Cervical imaging system enhances cancer exams

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Approximately 11,000 women were diagnosed with cervical cancer in the United States in 2008, and more than 3,800 died from the disease.

In Iowa, there are about 110 new cases of cervical cancer per year, resulting in 40 deaths annually.

But since last July, researchers at the University of Iowa have used the LUMA Cervical Imaging System in more than 80 women — in conjunction with other methods of detecting cervical cancer — to enhance their ability to find cancer and precancerous disease, said Dr. Colleen Kennedy, primary investigator for the LUMA study at the university.

The LUMA Cervical Imaging System was approved by the Food and Drug Administration in 2006 as an adjunct to colposcopy. The University of Iowa is one of just two sites in the country — the other is a private practice in Encinitas, Calif. — currently involved in the post-approval LUMA study.

Colposcopy is a follow-up procedure to an abnormal Pap smear and uses a special instrument to magnify the cervix to help diagnose cancer or precancerous disease.

"The problem with colposcopy is that it's very subjective and user-dependent, so when different people look at the abnormality, some will say it's abnormal, and some will say it's not that abnormal," said Kennedy, an assistant professor in the University of Iowa's department of obstetrics and gynecology.

"The hope is that LUMA will aid in the detection of precancer so that we don't have as much cancer, and also aid in the detection of cancer so that it's identified early when treatment is better."

Based on information from the National ALTS study, it's estimated that precancerous disease goes undiagnosed in 200,000 women every year, said Jim Hitchin, chief executive officer of SpectraScience.

The clinical trial looked at the best way to manage mild abnormalities that often appear on Pap smear tests.

Hitchin said that the LUMA device, used in conjunction with colposcopy, has found at least 26 percent more precancerous disease compared to colposcopy alone.

LUMA uses broad-spectrum and ultraviolet light to detect abnormal areas, so it removes the providers' subjectivity, Kennedy said. "It's the same basic process, just enhanced."

An image is of the cervix is produced that color codes the areas physicians should target for biopsy, according to SpectraScience.

The plan is to have 200 participants by the time the study ends in 2010, Kennedy said. Analysis of the results from the first year of the study will not be available until September.

The device is easy to use, Kennedy said. "It really doesn't add any discomfort or significant time to the patients. It literally adds maybe two minutes."

There are only five systems in use right now in the United States, Hitchin said. While each system sells for about $175,000, they are usually rented. The test is not currently covered by insurance, he said.

The test is free for women participating in the University of Iowa study because Des Moines venture capitalist John Pappajohn and his wife, Mary, agreed to pay for the tests.