

# the AFIP LETTER

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Armed Forces Institute of Pathology  
Washington, D.C. 20306-6000

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## AFIP ATLAS OF TUMOR PATHOLOGY NOW ON CD-ROM: Fascicles 1-12 now on 7 CD-ROMs; all are PC, MAC compatible

The first 12 fascicles of Series III, *AFIP Atlas of Tumor Pathology*, are now available on seven CD-ROMs at discounted prices, according to Jonathan Johnstone, director of marketing for the American Registry of Pathology. "The CD-ROMs are hybrid discs and will run on both MAC and Windows," he says. "We've combined fascicles of relevant topics onto the same CD-ROM, and they are priced slightly lower than the hard copy version or combination of the same two books." See the order form on page 12 for details.

The "Electronic Fascicle" provides an interface for browsing and quickly searching digitized text and image legends. Images can be previewed in groups using the thumbnails display feature (96x96 pixels), viewed with the text individually in default modes (260x230), or magnified (800x600) by double-clicking on default images. Other features include a resizable main window, scalable/selectable fonts, bookmarks, annotations, history tracking, dictionary of words, multibook searches, and citation searches. The CD-ROM can be searched for words or combinations of words

within the text, legends of illustrations, or references.

Significant discounts are available, Johnstone points out. "Residents and fellows can order the CD-ROMs at a 25% discount, and a 10% discount is available to FASA (Friends and Alumni Society of the AFIP) members." Over 5,000 AFIP Atlas Subscribers are eligible for a 15% staff discount and a 30% residents/fellows discount. Subscribers are also eligible for a "package deal," in which all seven CD-ROMs can be purchased for only \$450 (\$350 for residents/fellows). All shipping and handling costs are included.

Pathologists wishing to enroll as AFIP Atlas Subscribers and take advantage of these discounts may do so by completing the order form on page 12. "Those enrolling as subscribers are subscribing to the books," says Johnstone, "and a credit card number is required." Upon enrollment, new subscribers will be sent a letter asking if they would like to add the CD-ROMs to their subscription.

"We will begin the CD-ROM Subscription Program with 'Tumors of the Lower Respiratory Tract,' which will contain 383 additional color illustrations, and 172 color illustrations replacing original black-and-white figures," says Johnstone. Publication is planned for the fall. The price of this CD-ROM is expected to be slightly more than the book version due to the additional illustrations.

The Center for Scientific Publications (CSP) started the CD-ROM program in 1992 under the leadership of former AFIP Deputy Director J. Thomas Stocker, COL, MC, USA in collaboration with Center for Medical Education Technologies (CMET) of the Uniformed Services University of the Health Sciences (USUHS). CMET developed the

*Continued on page 10*



**DIRECTOR'S MESSAGE**



# New publication: Tumors of the Salivary Glands

**Tumors of the Salivary Glands**  
**Atlas of Tumor Pathology, Third Series, Fascicle 17**  
**by Gary L. Ellis, DDS, and Paul L. Auclair, DMD, MS**  
**Armed Forces Institute of Pathology, Washington, D.C.**  
**1996. ISBN: 1-881041-26-3**

## What's New on AFIP's Home Page

<http://www.afip.mil>

We're very excited about recent developments in the Atlas of Tumor Pathology CD-ROM Program. AFIP's Center for Scientific Publications and the American Registry of Pathology have created an outstanding electronic version of the fascicles, with more on the way in months to come.

I'd like to encourage readers of the AFIP LETTER who have access to the World Wide Web to visit our site at <<http://www.afip.mil>>. There, you'll be able to link directly to the "AFIP Atlas of Tumor Pathology" sub-page, which contains information on how to order CD-ROM's. (AFIP Atlas Subscribers can order their CD-ROMs directly on-line).

Our Home Page also offers a new section, "Continuing Medical Education (CME) on the WWW." Two of the Web courses, "Virtual Gastrointestinal Endoscopic Biopsy Course," and "Legal Medicine Open File: File95" (a quality assurance and risk management journal), are accredited to provide Category I CME credit. Other CME programs available include: "Case Studies in Infectious Diseases," "Cytology of the Female Genital Tract," "Unusual Tumors and Tumor-Like Conditions of the Lung," "Breast Lesions that Mimic Carcinoma," "Clues to Diagnosis in Neuropathology Histologic Clue #1," "Creutzfeldt-Jakob Disease (CJD) and Bovine Spongiform Encephalopathy (BSE)," "Orthopedic Pathology Study Cases," and "Veterinary Pathology Resources".

AFIP's Department of Education

There have been numerous changes and additions in the classification of salivary gland neoplasms since publication of the fascicle in the second series of the Atlas of Tumor Pathology 22 years ago. The classification in the present fascicle closely parallels that of the recently revised World Health Organization (WHO) classification, but the discussions, documentation, descriptions, and illustrations of the clinicopathologic parameters of each tumor and disease are far more comprehensive than those available in the WHO monograph.

Discussion of electron microscopy, morphometry, flow cytometry, immunohistochemistry, gene rearrangement, and other molecular biologic studies are included. Histomorphologic evaluation remains the principal method for diagnosis of salivary gland tumors and is emphasized. In addition to considerable attention to differential diagnosis, epidemiological, clinical, prognostic, and treatment parameters are presented for most disease

entities. A special chapter is devoted to a general presentation of demographics, etiologies, grading, staging, and diagnostic imaging.

An added feature is the inclusion of data from the Salivary Gland Registry at the Armed Forces Institute of Pathology, perhaps the largest collection in the world, with comparisons to other data bases like the British Salivary Gland Tumor Panel.

The monograph is 468 pages in length and includes well over 700 color illustrations. Unlike the second series fascicle that only covered tumors of the major salivary glands, lesions in both major and minor salivary glands are included. In addition to comprehensive discussions of benign and malignant epithelial tumors, there are special chapters on lymphomas, mesenchymal tumors, metastatic tumors, tumorlike non-neoplastic conditions, and fine-needle aspiration cytology. Also included is an overview of the embryology, development, and normal anatomy, both gross and microscopic, of salivary glands.

