

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1: PQA and RP2 Consortium Institutions

<u>PQA (2003-2006)</u>	<u>RP2 (2010-2013)</u>
<ul style="list-style-type: none"> • Beth Israel Deaconess Medical Center (Boston, MA) • Brigham and Women’s Hospital (Boston, MA) • Cleveland Clinic (Cleveland, OH) • Massachusetts General Hospital (Boston, MA) • MD Anderson Cancer Center (Houston, TX) • University of Michigan (Ann Arbor, MI) • Michigan State University (East Lansing, MI)* • University of California-Los Angeles (Los Angeles, CA) • Washington University in St. Louis (St. Louis, MI) 	<ul style="list-style-type: none"> • Beth Israel Deaconess Medical Center (Boston, MA) • Brigham and Women’s Hospital (Boston, MA) • Cleveland Clinic (Cleveland, OH) • Johns Hopkins University (Baltimore, MD) • University of Michigan (Ann Arbor, MI) • Michigan State University (East Lansing, MI)* • University of California-San Francisco (San Francisco, CA) • Vanderbilt University Medical Center (Nashville, TN) • Washington University in St. Louis (St. Louis, MI)

*The Office for Survey Research at Michigan State University administered the third-party phone interviews collecting patient-reported outcome measures for both cohorts

eTable 2: PROSTQA/RP2 Patient Attrition and Interview Completion Rates

Study Time-point	No. of patients	No. of patients who completed the interview
Before Treatment	1203	1203
Follow-up month 2	1203	1137
Follow-up month 6	1191	1122
Follow-up month 12	1179	1077
Follow-up month 24	1149	974
Follow-up month 36	1121	857
Follow-up month 48	1094	848
Follow-up month 60	1074	763
Follow-up month 72	1059	679
Follow-up month 84	1052	630
Follow-up month 96	1044	566
Follow-up month 108	1040	384
Follow-up month 120	509	283
Follow-up month 132	504	268
Follow-up month 144	500	223
Follow-up month 156	492	213
Follow-up month 168	468	180
Follow-up month 180	401	142

eTable 3: Factors Associated with Minimally Important Difference by EPIC domain after Prostatectomy

Quality-of-Life Domain	Independent Variable^a	P-value^b
Sexuality	Receipt of Pelvic Radiation After Prostatectomy	0.004 ^c
	Concurrent ADT	0.92
	Age	<0.001
	College Education	0.001
	Nerve-Sparing Procedure	0.000
	Pre-RP Sexual Function	<0.001
Urinary incontinence	Receipt of Pelvic Radiation After Prostatectomy	<0.001 ^c
	Concurrent ADT	0.76
	Black race	0.001
	Pre-RP Urinary Incontinence	<0.001
Urinary irritation or obstruction	Receipt of Pelvic Radiation After Prostatectomy	<0.001 ^c
	Concurrent ADT	0.05
	Black race	0.04
	>2 Coexisting illnesses	0.001
	Nerve-Sparing Procedure	0.001
	Pre-RP Urinary Irritation	<0.001
Bowel or rectal function	Receipt of Pelvic Radiation After Prostatectomy	<0.001 ^d
	Concurrent ADT	0.06
	Black race	0.005
	>2 Coexisting illnesses	<0.001
	Pre-RP Bowel or Rectal Function	<0.001
Vitality or hormonal function	Receipt of Pelvic Radiation After Prostatectomy	<0.001 ^c
	Concurrent ADT	0.03
	Age	0.03
	Black race	0.000
	>2 Coexisting illnesses	<0.001
	Obesity	0.003
	Nerve-Sparing Procedure	0.02
	Pre-RP Hormonal Function	<0.001

a. Multivariable mixed linear model identified factors that were significantly associated with Minimally Important Difference HRQOL over time from baseline (prior to prostatectomy), while starting model adjusting for following covariates before variable selection: Receipt of radiation after prostatectomy (fixed), Concurrent ADT with RT (fixed), Age at the time of prostatectomy, Patient reported race, college graduate (Yes/No), living with partner (Yes/No), Aggressive prostate cancer on biopsy (GS7+), Prostate Volume (mL), Prostate cancer Stage T2 (Yes/No), Number of comorbidities, Obesity, Nerve-sparing radical prostatectomy, Pre-prostatectomy PSA (ng/mL), Pre-prostatectomy Domain score.

b. p-value depicts independent association across all available time-points in multivariable model

c. Pairwise comparison of adjusted difference between early vs late radiation is not significant

d. Pairwise comparison of adjusted difference between early vs late radiation is significant

