

New test could speed up the diagnosis of womb cancer

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A new PCR test that identifies women with womb cancer from a sample

taken from the cervix or vagina has been developed by researchers from UCL and the University of Innsbruck.

The research, published in the *Journal of Clinical Oncology*, reports that the test is more accurate than current methods and may work equally well on all [women](#).

It is hoped that the research will speed up the diagnosis of [womb cancer](#) and reduce the need for more invasive, and often painful, diagnostic procedures such as hysteroscopy.

The [new test](#), named the WIDTM-qEC, was developed by Professor Martin Widschwendter (UCL EGA Institute of Women's Health, Universität Innsbruck, Karolinska Institutet) and his team, and examines three regions of DNA that show different levels of methylation, a type of modification "on top" of the DNA, in those with or without cancer. DNA methylation levels are measured by PCR, which is relatively low-cost and used routinely in clinical diagnostic labs, for example in the detection of coronavirus.

To assess the reliability of the test, researchers used 1,288 cervical screening samples from women both with and without womb cancer, collected by a large team of investigators across the U.K. and Europe.

The test successfully identified all eight cases of womb cancer within a cohort of 63 women presenting with post-menopausal bleeding.

Additionally, only a few women without cancer were given a false positive result (less than 11% of the women without womb cancer), making the test more specific than transvaginal ultrasound.

The WIDTM-qEC test delivered reliable results both when the sample was taken by a medical professional and self-collected with a vaginal

swab. Self-sampling could speed up the detection process even further by reducing the need to book and attend an appointment.

Professor Widschwendter said, "It was critical to us that this research addressed all of the issues associated with current detection methods for womb cancer. Most importantly, using our test, far fewer women with abnormal bleeding will have to undergo invasive diagnostic procedures. Our test does not depend on the operator and results can be returned quickly, reducing anxiety.

"Post-menopausal women with abnormal bleeding have a 1 in 10 chance of having womb cancer; for pre-menopausal women the chance is much lower (as low as 1 in 200). For these women the simplicity and accuracy of the WID-qEC test offers real advantages for detecting womb cancer early.

"We want to thank all of the teams in the collaboration who helped to deliver this improved early detection method for womb cancer."

Womb cancer is the fourth most [common cancer](#) in women in the U.K. and the most common of the five gynecological cancers, with more than 9,700 people diagnosed every year in the U.K.

However, it can be difficult to detect, as the main symptom for the disease is usually abnormal bleeding and this can be mistaken for several other benign (non-cancerous) conditions, such as polyps, fibroids and endometriosis.

In the U.K., those who are suspected of having womb cancer are referred for a transvaginal ultrasound, where a small scanner probe is placed into the vagina to get a detailed picture of the inside of the womb and help look for signs of a thickened womb lining (endometrium).

If a thickened womb lining is detected, then the endometrium is visually inspected by hysteroscopy using a narrow telescope with a light and small camera that is placed into the vagina, passed through the cervix and into the womb. A biopsy will also be taken if needed.

These procedures can be invasive and painful. And, while transvaginal ultrasounds are effective at detecting womb cancer in post-menopausal White women, they are less reliable when diagnosing womb cancer in pre- and peri-menopausal women, and Black women.

In pre-menopausal women the thickness of the womb fluctuates throughout the [menstrual cycle](#), so endometrial thickness is a less reliable measure of something abnormal. It's also much less common to develop womb cancer before the menopause and so it can be more difficult to get an initial referral from the GP—resulting in further delays to diagnosis.

Transvaginal ultrasounds are also a less reliable method of womb cancer detection in Black women, who have much higher rates of benign womb conditions such as fibroids which cause a thickened womb lining.

However, early results from WID-qEC show that the test was as effective for all groups—regardless of age, ethnicity, being pre- or post-menopausal, and the stage, grade and type of cancer they have.

New clinical studies have already started, with more planned to further validate these results, including further testing on the effectiveness of the WID-qEC in Black women.

Athena Lamnisos, CEO, The Eve Appeal, said, "Womb cancer is the most common cancer that no one has heard of. When a patient is referred for diagnosis with abnormal bleeding, the wait and the procedure is really tough. This research shows real promise in reducing the time to diagnosis, providing a specific diagnosis for everyone and

reducing the need for painful and invasive interventions. It really does bring early detection of cancer one stage closer."

Case study

Jacqueline Boothe, who was diagnosed with womb cancer, said, "I started bleeding heavily and had to miss swimming lessons. People kept telling me to just use tampons and go, but I knew that wouldn't work, it was so heavy. Something was wrong. A locum referred me for a scan, and I was sent for more investigations because the lining of my womb was a bit thick.

"I was told I would need a hysteroscopy and the appointment came within two weeks. I got that feeling of dread when it came. Within five days of the procedure, I was called by an oncology consultant. I knew it was bad news. I had a hysterectomy which confirmed I had early-stage [womb cancer](#). I laughed and cried- It's hard to explain but I was just so happy I had made the right decision and the surgery was the right thing to do. The roller coaster of the discomfort of a hysteroscopy followed by the waiting was worse than the diagnosis."

More information: Chiara Herzog et al, A Simple Cervicovaginal Epigenetic Test for Screening and Rapid Triage of Women With Suspected Endometrial Cancer: Validation in Several Cohort and Case/Control Sets, *Journal of Clinical Oncology* (2022). [DOI: 10.1200/JCO.22.00266](#)

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