Services (formerly the Center for Advanced Medical Education) sub-page features detailed information about upcoming courses and offers on-line registration. This is a wonderful opportunity to take advantage of our many offerings.

Finally, a number of additional AFIP departments have now gone "on-line," including the Office of the Armed Forces Medical Examiner, Gynecologic and Breast Pathology, Legal Medicine, and Repository and Research Services.

AFIP's website has much to offer, with more to come. Stay tuned!

Michael J. Dickerson  
Col, USAF, MC  
The Director

## EDUCATION SPOTLIGHT

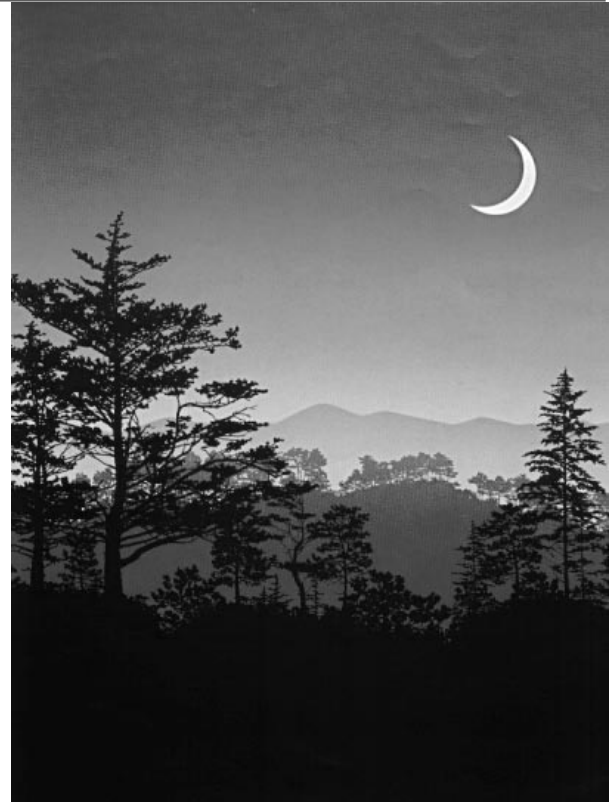
# Thoracic Pathology: with Clinical and Radiologic Correlations set for Ritz-Carlton Aspen, August 15-18

**T**horacic Pathology: With Clinical and Radiologic Correlations will be held at the Ritz-Carlton Aspen, August 15-18, in Aspen, Colorado. The course is directed by Michael N. Koss, MD, and William D. Travis, MD, co-chairs, Department of Pulmonary and Mediastinal Pathology. "This course highlights the importance of correlating pathology with clinical and radiographic information to achieve accurate diagnoses in difficult thoracic disease," Dr. Travis points out. The course will run for 4 days and will consist of a series of presentations and optional microscope laboratory sessions. Pathologists, thoracic physicians, and radiologists will find it invaluable. "We have some of the world's foremost pulmonary medicine, radiology, and pathology faculty, along with a wonderful teaching set of over 2,000 cases, with glass slides that can be reviewed during microscope sessions," Travis notes.

Joining the AFIP and American Registry of Pathology (ARP) as course sponsors is the Department of Pathology,

University of Colorado Health Sciences Center. "We have faculty from the interstitial lung diseases and lung cancer groups at the University of Colorado who are internationally recognized for the high quality of their work," Travis points out. "They include pathologists, radiologists, and clinicians who work together on a daily basis to take care of patients with lung disease. It will be a wonderful opportunity to learn from these experts about how they work together."

Aspen in August is spectacular, with a variety of historical, cultural, and recreational activities available, including its renowned music festival. Aspen can be reached by air or car. The airport is located 3 miles from the hotel, and Aspen is only a 3-hour drive from



Denver International Airport over the scenic Independence Pass and Continental Divide.

## Department of Education Services receives four-year accreditation

The Accreditation Council for Continuing Medical Education (ACCME) recently surveyed AFIP's Department of Education Services and awarded accreditation to the Institute for 4 years as a sponsor of continuing medical education for physicians.

ACCME accreditation seeks to assure both physicians and the public that continuing medical education activities sponsored by the AFIP meet the high standards of the Essentials and Standards for Accreditation as specified by the ACCME.

The ACCME rigorously evaluates the

overall continuing medical education programs of institutions according to standards adopted by all seven sponsoring organizations of the ACCME: the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association for Hospital Medical Education, the Association of American Medical Colleges, the Council of Medical Specialty Societies, and the Federation of State Medical Boards.

Currently on  
temporary exhibit  
at the Museum

**Award-winning photographs from the ASCP/Nikon Medical Photography Competition Collection 1989-1994 explore the wonder and often remarkable beauty of the body's inner spaces. Through mid-October. Call 202.782.2200 for information and directions.**

## SPECIAL EVENT

# AFIP/ARP at the 1996 U.S. and Canadian Academy of Pathology Meeting



Visiting with AFIP Associate Director Florabel G. Mullick, MD, SES, were (left): Yahia F. Dajani, MD, President, Arab Division, IAP; Antonio Cardesa, MD, Director, Department of Anatomic Pathology, University of Barcelona, Spain; Dr. Mullick; and Anna Kadar, MD, President of the XXI International Congress of the IAP.

Hilton; it was cochaired by Henry A. Azar, MD, and Florabel G. Mullick, MD. The bylaws of the society were

In keeping with past tradition, the AFIP was well represented at the 85th Annual Meeting of the United States and Canadian Academy of Pathology, held in Washington, D.C., March 23-29, 1996. "After a particularly unpleasant winter, nature smiled upon the city, providing it with a week of very pleasant weather. I am most grateful to all members of the staff whose scientific contributions helped to make this meeting such a resounding success," notes Florabel G. Mullick, MD, SES, AFIP Associate Director and Director, Center for Advanced Pathology. Dr. Mullick is also secretary, International Academy of Pathology.

