

## The State of the Department

Michael B.Cohen, MD, Professor and Head

At the beginning of November of 2009 I started my 11th year as Head of the Department. Wow! Besides that ‘landmark’ the Department is undergoing its scheduled 5-year University review, which together have given me an opportunity to take stock as we look forward.

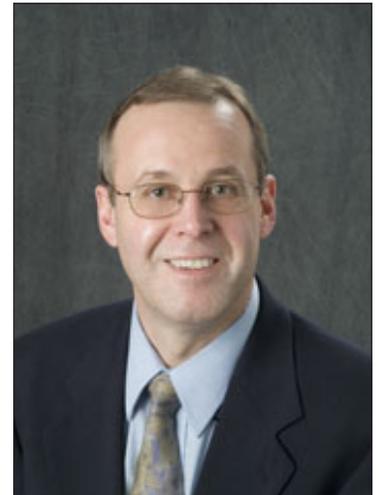
Our MVV (Mission, Vision, and Values), refined a couple of years ago remain important in guiding us, c.f.: <http://www.healthcare.uiowa.edu/pathology/site/welcome/mission.html>.

Our teaching activities are outstanding. Let me brag about five: the Virtual Slide Box (<http://www.path.uiowa.edu/virtualslidebox/>), developed by Fred Dee; first-rate undergraduate (medical students) and graduate (house-staff) education opportunities, led by, in alphabetical order: Jo Benda, Leslie Bruch, and Nancy Rosenthal; faculty that are collegiate role models for teaching, e.g. Frank Mitros, Ramesh Nair; graduate student specific courses, the most recent of which, Translational Histopathology, was developed jointly by Dave Meyerholz and Tom Waldschmidt; and, scholarship in this mission, notably Fred Dee and John Kemp.

Our clinical activities are also excellent, encompassing all areas within anatomic pathology & laboratory medicine. We have been through a bevy of site visits this fall and we have fared extremely well. Much of the credit goes to the Medical Directors and Lab Managers, and to Judy Elleson and John Kemp. Besides excellent, comprehensive, and ‘state of the art’ clinical services, we have great working relationships with our internal & external customers, we are institutional leader in process improvement, we are committed to quality and safety, and we value our role in being a regional/national resource for referral testing through UI Diagnostic Labs.

The third leg of our three-legged stool, research, led by Tom Waldschmidt, is also strong and improving quickly. The 5 things I highlighted in a recent Grand Rounds presentation were: wonderful infrastructure (facilities, equipment, and administrative support); great faculty who we are supporting and developing; a collegial and collaborative environment; a comparative pathology lab (<http://www.healthcare.uiowa.edu/cpl/index.html>) led by Dave Meyerholz for which we’ve hired a second veterinary pathologist; and, a successful Pathology Research Day.

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### VISION STATEMENT

To be an international leader in academic pathology and laboratory medicine

### MISSION STATEMENT

The Department of Pathology is committed to serving:

- Patients, by providing excellent, innovative diagnostic services and therapies for optimal patient outcome and health
- Health care providers and biomedical scientists, by providing exemplary educational resources today and anticipating educational needs of tomorrow
- Society, by actively applying tools of science and pathology in support of public health and ongoing expansion of medical knowledge
- Each pathology staff person, by continuously enhancing our departmental culture of diversity, respect and professional growth

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For 2010 the focus is foremost on the fiscal health of the Department, with attention to UIDL and gift giving. Other, more general and cross-cutting issues, include career development and succession planning, and enhancing diversity. Some other, specific issues are training academicians, implementation of a new LIS (to go live in early 2011), and establishing a PhD program.

When I started in this role I inherited a very good Department from Dick Lynch and my biggest concern was not messing it up. I am grateful for the help and support I've gotten along the way. I look forward to working with all of you, in 2010 and beyond, as we continue to propel this Department into being an international leader in all three core missions.

### *In memoriam....*

## Richard G. Lynch, M.D.

Internationally recognized experimental immunologist, 75

Richard G. Lynch, M.D., an internationally recognized experimental immunologist and former chairman of pathology at the University of Iowa College of Medicine, died at his home near Solon, Iowa, on Monday, October 12, 2009.

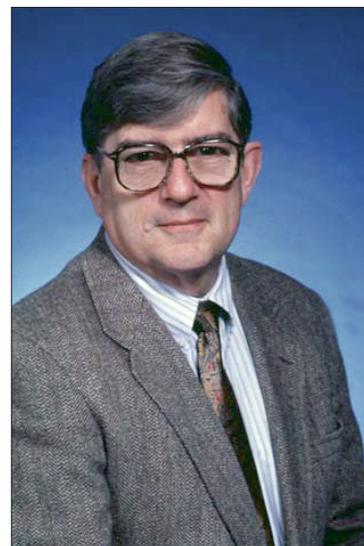
Dr. Lynch, was born April 9, 1934, in Brooklyn, N.Y., the son of James and Helen (Henderson) Lynch. He attended Bishop Loughlin High School and Brooklyn College, and also served as a weatherman in the US Navy from 1952 to 1956 during which he participated in seven atomic bomb tests in the Marshall Islands at Bikini.

Upon his return, he completed his education at the University of Missouri and the University of Rochester College of Medicine. After a residency in pathology at Barnes Hospital (Washington University) in St Louis, he began his research in tumor immunology, remaining on the faculty as a teacher, clinician and scientific investigator until 1981.

He came to the University of Iowa in 1981 as chairman of pathology and held that position until 1999, also serving as interim dean of the UI College of Medicine from 1993 to 1994. Until his retirement in 2004, he directed a large research laboratory, training more than fifty students, fellows, and residents, and was appreciated as a teacher, mentor scholar, and friend.

