

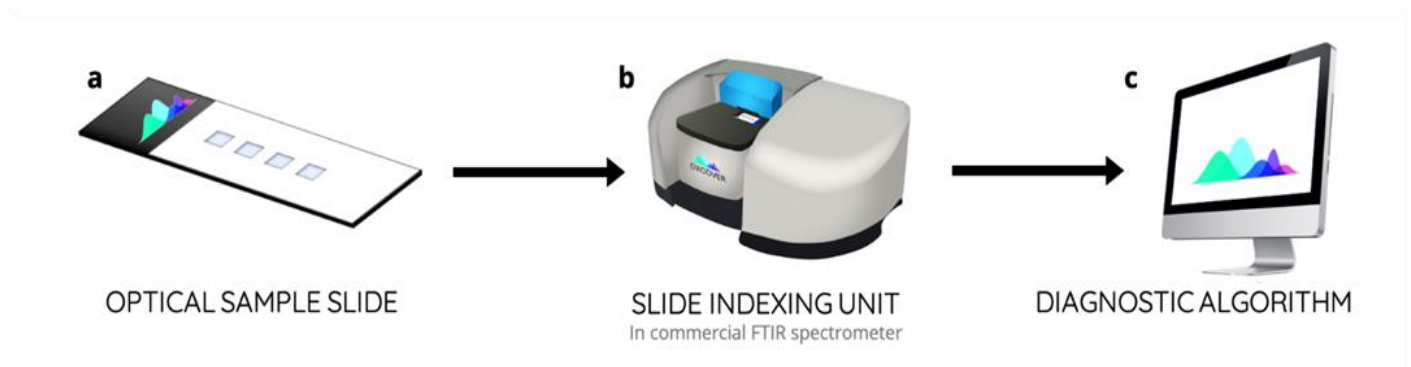


Innovative Medical Technology Overview: Plain Language Summary

IMTO 03-21

October 2021

Dxcover™ brain cancer liquid biopsy test for early brain cancer detection in primary care.



How would a test for earlier detection of brain cancer help?

Brain cancer can be difficult to detect as symptoms, such as headache and dizziness, can be quite general. The vast majority of people visiting their general practitioner (GP) with such common symptoms will not have brain cancer. A test would help doctors identify which patients should be referred for further investigation.

How does this test work?

Dxcover™ uses different wavelengths of light to examine a blood sample from a patient and compare it against a reference created from samples from people who are known to have brain cancer. The risk of the patient having brain cancer, based on this comparison, is calculated using computer algorithms. The sample is taken at the GP surgery and the test is done in a hospital laboratory. The result is not a diagnosis, but provides information to help decide if a patient should be referred to hospital for a scan or given reassurance that they are unlikely to have brain cancer.

What is innovative about the test?

The test is innovative in that it works with the full profile of chemicals in the blood rather than looking for just one marker of cancer. Samples require little additional processing in the lab so results can be provided quickly.

What we did

SHTG evaluated the available evidence about the performance of the test and how likely it is to be good value for money for the NHS (cost effectiveness).

What we found

There was one published study and one unpublished study on the test performance.

We found that the test had potential to differentiate between people with and without brain cancer. However, the studies were carried out using samples from a group where there were many more patients with brain cancer than would be found in the same-sized group of people visiting their GP.

There were two published studies on the cost effectiveness of the test.

Both of these were based on the patient samples described above and both concluded that the test would be considered good value for money if the cost of testing was below £100. There was a lot of uncertainty in this evidence so further studies will be needed to provide more information.

What about safety?

No diagnostic test is 100% accurate and there can be safety issues due to the consequences of false negative and false positive findings. For this test, false negative findings may lead to delayed diagnosis whilst false positive findings may lead to unnecessary anxiety or emotional distress for patients.

What are our conclusions?

While initial evidence suggests that the Dxcover™ spectroscopic liquid biopsy test may be able to help GPs identify those patients with generic symptoms who are most likely to benefit from referral for a brain scan, further studies are needed to confirm this.

Future work

Future work should examine whether the test is helpful to GPs in their routine work and determine if it leads to faster diagnosis of patients with brain cancer and, whether this, in turn, improves patient quality of life and survival.

This plain language summary is based on IMTO 03-21, October 2021