The Doctors of Wilmington Pathology

KATHARINE LUI, M.D., F.C.A.P., F.A.S.C.P.
Board Certified, Anatomic and Clinical Pathology, Cytopathology, Hematopathology
Areas of Expertise:
Immunohistochemistry and Special Stains, Gynecologic Pathology

CHRISTOPHER D. MCKINNEY, M.D., F.C.A.P., F.A.S.C.P.
Board Certified, Anatomic and Clinical Pathology, Cytopathology
Areas of Expertise:
Gynecologic Pathology, Fine Needle Aspiration, and Cytopathology

GREGORY E. STERNKRAUS, Ph.D., A.B.M.M.
Diplomate, American Board of Medical Microbiology
Areas of Expertise:
Immunohistochemistry, Flow Cytometry, Image Analysis, and Molecular Testing in Neoplastic Diseases

Phone Directory
Main Office: 910.362.9511
Fax: 910.362.9512
Patient Billing: 910.362.9514
Physician Office Billing: 910.502.1733
Cytology: 910.202.1723
Andrology: 910.202.1724
Client Service: 910.202.1739

State of the Art Gynecologic Cytopathology

By Christopher D. McKinney, M.D.

Cervical cytopathologic screening (Pap screening) has proven to be one of the most successful cancer prevention programs in history resulting in a marked decline in incidence of cervical cancer in countries with active screening programs. Pap testing is not without problems however, and is not 100% sensitive or specific for detection of cancer or precancerous conditions. At Wilmington Pathology Associates, we have traditionally been at the forefront of technological innovations that have significantly improved the accuracy of Pap testing and continue to lead the way with implementation of new technologies, including our recent implementation of an improved method for detection of human papillomavirus, the underlying cause of cervical cancer.

WPA was the first independent laboratory in the region to implement monolayer technology providing the highest quality slide preparations possible by utilizing the ThinPrep™ system in 2002. We subsequently led the way by being third in the country to offer automated, computer-assisted screening, which significantly reduces the false negative fraction and improves the accuracy of cytopathologic diagnosis. We remain the only laboratory in the region with this advanced technology, which has been proven to increase detection rates for cervical cancer precursors.

In addition to these major advances, we have also initiated a molecular testing program that allows detection of human papillomavirus in cytopathologic samples, assisting the physician in management of patients with equivocal cytology results. Our most recent advance has been implementation of polymerase chain reaction technology for detection and typing of human papillomavirus. This not only provides WPA with the most sensitive detection system available, the method allows specific typing and risk assessment of each of the many subtypes of HPV, providing more specific and meaningful information than ever before. HPV detection and typing by PCR was first offered in December of 2005 and since that time, we have seen a significant increase in our detection rates for all types of HPV, but specifically

(continued on next page)
In The News

**New Faces**

Wilmington Pathology added two pathologists to its staff this year. David G. Marcheschi, MD is board certified in Anatomic and Clinical Pathology as well as Cytopathology. He earned his medical degree from Medical College of Ohio in Toledo; completed his residency at Duke University Medical Center and his fellowship in surgical pathology and cytopathology at University of Virginia Health Sciences Center in Charlottesville, VA. Dr. Marcheschi and his wife, Gina, have one daughter.

Katharine Liu, MD is board certified in Anatomic and Clinical Pathology, Cytopathology and Hematopathology. She earned her medical degree at Duke University Medical Center and completed residency programs at the same institution as well as University of California, San Diego.

**Website Provides Access to Pathology Reports**

Log On to our website - www.wilmingtonpathology.com where you will find our pathologist’s profiles, our services, news releases and medical links. We also have reporting on our menu to better serve our clients. This service will allow you to view, download and print your patient reports with just a few mouse clicks. With this free service you will benefit from:

- 24/7 access to reports
- password protected access
- 90 day report accessibility

Call our office to request a user name and password and begin using online reporting today.

**Specimen Tracking**

WPA is now utilizing an electronic tracking program to follow the transportation of specimen from physicians offices to our laboratory. Our requisitions have bar coded stickers for application to specimen bags and our couriers scan each specimen into their handheld device upon pickup and when back at the lab, scan out each specimen deposited in our accessioning area. We implemented this system as a Quality Assurance program and to make our couriers routes more efficient.

**Anniversary of New Location**

Wilmington Pathology Associates and NextWave Diagnostics Laboratory have now been in our new state of the art facilities for one year and in April hosted an open house for the medical community. The 15,000 square foot building has allowed the group to implement new technologies and medical advances and has provided patients with improved access. If you are interested in visiting our facility please call us or stop by for a tour.

**Access Genetics PCR Assay Four Step Approach - Closing in On Cervical Cancer**

In November 2002 our laboratory began offering HPV testing from the ThinPrep™ vial. We were the first facility in Southeastern North Carolina to offer this advancement in cervical cancer detection and diagnosis. The technology we chose was the Digene Hybrid Capture II hybrid test. This test uses an in vitro nucleic acid hybridization assay with signal amplification using microplate chemiluminescence to detect the presence of 18 viral types of human papillomavirus and categorize them into either Low-Risk or High-Risk. But the test is unable to determine the specific HPV type that is present.

Advancements in technologies and methodologies have created a new form of HPV detection that can differentiate between the specific viral types. The Access Genetics Polymerase Chain Reaction (PCR) Approach for HPV DNA typing is now considered a more advanced alternative for HPV detection. This groundbreaking technology utilizes a polymerase chain reaction (PCR) to not only identify the presence of the HPV virus, but also to distinguish between the currently described High-Risk types which are associated with the development of dysplasia or neoplasia; Low-Risk types; and a category of Unclassified Risk (see chart below). Identifying specific types of HPV or combined types of the virus, gives clinicians more information and increases correlations between Pap and colposcopy diagnosis and allows closer adherence to recommended ACGC management guidelines and improving patient care.

Our lab partners with Access Genetics in a Four Step Approach to HPV typing. Our facility completes the technical aspects of the test, which includes a step-by-step lab assay protocol. Then, the images produced are secured transmittable to Access Genetics via the Internet for interpretation by an Access Genetics ACGC-certified pathologist. Our laboratory receives completed reports within hours, which are then combined with cytology results. The completed reports briefly present the results of the test and the significance for the specific patient and relevant risk associations from current medical literature.

Using this new technology for detecting and diagnosing human papillomavirus (HPV) enables us to give clinicians more specific information about their patient’s HPV type and deliver it to them in less time. Physicians and healthcare providers can now develop more accurate strategies to manage their patients’ care based on the outcome of the Access Genetics PCR approach.

**Gynecologic Cytopathology**

for high-risk types, many of which were missed with older technology. This translates into more specific and accurate information for patients and physicians and allows more appropriate management of patients with this extremely common sexually-transmitted infection. More recently, we have begun to offer PCR detection of Chlamydia trachomatis and Neisseria gonorrhoea, utilizing samples collected for Pap testing, further improving detection rates for infectious organisms, while minimizing the need for collection of additional specimens. In the future, we hope to offer additional ancillary testing from cervical cytology specimens, including cystic fibrosis testing and possibly testing for detection of mutations associated with hereditary thrombophilia.

It is important to emphasize that WPA strives to provide the most sensitive and accurate testing methodology available, coupled with outstanding service, to provide women in our region with the most accurate and timely pathology results possible. Our staff of dedicated physicians and doctoral level scientists, including certified board and fellowship-trained subspecialists with interests and expertise in a wide range of pathology including cytopathology, hematopathology, microbiology, general surgical pathology and others.