Dr. Lynch wrote the initial planning grant that resulted in NIH designation of Holden Cancer Comprehensive Center at the University of Iowa and served as a peer reviewer on numerous study sections at the National Cancer Institute. Dr. Alan Rabson, former deputy director of the National Cancer Institute, once stated that he knew of no one else in the country who had given more time to peer review for the NIH than Dr. Lynch. He was president of the American Society for Investigative Pathology and received the Rous-Whipple Award for his research. He served on the board of directors of the Federation of American Societies for Experimental Biology.

He loved the outdoors, especially birds, and spent much time photographing wildlife and traveling to birding destinations. After retirement, he began to write his memoirs, including his recollections of the Bikini atomic tests, which have been accepted for national publication. In 1963, Dr. Lynch was married to Nancy Underwood in Rochester, N.Y. He is survived by his wife; daughter, Alison Abreu of Iowa City, Iowa; sons Brendan (Joan) of North Reading, Mass., and Matthew (Daniale) of Portland, Ore.; grandchildren Ishadeen Abreu, Joey Abreu, Veronica Abreu, and Luis Abreu, all of Iowa City; and a brother, James Lynch, of New Rochelle, N.Y.



## UI Department of Pathology Announces New Faculty:

### Leana Guerin, MD

#### Anatomic Pathology with a focus in GI and Liver Pathology

“I love piecing together clinical information and histology to figure out what is wrong with a patient so they can receive the best therapy. As a surgical pathologist, I get to do this many, many times a day.”

We are proud to announce Leana Guerin, M.D., will be joining the University of Iowa Pathology Department as Assistant Professor as of August, 1, 2010. Dr. Guerin will soon be graduating from the 4-year Anatomic and Clinical Pathology Residency Program at the University of Iowa, Department of Pathology. Dr. Guerin is also a graduate of the University of Iowa College of Medicine (2006).

Dr. Guerin’s professional interests are in general surgical pathology with a special interest in GI and Liver Pathology. The philosophy guiding her professional work is always doing what’s best for her patients.

Dr. Guerin was raised in her hometown of Montreal, Canada before moving to Iowa at the age of ten. She has always been interested in the how’s and why’s of things, especially when it comes to the human body. Science and medicine are a natural fit to fulfill her curiosity.

When asked why she chose the University of Iowa, Dr. Guerin responded, “The University of Iowa is a center of excellence and the faculty are all well-respected experts in their fields. Everyone is collegial and the environment here is supportive.”

Dr. Guerin believes some of the benefits of working in an academic medical center are the multidisciplinary interactions and wealth of unusual and interesting cases allowing for good patient care and opportunities for collaborations on projects.

Dr. Guerin states that one of the advantages to being a faculty member at an academic medical center is getting work with and educate medical students and residents. Also when a case is challenging, she has an expert next door or down the hallway to show. During her residency, Dr. Guerin’s career has been shaped most notably by Frank Mitros, M.D., who has been a wonderful teacher, mentor and role model.

Her advice for today’s students... “do what you love because you will be spending a lot of time doing it!”

When Dr. Guerin is outside of work, her interests include spending time with her family, cooking, remodeling projects, gardening and knitting. Dr. Guerin can be reached by calling (319) 356-1713, pager #1235, or by email at [leana-guerin@uiowa.edu](mailto:leana-guerin@uiowa.edu).



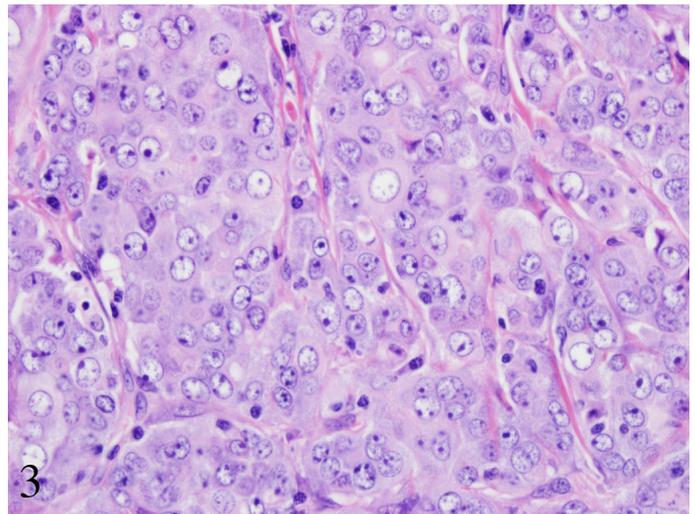
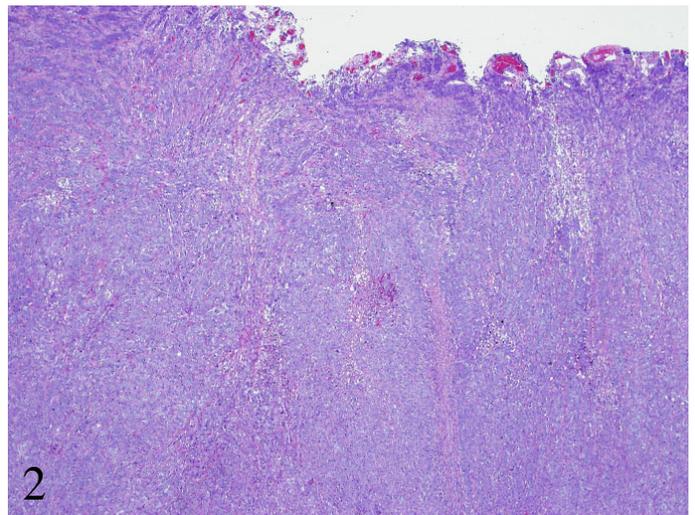
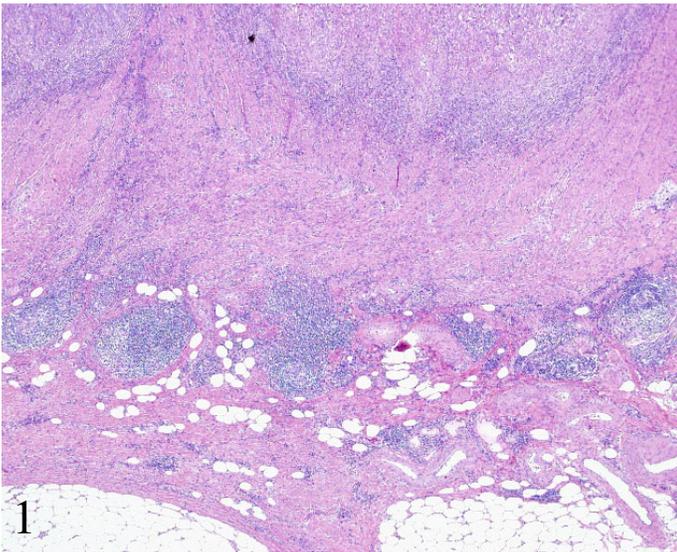
*Frank Mitros, MD, Chris Jensen, MD and Leana Guerin, MD*

