

Prostate Specific Antigen and Prostate Cancer Screening: Update on the Current Research and Recommendations

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Prostate cancer is the most common cancer among men in the United States, killing 34,000 men per year, ranking it the second deadliest cancer of males, following lung cancer.¹ Such a devastating disease must have a highly sophisticated screening tool and straightforward recommendations in place, right? Not necessarily.

Prostate specific antigen (PSA) testing became widespread in clinical practice in the 1990s² and since then seems to have made itself a household name. As screening rates rapidly increased, so did the incidence of prostate cancer.¹ It was not long before researchers began to ask: Does early detection lead to an increase in survival, or simply more men living with a cancer diagnosis?

Two major studies have been conducted to address this very question; the Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial in the US and the European Randomized Study of Screening for Prostate Cancer (ERSPC) study in Europe. Both studies, despite their respective scientific shortcomings, are accepted as the most sufficient studies available to date.³ Unfortunately, each study came to its own disappointingly opposing conclusion. The United States PLCO study included over 75,000 patients and concluded that no evidence existed of mortality benefit for organized annual screening.⁴ Contrarily, the European study, ERSPC, included over twice the number of patients the US study evaluated and found screening patients every four years reduced the rate of deaths from prostate cancer 20%.⁵

These were very different studies and comparing the opposing results proved an exceptional challenge. Each study included very different sample sizes, its own unique screening intervals (PLCO: annual; ERSPC: every four years), and differing PSA cutoffs (PLCO: 4.0 ng/mL; ERSPC: 3.0 ng/mL).³ All of the conflicting data between these two studies, along with additional randomized controlled trials, were included in two meta-analyses in attempts to find a consensus encompassing all the current available data. Both studies concluded the summation of all the available data does not support the routine use of screening for prostate cancer.^{3,6}

Despite the wealth of conflicting data in regards to mortality, there is an indisputable overall agreement that screening does increase the incidence of prostate cancer.^{2,3,4} As a result, more men today than ever before are dealing with the implications of living with prostate cancer: facing tough questions, harder decisions and risking the harm that may come with evaluation and treatment. Professional organizations have attempted to weigh the potential

benefits and harms associated with screening for prostate cancer and have come up with their own recommendation guidelines regarding screening.

The National Comprehensive Cancer Network (NCCN) provides its own algorithm that begins with a conversation between male patients and their physician starting at age 40, discussing the pros and cons of PSA screening.⁷ The American Urological Association (AUA) recommends against routine screening outside the age range from 55 to 69 years old.⁸ Within this age group AUA similarly recommends informed decision making between patient and physician; and when screening they suggest intervals of every two years or more, not annually.⁸ The US Preventative Services Task Force (USPSTF), arguably the most influential guideline source,⁹ recommends against PSA-based screening for prostate cancer.¹⁰

Embracing the oath to “first, do no harm,” physicians seem to be steering away from routine screening with PSA. In the future, PSA may be best utilized to monitor treatment effects and detect disease recurrence in patients with an established diagnosis.¹¹

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