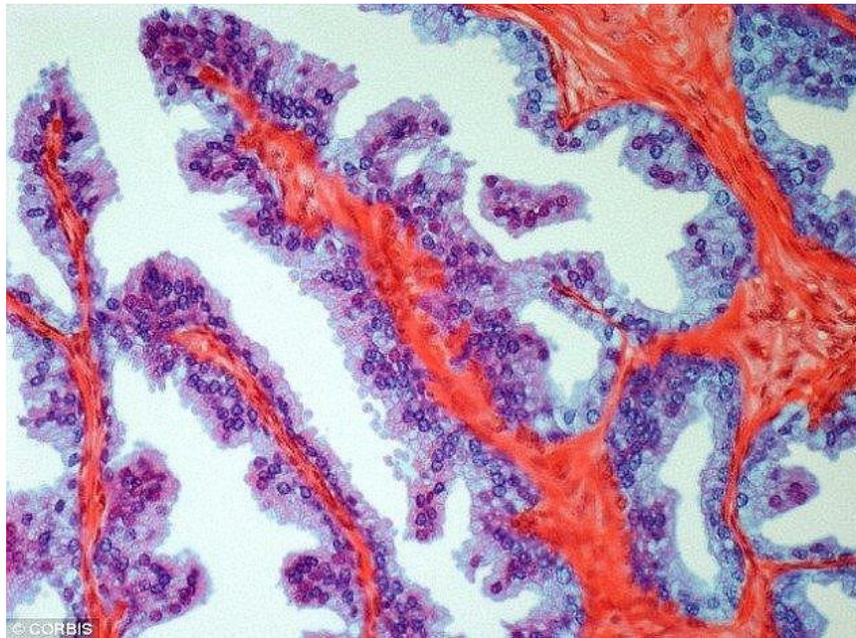


New prostate cancer test that 'smells' the disease in urine could save lives and spare men from invasive procedures

By **Anna Hodgekiss** For Mailonline, www.dailymail.co.uk
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Scientists have created a urine test to diagnose **prostate cancer** - sparing men from the invasive investigations they must currently undergo. The researchers today hailed their work as an important milestone in fighting the disease and say it should save many lives. More than 1.1 million cases of prostate cancer were recorded globally in 2012, according to the World Cancer Research Fund. These accounted for 8 per cent of all new cancer cases and 15 per cent of those affecting men.



More than 1.1 million cases of prostate cancer
Photo by: pictured

Essentially, the test uses a special tool to 'smell' the cancer in a man's urine. The discovery, published today in the *Journal of Breath Research*, raises hope of tests that deliver an accurate diagnosis from the outset.

Mr Raj Prasad, Consultant Urologist at Southmead Hospital, North Bristol NHS Trust, said: 'If this test succeeds a full medical trial it will revolutionise

diagnostics.

'Even with detailed biopsies there is a risk we may fail to detect prostate cancer in some cases.

'Currently indicators such as an enlarged prostate and unusually high PSA levels can lead to recommendations for biopsy if there is a concern cancer may be prevalent.

'An accurate urine test would mean many men who currently undergo prostate biopsy may not need to do so.'

Called a gas chromatography (GC)-sensor system, the device, called Odoreader, is able to successfully identify patterns of volatile compounds from urine samples - and detect those of which indicate cancer.

In a trial, run in collaboration with a team at the University of the West of England, Southmead Hospital and Bristol Royal Infirmary, 155 men who attended a urology clinic were assessed.

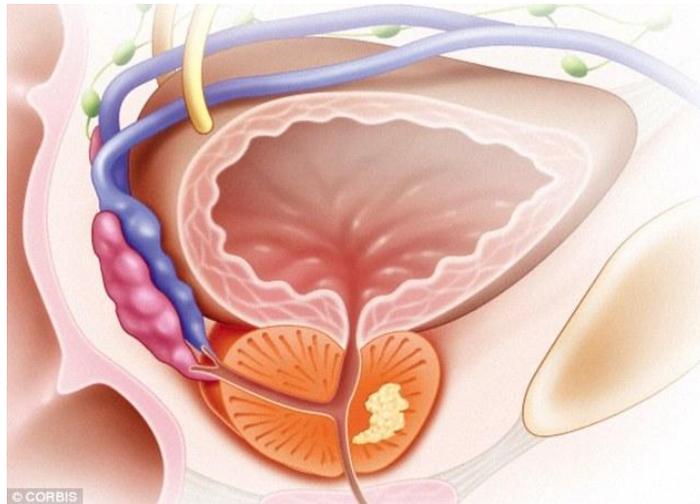
Of this group, 58 were diagnosed with prostate cancer, 24 with bladder cancer and 73 with poor stream/urine flow without cancer.

This involved inserting urine samples into the Odoreader that were then measured using algorithms developed by the research team at the University of Liverpool and UWE Bristol.

Professor Chris Probert, from the University of Liverpool, said: 'There is an urgent need to identify these cancers at an earlier stage when they are more treatable - as the earlier a person is diagnosed the better.

'After further sample testing the next step is to take this technology and put it into a user friendly format.

'With help from industry partners we will be able to further develop the Odoreader, which will enable it to be used where it is needed most; at a patient's bedside, in a doctor's surgery, in a clinic or Walk In Centre, providing fast, inexpensive, accurate results.'



An accurate urine test would mean many men who currently undergo a prostate

Photo by: pictured in orange, with a tumour

Professor Norman Ratcliffe, of the University of the West of England, added:

'There is currently no accurate test for prostate cancer, the vagaries of the PSA test indicators can sometimes result in unnecessary biopsies, resulting in psychological toll, risk of infection from the procedure and even sometimes missing cancer cases.

'Our aim is to create a test that avoids this procedure at initial diagnosis by detecting cancer in a non-invasive way by smelling the disease in men's urine.

'A few years ago we did similar work to detect bladder cancer following a discovery that dogs could sniff out cancer.

'We have been using the Odoreader, which is like an electronic nose to sense the cancer.'

He added: 'The Odoreader has a 30 metre column that enables the compounds in the urine to travel through at different rates thus breaking the sample into a readable format.

This is then translated into an algorithm enabling detection of cancer by reading the patterns presented.

'The positioning of the prostate gland which is very close to the bladder gives the urine profile a different algorithm if the man has cancer.'