

# SOUTHWESTERN NEWS

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## **UT SOUTHWESTERN STUDY SHOWS THINPREP PAP TESTS COULD HELP DEVELOP MARKERS FOR RISK OF CERVICAL CANCERS**

DALLAS – Oct. 10, 2000 – A UT Southwestern Medical Center study proves that a recently developed fluid-based Pap test offers a relatively simple way for molecular changes in cell samples to be analyzed.

This process could lead to the development of biomarkers identifying women at risk for cervical cancer and optimize chemoprevention strategies for these cancers.

The UT Southwestern team reported that the clear picture of molecular changes using the cytology suspended in the ThinPrep Pap test specimens could allow researchers to discover the risk-assessment biomarkers.

"Our study shows that it is possible to conduct multiple molecular analyses of DNA (deoxyribonucleic acid), RNA (ribonucleic acid) and protein levels of bits of cells from the cervical area using the leftover cells from the widely used, simple-to-perform fluid-based ThinPrep Pap test," said Dr. Carolyn Muller, lead researcher and assistant professor of obstetrics and gynecology at UT Southwestern.

Muller said that over the past few years, physicians have been moving toward use of the ThinPrep Pap test for primary cervical-cancer screening because of its decreased false-negative rate. The UT Southwestern study, done in collaboration with Dr. Raheela Ashfaq, associate professor of pathology, was designed to capture and identify HPV (human papillomavirus), DNA, RNA and other suspicious molecular protein materials from genes likely involved in the progression of dysplasia toward cervical cancer.

Muller said that while it is known that the presence of HPV is an indicator of possible cancer or precancer in the area of the cervix, researchers have long hoped that as yet undiscovered or unproven genetic changes that can be used as risk-assessment biomarkers can be found.

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“It is widely accepted that there are multi-step molecular changes leading to malignant transformation from pre-neoplastic lesions to invasive tumors,” Muller said. “However, the sequence of molecular events responsible for cervical carcinogenesis has not yet been elucidated.”

Muller said that one of the reasons the ThinPrep Pap is ideal for attempting to find risk-assessment biomarkers is that its alcohol-based liquid can maintain the integrity of the various protein specimens while preserving them. Also, only a fraction of the sample is used for the clinical Pap smear, allowing for further testing of the sample, she said.

Research samples used in the UT Southwestern study were from 95 women who received their gynecological care through Parkland Health & Hospital System and consented to participate in the study. The specimens of cervical cells were collected with the ThinPrep Pap test and studied within two years of collection.

The study appeared in the Aug. 11 issue of the *Journal of Obstetrics and Gynecology*. Other UT Southwestern researchers in the study were Dr. W. Michael Lin, obstetrics and gynecology fellow; Dr. Adi Gazdar, professor of pathology ; Dr. Anirban Maitra, pathology resident; and Eugenia Michalopoulos, research assistant in the Nancy B. and Jake L. Hamon Center for Therapeutic Oncology Research.

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