Two American Registry of Pathology (ARP) functions were held at the start of the meeting--one was a dinner, on Saturday, March 23, hosted by Donald West King, MD, Executive Director of ARP, that honored Rafael Lattes, MD, and Conrad Pirani, MD; it was held at the Cosmos Club and was attended by 120 AFIP alumni. The second ARP function was a dinner on Sunday, March 24, for the executive officers of the International Academy of Pathology (IAP); it was attended by 38 guests of the IAP, ARP, and AFIP. Another "historic" event was the inaugural meeting of the History of Pathology Society, at the Washington

adopted unanimously by about 40 enthusiastic attendees, who automatically became charter members. Henry A. Azar, MD, Ann Marie Nelson, MD, and Donald West King, MD, were elected president, secretary, and treasurer of the society, respectively. It is anticipated that the society will hold an annual "companion" meeting at future U.S./CAP meetings.

Members of the staff participated at four companion meetings. William D. Travis, MD, and Anne Marie Nelson, MD, moderated the meetings of the Pulmonary Pathology Society and the Binford-Dammin Society of Infectious Disease Pathologists, respectively. Isabell A. Sesterhenn, MD, and Kamal G. Ishak, MD, PhD, spoke at the meetings of the International Society of Urological Pathology and the Hans Popper Hepatopathology Society, respectively.

One of the evening specialty conferences, "Forensic Pathology," was moderated by Charles J. Stahl, MD, AFIP Distinguished Scientist and Armed Forces Medical Examiner. Panelists on other specialty conferences included William B. Travis, MD, Pulmonary Pathology, Markku M. Miettinen, MD, and Donald E. Sweet, MD, Bone and Soft Tissue Pathology, and Renu Virmani, MD, Cardiovascular Pathology.

Members of the staff directed or codirected five short courses, traditionally held on Thursday and Friday. The courses included "Radiologic-Pathologic Correlation in the Diagnosis of Solitary Skeletal Lesions" (Donald E. Sweet, MD); "Pathology of Sudden Cardiac Death" (Allen P. Burke, LtCol, USAF, MC, and Renu Virmani, MD); "Pathology of Developmental and Metabolic Liver Disease" (Kamal G. Ishak, MD, PhD); "Problems on Uterine Pathology" (Fattaneh Tavassoli, MD); "Quantitative Methods for Predicting Tumor Prognosis" (Timothy J. O'Leary, MD, PhD, and Robert L. Becker, Col, USAF, MC).

Forty-eight abstracts were published by members of the staff, and there were 15 platform presentations and 33 posters. Altogether, 39 members of the staff were responsible for this impressive effort. R. M. Przygodzki, MD, Department of Pulmonary Pathology, was presented the first Pathologist in Training Award of the Pulmonary Pathology Society. He was honored for his poster "Pleomorphic Carcinoma of the Lung: A Genetically Distinct Neoplasm from Adenocarcinoma and Squamous Cell Carcinoma."

The AFIP exhibit was visited by hundreds of pathologists attending the meeting, who purchased 542 tumor fascicles and 109 CD-ROMs. Many pathologists also picked up brochures of forthcoming AFIP/ARP courses.

Other than the learning experience, the annual U.S./CAP meeting provides a convivial milieu for catching up with news of former colleagues, meeting new friends, and exchanging ideas with pathologists with similar research interests. A number of former AFIP alumni and distinguished visitors, including Anna Kadar, MD, president of the XXI International Congress of the IAP (to be held in Budapest, Hungary, October 20-25, 1996), and Yahia F. Dajani, MD, president of the Arab Division of the IAP, found time during the meeting to visit the AFIP.



Photo: Victor R. Kikel, TSgt., USAF

## Medical Examiners identify victims of U.S. Air disaster over Bosnia

crew members) perished in the crash of a military aircraft, the OAFME was tasked to establish the cause and manner of death for all the victims.

The OAFME encountered its first challenge while planning the operation. Government officials could not agree on a location for conducting the identifications. Proposed sites included Ramstein Air Force Base in Germany, Walter Reed Army Medical Center in Washington, DC, and Dover Air Force Base (AFB) in Delaware. Finally, late on Friday, April 5, the decision was made to transport the remains to Dover. Equipped with supplies for dealing with mass fatalities, Dover AFB was the most logical choice for an operation of this kind.

At noon on Saturday, April 6, a team of 25 personnel, headed by CDR Kilbane, assembled at the Dover AFB mortuary facility. In addition to several medical examiners, the team included dental pathologists, DNA experts, forensic photographers, and special investigators, as well as fingerprint experts of the FBI Disaster Squad. A crew of volunteers from Dover AFB, the mortuary staff and dental staff at Dover, and Air Force Reserve medical personnel also contributed substantially to the effort.

The plane transporting the victims' remains arrived at Dover AFB on Saturday evening. On April 7 (Easter Sunday), the group worked continuously from 7:00 a.m. to 8:00 p.m. By the end of the day, about 7 remains were ready to be returned to their families. With the exception of one civilian (whose family had requested an autopsy), all 33 victims had been identified by Tuesday afternoon and their remains turned over to the mortuary service personnel for burial preparation.

The Dover AFB mortuary facility exists primarily for processing military casualties, but in mass disasters and some other unusual circumstances, it may be used for civilian casualties as well. To process the human remains, a series of stations are used, each of which performs

a different function. These functions include: removal of ordnance (primarily applicable to military casualties); removal and examination of personal effects; photographing the remains; assigning a bar code to the remains (for tracking purposes for x-rays, tissue specimens, etc.); fingerprinting (by FBI personnel); dental examination; radiology (x-rays); pathologic examination (with removal of tissue specimens for DNA, toxicologic, and microscopic analysis). Military casualties may be autopsied. For civilians, the cause and manner of death will be established, but an autopsy may be performed on a civilian only with the consent of the family and with permission from higher military authority.

