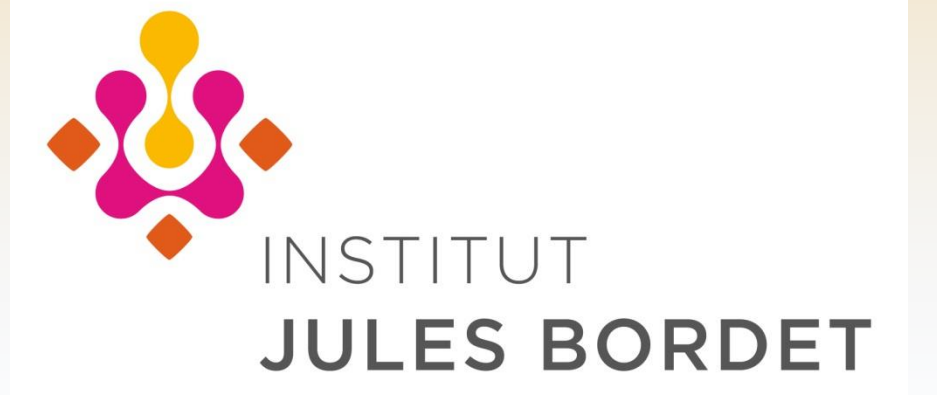


# Validated prospective assessment of Quality of Life after Robotic Assisted Laparoscopic Prostatectomy: beyond continence and erections

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## Introduction

- Continenence and erectile function represent major concerns after robotic assisted laparoscopic prostatectomy (RALP), although the analysis of only these results may **underestimate** the impact of surgery on Quality of Life (QoL).
- Aim of the study** is to prospectively analyze QoL after RALP and explore risk factors for deterioration of QoL after surgery.

## Methods

- 584 patients** undergoing RALP were prospectively enrolled.
- QoL was assessed with **EORTC-QLQ-PR25**<sup>(1)</sup> and **C30**<sup>(2)</sup> questionnaires.
- Functional outcomes were assessed with the IIEF-5 and ICIQ-SF.
- Differences across QoL items were assessed via Wilcoxon rank sum tests. Associations between risk factors and QoL scores were tested via uni- and multivariate linear regression analysis.
- 60% of the patients underwent bilateral nerve sparing RALP, 18% had unilateral nerve sparing and 22% did not receive a nerve sparing procedure.

**Table 1.** Uni and multivariate analysis exploring association between risk factors and QoL at **3 months post-operatively**