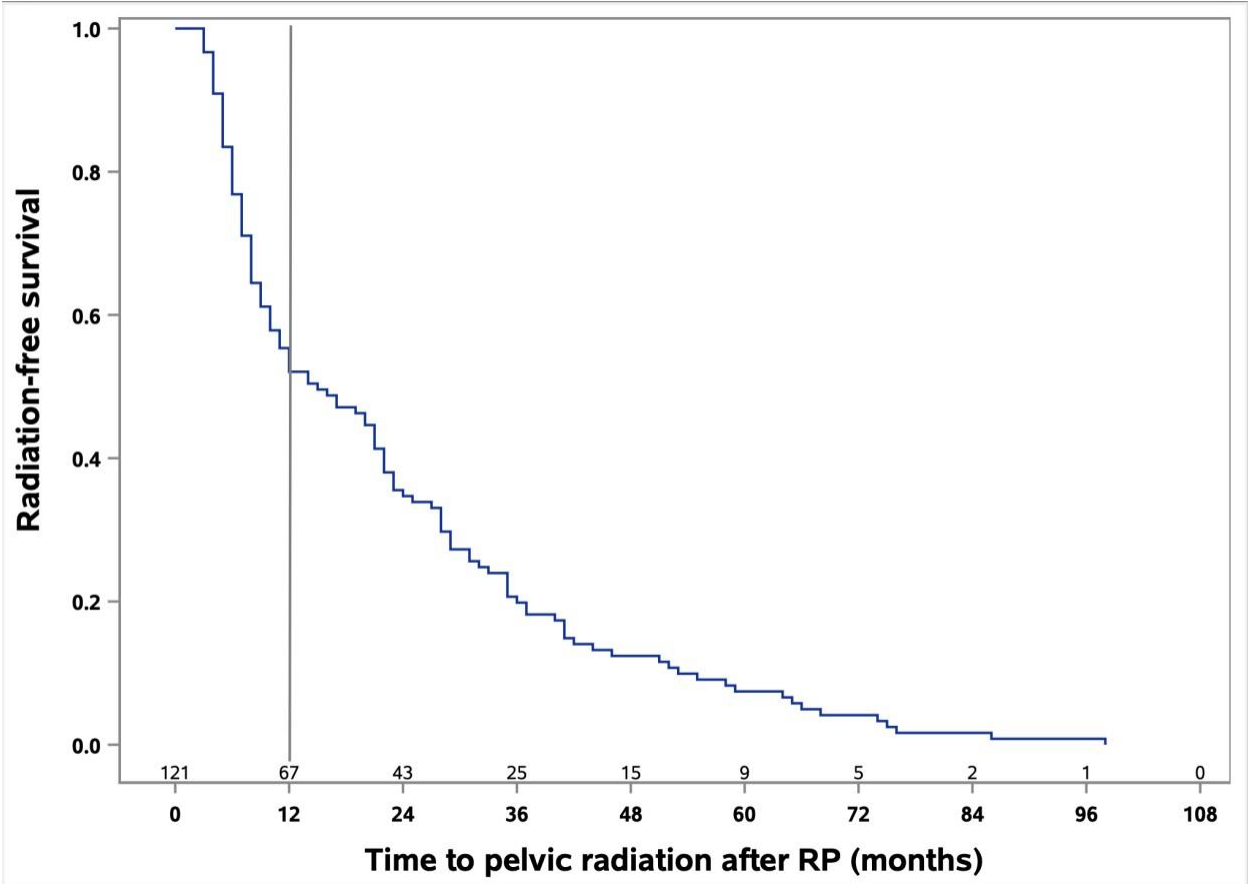
eTable 4: Factors Associated with Changes in the Quality-of-Life Score by EPIC domain after post-prostatectomy radiotherapy among patients who received radiation only

Quality-of-Life Domain	Independent Variable^a	P-value^b
Sexuality	Time of Radiation After Prostatectomy	0.02
	Concurrent ADT	0.003
	Age	<0.001
	Biopsy Gleason score ≥ 7	0.003
	Pre-radiation Sexual Function	<0.001
Urinary incontinence	Time of Radiation After Prostatectomy	0.003
	Concurrent ADT	0.09
	College Education	0.03
	Living with partner	0.02
	Obesity	0.03
Urinary irritation or obstruction	Time of Radiation After Prostatectomy	0.004
	Concurrent ADT	0.80
Bowel or rectal function	Time of Radiation After Prostatectomy	0.10
	Concurrent ADT	0.23
	>2 Coexisting illnesses	0.02
	Pre-radiation Bowel or Rectal Function	<0.001
	Time of Radiation After Prostatectomy	0.09
Vitality or hormonal function	Concurrent ADT	0.10
	Biopsy Gleason score ≥ 7	0.007
	PSA	0.01

