

**UCLA PROSTATE CANCER INDEX Short Form  
(UCLA-PCI-SF),**

*including the*

**RAND 12-Item Health Survey v2  
(SF-12 v2)**

HEALTH-RELATED QUALITY OF LIFE

**SCORING INSTRUCTIONS**

### Scoring Summary

The UCLA Prostate Cancer Index was developed by researchers at UCLA and RAND to measure health-related quality of life (HRQOL) in patients treated for prostate cancer. It addresses general HRQOL and organ-targeted HRQOL. The instrument has been validated psychometrically in this population. Reliability and validity statistics for the instrument are included in reference 7.

The Index contains three parts. This document explains the scoring rules for each of these parts. The components of the Index are:

1. RAND 12-Item Health Survey v2 (SF-12 v2)	Items 1-7	12 items
2. UCLA Prostate Cancer Index-Short Form	Items 8-21	15 items
3. Sociodemographic Items	Items 22-27	18 items

The RAND 12-Item Health Survey was previously developed and published by RAND researchers and is presently used throughout the world to measure general HRQOL when brevity is a significant consideration. Some researchers refer to the RAND 12-Item Health Survey as the "SF-12." The SF-12 scoring system is slightly different from the scoring system for the SF-36.

The UCLA Prostate Cancer Index-Short Form assesses disease-specific, organ-targeted HRQOL in six scales or domains that are of special concern to men treated for prostate cancer. It was developed for use as an adjunct to the RAND general HRQOL scales.<sup>5-7</sup> The UCLA Prostate Cancer Index-Short Form was validated in reference 22.

Although domain scores can be calculated for the traditional 8 domains, only the Mental Health Composite (MCS) and Physical Health Composite (PCS) are generally reported when using the RAND 12-Item Health Survey v2.

Main SF-36 website: <http://www.sf36.com/>

Information on SF surveys: <http://www.sf36.com/tools/>

Scoring demonstration for SF-12 v2: <http://www.sf36.com/demos/SF-12v2.html>

Information on SF-12 v1 manual: <http://www.qmetric.com/marketplace/products.cgi?categoryid=1>

The UCLA Prostate Cancer Index-Short Form is scored in two steps. First, the response for each item is recoded with a value from 0-100 according to the table below. Second, an average value is calculated for the items in each of the three function scales, according to the table on the next page. The recoded values for the three bother items are the scores for the bother scales. Missing data are ignored and the scale score is calculated without the missing item. If more than 50% of the items are missing from any one scale, it cannot be calculated.

Step 1: RECODING ITEMS

<i>Item Numbers</i>	<i>Change original response category from</i>	<i>To recoded value of</i>
8,9,14,18	1	0
	2	33
	3	67
	4	100
10	1	0
	2	50
	3	100
11	0	100
	1	75
	2	50
	3	25
	4	0
12,21	1	100
	2	75
	3	50
	4	25
	5	0
13,16,17a,17b,19,20	1	0
	2	25
	3	50
	4	75
	5	100
15	1	0
	2	20
	3	40
	4	60
	5	80
	6	100

Step 2: AVERAGING RECODED ITEMS INTO SCALES

<i>Scale</i>	<i>Number Scale of items</i>	<i>Average the following recoded items</i>
Urinary function	4	8,9,10,11
Bowel function	3	13,14,15
Sexual function	5	17a,17b,18,19,20
Urinary bother	1	12
Bowel bother	1	16
Sexual bother	1	21

References (last updated 4/1/02)

