Supplementary data: Validation of the French-Canadian version of the Expanded Prostate Cancer Index Composite (EPIC) in a French-Canadian population

Éric Vigneault, MD[1,2]; Josée Savard, MD[1,3,4]; Marie-Hélène Savard, MD[1,3]; Hans Ivers, MD[1,3,4]; Philippe Després, MD[1,2,3,5]; William Foster, MD[2]; André-Guy Martin, MD[1,2]; Vincent Fradet, MD[1,3,6]

[1]CHU de Québec-Université Laval Research Centre; [2]Department of Radiation Oncology, CHU de Québec-Université Laval; [3]Université Laval Cancer Research Centre; [4]School of Psychology, Université Laval; [5]Département de Physique, de Génie Physique et d'Optique, Université Laval; [6]Department of Surgery, Université Laval; Quebec City, QC, Canada

Supplementary Table 1. Descriptive statistics obtained on the EPIC-50 and results of internal consistency analyses (n=251)						
Domains	n	Mean score (T1)	SD	Range	Cronbach's alpha	Range r(tot)
Urinary	246	85.95	14.39	11.8–100.0	0.858	0.31–0.81
Bowel	245	91.43	10.31	26.8–100.0	0.837	0.22–0.72
Sexual	247	35.92	24.42	0.0–92.3	0.920	0.50–0.81
Hormonal	247	90.26	12.90	17.5–100.0	0.805	0.33–0.77
Urinary – function	251	89.94	15.48	13.3–100.0	0.701	NA
Urinary – bother	246	82.99	15.92	10.7–100.0	0.813	NA
Urinary – incontinence	241	86.39	21.84	0–100.0	0.889	NA
Urinary – irritative/ obstructive	246	86.73	13.37	7.1–100.0	0.741	NA
Bowel – function	246	90.70	10.24	28.6–100.0	0.567	NA
Bowel – bother	245	92.03	12.86	21.4–100.0	0.858	NA
Sexual – function	244	26.80	25.71	0.0–88.9	0.938	NA
Sexual – bother	243	56.51	35.72	0.0–100.0	0.920	NA
Hormonal – function	247	89.05	15.23	20.0–100.0	0.589	NA
Hormonal – bother	245	91.10	12.91	15.0–100.0	0.705	NA

EPIC: Expanded Prostate Cancer Index Composite; NA: not applicable (item-total correlations reported for the 4 domains); r(tot): item-total correlations.

Supplementary Table 3. Confirmatory factor structure of the EPIC-50

Urinary domain

Item #	Standard loading
1	0.839
2	0.263
3	0.271
4	0.804
5	0.733
6	0.923
7	0.345
8	0.282
9	0.387
10	0.412
11	0.526
12	0.740

Intestinal domain

Item #	Standard loading
13	0.391
14	0.427
15	0.438
16	0.404
17	0.448
18	0.225
19	0.427
20	0.817
21	0.758
22	0.682
23	0.671
24	0.429
25	0.606
26	0.803

Supplementary Table 3 (cont'd). Confirmatory factor structure of the EPIC-50

Sexual domain

Item #	Standard loading
27	0.753
28	0.888
29	0.865
30	0.838
31	0.881
32	0.608
33	0.778
34	0.715
35	0.855
36	0.440
37	0.469
38	0.494
39	0.346

Hormonal domain

Item #	Standard loading
40	0.440
41	0.243
42	0.626
43	0.859
44	0.249
45	0.516
46	0.202
47	0.404
48	0.704
49	0.857
50	0.502

All loadings were significant at $p < 0.05$. EPIC: Expanded Prostate Cancer Index Composite.

