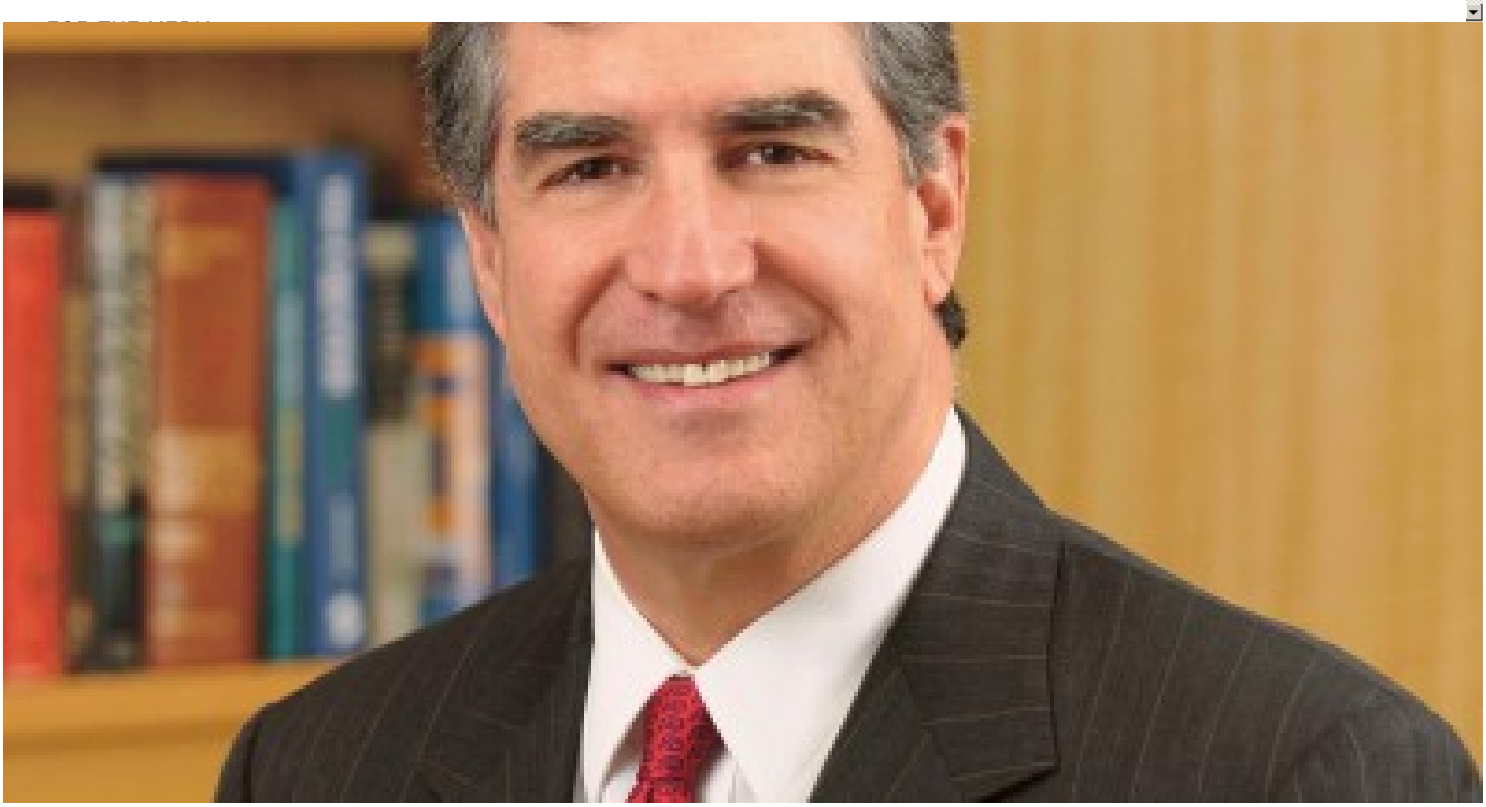

Investigators at Memorial Sloan Kettering Cancer Center (MSKCC), along with collaborating teams at the Cleveland Clinic and the University of Michigan, have completed the first large- scale, multi-institutional study of prostate cancer death after standard treatment to remove the prostate since PSA screening has become widely used as a method to screen for the disease.

