

**Title of Measure:**  
**Expanded Prostate Cancer Index Composite (EPIC)**

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*This summary was last revised 5 January 2011.*

**DISCLAIMER:**

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**Brief overview:**

From the EPIC website, at  
<http://roadrunner.cancer.med.umich.edu/epic/epicmain.html>:

The Expanded Prostate Cancer Index Composite (EPIC) is a comprehensive instrument designed to evaluate patient function and bother after prostate cancer treatment. Content from the original UCLA-Prostate Cancer Index (PCI) was expanded with guidance from a development cohort of localized prostate cancer patients and an expert panel comprised of urological oncologists, radiation oncologists (including brachytherapy expertise), survey researchers, and prostate cancer nurses. These experts, patients, and review of the literature suggested a need to augment the UCLA-PCI with items to capture additional concerns relevant to brachytherapy, external beam radiation, radical prostatectomy, and androgen deprivation. Accordingly, the UCLA-PCI was supplemented with specific items addressing irritative and obstructive voiding symptoms (the original UCLA-PCI had queried principally incontinence only in urinary function assessment), hematuria, additional bowel symptoms (to improve the suboptimal bowel function scale from the original UCLA-PCI) and hormonal symptoms. Symptom-specific bother items corresponding to each symptom item were added to elicit multi-item bother scales for each HRQOL domain. Responses and comments from the development cohort were incorporated to derive the final instrument: the Expanded Prostate cancer Index Composite (EPIC).

**Validated:**

Yes – see below.

**Psychometric properties:**

Summary and subscale scores were derived by content and factor analyses. Test-retest reliability and internal consistency were high for EPIC urinary, bowel, sexual, and hormonal domain summary scores (each  $r \geq 0.80$  and Cronbach's alpha  $\geq 0.82$ ) and for

most domain-specific subscales. Correlations between function and both subscales within domains were high ( $r > 0.60$ ). Correlations between different primary domains were consistently lower, indicating that these domains assess distinct HRQOL components. EPIC domains had weak to modest correlations with the Medical Outcomes Study 12-item Short-Form Health Survey (SF-12), indicating rationale for their concurrent use. Moderate agreement was observed between EPIC domains relevant to the Functional Assessment of Cancer Therapy Prostate module (FACT-P) and the American Urological Association Symptom Index (AUA-SI), providing criterion validity without excessive overlap (Wei). EPIC is a robust prostate cancer HRQOL instrument that measures a broad spectrum of symptoms; the domains were validated separately; so it is possible to reduce patient burden by using only the domains of interest. Since each domain must be used intact there is no threat to validity.

**Normative data:**

These are available as a PDF file, which can be downloaded from the EPIC website. See: <http://roadrunner.cancer.med.umich.edu/epic/epicmain.html>

**Clinically significant changes:**

The authors have used  $0.5 * SD$  of the domain-specific scores from the validation cohort as a threshold for minimally significant change in each domain (1).

The SD's for each domain can be found in Table 2 Wei, et al (5).

A direct link to this article can be found at:

<http://roadrunner.cancer.med.umich.edu/epic/validation.pdf#search=%22EPIC%20HRQOL%22>

**Website or how to register to use:**

This instrument is in the public domain and available for use free of charge for RTOG protocols. If you have any questions please contact one of the instrument authors, Dr. Martin Sanda, at: [msanda@bidmc.harvard.edu](mailto:msanda@bidmc.harvard.edu) or via the EPIC website, at: <http://roadrunner.cancer.med.umich.edu/epic/epicmain.html>

**List any fees for usage:**

There is no fee required to use EPIC.

**Languages available:**

It has been translated into Dutch (7) and Spanish (8), Japanese (4) and has been validated in these languages. To obtain the Dutch version, contact Ida Korfage: [i.korfage@erasmusmc.nl](mailto:i.korfage@erasmusmc.nl). To obtain the Spanish version, contact Donna Berry: [donna\\_berry@dfci.harvard.edu](mailto:donna_berry@dfci.harvard.edu).

**Time required to administer instrument:**

No specific reference found.

**Instructions for CRAs and or credentialing for administration:**

The instructions given below are intended to serve as a guide for the administration of the HRQOL questionnaires. The HRQOL questionnaires will be self-administered by the patient.

Following the patient's check-in at clinic, the patient should be taken to a quiet area where he may complete the questionnaire without interruption. Adequate time should be provided to the patient so that the questionnaire can be completed at the beginning of the clinic visit.

It is optimal if the patient is given the questionnaire prior to being seen by the physician or nursing staff or having any tests/procedures done at the clinic visit.

The patient should be instructed to read the brief directions at the top of the page. After it has been confirmed that the patient understands the directions, he should be encouraged to complete every item in order without skipping any. Some patients may feel that a given question is not applicable to them and will therefore skip the item altogether. Patients should be encouraged to circle the response that is most applicable. If, for example, a patient is not bothered at all by a particular problem, the patient should circle "no problem", "not at all," "none of the time," or "rarely or never".

The questionnaires must be completed by the patient alone, without coaching or suggestions as to the "correct" answer by health care personnel, relatives, or anyone else.

The study staff may provide clarification but should not rephrase questions, suggest answers, or discuss answers.

The study staff will collect the questionnaires as soon as they have been completed, check to see that each question has been answered, and remind the patient to answer any questions that may have been missed. If the patient declines to answer some or any of the questions, the study staff should enter an explanatory comment on the questionnaires.

The questionnaires should be completed in the clinic at the beginning of the visit. However, if the patient does not come in for a clinic visit, the questionnaires should be mailed to the patient at the time points indicated, with a return self-addressed stamped envelope. The CRA should telephone the patient at least twice as a reminder to return the completed questionnaires. (These patients may not return for follow-up and then the data would be lost).

NOTE: Varying the environment in which the questionnaires are completed by allowing completion at other times than the time of the clinic visit introduces unnecessary variables into the study and every effort should be made to obtain the data in the clinic at the prescribed times.

The information provided by the patient in the completed questionnaires is confidential and should not be discussed with, or shown to, anyone who is not a member of the study team.

**Quality assurance for administration (if needed):**

None.

**Scoring of instrument:**

PDFs and SAS codes are available from the EPIC website

<http://roadrunner.cancer.med.umich.edu/epic/epicmain.html>

**References:**

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2. Hollenbeck BK, Dunn RL, Wei JT, et al: Neoadjuvant hormonal therapy and older age are associated with adverse sexual health-related quality-of-life outcome after prostate brachytherapy. *Urology*. 59: 480-4, 2002.
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4. Takegami M, Suzukamo Y, Sanda MG, et al: The Japanese translation and cultural adaptation of Expanded Prostate Cancer Index Composite (EPIC)]. *Nippon Hinyokika Gakkai Zasshi*. 96:657-69, 2005.
5. Wei JT, Dunn RL, Litwin MS, et al: 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* 56:899-905, 2000.
6. Wei JT, Dunn RL, Sandler HM, McLaughlin PW, et al: Comprehensive comparison of health-related quality of life after contemporary therapies for localized prostate cancer. *Journal of Clinical Oncology* 20(2): 557-66, 2002.
7. Chung KJ, Kim JJ, Lim SH. Development and validation of the Korean version of the expanded prostate cancer index composite: questionnaire assessing health-related quality of life after prostate cancer treatment. *Korean J Urol* 51(9): 601-12, 2010.
8. Ferrer M, Garin O, Prats, JM, et al. Evaluation of the quality of life of patients with localized prostate cancer: validation of the Spanish version of the EPIC. *Med Clin (Barc)* 132(4): 128-35, 2009.