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Quest Diagnostics™

Spotlight on Health

Cervical Cancer Screening

Co-testing

Shortly after the discovery that the human papillomavirus (HPV) causes almost all cases of cervical cancer, DNA- and mRNA-based HPV tests became available. They've since been used to complement the Pap test, which has been the gold standard for cervical cancer screening for many decades. In this newsletter, we'll take a look at the benefits of co-testing (a Pap test *plus* an HPV test). We'll also review how co-testing fits in with cervical cancer screening guidelines.

Screening Guidelines Include Co-testing

The most recent cervical cancer screening guidelines were published this year by the American College of Obstetricians and Gynecologists (ACOG).[1] They reiterate the preference for using co-testing to screen women 30 to 65 years of age.

ACOG 2016 Cervical Cancer Screening Guidelines[1]

Age (years)	Recommended Screening
<21	No screening
21 to 29	Pap test every 3 years
30 to 65	Pap test + HPV co-testing every 5 years (preferred) ***or*** Pap test every 3 years
>65	No screening (if low cancer risk)[a]

[a] 3 consecutive negative Pap tests or 2 consecutive negative co-tests within the last 10 years, with the most recent test within the past 5 years.

Benefits of Co-testing

The guideline committee identified these benefits of co-testing every 5 years compared with Pap testing alone every 3 years[1,2]:

- Increased sensitivity for detecting cervical intraepithelial neoplasia (CIN3)
- Lower subsequent risk of cervical intraepithelial neoplasia or higher (CIN3+) following a negative HPV result
- Lower subsequent risk of cancer following a negative HPV result
- Increased detection of adenocarcinoma of the cervix

Basis for Co-testing Recommendation

The co-testing recommendation was based in part on results from large, randomized trials.[3-6] The trials compared co-testing with Pap testing alone in women aged 25 to 60 years. They showed that co-testing detects high-grade lesions earlier, enabling prevention of more cases of CIN3+ and cervical cancer.

Risk Factors for Cervical Cancer

The most important risk factor for cervical cancer is infection with a high-risk HPV type. Other risk factors include:

- Smoking
- HIV infection
- Some immunosuppressive medications
- Past or present sexually transmitted infection (chlamydia)
- Diet low in fruits and vegetables
- Being overweight
- Long-term use of oral contraceptives
- Never having used an intrauterine birth control device
- 3 or more full-term pregnancies
- Age younger than 17 at first full-term pregnancy
- Family history of cervical cancer

The co-testing screening interval was selected by benchmarking it against the performance of Pap testing alone every 3 years. Studies showed that co-testing every 5 years results in a slightly lower rate of cancer, fewer screens, and fewer colposcopies.[1]

Finally, co-testing improves the detection of adenocarcinoma of the cervix relative to Pap testing alone.[4,7] This is important, as the incidence of adenocarcinoma has been increasing.

A 2015 Co-testing Study[8]

The benefits of co-testing were also demonstrated in a more recent study. Scientists used a large database composed of co-testing results and looked at the data in 3 ways: Pap-only result, HPV-only result, and co-test result.

They found that co-testing was the most sensitive of the 3 for detecting precancer (CIN3+):

- Pap only—91% sensitivity (95% CI, 91%-93%)
- HPV only—94% sensitivity (95% CI, 93%-95%)
- Co-testing—99% sensitivity (95% CI, 98.6%-99.2%)

Co-testing also missed the fewest cases of cancer. Of the cervical cancers detected in this study:

- 5.5% were co-test negative
- 12.2% were Pap-only negative
- 18.6% were HPV-only negative

How the Laboratory Can Help

Quest Diagnostics offers a selection of tests for cervical cancer screening. These include image- and nonimage-guided Pap testing, HPV mRNA testing, co-testing, and HPV genotyping. Information about these tests can be found in the Test Center.

Quest also offers panels that combine Pap screening with screening for certain common sexually transmitted infections (STIs). These panels are performed according to the age-dependent guidelines for cervical cancer screening. The STI screening is consistent with current guidelines for screening average-risk women of various ages and women at high risk. The panels include the initial screen and a reflex to follow-up testing as needed. More information on these tests can be found at QuestDiagnostics.com/SMARTcodes.

References

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