According to CDR Kilbane, one of the most challenging aspects of managing the operation was dealing with frequent requests for specific, up-to-the-minute information. "An obvious question such as, 'How many victims have been identified so far?' is not always easy to answer," said CDR Kilbane. Each of the stations operates independently. If, for example, a victim's remains are conclusively identified through the use of dental records, the body still is sent on to the fingerprint station, etc. By using this procedure, remains may be identified by multiple methods, which provides a means for cross-checking and quality control. However, the precise number of victims that had been identified (by at least one means of identification) at a given time changed from moment to moment. "Identifications were made and confirmed faster than we could count them," CDR Kilbane stated.

Despite the frustrations inherent in managing an operation that is the focus of intense public scrutiny, CDR Kilbane feels that the AFME team and Dover personnel did an excellent job of handling the remains of the victims of this tragic aircraft accident. "All things considered," he says, "we did the job quickly, in the most efficient way, and got the best possible results."

On April 3, 1996, when the Office of the Armed Forces Medical Examiner (OAFME) first received word that the Air Force jet carrying Secretary of Commerce Ron Brown had disappeared, Edward Kilbane, CDR, MC, USN, chief deputy medical examiner for Medicolegal Investigations, was visiting his family in Pennsylvania. By that evening, when the wreckage of the plane had been found, Kilbane had returned to his home in the Washington, DC area and was already planning the operation that would result in the timely and efficient identification of the 33 crash victims.

Headed by Chief Medical Examiner and Distinguished Scientist Charles J. Stahl, MD, the OAFME is part of the Armed Forces Institute of Pathology (AFIP). The Armed Forces Medical Examiner System was established to conduct scientific forensic investigations for determining the cause and manner of death for members of the armed forces who die while on active duty or on active duty for training. Under certain circumstances, the office also provides support for medicolegal investigation of the deaths of civilians. Because Secretary Brown and 26 other civilians (along with 6 military

## PROFILE

# American University Professor conducts advanced research at AFIP DNA Laboratory

Through a cooperative research and development agreement between the Armed Forces Institute of Pathology (AFIP) and American University, ground-breaking research in DNA identification is being carried out at the Armed Forces DNA Identification Laboratory (AFDIL). Jim Girard, PhD, professor of chemistry at American University, Washington, D.C., Phillip Belgrader, Capt, USAF, BSC, and Michael Marino, MS, of AFDIL, formed the Advanced Technology Group to perform research into new techniques of DNA typing.

Using a process known as matrix assisted laser desorption ionization (MALDI) time-of-flight (TOF) mass spectrometry, DNA analysis can be performed much more quickly and accurately than with electrophoresis, the most frequently used method of identifying DNA.

In electrophoresis, enzymes are used to cut DNA into fragments, each of which is placed in a gel solution. The migration of a fragment is compared with that of a reference sample. Although accurate, this process is quite slow.

The MALDI-TOF mass spectrometer is a highly sophisticated instrument that uses laser technology to analyze multiple samples of DNA simultaneously. Electrophoresis takes 2 to 3 hours, not including preparation time and transfer and comparison of data after the process. "Using MALDI-TOF mass spectrometry," says Dr. Girard, "the same analysis can be done in about 1 minute." By using robotics to prepare the DNA samples quickly and perfectly, preparation time also can be reduced.

According to Dr. Girard, "MALDI-TOF mass spectrometry offers the advantages of quick turnaround, high sensitivity, and reproducible results." In addition, having a reference sample to compare to is not necessary since the mass spectrometer directly determines precise molecular weights. Until about 2 years ago, however, it had never been used for



*Jim Girard, PhD, at MALDI-TOF mass spectrometer.*

large molecules such as DNA. Members of the Advanced Technology Group are some of the first researchers to work with this new technology.

AFDIL DNA analysts have had extensive experience using the conventional technology, and the accuracy of their results is supported by the quality control done by the National Institute of Standards and Technology (NIST). Because AFDIL personnel have such expertise in the field, they can evaluate proposed experiments before they are performed in order to point out possible problems. Dr. Girard is an analytical chemist, with a different perspective than the DNA analysts; the combination of these two areas of expertise facilitates productive research.

Assisting Dr. Girard are three American University graduate students working toward master's or doctoral degrees. Ping Jiang-Baucom, who is pursuing a PhD in analytical chemistry, began working with Dr. Girard in September 1995. She is now in the final stages of her research on developing an analytical chemistry design for DNA typing. In addition to acquiring experience with state-of-the-art equipment and technology, Ms. Jiang-Baucom feels

that working with the Advanced Technology Group provides good training for students because they learn to defend their ideas and proposed methodology.

Students in master's degree programs generally work with Dr. Girard for about 12 to 18 months; doctoral candidates usually stay with him for about 2 years.



## A Bistoury, A Bullet—National Museum of Health and Medicine Historical Collections document a President's struggle to survive

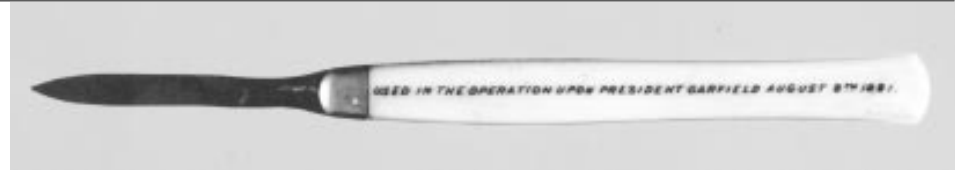
A 19th century ivory-handled bistoury is the latest addition to the National Museum of Health and Medicine Historical Collections, home to more than 13,000 objects ranging in size from a suture needle to an MRI magnet weighing in at two tons.

The 6-to-8-inch long bistoury, acquired in fall 1995, is a typical preaseptic surgical instrument. The ivory handle, indicative of top-of-the-line instrumentation, perhaps belies the status of its owner, Dr. D. Willard Bliss. But the inscription on its handle—"Used in the Operation upon President Garfield August 8th 1881"—reveals this object's special significance and reminds one that every artifact has a tale to tell.