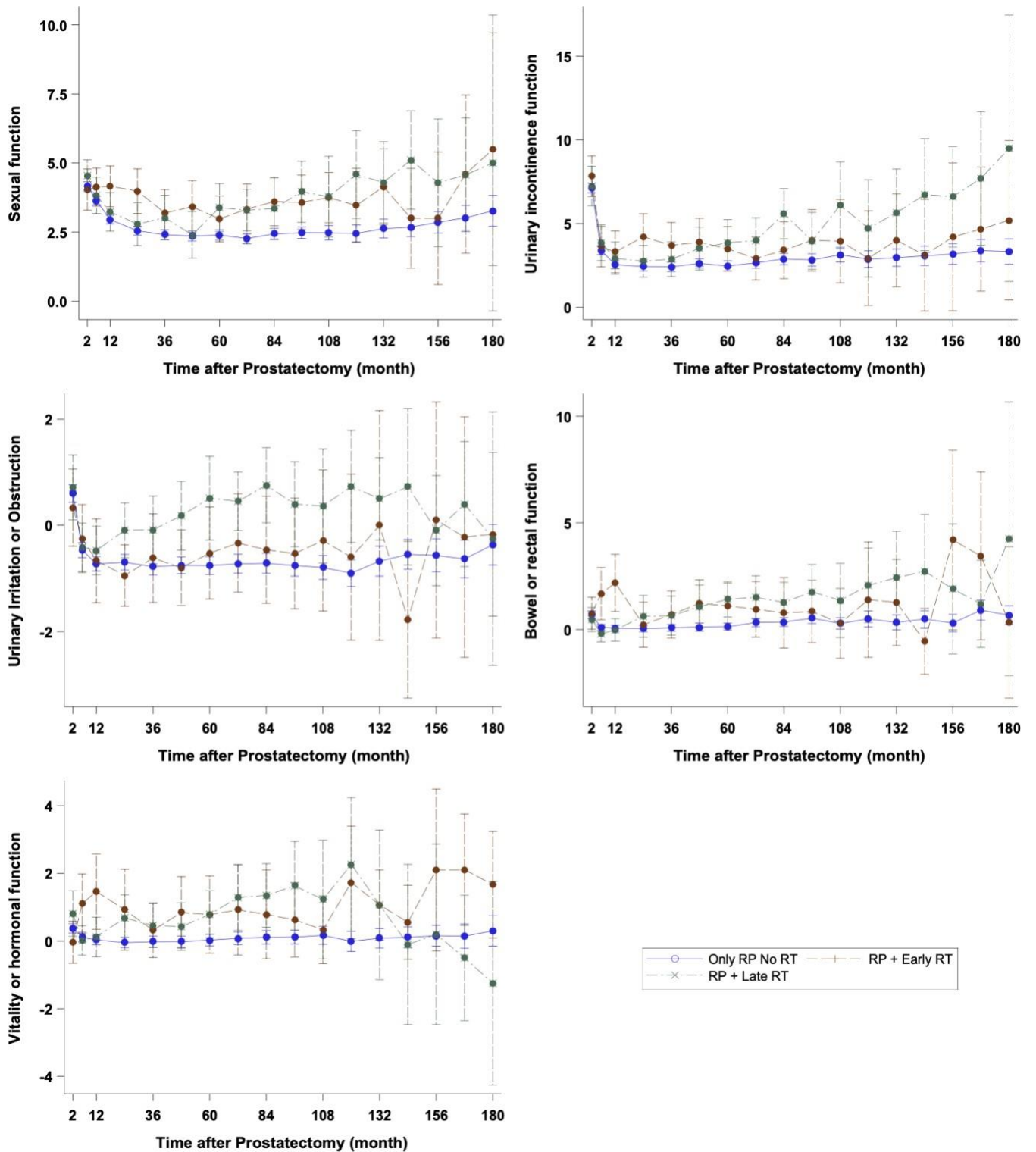
a. Multivariable mixed linear model identified factors that were significantly associated with changes in HRQOL over time from baseline (nearest visit prior to post-prostatectomy radiotherapy) to end of follow-up, while starting model adjusting for following covariates before variable selection: Time to start of radiation after prostatectomy (fixed), Concurrent ADT with RT (fixed), Age at the time of prostatectomy, Race, College graduate (Yes/No), Living with partner (Yes/No), Aggressive prostate cancer on biopsy (GS7+), Prostate Volume (mL), Prostate cancer Stage T2 (Yes/No), Number of comorbidities, Obesity, Nerve-sparing radical prostatectomy, Pre-prostatectomy PSA (ng/mL), Domain score at baseline as defined above.

