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## Men over 40 with BRCA2 gene fault ?should get regular PSA screening?

Date:

05 November 2019

Experts are urging that guidelines should change so that all men over the age of 40 with faults in the BRCA2 gene should be offered regular PSA testing to detect early signs of prostate cancer.

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[Prostate cancer cell](#)

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Scientists at **The Institute of Cancer Research, London** [8], are calling for targeted screening after finding that PSA testing picked up prostate cancers more often, at a younger age and in more dangerous forms in men with BRCA2 mutations than in non-carriers.

Testing for the prostate-specific antigen (PSA) in the general population has been enormously controversial, because of the risk that elevated levels can pick out men with clinically insignificant prostate cancers.

## Guidance needs to change

But researchers told the **2019 NCRI Cancer Conference** [9] in Glasgow today (Tuesday 5 November) that men with BRCA2 mutations have such a high risk of aggressive prostate cancers that they should be offered annual PSA testing.

Scientists at The Institute of Cancer Research (ICR) are now leading research to assess the long-term effects of regular PSA testing in these men. But they believe their results are already so clear-cut that guidance needs to change as soon as possible rather than wait up to 10 years for long-term survival data.

The European Association of Urology's guidelines committee will now be considering the new evidence ? and the researchers hope it will make a Europe-wide recommendation that all men over 40 who carry the BRCA2 mutation should have an annual PSA test.

The **BRCA2 gene was identified at the ICR** [10], enabling families with a history of breast and ovarian cancer to be assessed for future risk, and laying the groundwork for novel forms of therapy for BRCA-associated cancers.

## The IMPACT study

At the conference ? the UK's biggest cancer meeting ? the ICR researchers presented findings from the **IMPACT study** [11], which assessed the potential benefits of PSA testing in men with BRCA2 mutations at 65 centres in 20 different countries around the world.

Their study ? funded by Cancer Research UK and a donation to the ICR from the Ronald and Rita McAulay Foundation ? found that annual PSA tests were more likely to pick out life-threatening forms of prostate cancer in men who carry the BRCA2 gene fault than in non-carriers.

Men were offered a yearly PSA test and depending on the result, they were either offered a biopsy to confirm their disease, and treated if needed, or asked to come back the following year.

Men with the BRCA2 gene fault were almost twice as likely to be diagnosed with prostate cancer as non-carriers, and were diagnosed at a younger age ? an average of 61 years compared with 64.

Crucially, men with the BRCA2 gene fault more often had serious, potentially life-threatening tumours ? with 77% of these men having clinically significant disease compared with 40% among non-carriers.

## Earlier diagnosis and treatment

The ICR experts believe an annual PSA test could lead to earlier diagnosis and treatment of prostate cancer in this high-risk group ? and can ultimately save lives.

The PSA test looks at the level of prostate specific antigen present in the blood. PSA is a protein produced by normal cells in the prostate and also by prostate cancer cells ? and raised levels can sometimes indicate cancer.

Previous studies have shown major limitations to the PSA test ? including false positives, false negatives and over-diagnosis, in which essentially harmless tumours are picked up. The researchers continue to believe that the PSA test is not a suitable screening tool in the general population.

The research was also supported by the NIHR Biomedical Research Centre at **The Royal Marsden** [12] and the ICR.

## Giving men control over their health

**Professor Ros Eeles** [13], **Professor of Oncogenetics at The Institute of Cancer Research, London, who leads the IMPACT study, said:**

?Our research shows very clearly that men with the BRCA2 gene fault are at increased risk of aggressive prostate cancer and that regular PSA testing could go some way to improving early diagnosis and treatment.

?We?re now calling on regulatory bodies to update guidance so men with BRCA2 defects can get regular PSA screening. Every man over the age of 40 who carries a mutation in the BRCA2 gene should be offered an annual PSA test, as a way of giving men more control over their own health by identifying prostate cancer which is more aggressive and needs treatment.?

**Professor Paul Workman** [14], **Chief Executive of The Institute of Cancer Research, London, said:**

*?The ICR?s identification of the BRCA2 gene almost a quarter of a century ago was one of the seminal discoveries in the modern history of cancer research.*

*It has already opened up genetic testing and preventative treatment for a generation of women at risk of breast and ovarian cancer, and it?s exciting that targeted PSA screening in men with these mutations could also have major benefits.?*

## **Our research: prostate cancer** [15]

Improving treatment selection and using advances in molecular diagnostics and treatment

options to improve outcomes for patients with localised and metastatic disease.

Find out more about our research <sup>[15]</sup>

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[8] <https://www.icr.ac.uk/>

[9] <https://conference.ncri.org.uk/2019-programme/>

[10] <https://www.icr.ac.uk/about-us/our-achievements/our-scientific-discoveries/identifying-a-breast-cancer-gene>

[11] <http://www.icr.ac.uk/our-research/research-divisions/division-of-genetics-and-epidemiology/oncogenetics/research-projects/impact>

[12] <https://www.royalmarsden.nhs.uk/>

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[15] <https://www.cancerbrc.org/our-research/prostate-cancer>