1. Ware JE, Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Med Care* 1992;30:473-483.
2. Hays RD, Shapiro MF. An overview of generic health-related quality of life measures for HIV research. *Qual Life Res* 1992;1:91-97.
3. Stewart AL, Sherbourne C, Hays RD, et al. Summary and discussion of MOS measures. In Stewart AL, Ware JE, eds. *Measuring functioning and well-being: the Medical Outcomes Study approach*. Durham, NC: Duke University Press, 1992, pp 345-371.
4. Ware J. *SF-36 Health Survey Manual & Interpretation Guide*. Boston: Nimrod Press, 1993.
5. Litwin MS, Fink A, Hays RD, Ganz PA, Duan N, Brook RH, Rosenthal JT, deKernion JB. Quality of life in men with prostate cancer: a pilot study. *J Urol* 1993;149:494A.
6. Litwin MS, Hays RD, Fink A, Ganz PA, Leake B, Leach GE, Brook RH. Quality of life outcomes in men with localized prostate cancer. *JAMA* 1995;273:129-135.
7. Litwin MS, Hays RD, Fink A, Ganz PA, Leake B, Brook RH. The UCLA Prostate Cancer Index: Development, reliability, and validity of a health-related quality of life measure. *Med Care* 1998; 36: 1002-1112.
8. Krongrad A, Perczek RE, Burke MA, Granville LJ, Lai H, Lai S. Reliability of Spanish translations of select urological quality of life instruments. *J Urol* 1997; 158: 493-496.
9. Hays RD, Sherbourne CD. *RAND 36-Item health Survey 1.0 Scoring Manual*. Santa Monica, CA: The RAND Corporation, 1992.
10. Lubeck DP, Litwin MS, Henning JM, Carroll PR: Measurement of health-related quality of life in men with prostate cancer: data from the CaPSURE database. *Qual Life Res* 1997;6:385-392.
11. Litwin MS, Shpall AI, Dorey F: Patient satisfaction with short stays for radical prostatectomy. *Urology* 1997;49:898-906.
12. Penson DF, Litwin MS, Lubeck DP, Flanders S, Pasta DJ, Carroll PR. Transitions in health related quality of life during the first nine months after diagnosis with prostate cancer. *Pros Ca Pros Dis* 1998; 1:134-143.
13. Litwin MS, Shpall AI, Dorey F, Nguyen TH: Quality of life in men treated for metastatic prostate cancer. *Am J Clin Oncol (CCT)* 1998; 21: 327-332.
14. Litwin MS, Nied RJ, Dhanani N: Health-related quality of life on men with erectile dysfunction. *J Gen Int Med* 1998; 13: 159-166.
15. Litwin MS, Lubeck DP, Henning JM, Carroll PR. Differences in urologist and patient assessments of health-related quality of life in men with prostate cancer: results from the CaPSURE database. *J Urol* 1998; 159: 1988-1992.
16. Yarbrow CH, Ferrans CE: Quality of life in patients with prostate cancer treated with surgery or radiation therapy. *Oncol Nurs Forum* 1998; 25: 685-693.
17. Krongrad A, Litwin MS, Lai H, Lai S: Dimensions of quality of life in prostate cancer. *J Urol* 1998; 160: 807-810.
18. Lubeck DP, Litwin MS, Henning JM, Stoddard ML, Flanders S, Carroll PR: Changes in health-related quality of life in the first year after treatment for prostate cancer: results from CaPSURE. *Urology* 1999; 53:180- 186.
19. Litwin MS, McGuigan KA, Shpall AI, Dhanani, N: Recovery of health-related quality of life in the year after radical prostatectomy: early experience. *J Urol* 1999; 161: 515-519.