Supplementary Table 3. Results of test-retest and sensitivity to change analyses

Domains	Mean score (T1)	Mean score (T2)	F-test	r (T1 vs. T2)
Test-retest analyses (n=68)				
Urinary	85.0	85.3	0.13, p=0.72	0.90
Bowel	91.1	92.3	3.04, p=0.09	0.84
Sexual	32.5	31.2	0.90, p=0.35	0.88
Hormonal	90.0	90.3	0.05, p=0.82	0.79
Urinary – function	88.4	88.9	0.42, p=0.52	0.91
Urinary – bother	82.5	82.5	0.01, p=0.93	0.85
Urinary – incontinence	84.4	84.6	0.04, p=0.83	0.93
Urinary – irritative/ obstructive	86.4	86.5	0.01, p=0.91	0.84
Bowel – function	90.5	92.0	3.20, p=0.08	0.70
Bowel – bother	91.7	92.5	1.12, p=0.29	0.90
Sexual – function	23.3	23.9	0.35, p=0.56	0.96
Sexual – bother	52.9	47.7	2.16, p=0.15	0.64
Hormonal – function	89.0	89.1	0.00, p=0.96	0.70
Hormonal – bother	90.8	91.2	0.11, p=0.74	0.73
Sensitivity to change analyses (n=51)				
Urinary	89.5	82.7	13.55, p<0.001	0.45
Bowel	92.6	86.9	11.93, p=0.001	0.42
Sexual	49.1	29.1	39.84, p<0.001	0.52
Hormonal	91.1	81.4	26.11, p<0.001	0.51
Urinary – function	95.9	90.1	10.52, p=.002	0.29
Urinary – bother	85.0	77.3	12.50, p<0.001	0.52
Urinary – incontinence	95.1	88.2	6.77, p=0.01	0.46
Urinary – irritative/ obstructive	87.8	81.4	11.11, p=0.002	0.46
Bowel – function	91.6	88.0	5.99, p=0.02	0.53
Bowel – bother	93.6	85.8	14.41, p<0.001	0.36
Sexual – function	40.0	22.6	23.33, p<0.001	0.51
Sexual – bother	70.4	44.4	28.81, p<0.001	0.37
Hormonal – function	89.2	77.9	16.78, p<0.001	0.35
Hormonal – bother	92.3	84.5	17.87, p<0.001	0.53

Supplementary Table 4. Correlations between domains of EPIC-50, IPSS, SHIM, and PR25

Domain	IPSS total (n=206)	IPSS QoL (n=201)	SHIM (n=203)	PR25-SACf (n=199)	PR25-SFUf (n=117)	PR25-URIs (n=204)	PR25-BOWs (n=200)	PR25-HTRs (n=204)	PR25-AIDs (n=40)
Urinary	-0.71	**-0.60**	0.30	0.21	0.34	**-0.86**	-0.44	-0.34	**-0.62**
Bowel	-0.56	-0.39	0.17	0.11 NS	0.28	-0.53	**-0.70**	-0.45	-0.34
Sexual	-0.21	-0.33	**0.79**	**0.62**	0.73	-0.32	-0.25	-0.35	-0.15 NS
Hormonal	-0.45	-0.34	0.27	0.22	0.32	-0.43	-0.52	**-0.61**	-0.31
Urinary – function	**-0.47**	**-0.43**	0.28	0.16	0.23	**-0.69**	-0.39	-0.30	-0.61
Urinary – bother	**-0.78**	**-0.65**	0.28	0.22	0.33	**-0.86**	-0.41	-0.33	-0.51
Urinary – incontinence	**-0.44**	**-0.39**	0.27	0.16	0.27	**-0.65**	-0.34	-0.28	**-0.70**
Urinary – irritative/obstructive	**-0.73**	**-0.59**	0.23	0.19	0.27	**-0.77**	-0.42	-0.29	-0.27 NS
Bowel – function	-0.48	-0.36	0.13 NS	0.05 NS	0.22	-0.47	**-0.61**	-0.45	-0.35
Bowel – bother	-0.53	-0.36	0.18	0.14	0.27	-0.49	**-0.65**	-0.38	-0.31
Sexual – function	-0.19	-0.29	**0.86**	**0.72**	**0.67**	-0.30	-0.20	-0.31	-0.06 NS
Sexual – bother	-0.20	-0.28	**0.37**	**0.19**	**0.68**	-0.25	-0.26	-0.28	-0.22 NS
Hormonal – function	-0.41	-0.34	0.29	0.27	0.27	-0.38	-0.45	-0.53	-0.29 NS
Hormonal – bother	-0.46	-0.32	0.22	0.17	0.33	-0.44	-0.55	**-0.62**	-0.36

Correlations used for convergent validity are in bold. All correlations are significant at p<0.05 unless otherwise specified. AIDs: incontinence aid (symptom scale); BOWs: bowel (symptom scale); EPIC = Expanded Prostate Cancer Index Composite; HTRs: hormonal treatment-related (symptom scale); IPSS: International Prostate Symptom Score; PR25: Prostate cancer-specific module of the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire; SACf: sexual activity (functioning scale); SFUf: sexual functioning (functioning scale); SHIM: Sexual Health Inventory for Men; URIs: urinary (symptom scale).