b. p-value depicts independent association across all available time-points in multivariable model

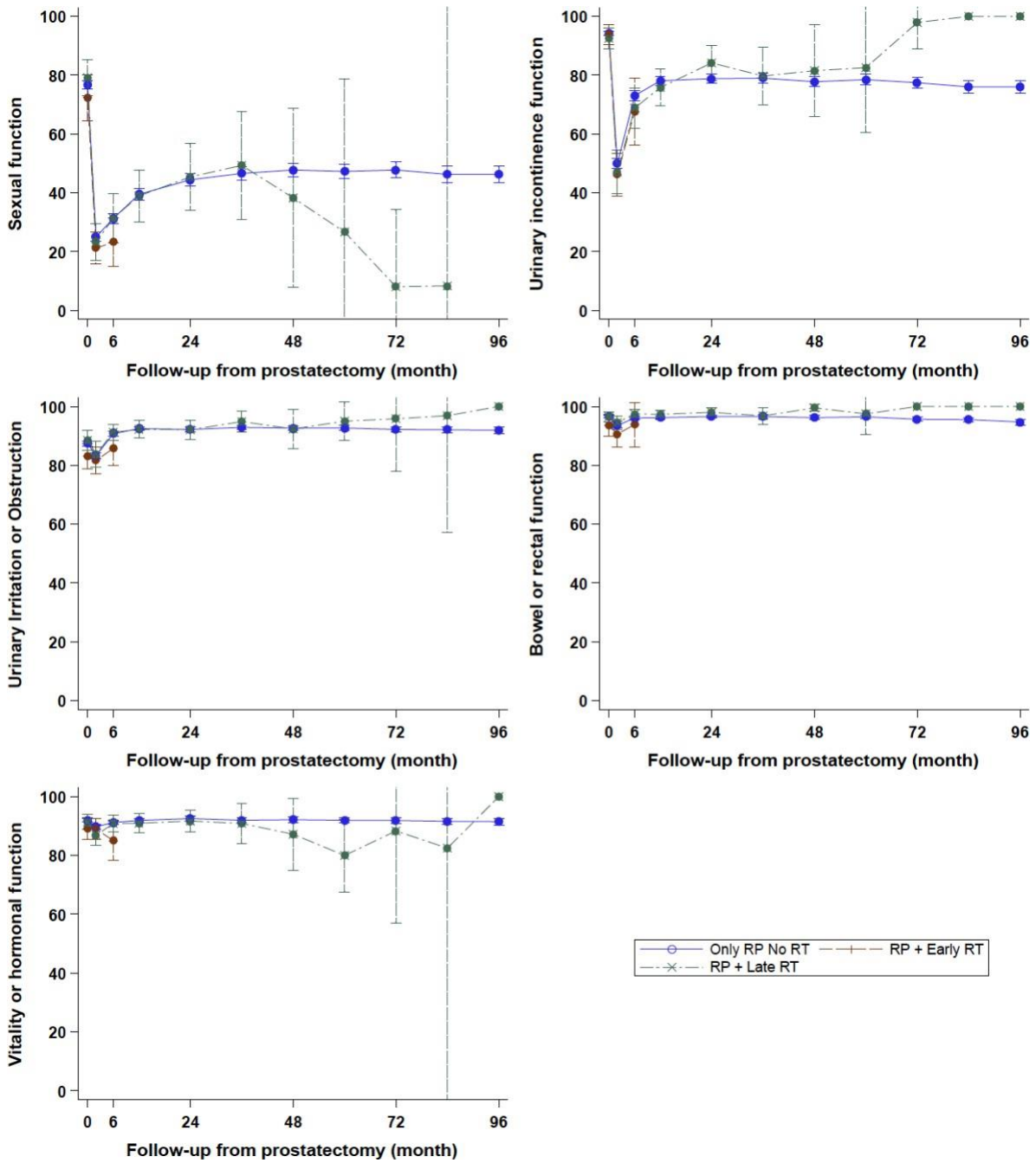
eFigure 1: Kaplan-Meier plot of radiation-free survival amongst the participants who went on to receive post-prostatectomy radiation therapy