# What is Your Diagnosis?

Leana Guerin, MD

Resident Physician, Department of Pathology

A 59 year old female was found to have a cecal tubular adenoma on screening colonoscopy in 2002. Her family history was significant for colon cancer with her mother having been diagnosed with the disease at age eighty and with paternal and maternal grandparents dying of colon cancer when they were in their sixties and nineties, respectively. She underwent a follow-up colonoscopy in 2005 which was unremarkable. She underwent another routine follow-up colonoscopy in 2009. A neoplasm was found and she was referred for a right hemicolectomy. Gross examination of the right hemicolectomy specimen revealed a 2.9 x 2.8 x 0.6 cm red-brown and centrally ulcerated mass with rolled borders. On gross examination, the tumor was seen to penetrate the muscular wall with involvement of the surrounding fibroadipose tissue. Margins were uninvolved. Low power (Figures 1 and 2) and high power (Figure 3) views of the neoplasm are presented.



What is your diagnosis?

Do any of the tumor's histologic features suggest a further diagnostic comment?

*Do you have the answer?* The diagnosis can be found on page 8 →

# UIDL Corner

Visit the new UI Diagnostic Laboratories  
website: [www.healthcare.uiowa.edu/uidl](http://www.healthcare.uiowa.edu/uidl)

## New Technology is on the Horizon



In our commitment to customer service excellence and using state-of-the-art technology, the UIDL and the UI Department of Pathology Anatomic Pathology, Core Clinical, and Microbiology & Molecular Laboratories, and the DeGowin Blood Center, have begun the initial stages of converting all departments to SCC Soft Computer clinical information systems. Specifically, the UIDL will be converting the current software system to SCC's SoftWeb®, Soft A/R®, and SoftCompliance®.

The UIDL's new SoftWeb module harnesses the speed and energy of the World Wide Web and securely allows client order entry and delivers real-time patient results to remote client locations or in-house via the Internet.

Physicians are able to quickly and efficiently set up new patients, order tests, enter diagnosis codes, check compliance, place orders, and review patients' integrated clinical results reports. Physician-specific viewing of lab results via the Internet allows filtering, summary, detail, and trend reporting that ultimately simplifies interpretation and ensures prompt response to critical results. Powerful graphing and trend analysis tools are also provided. Features will include:

- Customizable Views
- Easy Patient Maintenance
- Quick and Efficient Order Entry

We are very excited to announce this advancement in new technology and the benefits it brings to our clients. More information and timeline updates will be forthcoming as we progress through our transition. The UIDL is expecting to be able to offer the benefits of the new SOFT technology by mid-2011.

For a refresher on how easy it is to start sending specimens to the UIDL right now...  
call 1-866-844-2522 today!

For further information to schedule a speaker, send specimens, order tests, or consult  
with a pathologist, please contact:

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[lisa-rathjen@uiowa.edu](mailto:lisa-rathjen@uiowa.edu)

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Medical Director  
319-356-4163  
[robert-a-robinson@uiowa.edu](mailto:robert-a-robinson@uiowa.edu)

## Research Awards and Information

**Dr. Nancy Rosenthal** has a new equipment evaluation agreement negotiated with Sysmex America, Inc. to evaluate the XT-4000i Automated Hematology Analyzer. The contract total is \$9,375.

**Dr. Vladimir Badovinac** received a notice of R01 funding from the National Institutes of Health. The title of the project is Memory CD8 T Cell Responses After Multiple Antigen Encounters. This award is for the period of July 1, 2009 through June 30, 2013. The amount of this award is \$1,487,450.

**Dr. Gary Baumbach** has a new award from the American Heart Association, Midwest Affiliate for a research project titled Roles of PPARgamma and EGFR Transactivation in Angiotensin II-Induced Remodeling of Cerebral Arterioles. The award total is \$143,000. This award is for the period of July 1, 2009 through June 30, 2011.

**Dr. Aaron Bossler** received a Holden Comprehensive Cancer Center's institutional Research Grant from the American Cancer Society for a research project titled Role of Protein Tyrosine Phosphatase, PTPN13, in Cervical Squamous Cell Carcinoma. The award total is \$30,000. This grant is for the period of September 1, 2009 through August 31, 2010.

**Dr. Aaron Bossler** has a new research contract negotiated with Roche Molecular Systems, Inc. for a research project titled Early Evaluation of the New Cobas 4800 Instrument System. The contract total is \$39,161. This contract is for the period of April 20, 2009 through August 1, 2009.