The story of the bistoury begins on July 2, 1881. That's the day when James A. Garfield, 20th President of the United States, entered the Baltimore and Potomac Railroad Station to board a train bound for Williamstown, Massachusetts. Charles Guitteau, a disappointed government job seeker, stepped from behind a station door, fired two shots at Garfield, and made history. One bullet grazed the President's right shoulder. The second entered the back of his right lower thorax. President Garfield lingered for nearly 3 months while doctors struggled to locate the bullet lodged in his back - only to watch him die on September 19.

At the time of the shooting, Garfield had been in office for only 4 months. Ironically, the decorated Civil War Major General-turned-Senator had campaigned vigorously for funds to underwrite the Medical and Surgical History of the War of the Rebellion, to be published by the Museum (then called the Army Medical Museum) that today documents his plight.

Among other Garfield items in the Museum's collections are the flattened lead bullet alleged to have grazed his shoulder and a .44-caliber Bulldog revolver, similar to the one used by Guitteau. The 6-inch long pistol with a 2-inch rifled barrel, donated to the Museum in 1966, is a well-made weapon that



could easily be concealed in an overcoat pocket. Immediately after the shooting, Garfield was carried to the train station's second floor, where Dr. D. Willard Bliss, a prominent Washington area physician, took charge of the case. After unsuccessful attempts to locate the bullet with a probe, the President was removed to the White House, where his condition improved.

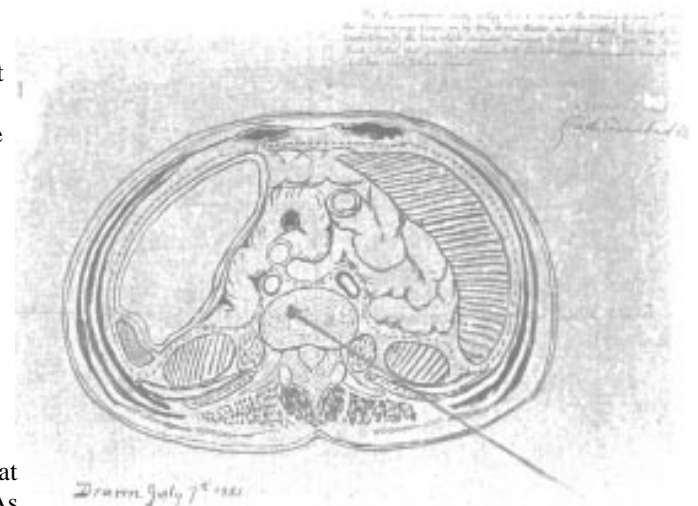
Subsequent and repeated attempts to locate the bullet proved equally ineffective, and lively speculation and experimentation ensued. Alexander Graham Bell volunteered to try out his new Induction Balance, which used electromagnets to locate projectiles and had previously been tested on Civil War veterans whose bodies contained bullets with known locations. Bell concluded the bullet was lodged in Garfield's abdomen immediately over the groin. Another doctor concluded the bullet was located in the right iliac region, not far above the groin. Based on information gleaned from news accounts, Dr. Frank Baker, a recent graduate of the Medical Department at Columbian University (now George Washington University) concluded the bullet had passed through the first lumbar vertebra and was lodged in the peritoneal cavity. His theory, while later published, was never brought to the attention of the attending physicians. The omission would prove providential. Baker's diagram illustrating the bullet's suspected path is housed in the Museum's Otis Historical Archives.

Consensus among those attending was that the bullet had lodged somewhere near the anterior abdominal wall, at or below the umbilicus. As the patient seemed to be

recovering and the wound was draining a healthy pus, Garfield's physicians decided removing the bullet was unnecessary. Treatment consisted of enlarging the primary wound, incising abscesses near the wound, inserting drainage tubes, and lancing the acne pustules that appeared on Garfield's body. When swelling developed around the ear, Dr. Bliss incised and drained under local analgesia. The ivory-handled bistoury was probably used in this procedure.

As the summer dragged on, Bliss began to suspect the Washington climate was hampering the President's recovery. Garfield was moved to Elberon on the New Jersey coast, where the ocean air initially caused a notable improvement, but on September 17, Garfield complained of chills and pain and for the first time hallucinated. Two evenings later, he complained of chest pains. By 10:35 p.m., Garfield was dead. Results of an autopsy the next day led pathologists to conclude death was caused by hemorrhage of the splenic artery. The bullet had penetrated the first lumbar vertebra, although missing

*Continued on page 10*



*Exploratory drawing of President Garfield's wound.*

## CENTER FOR EDUCATION, REPOSITORY, AND RESEARCH SERVICES

# A new name—improved services

The Department of Repository and Research Services and the Center for Advanced Medical Education recently reorganized to form a new center, the Center for Education, Repository, and Research Services (CERRS), with Michael R. Peterson, DVM, DrPH, as the center director. This reorganization functionally aligns these areas under the direction and guidance of a civilian Distinguished Scientist who is a member of the ARP Registrars Forum. It allows more sharing of limited resources, particularly manpower, and will facilitate and improve communication among user organizations within the Institute. The reorganization also will provide increased marketing opportunities for repository materials and for collaborative research efforts.

The Receiving and Accessions Division recently received its own fax line. Their new fax number is (202) 782-2845. The installation of this new line has facilitated the receipt of additional and/or missing case information, as well as aided

our efforts to fax case acknowledgement information back to contributors in a timely manner once a case has been accessioned.

Contributors requesting copies of consultation reports or the return/loan of pathologic material should still fax these requests to the (202) 782-7831 number in the Records Repository Division.

**The FY95 AFIP Annual Research Progress Report** is in the process of being published and will soon be available for distribution to interested personnel. This report contains final and progress reports on over 200 research protocols AFIP/ARP staff members were involved in during the past year. You can receive a free copy of the FY95 report when it becomes available by contacting the AFIP Research Office at (202) 782-2500 or write to the following address: Research Office, Room G061, Bldg. 54, Armed Forces Institute of Pathology, 6825 16th Street, N.W., Washington, D.C. 20306-6000. A

limited number of FY94 reports are also still available.

