

Acceptable consequences of screening for prostate cancer

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In July 2010, a research team led by Jonas Hugosson, professor in urology at the Sahlgrenska Academy, presented the results of a large randomised study of screening for prostate cancer in Gothenburg, with a 14-year follow up.

The results were published in the prestigious journal The Lancet Oncology. The study included 10,000 men (the screening group) aged 50-64 years who were randomly assigned to regular [blood samples](#) to check their level of a prostate cancer marker known as PSA (Prostate-Specific Antigen) every two years, and 10,000 men who were randomly assigned not to be screened (the control group).

The study showed that regular PSA-screening nearly halved the mortality from prostate cancer after 14 years. The screening was, however, associated with a certain risk of over-diagnosis.

The study is one of five papers in the thesis presented by Sigrid Carlsson, M.D., Ph.D. The thesis also includes an investigation of the side-effects that screening caused. Most of the men who were detected by screening to have early, localised prostate cancer and who were treated with curative intent underwent surgery (radical [prostatectomy](#)).

"We analysed the side effects of surgery based on how these can be measured relative to the reduced mortality from the disease", says Sigrid Carlsson from the Department of Urology at the Sahlgrenska Academy.

The results presented in her thesis show that for each man whose life was saved by PSA screening, four more men will become impotent or sexually inactive, while less than one more man will experience problems with urinary incontinence. These figures are lower than those expected by the scientists.

"There is a significant risk of affecting the sexual performance. Most men who undergo surgical treatment for prostate cancer become impotent. But if this is seen in the light of the benefit of a lower mortality, then the side-effects do not appear to be as large as sometimes claimed, particularly if we view the situation from a wider perspective. On the individual level, however, it is clear that there may be considerable suffering", says Sigrid Carlsson.

The thesis reveals also a tendency for men in the screening group who underwent surgery for [prostate cancer](#) to be affected by impotence at a lower degree than those in the control group who underwent surgery. It was also shown that few [men](#) experienced that PSA sampling and taking biopsies from the prostate caused particularly high levels of anxiety. Furthermore, serious life-threatening complications from the biopsy procedure or from prostate surgery were very uncommon.

The thesis makes clear the advantages and disadvantages of [PSA screening](#), but the scientists do not believe that the time is right to recommend general screening. In addition, the screening study is still ongoing in Gothenburg.

"We need more studies and a longer follow-up. We also need studies on cost-effectiveness, in combination with measurements of the men's quality of life", says Sigrid Carlsson.

Provided by University of Gothenburg

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