**Dr. Aaron Bossler** along with Dr. Aloysius Klingelutz in Microbiology have received a new collaborating research contract with Dr. John Lee from Sanford Research/USD. The title of this project is Mechanisms of Invasion for an HIV Related Head and Neck Cancer. This collaboration through June 30, 2012 will bring an estimated support in the amount of \$194,992 for this collaborative effort.

**Dr. Michael Cohen** has received a continuation of a collaborating research contract with Dr. Pradip Roy-Burman from the University of Southern California. The title of this project is Pathogenesis and Progression of Prostate Cancer. The continuation will extend this collaboration through May 31, 2013 and will bring an estimated additional support in the amount of \$398,067 for this collaborative effort.

**Dr. Robert Cook** received a notice of R01 funding from the National Institutes of Health. The title of the project is Chronic Alcohol Abuse Disrupts CD8+ T Cell Function. This award is for the period of September 25, 2009 through August 31, 2014. The amount of this award is \$1,347,845.

**Dr. Fred Dee** received a notice of educational development funding from the University of Iowa Carver College of Medicine, Office of the Consultation and Research in Medical Education. The title of the project is Development and Assessment of a Web-based Pathogenesis Diagramming Program. This award is for the period of July 1, 2009 through December 31, 2010. The amount of this award is \$10,000.

**Dr. Daniel Diekema** has a new research contract negotiated with bioMérieux, Inc. for a research project titled AF02 Antifungal Susceptibility Tests Clinical Trial and Equivalency Trial Protocol: Vitek2 and Vitek2 Compact. The contract total is \$53,653. This contract is for the period of August 28, 2009 through August 24, 2010.

**Dr. Daniel Diekema** has a new research contract negotiated with Merck & Company, Inc. for a research project titled The Epidemiology of Candida Bloodstream Infection: Impact of Introduction of Caspofungin. The contract total is \$39,762. This contract is for the period of May 28, 2009 through April 30, 2010.

**Dr. Daniel Diekema** has received a research continuation to extend the studies with Pfizer Pharmaceuticals, Inc. for a research project titled Global Antifungal Surveillance Program 2009. The contract total is \$240,875. This contract is for the period of January 1, 2009 through December 31, 2009.

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**Dr. Daniel Diekema** has a new research contract negotiated with Astellas Pharma, Inc. for a research project titled Global Antifungal Surveillance: An International Surveillance Program for Invasive Mycoses, 2008. The contract total is \$198,125. This contract is for the period of January 26, 2009 through January 22, 2010.

**Dr. Fiorenza Ianzini** has received a notice of a cost extension from NASA for her research project titled Role of High-LET Radiation-induced Mitotic Catastrophe in Mutagenesis: Implication for Carcinogenesis. The cost extension award is for \$297,440, bringing the total award for this NASA project to \$1,197,440. This research project is for the period of December 1, 2006 through November 30, 2010.

**Dr. Tomomi Kuwana** received a notice of R01 funding from the National Institutes of Health. The title of the project is Mitochondrial Regulation of Apoptosis. This award is for the period of September 30, 2009 through August 31, 2014. The amount of this award is \$1,425,000.

**Dr. Kevin Legge** received a notice of R01 ARRA funding from the National Institutes of Health. The title of the project is Chronic alcohol and pulmonary immunity. This award is for the period of August 20, 2009 through July 31, 2011. The amount of this award is \$611,004.

**Dr. Steven Moore** has a new research agreement negotiated with PTC Therapeutics, Inc. for a research project titled Ataluren (PTC124). The award total is \$189,008. This research agreement is for the period of September 24, 2009 through April 28, 2010.

**Dr. Steven Moore** has a new award from the Jain Foundation, Inc. for a research project titled Dysferlin Antibodies. The award total is \$8,587. This award is for the period of July 1, 2009 through June 30, 2010.

**Dr. Peter Nagy** received a notice of R01 ARRA Administrative Supplement funding from the National Institutes of Health. The title of the project is Pathogenesis of Neurodegenerative Diseases Caused by Mutations in Senataxin. This award is for the period of September 30, 2009 through August 31, 2011. The amount of this additional funding is \$172,594.

**Dr. Vishala Neppalli** received a research contract negotiated with the National Institutes of Health. The title of the project is Defining Molecular Subtypes of Follicular Lymphoma for Relevance to Survival, Etiology, and Diagnosis. This award is for the period of September 30, 2009 through September 29, 2010. The amount of this award is \$16,704.

**Dr. Annette Schlueter** received a Holden Comprehensive Cancer Center's Aiming for a Cure Foundation grant award for a research project titled Regulatory Dendritic Cell Therapy for Acute Graft vs. Host Disease. This award total is \$50,000 and is for the period of October 1, 2009 through September 30, 2011.

**Dr. Thomas Waldschmidt** received a notice of R01 ARRA funding from the National Institutes of Health. The title of the project is Chronic ethanol, B cell competence and lymphoid integrity. This award is for the period of August 20, 2009 through July 31, 2011. The amount of this award is \$1,302,240.

**Dr. Sandra Richter** has a new research contract negotiated with Cerexa, Inc. for a research project titled Ceftriaxone Versus Staphylococcus Aureus. The contract total is \$589,250. This contract is for the period of May 18, 2009 through December 31, 2009.

# Diagnosis: Poorly differentiated adenocarcinoma with medullary growth pattern

*(continued from page 3, "What is Your Diagnosis?")*

**Comment:** In view of the Crohn's like lymphocytic reaction, tumor infiltrating lymphocytes and medullary growth pattern, Hereditary Non-Polyposis Colorectal Carcinoma (HNPCC) should be considered. Tissue should be submitted for microsatellite instability (MSI) assessment to screen for the possibility of a DNA mismatch repair enzyme defect.