	Univariate			Multivariate		
	Coeff	95%CI	p	Coeff	95%CI	p
<b>Urinary symptoms</b>						
Age	0.07	-0.14-0.29	0.48	0.002	-0.21-0.22	0.99
Pre-op urinary symptoms	0.35	0.26-0.44	<0.001	0.35	0.26-0.44	<0.001
Preop ICIQ	0.17	-0.88-0.42	0.20	-0.04	-0.29-0.21	0.73
*Non-Specimen confined	1.37	-1.8-4.6	0.40	0.54	-2.58-3.66	0.73
Nerve Sparing Unilateral	-2.49	-7.2-2.25	0.30	-1.13	-5.69-3.42	0.62
Nerve sparing Bilateral	-2.59	-6.3-1.14	0.17	-0.91	-4.61-2.80	0.63
<b>Incontinence aid</b>						
Age	0.27	-0.11-0.65	0.16	0.39	-0.06-0.84	0.09
Pre-op incontinence aid	-0.029	-0.28-0.23	0.82	-0.10	-0.37-0.17	0.46
Preop ICIQ	0.36	-0.14-0.86	0.16	0.63	-0.26-1.53	0.16
*Non-Specimen confined	-2.6	-8.1-2.97	0.36	-1.64	-8.04-4.76	0.62
Nerve Sparing Unilateral	-1.32	-9.36-6.72	0.75	-0.49	-9.46-8.47	0.91
Nerve sparing Bilateral	-1.12	-7.47-5.22	0.73	-0.57	-7.98-6.84	0.88
<b>Bowel symptoms</b>						
Age	-0.004	-0.12-0.11	0.94	-0.01	-0.12-0.10	0.84
Pre-op Bowel	0.19	0.10-0.28	<0.001	0.19	0.10-0.28	<0.001
*Non-specimen confined	1.88	0.28-3.49	0.02	1.75	0.16-3.34	0.03
<b>Treatment related symptoms</b>						
Age	-0.04	-0.18-0.10	0.54	-0.07	-0.19-0.05	0.26
Pre-op Treatment related	0.40	0.32-0.47	<0.001	0.38	0.30-0.45	<0.001
*Non-Specimen confined	3.27	1.28-5.25	<0.001	1.96	0.11-3.81	0.038
Early hormone therapy	13.03	5.49-20.56	<0.001	7.9	0.85-14.9	0.028
<b>Sexual Activity</b>						
Age	-0.39	-0.75-0.02	0.04	0.01	-0.36-0.39	0.96
Pre-op Sexual activity	0.32	0.24-0.41	<0.001	0.29	0.19-0.39	<0.001
Pre op IIEF-5	0.51	0.26-0.76	<0.001	0.08	-0.20-0.37	0.57
*Non-Specimen confined	-5.54	-10.9-0.17	0.04	-2.4	-7.7-2.9	0.37
Nerve Sparing Unilateral	3.26	-4.7-11.19	0.42	-1.7	-9.5-6.1	0.67
Nerve sparing Bilateral	8.75	2.50-15.00	0.006	1.9	-4.5-8.3	0.56
Early Hormone therapy	-29.8	-50.2-9.43	0.004	-22.97	-42.6-2.5	0.03
<b>Sexual functioning</b>						
Age	-1.22	-1.56-0.87	<0.001	-1.04	-1.44-0.65	<0.001
Pre-op Sexual functioning	0.17	0.08-0.27	<0.001	0.06	-0.05-0.17	0.32
Pre op IIEF-5	0.77	0.48-1.04	<0.001	0.25	-0.14-0.66	0.21
*Non-Specimen confined	-0.45	-9.92-0.83	0.09	-3.6	-9.17-2.05	0.21
Nerve Sparing Unilateral	6.08	-1.86-14.01	0.13	4.4	-3.80-12.6	0.29
Nerve sparing Bilateral	9.38	3.03-15.7	0.004	3.6	-3.2-10.5	0.30
Early Hormone therapy	-20.3	-46.02-5.47	0.12	-13.05	-38.2-12.1	0.31

