Patient-Reported Outcomes Via Online Questionnaires: Post-Radical Prostatectomy Quality Improvement and Outcome Assessment

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1. Introduction

- Securing a reliable source for tracking patient-reported outcomes accurately, in a timely manner, and with efficiency is essential for counseling post-radical prostatectomy (RP) patients.
- In 2011, we identified a simple means to predict time to post-RP continence recovery via pad-free cards (PFC) and daily urinary pad logs (DUPL).
- In 2017, we presented an automated, HIPAA-compliant system using an electronic questionnaires to assess early urinary continence rates.
- We now seek to validate the accuracy, efficiency, and ease of use for this electronic system in tracking post-RP continence recovery.

2. Materials and Methods

510 patients undergoing robot-assisted RP (RARP) were prospectively enrolled to one of three outcomes tracking systems:

1) a pre-addressed paper packet containing a DUPL and PFC
2) an automated, email questionnaire (as seen on right), or
3) both.

An email survey was sent 30 days following catheter removal and reminders were automatically sent if no response was received within two days, up to 3 reminders. Pad-free dates of patients in group (3) were analyzed to ensure concordance between paper- and electronic questionnaires.

Two-tailed, Student t-tests and ANOVA were used to compare demographic characteristics, response rates, and continence rates.

Table 1. Patient Demographics

Table 1: Patient Demographics stratified by Paper- vs. Electronic-Questionnaire Cohorts

	Paper Questionnaire		Electronic Questionnaire		p-value
	N=254		N = 164		
	Mean	SD	Mean	SD	
Age (years)	63.5	7.3	63.4	7.9	0.8620
Preop IIEF-5	19.3	6.8	18.8	7.6	0.4226
Preop PSA (ng/mL)	10.2	12.2	9.2	17.3	0.4992
AUA score	9.9	7.4	9.4	7.5	0.4869
Bother	2.0	1.5	1.8	1.5	0.1434
Prostate Weight (g)	57.2	24.5	54.5	25.3	0.2637
Est. Blood Loss (mL)	88.0	41.8	88.9	38.8	0.8193
Body Mass Index (kg/m^2)	27.0	3.9	27.1	3.6	0.7890
	N	%	N	%	p-value
Pathological Stage					
pT2	150	59.3	96	58.5	0.9012
pT3/pT4	103	40.7	68	41.5	0.9173
Pathological Gleason					
1	54	21.3	33	20.2	
2	78	30.8	63	38.7	
3	59	23.3	38	23.3	
4	18	7.1	13	8.0	
5	44	17.4	16	9.8	
Seminal Vesical Invasion					
Yes	35	13.8	21.0	13.0	0.0546
No	219	86.2	141	87.0	0.8160
Surgical Margin					
Positive	58	22.8	41.0	25.2	0.5745
Negative	196	77.1	122	74.8	0.5909

3. Results

- Demographic characteristics, stratified by each tracking system are presented in Table 1.
- 30-day continence results are presented in Table 2a.
- 1-year continence results are presented in Table 2b.
- In group (3), dates of pad-free continence recovery (Figure 1) were concordant in 89.6% (43/48) of patient's ± 5 days (R^2=0.9893).

Table 2a. 30-Day Response Rates and Pad-Free Rates

Table 2a: Paper- vs. Electronic-Questionnaire. Response rates and pad-free rates at 30 day follow-up.

	Paper Questionnaire at 30-days	Electronic Questionnaire at 30-days	p-value
Response Rate	(210/253) **83.0%**	(151/164) **92.1%**	**0.0078**
Pad-free Rate	(137/210) **65.2%**	(102/151) **67.5%**	0.6491

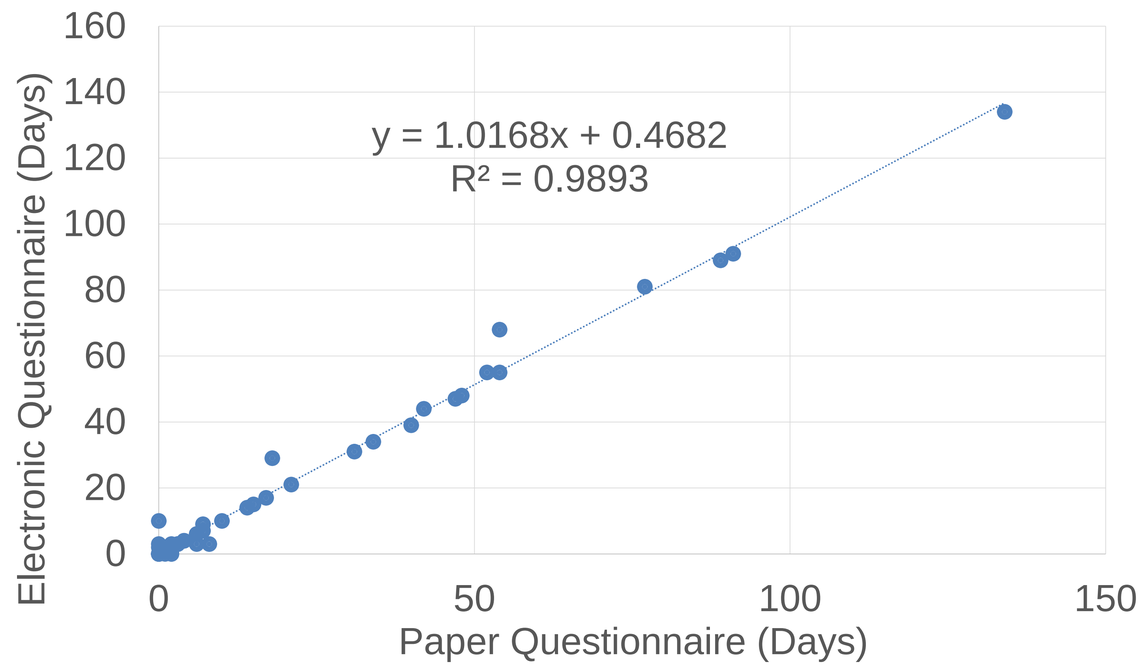
Table 2b. 1-Year Response Rates and Pad-Free Rates

Table 2a: Paper- vs. Electronic-Questionnaire. Response rates and pad-free rates at 1 year follow-up.

	Paper Questionnaire at 1-year	Electronic Questionnaire at 1-year	p-value
Response Rate	(184/210) **87.6%**	(146/151) **96.7%**	**0.0024**
Pad-free Rate	(233/249) **93.6%**	(150/157) **95.5%**	0.4205

Figure 1. Dates of Pad-free Continence Recovery

Figure 1: Concordance of electronic vs paper questionnaires in assessing time-to continence recovery post-RARP.



4. Conclusion

- Assessment of continence post-RARP with an electronic system yielded significant increase in response rates compared to paper systems.
- Ease of use and unbiased assessment of time-to-continence, electronic questionnaires via REDCap appears to be an accurate and timely method to assess post-RARP recovery.
- The electronic questionnaires system yield a significant increase in response rates at 30-days and 1-year, and it also proved to be an effective and reliable method in determining pad-free continence.

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