**Discussion:** This patient's tumor has histologic features that are very suggestive of Hereditary Non-Polyposis Colorectal Carcinoma (HNPCC). The following facts are pertinent to this patient and the histology of the resected tumor.

- Hereditary Non-Polyposis Colorectal Carcinoma (HNPCC) accounts for approximately 2-3% of colorectal carcinomas
- Also known as Lynch Syndrome I when neoplasms are confined to colorectum and Lynch syndrome II when colorectal carcinoma are associated with extra-colonic cancers (Endometrium, stomach, small bowel, hepatobiliary tract, pancreas, ovary, urinary tract, brain (glioblastoma multiforme), sebaceous neoplasms of the skin (Muir-Torre syndrome))
- HNPCC is autosomal dominant, highly penetrant and results from germline mutations in the DNA mismatch repair (MMR) genes
- Mutation carriers have a high risk of colorectal cancers as well as synchronous or metachronous cancers, therefore identification of carriers is important for appropriate screening and follow-up
- Mutations occur in MLH1, MSH2, MSH6, PMS2 and others which lead to loss of activity of the encoded protein. This in turn leads to increased mutations which are more common in areas of repetitive sequence (microsatellites). Errors also accumulate in genes involved in cell growth and apoptosis which can lead to carcinogenesis.
- HNPCC associated tumors can be screened for MMR gene mutations by examining DNA repeat sequences known as microsatellites which are prone to loss or gain of the repeat sequence during DNA replication. Failure of the MMR genes to repair these errors in the DNA during replication can be detected by PCR amplification of the microsatellite sequence. Identification of these errors is referred to as microsatellite instability implying loss of function of a MMR protein.
- About 10% of colorectal cancers identified as microsatellite unstable are from germline mutations in MMR genes.
- Immunohistochemistry can also be used to confirm MMR gene loss of function. Mutations may lead to decreased protein expression but more often lead to truncation of the protein. Therefore, antibodies to the c-terminal end of the MMR proteins MLH1, MSH2, MSH6 and PMS2 have been developed. Mutation or methylation of MLH1 leads to loss of MLH1 and PMS2 expression. Mutation in MSH2 leads to loss of MSH2 and MSH6 expression. Mutations in PMS2 and MSH6 lead to loss of PMS2 and MSH6, respectively.

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- Current guidelines for identifying individuals with HNPCC are provided in the Revised Bethesda Guidelines (below):
  - 1) Colorectal carcinoma (CRC) < 50 yrs
  - 2) Presence of synchronous, metachronous CRC or other HNPCC-associated tumors, regardless of age
  - 3) CRC diagnosed in  $\geq 1$  first degree relative with HNPCC-related tumor, one < 50 yrs
  - 4) CRC in  $\geq 2$  first or second degree relative with HNPCC tumors, regardless of age
  - 5) CRC with high-frequency MSI histology in a patient < 60 yrs:
    - High frequency MSI histology defined by the presence of any of the following:
      - Tumor infiltrating lymphocytes: Present if  $\geq 5$  intra-epithelial lymphocytes present in at least 1 HPF (40X)
      - Crohn's-like lymphocytic reaction: Present when  $\geq 4$  nodular lymphoid aggregates in 1 LPF (4X) beyond the advancing edge of the tumor and generally within the subserosa or mesenteric fat
      - Mucinous or signet ring differentiation
    - cv• Medullary or undifferentiated and solid growth pattern, graded on least differentiated area (not the predominant appearance)
- Individuals who fulfill any of the criteria in the Revised Bethesda Guidelines should have the tumor specimen tested for MSI and/or immunohistochemistry testing for loss of MMR function.
- The remaining 90% of MSI colorectal carcinomas are sporadic and are due to methylation of CpG islands in the promoter region of MLH1 in most cases. Testing for BRAF point mutation can be performed to detect this. If the point mutation V600E is detected in an MSI-H colorectal cancer, then the patient does not have HNPCC and no further testing is needed.

The University of Iowa Molecular Pathology Laboratory in the Department of Pathology provides MSI testing and BRAF point mutation analysis on fresh frozen or formalin fixed paraffin embedded tumor specimens. For further information, please feel free to get in touch with **Dr. Aaron Bossler, M.D., Ph.D.**, Director of the University of Iowa Molecular Pathology Laboratory (aaron-bossler@uiowa.edu) or **Dr. Leana Guerin, M.D.**, Anatomic Pathology Division, University of Iowa Department of Pathology (leana-guerin@uiowa.edu) or call UIDL Client Services at 1-866-844-2522.

Revised Bethesda Guidelines:

Umar A, et al. Revised Bethesda Guidelines for hereditary nonpolyposis colorectal cancer (Lynch syndrome) and microsatellite instability. *J Natl Cancer Inst.* 2004 Feb 18;96(4):261-8.

## New Testing Using PCR-based Detection for Multiple Respiratory Viruses

The Microbiology and Molecular Pathology Laboratories will begin performing PCR-based detection of respiratory viruses (RV) instead of culture beginning February 4, 2010.

The laboratory developed RV PCR assay detects influenza (A, B, and novel H1N1), adenovirus, respiratory syncytial virus (RSV), metapneumovirus, and parainfluenza virus (types 1, 2, and 3) using reverse transcription real-time PCR. Metapneumovirus is a recently identified respiratory virus related to RSV with similar clinical manifestations.

The RV PCR assay will replace the use of respiratory virus culture to confirm a negative Direct Fluorescent Antibody (DFA) result. RV PCR testing will be performed Monday through Friday. Respiratory virus antigen detection by DFA will continue to be performed daily for first line testing.