\*Non-specimen-confined disease  
≥pT3b or pN1 or R1

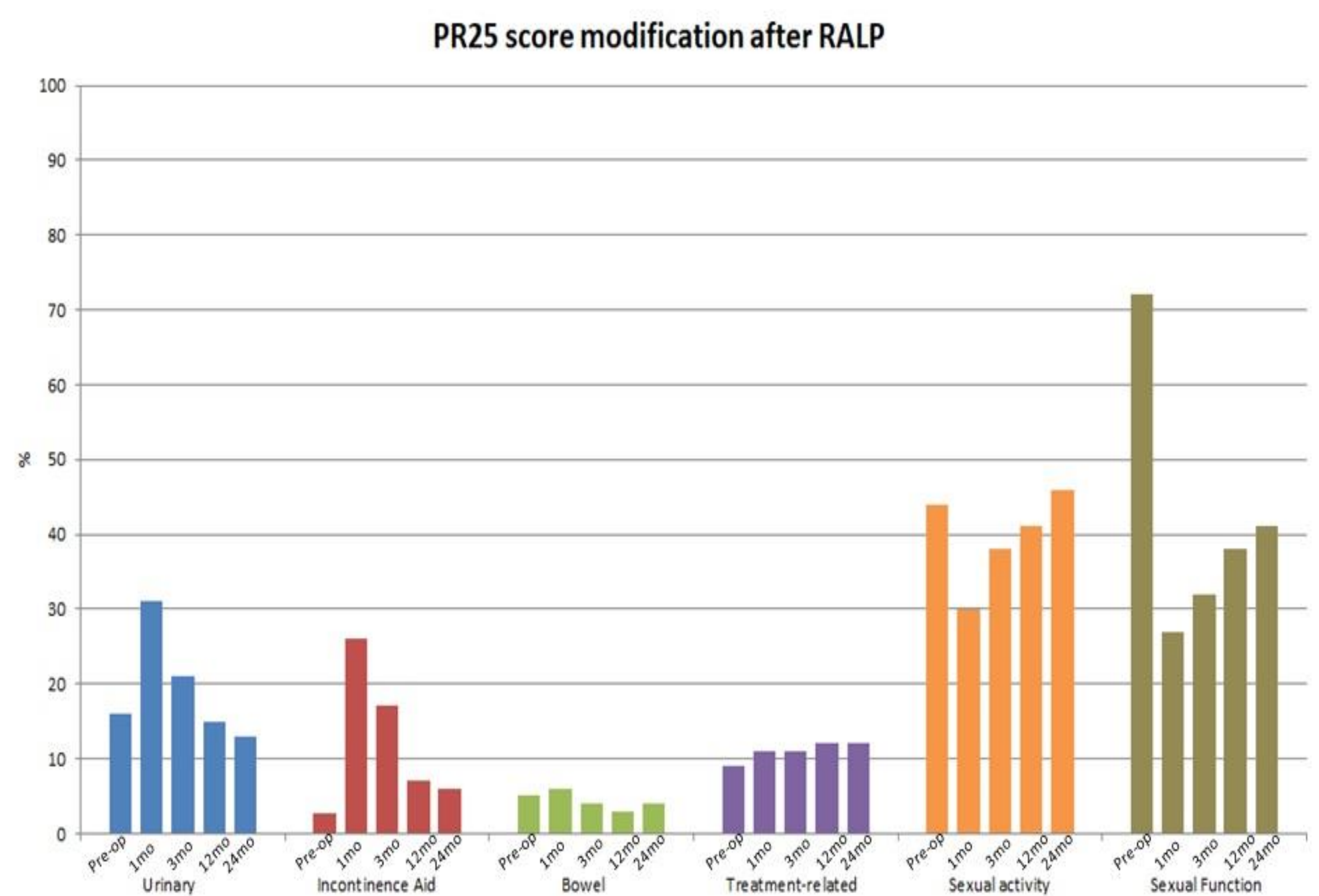
## Results

- All items on PR25 questionnaire showed a **significant deterioration at 1 month** after RALP with **start of normalization at 3 months** after surgery
- At 24 months** follow-up, urinary, bowel and sexual activity scores were not significantly different from pre-operative scores, while incontinence aid, treatment-related symptoms and sexual functioning remained significantly worse.
- Preoperative sexual activity** was more important in determining 3 month sexual outcomes than preoperative IIEF-5 or nerve-sparing approach.
- An **overall return** to pre-operative QoL was registered at **3 months** after RALP in global and physical QoL,
- Global, physical, social and role-functioning QoL scores **were improved** 12 and 24months compared to preoperative scores.