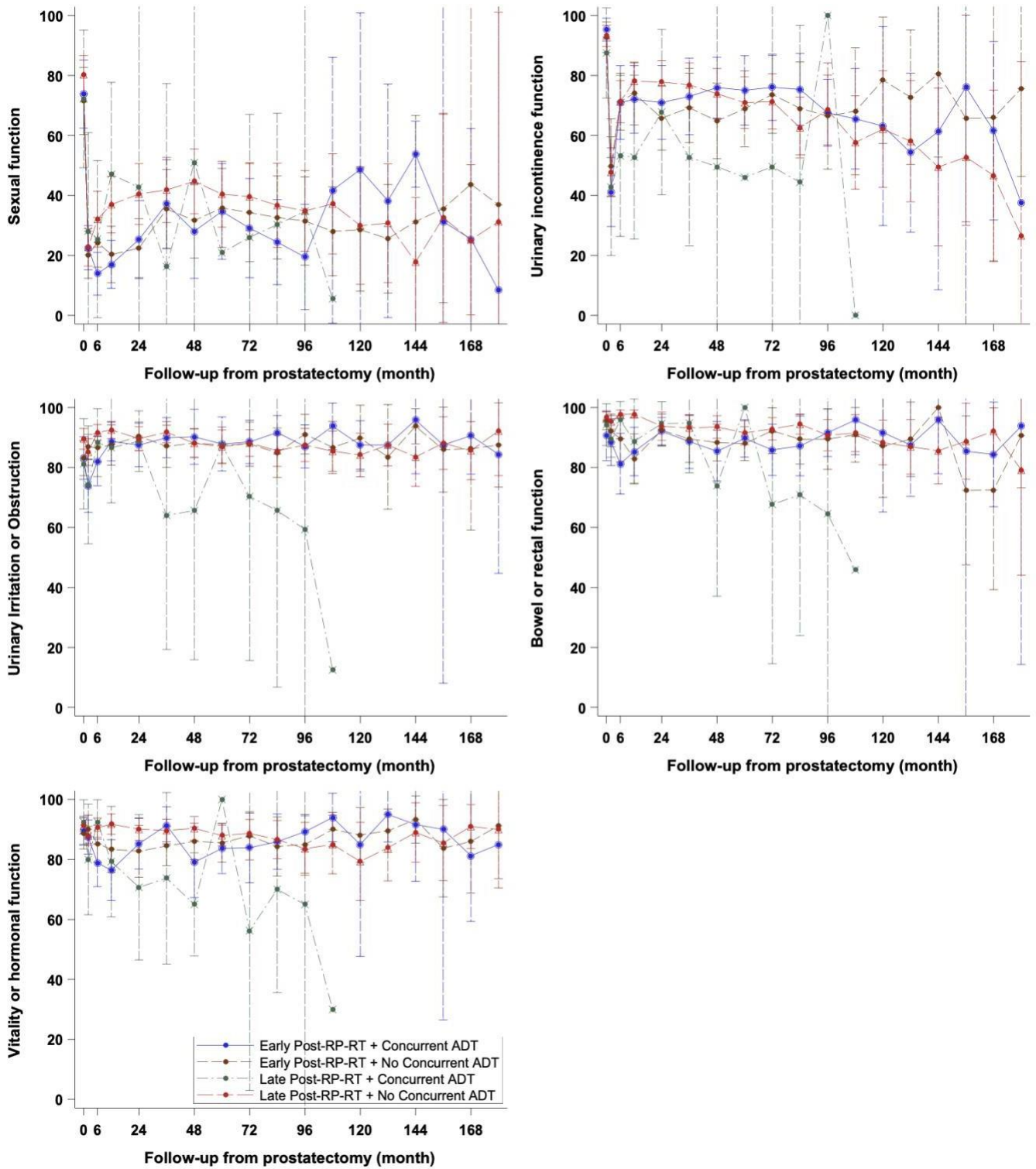
eFigure 2: Health-related quality of life minimally important difference over time (higher score indicating greater decline)



eFigure 3: Health-related quality of life over time from baseline up until the receipt of any radiation therapy



eFigure 4: Health-related quality of life over time amongst men receiving early versus late post-prostatectomy radiation, with versus without androgen deprivation therapy



eFigure 5: Proportion of men free from urinary pads before and after radiation amongst men receiving early versus late post-prostatectomy radiation therapy