Respiratory specimen collection remains the same as for respiratory virus antigen detection by DFA or culture. Directions can be found on the **UIDL Test Directory**: [http://www.healthcare.uiowa.edu/path\\_handbook/rhandbook/test2904.html](http://www.healthcare.uiowa.edu/path_handbook/rhandbook/test2904.html).

Questions can be directed to Aaron Bossler, MD, PhD, Molecular Pathology Laboratory Director (ext. 319-384-9566), Sandra Richter, MD, Microbiology Laboratory Director (ext. 356-2990) or Daniel Diekema, MD (ext. 384-5626).

# Laboratory and Diagnostic Tests Offer Prevention, Quality Says Lewin Report

WASHINGTON, D.C. – Amidst ongoing debate in Congress over reforming the nation’s health care system, a new report from the Lewin Group finds that screening and diagnostic laboratory tests are central to achieving some of the most important goals of health care reform.

According to the report, tests for such conditions as diabetes, cervical cancer, drug-resistant infections, and metastatic colon cancer are enabling important strides in early detection and diagnosis, as well as in helping physicians select treatments that will work most effectively for patients. The net result is often better health outcomes for patients and greater savings and economic efficiencies for the health system—all key goals of health reform. The report was released today in a briefing at the National Press Club in Washington DC.

“Screening and diagnostic tests contribute to health care value across the spectrum of care,” says the report. It addresses the cost and clinical implications of lab testing by focusing on four areas:

- **Rapid diagnostic tests for hospital acquired MRSA infections:** Hospital-acquired infections (HAIs) cause 99,000 deaths and \$20-\$45 billion in health care costs annually. Antibiotic-resistant staph infections, called MRSA, cause half of HAIs. Rapid MRSA lab tests allow hospitals to identify the infection quickly and take action to limit its spread.
- **HbA1c blood glucose testing:** Substantial evidence supports the value of HbA1c testing as a screening and diagnostic tool for diabetes and prediabetes. Delaying the onset of diabetes and improved management of the disease can reduce complications, the risk of death, and costs for treatment. The total cost of diabetes is \$174 billion a year, about \$58 billion of that attributable to lost worker productivity.
- **HPV DNA testing for cervical cancer:** Genetic tests for the HPV viruses that cause cervical cancer are improving diagnostic accuracy in identifying the disease at its earliest stages. The tests are leading to improved disease-free survival and quality of life, along with reductions in disease occurrence, death, and progression to advanced cancers.

“Recent scientific and technological advances have led to molecular-level and genetic testing, including pharmacogenomics, that enable tailoring therapies to subgroups and individuals to ensure ‘the right treatment for the right patient at the right time.’” says the report. “Laboratory testing has a central role in personalized medicine, whose extraordinary potential is recently emerging into practice.”

The report and briefing are sponsored by the American Clinical Laboratory Association, Results for Life and Advamed. The full report and briefing materials will be available at [www.labresultsforlife.org](http://www.labresultsforlife.org) and [www.advamed.org](http://www.advamed.org). Daniel R. Walker, M.D., F. Hebert School of Medicine-Uniformed Services University, 1999

## New Facility Aids Cancer Research

Vishala Neppalli MD, Assistant Professor of Pathology  
Director of Tissue Procurement Core



Cancer researchers here at the UI now have a new resource at their fingertips.

The Tissue Procurement Core Facility will provide researchers with a well-characterized bank of frozen neoplastic and normal tissues designated for molecular genetic, biochemical or pathological studies.

“Quite a bit has been learned using animal models and tissue culture models, but the human system is often more complex,” said Dr. Patricia Winokur. “These samples will allow researchers to study tissues, blood or DNA from particular tumors or clinical syndromes to help identify the pathogenesis of these diseases.”

The Tissue Procurement Core Facility helps to obtain extra tissues from patients that aren’t vital for their continued care. This process will require consent from the patients and will be regulated in order to protect the patient’s private information.

The University already had a tissue procurement process for individual projects, but is developing the hospital-wide system as a way expand the collection and make fulfilling requests for samples easier and faster.

“We are investing in personnel who can help with collection and processing of samples,” said Winokur. “Eventually we hope to approach all UIHC patients to see if they would allow us to collect extra tissues and bloods. We are currently working through how this may be accomplished.”

Currently the facility is collecting certain types of cancer specimens. Cancer researchers at the UI will now have the ability to study multiple tumors, distinguishing differences in behavior of seemingly similar tissues. The collection includes lymphoma and leukemia tissues, as well as many different varieties of human tumor tissues.

“Some patients may have a genetic predisposition to a particular disease,” said Winokur. “This would allow us to better understand why a disease occurs in an individual, which could eventually lead to new therapies.”

Those interested in obtaining human tissue samples from the facility should begin by contacting the **Tissue Procurement Core Facility’s** office at 335-8211.

## Congratulations to....

**Michael Cohen, MD**, who is now the Chair of the Association of Pathology Chairs (APC) Undergraduate Medical Education Group.

**Judy Elleson**, who is now the Midwest representative for the Pathology Department Administrators group in the APC.

**Marcus Nashelsky, MD**, who has been elected to a two-year term on the Board of Directors for the Iowa Association of County Medical Examiners.

**Ronald Feld, PhD**, who was recognized for his key role in medical education at the third annual Medical Education Celebration Day.

## Recent Publications

### **Role of radiotherapy in adenoid cystic carcinoma of the head and neck.**

Iseli TA, Karnell LH, Graham SM, Funk GF, Buatti JM, Gupta AK, Robinson RA, Hoffman HT.

Department of Otolaryngology, Head and Neck Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa, USA.

### **Development of a porcine model of cystic fibrosis.**

Welsh MJ, Rogers CS, Stoltz DA, Meyerholz DK, Prather RS.

