

Project Outline for The Bob Champion Cancer Trust

We are extremely grateful to the Trustees of The Bob Champion Cancer Trust for their long-term support of male cancer research at The Institute of Cancer Research (ICR) and most recently, a pledge to support the work of Professor Ros Eeles.

Understanding cancer risk

The ICR is a world leader at understanding the genetics underlying cancer risk, and also hosts some of the world's largest studies looking into the factors affecting whether men develop prostate cancer. By understanding these factors and how they interact, we hope to be able to detect men at a high risk of developing prostate cancer, and find means of helping to manage their risk. Our researchers analyse large numbers of samples to identify predisposition genes that individually may only have a small effect on cancer risk but that collectively can raise the risk significantly. Learning so much about the causes of cancer should open the door to new ways of catching it early or even preventing it altogether.

Professor Ros Eeles has been instrumental in ensuring new discoveries in cancer genetics immediately benefit patients, particularly in her specialty areas of prostate cancer and *BRCA*-mutation carriers.

Professor Eeles is a clinician as well as a scientist, and together with Dr Kote-Jarai she runs a laboratory at The Institute of Cancer Research (ICR) and Professor Eeles runs a Cancer Genetics Clinic at the ICR's partner hospital, The Royal Marsden NHS Foundation Trust.

Professor Eeles is responsible for finding numerous genetic variants that increase people's risk of prostate cancer, and has set up an international consortium that gives researchers access to genetic samples from large numbers of prostate cancer patients. This collaboration is helping scientists find and evaluate potential prostate cancer risk genes more quickly, bringing the prospect of a comprehensive screening test and new targeted treatments closer to reality.



*"Cancer genetics is a very exciting branch of medicine
and I chose to specialise in it as it
provides real promise for personalised
and preventative medicine."*

Professor Ros Eeles

The Bob Champion Cancer Trust has generously agreed to support a new project being carried out by Professor Eeles looking at '**Tailored care in young onset prostate cancer using genetic medicine**'. The key to curing cancer is catching it early. But that's hard to do for some cancers, such as prostate cancer, where there are no effective screening tests. Early on, prostate cancer is largely symptomless and by the time men are diagnosed it is often too late. So imagine if new genetic screening could give doctors enough information to predict if you might develop prostate cancer and how aggressive the disease will be?

Over 40,000 men are diagnosed with prostate cancer in the UK every year, and more than a quarter die from the disease. Effective treatments are becoming available but men stand a far better chance if the disease is caught early when the chance of survival is 95% – dropping to 60% if spotted later. That's why identifying those at risk, especially those who may develop the most aggressive form of the disease, is so important. Men with prostate cancer diagnosed at 60 years or less are at an increased risk of disease progression in their lifetime as they have a long life expectancy; furthermore we have preliminary data which show that these men have a higher chance of harbouring inherited genetic changes which cause aggressive disease.

This particular study aims to identify genetic changes in prostate cancer of young onset patients - diagnosed at 60 years or less - to identify targets for personalised therapy and genetic changes in the DNA in order to offer targeted screening to their relatives who harbour these variants. The funding from the Bob Champion Cancer Trust will help support specialist research posts to create and analyse the genetic data.

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