The importance of this paper is that it shows a remarkably low risk of dying of prostate cancer within 15 years for treated men, and supports the concept that men with slow-growing cancers may not need

> immediate treatment.
>
> Peter T. Scardino, Chair, Department of Surgery

In the study, published online in the *Journal of Clinical Oncology,* researchers found that in a group of 12,677 men who had radical prostatectomies between 1987 and 2005, the fifteen-year mortality rate that could be directly linked to prostate cancer was only 12 percent, even though many of the patients' cancers had aggressive features. Comparatively, the rate of non- cancer-related death in this group was 38 percent. [PubMed Abstract] A small fraction, 4 percent, of patients treated surgically within the past ten years had a 5 percent or greater risk of dying of prostate cancer within 15 years. It is not clear at this time whether the outcomes may be related to the effectiveness of surgery and any secondary therapy, or to the low lethality of certain types of prostate cancers to begin with.

"The importance of this paper is that it shows a remarkably low risk of dying of prostate cancer within 15 years for treated men, and supports the concept that men with slow-growing cancers may not need immediate treatment," said senior author Peter Scardino, Chair of the Department of Surgery at MSKCC. "Further good news is that surgery was very effective in preventing death in men with aggressive cancers—defined as those with a high PSA, poorly differentiated with a Gleason grade of 8-10, or locally extensive," Dr. Scardino added.

Not all prostate cancers progress the same way. Many cancers pose little or no threat to life and health, while others grow aggressively and are resistant to treatment. The key is to determine which cancers are "favorable" or ones likely to remain relatively dormant. According to Dr. Scardino, "Currently, there are a number of tools physicians have to help determine the probable course of prostate cancer, but more accurate ones are needed."

Dr. Scardino and colleagues have formulated and pioneered the use of validated statistical models, or nomograms, that help predict the natural progression of prostate cancer and how it will respond to treatment. These nomograms help tailor treatment for men according to the specific characteristics of their cancer. The prostate cancer nomograms are currently the most widely used, disease-specific prediction tool in oncology.

In addition to the nomogram, physicians may use PSA testing, Gleason grade, MRI scans, and multiple biopsies to determine which cancers are likely to be favorable and which are not. While there are tools and models available now to help predict survival, Dr. Scardino and his fellow authors encourage future research to pinpoint better markers specifically associated with the biology of lethal prostate cancer.

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"In the future, what we'd like is to be able to do a molecular or genetic analysis of prostate tumor cells to see if they have the capacity to spread, so that we can ask, does your tumor have that capacity? If not, it would be safe to watch," said Dr. Scardino.

As part of the study, 12,677 patients treated with radical prostatectomy between 1987 and 2005 were tracked. Of these patients, 6,398 underwent radical prostatectomy for localized prostate cancer at either MSKCC or Baylor College of Medicine, with 809 (13%) receiving neoadjuvant androgen-deprivation therapy for an average of 3.2 months. External validation of the nomogram was performed on 4,103 patients treated at Cleveland Clinic and 2,176 patients treated at University of Michigan during the same period.

Prostate biopsy specimens were reviewed by pathologists at each institution before surgery. In general, patients were followed for disease recurrence post operatively with regular PSA tests and clinical exams at three to six month intervals for the first five years, and then annually. The year of surgery was also a consideration, as methods and effectiveness have changed over the years.

While prostate cancer death rates have been dropping over the past decade, according to the American Cancer Society, it is estimated that there were 186,320 new cases of prostate cancer in the United States in 2008 and 28,660 deaths from the disease.

Researchers from the Cleveland Clinic, University of Michigan, and Baylor College of Medicine contributed to this study. The work was supported by SPORE grants awarded to MSKCC and the University of Michigan by the National Cancer Institute and by the David Koch Foundation and the Prostate Cancer Foundation.

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