Howard Hughes Medical Institute 500 EMRB, Roy J. and Lucille A. Carver College of Medicine, University of Iowa, Iowa City, IA 52242, USA. michael-welsh@uiowa.edu

### **Protective and Pathologic roles of the Immune Response to Mouse Hepatitis Virus-1 (MHV-1): Implications for Severe Acute Respiratory Syndrome.**

Khanolkar A, Hartwig SM, Haag BA, Meyerholz DK, Epping LL, Haring JS, Varga SM, Harty JT.

Department of Microbiology, University of Iowa, Iowa City, IA 52242; Interdisciplinary Graduate Program in Immunology, University of Iowa, Iowa City, IA 52242; Department of Pathology, University of Iowa, Iowa City, IA 52242.

### **Staphylococcus aureus Nasal Colonization and Colonization or Infection at Other Body Sites in Patients on a Burn Trauma Unit.**

Reighard A, Diekema D, Wibbenmeyer L, Ward M, Herwaldt L.

Departments of Internal Medicine (A.R., D.D., M.W., L.H.), Pathology (D.D.), and Surgery (L.W.), Carver College of Medicine, and the Department of Epidemiology, College of Public Health (L.H.), University of Iowa, and the Department of Clinical Quality, Safety, and Performance Improvement, the University of Iowa Hospitals and Clinics (D.D., L.H.), and the Iowa City Veterans Affairs Medical Center (D.D., L.W.), Iowa City, Iowa.

### **Cutting edge: Contribution of lung-resident T cell proliferation to the overall magnitude of the antigen-specific CD8 T cell response in the lungs following murine influenza virus infection.**

McGill J, Legge KL.

Department of Pathology and Interdisciplinary Graduate Program in Immunology, University of Iowa, Iowa City, IA 52242, USA.

### **Human Papillomavirus (HPV) Type -18 Induces Extended Growth in Primary Human Cervical, Tonsillar or Fore-skin Keratinocytes More Effectively Than Other High-Risk Mucosal HPVs.**

Lace MJ, Anson JR, Klingelutz AJ, Lee JH, Bossler AD, Haugen TH, Turek LP.

J Virol. 2009 Sep 9.

### **Commentary on “Dysplasia in adults with recurrent respiratory papillomatosis: incidence and risk factors”.**

Robinson RA, Gupta H, Karnell LH, Smith RJ, Hoffman HT. Departments of Internal Medicine and Pathology, Carver Ann Otol Rhinol Laryngol. 2009 Jul;118(7):486-7. No abstract available

### **The utility of PU.1 as an immunohistochemical marker for histiocytic and dendritic lesions of the skin.**

Muirhead D, Stone MS, Syrbu SI.

Am J Dermatopathol. 2009 Jul;31(5):432-5.

### **Enhancing transfusion safety with an innovative bar-code-based tracking system.**

Askeland RW, McGrane SP, Reifert DR, Kemp JD.

Healthc Q. 2009;12 Spec No Patient:85-9.

*continued on following page*

**Pharmacologic modification to resuscitation fluid after thermal injury--is drotrecogin alfa the answer to arrest burn depth progression?**

Meyerholz DK, Piester TL, McNamara AR, Sokolich JC, Jaskille AD, Orion KC, Zamba KD, Light TD.  
Department of Pathology, Carver College of Medicine, University of Iowa, Iowa City, Iowa 52242, USA.  
J Trauma. 2009 Nov;67(5):996-1003.

**Late acute kidney transplant rejection: clinicopathological correlates and response to corticosteroid therapy.**

Nair R, Agrawal N, Lebaeau M, Tuteja S, Chandran PK, Suneja M.  
Department of Pathology, University of Iowa Hospitals and Clinics and Veterans Administration Medical Center, 200 Hawkins Drive 5243 RCP, Iowa City, Iowa 52242, USA. ramesh-nair@uiowa.edu  
Transplant Proc. 2009 Dec;41(10):4150-3.

**Expression profiling of transcription factors in B- or T-acute lymphoblastic leukemia/lymphoma and burkitt lymphoma: usefulness of PAX5 immunostaining as pan-Pre-B-cell marker.**

Nasr MR, Rosenthal N, Syrbu S.  
Department of Pathology, University of Iowa Hospitals and Clinics, Iowa City, IA 52242, USA.  
Am J Clin Pathol. 2010 Jan;133(1):41-8.

**KN-93 inhibits androgen receptor activity and induces cell death irrespective of p53 and Akt status in prostate cancer.**

Rokhlin OW, Guseva NV, Taghiyev AF, Glover RA, Cohen MB.  
Department of Pathology, The University of Iowa, Iowa City, IA, USA.  
Cancer Biol Ther. 2010 Feb 25;9(3).

**Expansion of a cell population expressing stem cell markers in parathyroid glands from patients with hyperparathyroidism.**

Fang SH, Guidroz JA, O'Malley Y, Lal G, Sugg SL, Howe JR, Jensen CS, Weigel RJ.  
Department of Surgery, University of Iowa, Iowa City, IA 52242, USA.  
Ann Surg. 2010 Jan;251(1):107-13.

**To Screen or Not To Screen for Methicillin-Resistant Staphylococcus aureus.**

Peterson LR, Diekema DJ.  
J Clin Microbiol. 2010 Mar;48(3):683-9. Epub 2010 Jan 13.

**Effects of nicotine on pulmonary surfactant proteins A and D in ovine lung epithelia.**

Lazic T, Matic M, Gallup JM, Van Geelen A, Meyerholz DK, Grubor B, Imerman PM, de-Macedo MM, Ackermann MR.  
Department of Veterinary Pathology, College of Veterinary Medicine, Iowa State University, Ames, Iowa.  
Pediatr Pulmonol. 2010 Mar;45(3):255-62.

