Faculty of Sexual & Reproductive Healthcare
Vasectomy and Prostate Cancer
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New data
A study\(^\text{(1)}\) published ahead of print, has suggested that vasectomy is associated with a small overall increased risk of prostate cancer.

Key findings

- A small increased risk of prostate cancer was found to be associated with vasectomy (RR 1.10 (95% CI 1.04 to 1.17)).

- The increased risk was noted for high grade prostate cancer (RR 1.22 (95% CI 1.03 to 1.45)).

- A non-statistically significant increased risk was also noted for lethal disease (RR 1.19 (95% CI 1.00-1.43)).

Synopsis
The findings are reported by a large cohort study\(^\text{(1)}\) of 49,405 men within the United States. The study included men aged 40 to 75 years and followed them for 24 years. The authors controlled for various confounding factors. However, data on how long it had been since the vasectomy had been performed and ascertainment of prostate cancer cases was self reported, including via family and friends. This may have resulted in the introduction of bias.

After adjusting for a number of variables, the adjusted relative risk of total prostate cancer was increased in men who had vasectomy compared with those who did not (1.10 (95% CI 1.04 to 1.17)). No association was found between vasectomy and low-grade cancer but there was an association with advanced stage disease (RR 1.20 (95% CI 1.03 to 1.40)) and also with high grade disease ((RR 1.22 (95% CI 1.03 to 1.45))).
An increased risk of lethal prostate cancer was reported. However, the increased risk was not found to be statistically significant (RR 1.19 (95% CI 1.00-1.43)).

The authors noted that whilst there is an increase in the relative risk of prostate cancer, this translates into a small increase in absolute risk.

**Clinical Effectiveness Unit (CEU) response**

The CEU is currently updating guidance on both male and female sterilisation and will seek to incorporate the findings into their upcoming guidance. The CEU would however reiterate the conclusions of the authors, which are that the observed increases in relative risk, translate into a small absolute risk of prostate cancer. The relative risks are very low and therefore other factors could have contributed to the findings.

It is impossible to control for all bias and confounding within observational studies. In this study the authors did not appear to examine occlusion method or the method of exposing the vas, which in theory may impact on risk - such factors have been found to impact on other risks such as pain, infection, and efficacy.

Case-control(2-5) and cohort studies(6-8) examining vasectomy and the risk of prostate cancer have produced conflicting results. The majority of these studies have not found any association between vasectomy, age at vasectomy, obstruction interval and prostate cancer.(2-5,7,8) Although a cohort study(6), systematic review(9), and meta-analysis(10) suggested a small statistically significant risk of prostate cancer, the association can readily be explained by bias or confounding factors such as age.(9,10) A recently conducted meta-analysis(11) undertaken by the American Urological Association showed no association between prostate cancer and vasectomy. As the pathogenesis of prostate cancer is incompletely understood, it is possible that other, as yet unknown, confounding factors are involved. Furthermore, methodological issues may also have an affect as cohort studies have reported an association whereas case-control studies have not.

The CEU and FSRH welcomes research which adds to the existing body of evidence and helps to better inform men of the risks and benefits associated with vasectomy.

**Practical advice for practitioners**

The CEU recommends that men be told that:

- any small weak association between vasectomy and prostate cancer observed in studies is unlikely to be causal
- the absolute risk of prostate cancer associated with this procedure is extremely low.

Guidance on Male and Female Sterilisation will be published by the FSRH later this year at [www.fsrh.org](http://www.fsrh.org)
Reference List