20. Litwin MS: Health-related quality of life in older men without prostate cancer. *J Urol* 1999; 161:1180-1184.
21. Perrotte P, Litwin MS, McGuire EJ, Scott SM, von Eschenbach AC, Pisters LL. Quality of life after salvage cryotherapy: the impact of treatment parameters. *J Urol* 1999; 162: 398-402.
22. Litwin MS, McGuigan KA. Accuracy of recall in health-related quality-of-life assessment among men treated for prostate cancer. *J Clin Oncol* 1999; 17: 2882-2888.
23. Pinnock CB, Stapleton AM, Marshall VR. Erectile dysfunction in the community: a prevalence study. *Med J Aust* 1999; 171: 353-357.
24. Ware J, Kosinski M, Dewey JE. How to score version 2 of the SF-36 Health Survey. Lincoln, RI: QualityMetric Incorporated, 2000.
25. Brandeis JM, Litwin MS, Burnison CM, Reiter RE. Quality of life outcomes after brachytherapy for early stage prostate cancer. *J Urol* 2000; 163: 851-857.
26. Gralnek D, Wessells H, Cui H, Dalkin BL. Differences in sexual function and quality of life after nerve sparing and nonnerve sparing radical retropubic prostatectomy. *J Urol* 2000; 163: 1166-1169; discussion 1169-70.
27. Johnstone PA, Gray C, Powell CR. Quality of life in T1-3N0 prostate cancer patients treated with radiation therapy with minimum 10-year follow-up. *Int J Radiat Oncol Biol Phys* 2000; 46: 833-838.
28. Litwin MS, Pasta DJ, Yu J, Stoddard ML, Flanders SC. Urinary function and bother after radical prostatectomy or radiation for prostate cancer: a longitudinal, multivariate quality of life analysis from the Cancer of the Prostate Strategic Urologic Research Endeavor. *J Urol* 2000; 164: 1973-1977.
29. Sanchez-Ortiz RF, Broderick GA, Rovner ES, Wein AJ, Whittington R, Malkowicz SB. Erectile function and quality of life after interstitial radiation therapy for prostate cancer. *Int J Impot Res* 2000; 12 Suppl 3: S18-S24.
30. Smith DS, Carvalhal GF, Schneider K, Krygiel J, Yan Y, Catalona WJ. Quality-of-life outcomes for men with prostate carcinoma detected by screening. *Cancer* 2000; 88: 1454-1463.
31. Wei JT, Dunn RL, Litwin MS, Sandler HM, Sanda MG. Development and validation of the expanded prostate cancer index composite (EPIC) for comprehensive assessment of health-related quality of life in men with prostate cancer. *Urology* 2000; 56: 899-905.
32. Hanlon AL, Bruner DW, Peter R, Hanks GE: Quality of life study in prostate cancer patients treated with three-dimensional conformal radiation therapy: comparing late bowel and bladder quality of life symptoms to that of the normal population. *Int J Radiation Oncology Biol Phys* 2001; 49: 51-59.
33. Fulmer BR, Bissonette EA, Petroni GR, Theodorescu D. Prospective assessment of voiding and sexual function after treatment for localized prostate carcinoma: comparison of radical prostatectomy to hormonobrachytherapy with and without external beam radiotherapy. *Cancer* 2001; 91: 2046-2055.
34. Litwin MS, Melmed GY, Nakazon T. Life after radical prostatectomy: a longitudinal study. *J Urol* 2001; 166: 587-592.
35. Bacon CG, Giovannucci E, Testa M, Kawachi I. The impact of cancer treatment on quality of life outcomes for patients with localized prostate cancer. *J Urol* 2001; 166: 1804-1810.
36. Lubeck DP, Grossfeld GD, Carroll PR. The effect of androgen deprivation therapy on health-related quality of life in men with prostate cancer. *Urology* 2001; 58: 94-100.

37. Madalinska JB, Essink-Bot ML, de Koning HJ, Kirkels WJ, van der Maas PJ, Schroder FH. Health-related quality-of-life effects of radical prostatectomy and primary radiotherapy for screen-detected or clinically diagnosed localized prostate cancer. *J Clin Oncol* 2001; 19: 1619-1628.
38. Penson DF, Stoddard ML, Pasta DJ, Lubeck DP, Flanders SC, Litwin MS. The association between socioeconomic status, health insurance coverage, and quality of life in men with prostate cancer. *J Clin Epidemiol* 2001; 54: 350-358.
39. Pietrow PK, Parekh DJ, Smith JA Jr, Shyr Y, Cookson MS. Health related quality of life assessment after radical prostatectomy in men with prostate specific antigen only recurrence. *J Urol* 2001; 166: 2286-2290.
40. Comiter CV. The male sling for stress urinary incontinence: a prospective study. *J Urol* 2002; 167: 597-601.
41. Bacon CG, Giovannucci E, Testa M, Glass TA, Kawachi I. The association of treatment-related symptoms with quality-of-life outcomes for localized prostate carcinoma patients. *Cancer* 2002; 94: 862-871.

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