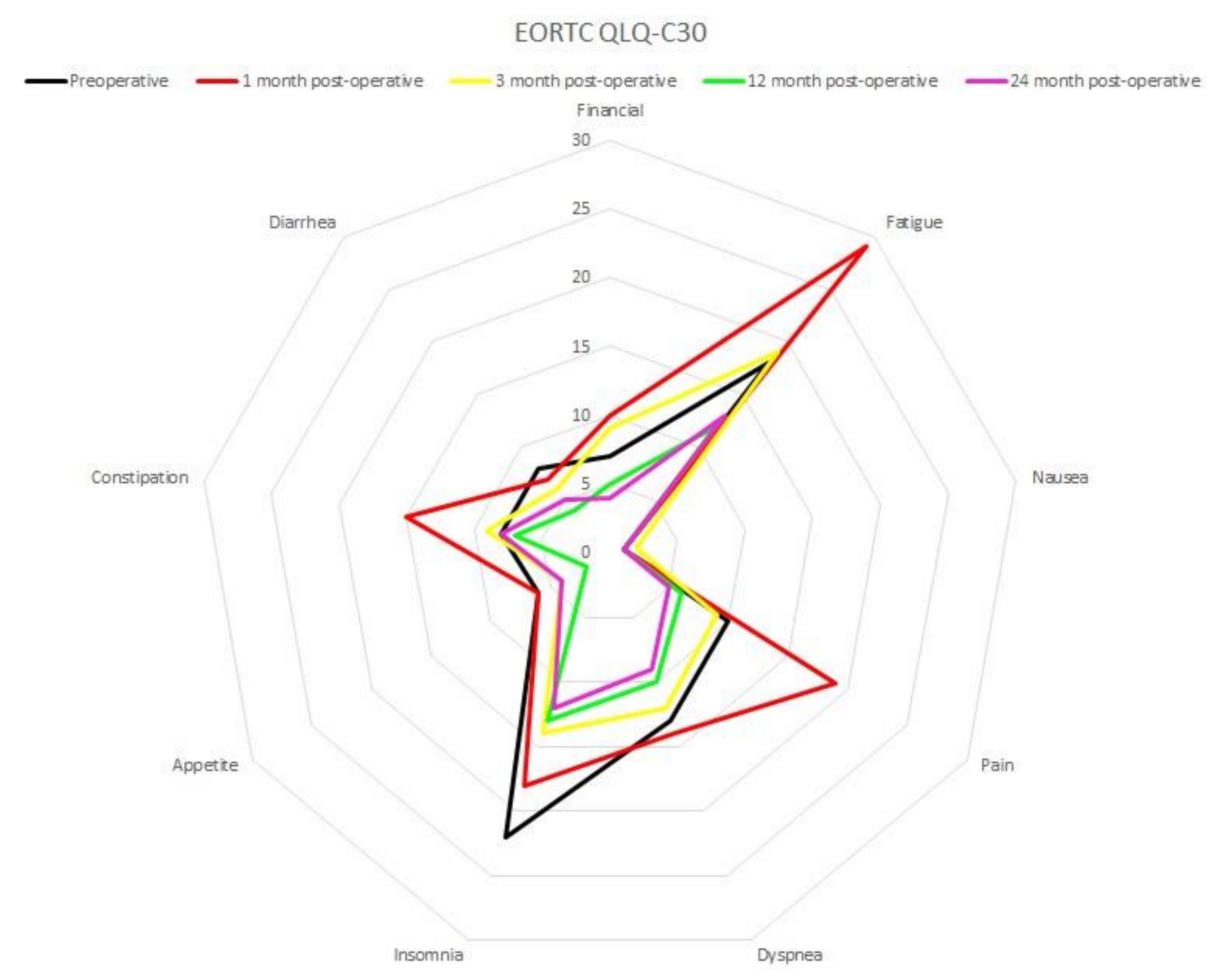
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**Figure 1.** Modifications of QoL scores after RALP according to the EORTC PR25 questionnaire



**Figure 2.** QoL after RALP. Black line represents preoperative scores; purple represents 24 month scores



## Conclusions

- After a net reduction immediately after surgery, the vast majority of **QoL scores returned to baseline or improved** by one year.
- Pre-operative urinary bother** was significantly associated to early and late urinary related QoL.
- Age** was the most significant predictor of sexual related QoL after surgery.
- Baseline values** were much **more significant** in the determination of post-operative sexual activity and function **than surgical approach**, and in particular nerve-sparing technique.

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