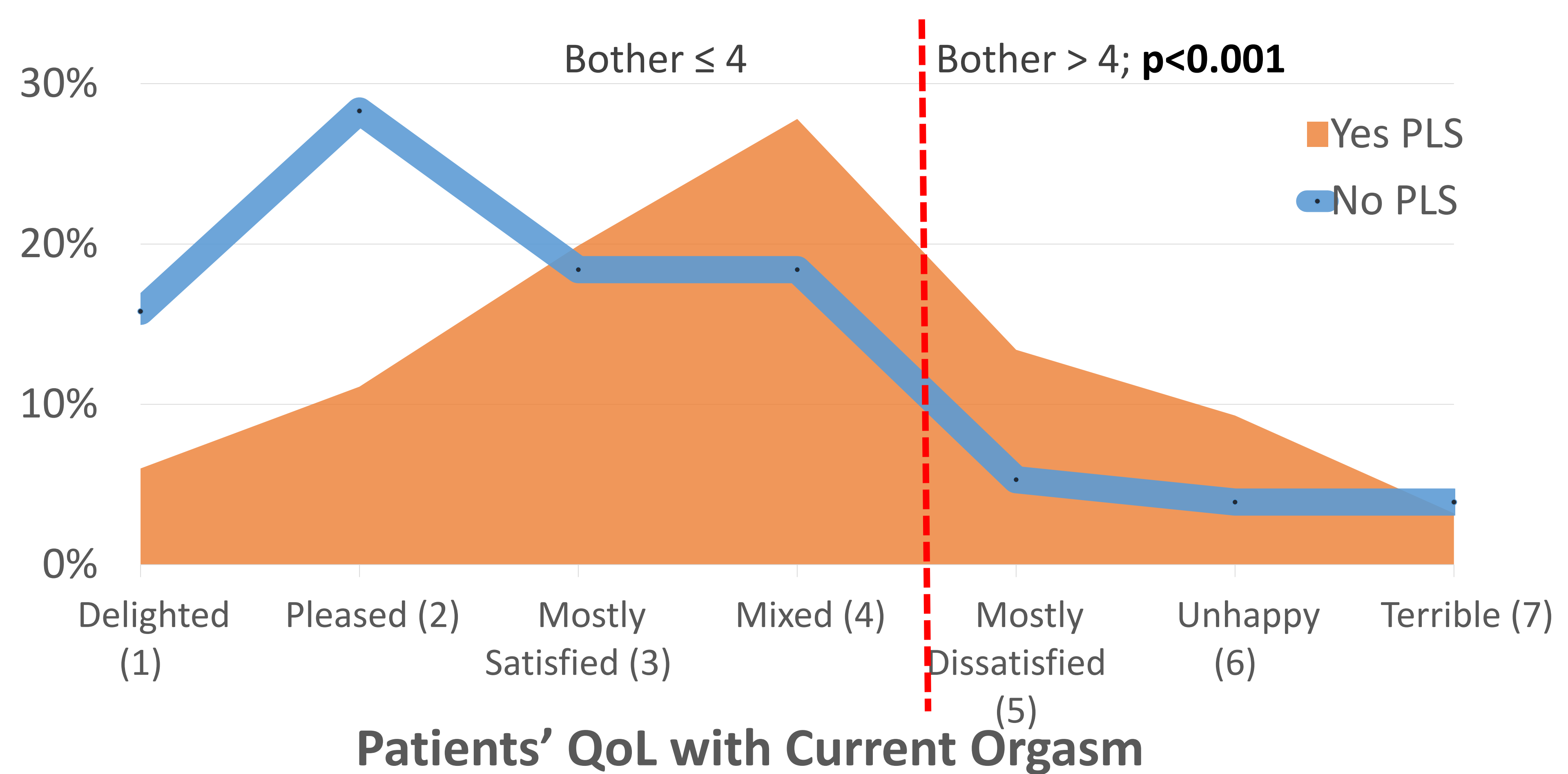
3b. Results

Table 2. Multivariable analysis of factors contributing to penile shortening. BMI, prostate weight, and pT3/T4 disease were predictors of penile shortening.

| | B | S.E. | Wald | Sig. | OR | 95% CI | |
|-----------------------------------|--------|-------|-------|-------|-------|--------|-------|
| | | | | | | Lower | Upper |
| Age, cont. | -0.016 | 0.017 | 0.851 | 0.356 | 0.984 | 0.952 | 1.018 |
| Body mass index, cont. | 0.1 | 0.035 | 8.179 | 0.004 | 1.105 | 1.032 | 1.184 |
| Prostate weight, cont. | 0.015 | 0.006 | 5.769 | 0.016 | 1.015 | 1.003 | 1.028 |
| P-stage (pT2 [ref] v. pT3/T4) | 0.818 | 0.284 | 8.283 | 0.004 | 2.265 | 1.298 | 3.953 |
| Nerve-sparing (None [ref] v. any) | -0.137 | 0.509 | 0.073 | 0.787 | 0.872 | 0.321 | 2.363 |
| Constant | -2.322 | 1.562 | 2.21 | 0.137 | 0.098 | | |

Figure 1. QoL with orgasm stratified by penile shortening

- Men with PLS were significantly more like to report dissatisfaction in quality of orgasm (bother>4, 25.9% vs. 13.2%, $p<0.001$).
- This was also observed asking partners (bother>4, 24.1% vs 13.8%, $p=0.001$).



4. Conclusion

- The majority of patients experience PLS following RP – a phenomenon which significantly correlates with sexual function recovery, orgasm, and quality of life for both the patient and their partner.
- Preoperative counseling and further efforts to identify risk factors of PLS are thus highly encouraged, as our survey showed that 66% and 46% of prostatectomists believe that PLS is under-addressed and can be a problem, respectively.