**Epidemiology of invasive mycoses in North America.**

Pfaller MA, Diekema DJ.  
Department of Pathology, University of Iowa, Iowa City, USA. michael-pfaller@uiowa.edu  
Crit Rev Microbiol. 2010;36(1):1-53.

## Recent Presentations

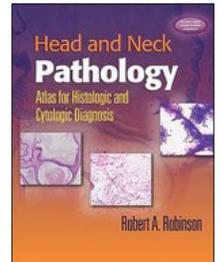
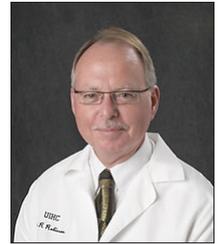
**Moore, Steven A, MD, PhD**, Molecular Diagnosis of Limb-Girdle and Congenital Muscular Dystrophies, invited speaker at the Royal College of Physicians and Surgeons of Canada Lecture, Annual Meeting of the Canadian Association of Neuropathologists, Nova Scotia, Canada, on October 14, 2009.

**Bossler, Aaron, MD, PhD**, New Molecular HPV Testing Methods and the Role of Genotyping, invited speaker at Advances in Molecular Diagnostics and Hemostasis, a program sponsored by Saint Luke's Hospital of Kansas City, Kansas City, Missouri, October 29-30, 2009.

## Robinson Authors Pathology Atlas

Congratulations to Robert Robinson, MD, PhD, Medical Director of UIDL. He has published a new book, "Head and Neck Pathology: Atlas for Histologic and Cytologic Diagnosis." Featuring 900 full-color illustrations, this book is a concise and practical atlas of the surgical pathology and cytology of the head and neck.

Head and Neck Pathology covers the most common head and neck lesions and tumors the general pathologist sees in daily practice and will aid pathology residents and practitioners in quickly narrowing down a histologic differential diagnosis. Integral to the images provided are illustrated criteria for achieving a diagnosis—essentially what to look for when reviewing pathology slides. Differential diagnoses are shown, as are pitfalls in the diagnosis. A companion website will offer the fully searchable text and an image bank.



## Iowa Association of Pathologists Awards

### Special Achievement in Pathology Award

Erin Consamus received the Special Achievement in Pathology Award, given by the Iowa Association of Pathologists (IAP). This achievement is awarded to a senior medical student for meritorious participation throughout the four-year curriculum in programs related to Pathology. Erin received a monetary award from IAP and her name will be added to the award plaque displayed in Pathology Administration. Currently Dr. Consamus is a Pathology Resident at Methodist Hospital in Houston Texas. Erin is the daughter of Dr. Jack and Bridget Consamus. Jack, a former Pathology Resident at UIHC, is a member of the Quad Cities Pathology Group and practices at Genesis Medical Center East in Davenport.



### Sophomore Medical Student Award in Pathology

John Edwards received this year's Sophomore Medical Student Award in Pathology. This award is also given by the Iowa Association of Pathologists to a sophomore medical student with the highest scores in the second year Pathology curriculum. John received a monetary award from IAP and his name will be added to the award plaque displayed in Pathology Administration.

## Best Doctors in America 2009-2010



Congratulations! Jo Ann Benda; Leslie Bruch; Michael Cohen; Barry De Young; Chris Jensen; Frank Mitros; Steven Moore; Robert Robinson; Nancy Rosenthal; Ronald Strauss.

# Greetings from Amy Brainard

Department of Pathology representative for the UI Foundation



In my work I have the privilege of visiting alumni and friends of the UI's Department of Pathology and I enjoy asking "what motivates you to support our department?" I hear a variety of responses.... everything from expressing gratitude for the excellent training they received during their residency program, to a desire to help future residents lower their educational debt load. Regardless of your reason for giving, please know how much we appreciate your gifts which help support our important mission of being a leader in patient care, education and research.

It is essential for each of us to realize our role in helping the University of Iowa Department of Pathology reach its potential and consider how we might give back. Private support has always been important but it is nothing short of critical in today's funding environment. Hundreds of donors express their loyalty to the Department of Pathology through an annual gift. We appreciate those who have done so, and welcome new givers to begin! Other donors make larger contributions establishing an endowed fund through an outright gift or estate planning. These are the gifts that make new chairs, professorships, scholarship and research funds available. The Foundation has several endowment opportunities available that you can arrange now, with cash and securities, or later through a will or trust. Estate gifts allow us to look ahead and plan with confidence providing financial light for future generations. The paper work is minimal compared to the satisfaction you will receive.

As the Department's representative for the UI Foundation, I would love to hear your Iowa story and be a resource to you as you shape your philanthropic legacy. I encourage you to support the Department of Pathology by giving online (please click here). If you have any questions, regarding giving opportunities or Department's needs, feel free to contact me by sending an email to amy-brainard@uiowa.edu or calling (800) 648-6973. Thank you again for your interests in and support of the Department of Pathology.

Amy S. Brainard  
Associate Director of Development  
Carver College of Medicine/University of Iowa Hospitals and Clinics  
The University of Iowa Foundation

"We make a living by what we get, we make a life by what we give."  
*-Winston Churchill*

## Links of Interest

Resident & Fellows Pictures: <http://www.healthcare.uiowa.edu/pathology/site/residents/index.html>

Pathology Department: <http://www.healthcare.uiowa.edu/pathology/index.html>

Laboratory Services Handbook for PDA or PocketPC:  
[http://www.healthcare.uiowa.edu/path\\_handbook/pda/index.html](http://www.healthcare.uiowa.edu/path_handbook/pda/index.html)

PathBeat is published for alumni and friends of the Department of Pathology, University of Iowa Carver College of Medicine.

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