Dr. Michael Peterson, Chairperson, Department of Repository and Research Services, is directing the development of the 1994 Repository Case Catalogue. The Catalogue will identify cases accessioned into the AFIP in calendar year 1994 by major categories of disease and descriptive demographic variables. The Catalogue serves as a summary of potential research material to extramural organizations and also is available for AFIP staff members. Copies of the 1993 Catalogue are also still available. Personnel interested in receiving a copy of this catalog, and/or are interested in collaborative research efforts utilizing repository material, should contact Dr. Michael Peterson at the above address and phone number.

## HISTOTECHNOLOGY NOTES

### HELPFUL HINT: Oxidization of Hematoxylin

If you wish to oxidize a hematoxylin using potassium permanganate instead of mercuric oxide, use Solution A and Solution B.

EX: Harris Hematoxylin sans mercury:

Solution A – 10 gm ammonium or potassium aluminum sulfate dissolved in 50 ml of distilled water.

Solution B – 5 gm hematoxylin, 5 ml 95% ethanol, 25 ml distilled water. Dissolve completely and add 25 ml of 0.25% potassium permanganate. Allow to oxidize 3 minutes and add to Solution A.

Cool in running tap water and add 2 ml glacial acetic acid. Filter before use.

When differentiating slides after staining with this hematoxylin, dip them in tap water after the acid alcohol, before blueing them in the ammonia water. Otherwise, you may get a light precipitate.

## Recent Publications by AFIP Staff

1. Buetow PC, Buck JL, Carr NJ, Pantongrag-Brown L, Ros PR, Cruess DF. Intussuscepted colonic lipomas: loss of fat attenuation on CT with pathologic correlation in 10 cases. *Abdom Imaging*. 1996;21:153-156.
2. Buetow PC, Pantongrag-Brown L, Buck JL, Ros PR, Goodman ZD. Focal nodular hyperplasia of the liver: radiologic-pathologic correlation. *Radiographics*. 1996;16:369-388.
3. Levine MS, Buck JL, Pantongrag-Brown L, Buetow PC, Hallman JR, Sobin LH. Fibrovascular polyps of the esophagus: clinical, radiographic, and pathologic findings in 16 patients. *AJR. Am J Roentgenol*. 1996;166:781-787.
4. Nzeako UC, Goodman ZD, Ishak KG. Hepatocellular carcinoma in cirrhotic and noncirrhotic livers: a clinicohistopathologic study of 804 North American patients. *Am J Clin Pathol*. 1996;105:65-75.





# Study Sets (35MM Transparencies)

Order #	Description	Number in set	Price (US \$)	Qty.	Total
SS01	*WHO Histological Typing of Thyroid Tumors. (2nd ed. 1988)	92	\$ 60		
SS02	*WHO Histological Typing of Intestinal Tumors. (2nd ed. 1989)	136	\$ 75		
SS03	*WHO Histological Typing of Esophageal & Gastric Tumors. (2nd ed. 1990)	120	\$65		
SW04	*WHO Histological Typing of Gallbladder & Biliary Tract Tumors. (2nd ed. 1991)	80	\$55		
SW05	*WHO Histological Typing of the Salivary Gland Tumors. (2nd ed. 1991)	124	\$70		
SW06	*WHO Histological Typing of Upper Respiratory Tract Tumors. (2nd ed. 1991)	200	\$125		
SW07	*WHO Histological Typing of Odontogenic Tumors. (2nd ed. 1992)	142	\$100		
SW08	*WHO Histological Typing of Liver Tumors. (2nd ed. 1994)	150	\$120		
SS04	Histopathology of Filariar Diseases	250	\$150		
SS06	Gastrointestinal Pathology	65	\$50		
SS08	Gynecologic Pathology I	100	\$55		
SS09	Gynecologic Pathology II	101	\$65		
SS10	Genitourinary Pathology	104	\$75		
SS12	Esophagus, Non-neoplastic Lesions	57	\$45		
SS13	Esophagus, Neoplastic Lesions	75	\$50		
SS14	Stomach, Non-neoplastic Lesions	71	\$50		
SS15	Stomach, Neoplastic Lesions	85	\$55		
SS16	Small Intestine, Non-neoplastic Lesions	75	\$45		
SS17	Small Intestine, Neoplastic Lesions	86	\$55		
SS18	Colon & Rectum: Non-neoplastic Diseases	82	\$55		
SS19	Colon: Tumors & Tumor-like Lesions	103	\$75		
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**PROFILE**



Michael Tabash has been appointed manager of the AFIP Atlas Subscribers' Program,

according to Jonathan Johnstone, director of marketing, publications, and subscribers' services for the American Registry of Pathology (ARP). "We're pleased to have Michael join us as the Subscribers' Program continues to grow," says Johnstone. "Michael will provide over 5,000 pathologists already in the program, and those that join us each day, with

## Michael Tabash, Manager, AFIP Atlas Subscribers' Program

continued outstanding customer service."

In his new role, Tabash will manage all aspects of the program, including customer service, domestic and international correspondence, implementing new procedures and methods, and assisting in marketing AFIP fascicles, special publications, and study slide sets. His goals include contacting pathologists around the globe regarding the availability of AFIP fascicles, and enrolling at least one subscriber from every nation in the world.

A 1990 graduate of George Mason University, Tabash most recently served as a junior international operations officer for the Riggs National Bank's embassy

division. In that role, he developed and coordinated international banking activities of existing and prospective accounts; maintained and supervised overdraft, investments, and internal and external transfers in a budget of over \$100 million; and acted as a liaison between the embassies and Riggs Bank for all banking needs.

Tabash, who is fluent in Arabic and Spanish and conversant in Italian, is an accomplished soccer player who enjoys tennis and reading in his leisure time.

