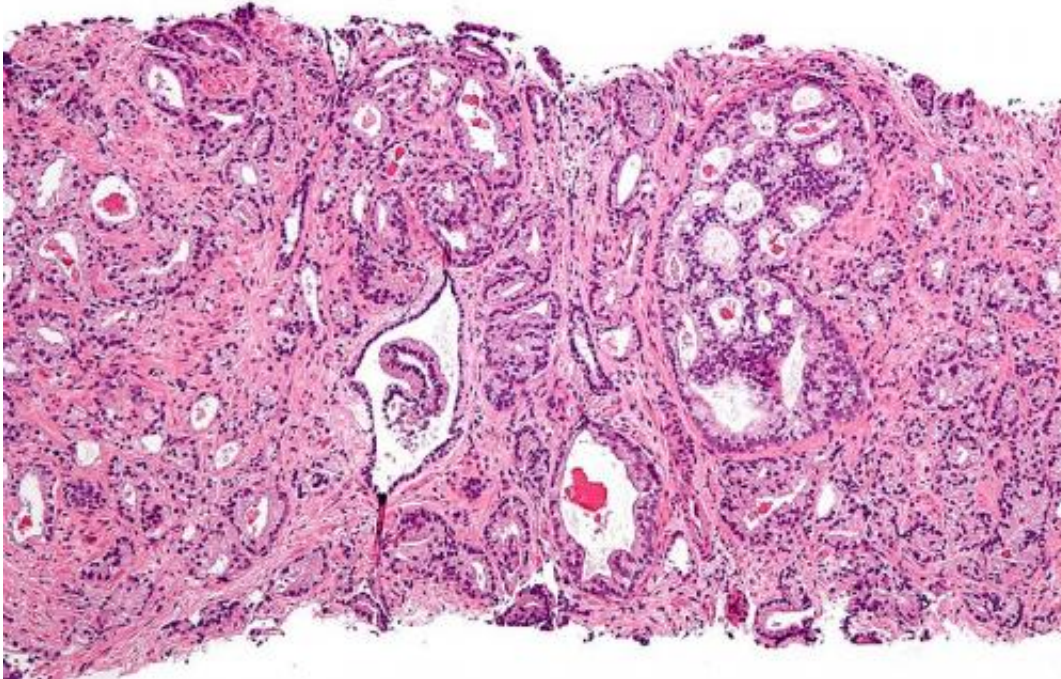


Prostate cancer is five different diseases

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Micrograph showing prostatic acinar adenocarcinoma (the most common form of prostate cancer) Credit: Wikipedia, [CC BY-SA 3.0](#)

Cancer Research UK scientists have for the first time identified that there are five distinct types of prostate cancer and found a way to distinguish between them, according to a landmark study published today in *EBioMedicine*.

The findings could have important implications for how doctors treat [prostate cancer](#) in the future, by identifying tumours that are more likely

to grow and spread aggressively through the body.

The researchers, from the Cancer Research UK Cambridge Institute and Addenbrooke's Hospital, studied samples of healthy and cancerous prostate tissue from more than 250 men.

By looking for abnormal chromosomes and measuring the activity of 100 different genes linked to the disease they were able to group the tumours into five distinct types, each with a characteristic genetic fingerprint.

This analysis was better at predicting which cancers were likely to be the most aggressive than the tests currently used by doctors - including the PSA test and Gleason score. But, the findings need to be confirmed in clinical trials with larger groups of men.

Study author Dr Alastair Lamb, from the Cancer Research UK Cambridge Institute, said: "Our exciting results show that prostate cancer can be classified into five genetically-different types. These findings could help doctors decide on the best course of treatment for each individual patient, based on the characteristics of their tumour.

"The next step is to confirm these results in bigger studies and drill down into the molecular 'nuts and bolts' of each specific prostate cancer type. By carrying out more research into how the different diseases behave we might be able to develop more effective ways to treat prostate cancer patients in the future, saving more lives."

Prostate cancer is the most common cancer in men in the UK, with around 41,700 cases diagnosed every year. There are around 10,800 deaths from the disease each year in the UK.

Professor Malcolm Mason, Cancer Research UK's prostate cancer

expert, said: "The challenge in treating prostate cancer is that it can either behave like a pussycat - growing slowly and unlikely to cause problems in a man's lifetime - or a tiger - spreading aggressively and requiring urgent treatment. But at the moment we have no reliable way to distinguish them. This means that some men may get treatment they don't need, causing unnecessary side effects, while others might benefit from more intensive treatment.

"This research could be game-changing if the results hold up in larger [clinical trials](#) and could give us better information to guide each man's treatment - even helping us to choose between treatments for men with aggressive cancers. Ultimately this could mean more effective treatment for the men who need it, helping to save more lives and improve the quality of life for many thousands of men with prostate cancer."

More information: Ross-Adams et al. Integration of copy number and transcriptomics provides risk stratification in prostate cancer: a discovery and validation cohort study. *EBioMedicine*. [DOI: 10.1016/j.ebiom.2015.07.017](#)

Provided by Cancer Research UK

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