### CD-ROMs, cont'd from page 1

authoring tool that was specifically tailored to how AFIP wanted to electronically present the fascicles and which enabled AFIP in-house CD-ROM production. "Tumors of the Thyroid Gland" was AFIP's first CD-ROM. Produced only for Windows in 1993, the CD-ROM was distributed to 3,500 subscribers free of charge to acquire their input about what pathologists wanted to see in this version. "With three years of development, product research, program rewriting, and refinements, we now have an excellent product for both MAC and Windows," Johnstone notes.

According to Junko Monroe, multimedia production technician at CSP, purchasers of the CD-ROMs can obtain toll-free technical support. The Electronic Fascicle Home Page provides product information and a tutorial, as well as ordering and pricing information. AFIP Atlas subscribers may place orders electronically by using the order forms that are included on the Home Page (<http://www.afip.mil>).

The American Registry of Pathology (ARP) continues to expand its world

market in 1996 by exhibiting at numerous pathology meetings. ARP took part in the Japanese Congress of Pathology in April. From October 2-7, ARP will attend the Frankfurt Bookfair, in Germany, in search of more foreign distributors and from October 20-27, will exhibit at the World Congress of the International Academy of Pathology in Budapest, Hungary. AFIP and ARP will staff a joint exhibit at the fall 1996 meeting of the American Society of Clinical Pathologists/College of American Pathologists (ASCP/CAP) in San Diego, California, September 30 to October 2.



**For complete details on the CD-ROM program see the order form on page 12 or visit our web site at <http://www.afip.mil>.**



### Museum, cont'd from page 7

the spinal cord, and lodged in the spine. (The vertebra showing the path of the bullet is in the Museum collections.) Oddly, despite all the probing and searching by the best medical and scientific minds of the day, it was Dr. Baker (who never examined Garfield), who had provided the best estimate of the bullet's location.

While Dr. Bliss became involved in the case with the hope it would enhance his reputation, it actually ruined it. His professional judgment was called into question. After all, many Civil War veterans carrying bullets in their bodies continued to live productive lives. Still, the odds were stacked against Bliss. An X-ray machine, invented 14 years later, would easily have located the bullet. Antibiotics, not available for another 60 years, would have treated the lingering infection that ultimately cost Garfield his life.

The bistoury is far from the oldest object in the Museum's collections, one artifact predates it by nearly two centuries. As a whole, the Historical Collections cover nearly every field of medicine imaginable and include artifacts from every war the United States has been involved in—from the American Revolution to Operation Desert Storm.

For more information about the wealth of resources the Museum's Historical Collections provide, contact Collections Manager Alan Hawk at (202) 782-2205.

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Gastrointestinal Surgical Pathology .....	30 June–2 July 96 .....	<b>Marriott's Mountain Resort, Vail, CO</b>
Musculoskeletal Radiology .....	15–19 July 96 .....	Radiologic Path Ed Ctr, Washington, DC
Biannual Neuropathology Long Course .....	9 July–27 Sept 96 .....	AFIP, Washington, DC
Genitourinary Radiology .....	29 July–2 August 96 .....	Radiologic Path Ed Ctr, Washington, DC
43rd Annual Pathology of Laboratory Animals .....	12–15 August 96 .....	NIH, Bethesda, MD
2nd Annual Current Laboratory Animal Science Seminar ....	15–16 August 96 .....	NIH, Bethesda, MD
Thoracic Pathology: Clinical & Radiologic Correlations .....	15–18 August 96 .....	<b>Ritz-Carlton Hotel, Aspen, CO</b>
Ophthalmic Pathology for Ophthalmologists .....	25–30 August 96 .....	Leavey Conference Ctr, Georgetown University, Washington, DC
<b>Radiation &amp; Chemotherapy Injury: Etiology, Treatment</b>		
Prognosis & Genetics .....	7–9 September 96 .....	Sheraton Premiere Hotel, Tysons Corner, VA
5th Annual Pulmonary & Mediastinal Radiology .....	28–29 September 96 .....	<b>Menger Hotel, San Antonio, TX</b>
Morphologic Findings in Renal Diseases & Transplants .....	1–4 October 96 .....	Holiday Inn, Silver Spring, MD
Endoscopic Biopsies of the Gastrointestinal Tract .....	5 October 96 .....	Radiologic Path Ed Ctr, Washington, DC
6th Annual Radiologic Pathologic Correlation .....	7–11 October 96 .....	<b>Disney's Contemporary Resort, Orlando, FL</b>
Basic Forensic Pathology .....	21–25 October 96 .....	DoubleTree Hotel, Rockville, MD
Abdominal & Gastrointestinal Radiology .....	21–25 October 96 .....	Radiologic Path Ed Ctr, Washington, DC
Pediatric Radiology .....	28 Oct–1 Nov 96 .....	Radiologic Path Ed Ctr, Washington, DC
The Dermatopathology Workshop .....	8–9 November 96 .....	Ritz-Carlton Hotel, Pentagon City, Arlington, VA
Difficult Diagnosis in Surgical Pathology .....	13–16 November 96 .....	<b>Charleston Place, Charleston, SC</b>
Interpretation of Prostatic Biopsies .....	2–3 November 96 .....	Holiday Inn, Silver Spring, MD
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### Hepatopathology Course Description

This course provides a review of commonly encountered problems in diagnostic liver pathology at a level suitable for pathologists and pathology residents as well as hepatologists, gastroenterologists, and gastroenterology/hepatology fellows. Areas to be covered include hepatitis and other infectious diseases, toxic injury due to alcohol and drugs, cholestasis, developmental and metabolic liver diseases, and neoplasms. One day of the course is devoted to microscopic review of 100 needle biopsies of the liver, which will provide an opportunity for the participants to apply knowledge gained in the lectures, with faculty on hand to assist and answer questions.

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## REPRINTS

### Intussuscepted colonic lipomas: loss of fat attenuation on CT with pathologic correlation in 10 cases

P. C. Buetow, J. L. Buck, N. J. Carr, L. Pantongrag-Brown, P. R. Ros, and D. F. Cruess

**Background:** To determine if infarction and necrosis is the cause of the confusing soft tissue density on CT within intussuscepting lipomas of the colon.

**Methods:** The clinical records, radiologic examinations, and pathologic specimens of all 13 cases of colonic lipomas collected from 1988 to 1994 studied by CT and surgically resected were retrospectively reviewed. Ten of these cases were associated with intussusception; the CT attenuation of the lead point was graded according to its relative fat/soft tissue density. Pathologic specimens were graded independently by a GI pathologist and graded according to the degree of infarction/fat necrosis.

**Results:** The lipomas ranged from 4 to 7 cm in diameter (mean = 5 cm). Only one case with intussusception, and all three cases without, demonstrated pure fat attenuation on CT and demonstrated pure fat histologically. One case demonstrated soft tissue attenuation and corresponded with the most severely infarcted specimen histologically; two cases with similar but less severe infarction/fat necrosis corresponded with less than 25% fat attenuation. These latter three cases were originally misinterpreted as malignancies rather than lipomas. Six cases maintained greater than 50% fat density and intermediate amounts of infarction/fat necrosis. **Conclusion:** Lipomas may have an atypical appearance when intussuscepted due to varying degrees of infarction/fat necrosis.

*Abdom Imaging.* 1996;21:153-156.

### Focal nodular hyperplasia of the liver: radiologic-pathologic correlation

Peter C. Buetow, Maj, USAR, Linda Pantongrag-Brown, MD, James L. Buck, CDR, USNR, Pablo R. Ros, MD, and Zachary D. Goodman, PhD, MD

Focal nodular hyperplasia (FNH) is a benign hepatic tumor that likely represents a local hyperplastic response of hepatocytes to a

congenital vascular anomaly. It is most commonly seen in middle-aged women and is typically a solid mass measuring less than 5 cm in diameter. Most lesions have central scars that contain thick-walled vessels that provide excellent arterial blood supply; hemorrhage, necrosis, and infarction are, therefore, extremely unusual. Characteristic imaging features include a hypervascular homogeneous tumor with a central scar and with both hepatocellular and reticuloendothelial function. Ultrasonography, computed tomography, scintigraphy, and magnetic resonance imaging all offer different advantages in the detection and characterization of FNH. There is excellent correlation between the pathologic and imaging features of FNH. In many cases, it is possible to obtain a prospective imaging diagnosis of FNH; however, in some cases, the distinction between FNH and other primary hepatic neoplasms is not possible. In these latter cases, close imaging follow-up, needle biopsy, or even surgical resection may be necessary.

*Radiographics.* 1996;16:369-388.

### Fibrovascular polyps of the esophagus: clinical, radiographic, and pathologic findings in 16 patients

Marc S. Levine, James L. Buck, Linda Pantongrag-Brown, Peter C. Buetow, James R. Hallman, and Leslie H. Sobin

**Objective:** Fibrovascular polyps of the esophagus are rare benign nonneoplastic intraluminal masses. Most published reports of patients with these polyps have been anecdotal. The purpose of this study was to reassess the clinical, radiographic, and pathologic findings in a relatively large series of patients with this unusual tumorlike lesion.

**Materials and Methods:** A search of the radiologic archives of the Armed Forces Institute of Pathology revealed 16 cases of fibrovascular polyps of the esophagus. We reviewed the clinical, radiographic, and pathologic findings in these 16 cases. **Results:** All 16 patients were symptomatic. Fourteen (87%) had dysphagia and four (25%) had respiratory symptoms. The average duration of symptoms was 17 months, but seven patients (44%) had symptoms for 6 or fewer months. Two patients (12%) had a history of regurgitating the tumor into the pharynx or mouth, but none had the known complication of asphyxiation due to occlusion of the larynx. Chest radiographs revealed a right-sided superior mediastinal mass and/or anterior tracheal bowing in seven patients (44%). Barium studies revealed smooth but variably lobulated intraluminal masses that originated in the lower cervical esophagus and

had variable sizes and distal extents, with an average length of 15 cm. Depending on the amount of fat and fibrovascular tissue in the lesion, CT revealed a heterogeneous appearance in four patients, lesions of predominantly fat density in two, and lesions of predominantly soft-tissue density in two.

**Conclusion:** Knowledge of the clinical and radiographic features of fibrovascular polyps of the esophagus is important because surgical removal of these lesions is warranted in most patients.

*AJR.* 1996;166:781-787

### Hepatocellular carcinoma in cirrhotic and noncirrhotic livers: a clinico-histopathologic study of 804 North American patients

Ugochukwu C. Nzeako, MD, Zachary D. Goodman, MD, PhD, and Kamal G. Ishak, MD, PhD

This study examined clinico-histopathologic differences between North American patients who developed hepatocellular carcinoma with and without cirrhosis.

Histologic slides and clinical records of cases were reviewed. Cases were classified according to defined histopathologic criteria. Analyses were performed using appropriate tests.

A total of 42.6% of cases were noncirrhotic. The trabecular type of hepatocellular carcinoma was the most common growth pattern in both groups. Patients with cirrhosis were significantly older, had high grade tumors, and local portal venous invasion significantly more often than patients without cirrhosis. Encapsulated tumors occurred in significantly more in patients without cirrhosis. Patients without cirrhosis survived longer than patients with cirrhosis ( $P < .0001$ ) and had a better 5-year survival experience. On average, in patients with cirrhosis, serum aspartate transaminase and total serum bilirubin were significantly greater, and serum albumin was significantly lower.

In general, hepatocellular carcinoma in North American patients with cirrhosis tended to be less well differentiated than those found among patients without cirrhosis. The pathology, natural history, and prognosis of this tumor is significantly influenced by the presence or absence of cirrhosis in the nonneoplastic liver, and the presence of cirrhosis portends a poorer prognosis.

*Am J Clin Pathol.* 1996;105:65-75.

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