

# CREIGHTON MEDICINE

CREIGHTON UNIVERSITY ✦ DEPARTMENT OF MEDICINE ✦ OCTOBER 2000 ✦ VOL. I, No. 3

## Dermatology Therapies Available in 2000

by **Christopher J. Huerter, M.D.**,  
ASSOCIATE PROFESSOR of DERMATOLOGY and  
CHIEF of the DIVISION of DERMATOLOGY



Christopher Huerter, M.D.

Seeing dermatology patients with diagnoses ranging from psoriasis to malignant melanoma, Creighton health care professionals are using new medical and surgical treatments.

### Psoriasis

Psoriasis is a chronic and potentially debilitating skin disorder that affects one to two percent of the population. In the past, psoriasis was thought to be a disorder of skin hyperproliferation without a significant inflammatory component. However, in recent years it has been determined that this is a T-cell mediated disorder and this discovery has led to a new approach to treatment. Immunosuppressive therapies have been utilized with impressive results.

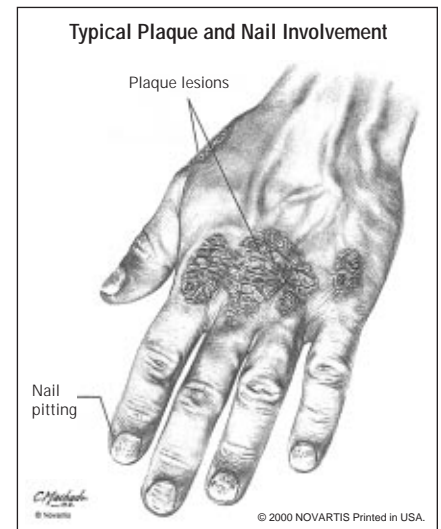
For mild psoriasis, topical corticosteroids can be very effective. However, for more severe disease, systemic therapy is frequently indicated. Options for systemic therapy include PUVA phototherapy, an in-office, physician directed form of light therapy that can be dramatically effective. Other systemic therapies include Soriatane, an oral retinoid and weekly pulsed treatment with Methotrexate, which has the added benefit of treating concurrent psoriatic arthritis. Cyclosporine, the potent immunosuppressive agent, has in recent years been shown to be dramatically effective in selected psoriasis patients. It is recommended not to exceed 3-4 mg/kg/day on a sustained basis, so as to avoid the possibility of drug-induced nephropathy.

New immunosuppressive treatments for psoriasis are being developed and the Division of Dermatology is now involved in the testing of two new drugs. We are testing injectable forms of LFA3TIP

(LFA-3/IgG), Human Fusion Protein) and Anti-CD11a (recombinant humanized monoclonal antibody to LFA-1). These drug trials are being done in conjunction with the Division of Allergy and Immunology. The therapies have thus far been tolerated well by patients with encouraging clinical results. This represents cutting-edge research and these drugs could well represent the future of treatment for severe plaque-type psoriasis.

T-cells must be activated to perform their normal function. Much attention in the research arena has been focused on the primary interaction of the T-cell receptor with the major histocompatibility complex (MHC) — antigen complex on the antigen presenting cell. However, several other cell surface components are also involved in, and necessary for, T-cell activation. These ligand

pairs located on the surface of the T-cell and the antigen processing cell include lymphocyte function — associated antigen (LFA-1), intercellular adhesion molecule (ICAM-1, also ICAM-2, and ICAM-3), CD28/B7, CD2/LFA-3, CD4/MHC Class II, and CD8/MHC Class I. Interfering with the binding of any of these ligand pairs (e.g., with the use of monoclonal antibodies) may decrease or inhibit the T-cell



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# From the Chair



Eugene Rich, M.D.

The Center for Practice Improvement and Outcomes Research (CPrIOR) has had a close relationship with the Department of Medicine since its founding four years ago. Although the Center reports to the Vice President for Health Sciences and serves faculty in all the health professions schools, it has been physically located in the Department of Medicine and directed by me.

Funded primarily by a grant from the Health Future Foundation, the Center's goals are to: 1) provide

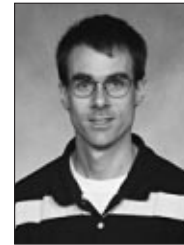
Creighton University with methodological expertise in health services research relevant to practice improvement and outcomes assessment; 2) provide faculty development in research and administrative techniques relevant to practice improvement and outcomes research; 3) conduct research which identifies opportunities for improvement in the cost of care, the process of care, patient satisfaction and clinical outcomes; 4) develop methods of analyzing physician specific data on cost and outcomes to guide improvements in clinical practice; and 5) develop model curricula for health professions students, residents and post-graduate professionals in practice improvement and outcomes management.

The importance of the Center to the Department goes far beyond its physical location. A number of department members have played key roles as Center Core Faculty over the past four years. **Bruce Houghton, M.D.**, Assistant Professor of Medicine (along with other Core Faculty) has implemented and evaluated a curriculum on cost-effective pharmacotherapy. **Paul Turner, Ph.D.**, Assistant Professor of Medicine, is revisiting the effects of the "July Phenomenon" in teaching hospitals. **Marvin Bittner, M.D.**, Associate Professor of Medical Microbiology, has been studying strategies to improve health professional "hand hygiene" to reduce nosocomial infections and improve inpatient medical care. **Henry Sakowski, M.D.**, Assistant Professor of Medicine, has been evaluating, with Dr. Houghton, an internet curriculum for medicine students and residents. All of the other Core Faculty (Co-Director **Kim Galt, Pharm.D.**, **J.D. Bramble, Ph.D.**, **Michael Monaghan, Pharm.D.**, **Eleanor Howell, Ph.D.**, and **Brenda Bergman-Evans, Ph.D.**) have ongoing research projects in collaboration with one or more Medicine Department physicians.

Those of us who have worked closely with the CPrIOR's faculty and staff will miss their proximity. I anticipate feeling particularly lost without **Wendy Taylor** being close at hand to keep me on track of my Center obligations. As always, she'll be doing the "heavy lifting", only it'll be at long distance. Nonetheless, we are very excited about the expanding role of CPrIOR within key programs in the Department of Medicine and the health sciences campus. Please join me in extending best wishes to the faculty and staff of Creighton's Center for Practice Improvement and Outcomes as they enter this exciting new era.

Eugene Rich, M.D.  
Tenet Professor and Chair  
Department of Medicine Director  
Center for Practice Improvement  
And Outcomes Research

# Fellows Class of 2003



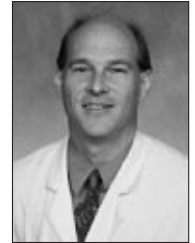
Lary Ciesemier, D.O.  
Allergy



Syed Aziz, M.D.  
Cardiology



Brad Oldemeyer, M.D.  
Cardiology



Roger Riedel, M.D.  
Cardiology



Ann Shahwan, M.D.  
Infectious Diseases



Akhilesh Sharma, M.D.  
Infectious Diseases



Sylvia Rael, M.D.  
Pulmonary

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# The Challenge of Infectious Diseases

by **Marvin J. Bittner, M.D. M. Sc.,**

ASSOCIATE PROFESSOR of MEDICAL MICROBIOLOGY and  
IMMUNOLOGY, and of MEDICINE



Marvin Bittner, M.D.

Working with an updated integrated patient data computer system, asking why alcoholics struggle with pneumonia, research with an anthropologist/physician on sexually transmissible diseases, the Travel Clinic services, and overseeing mycobacteria that don't cause tuberculosis are among the activities of the Infectious Diseases Division medical staff.

## Integrated Patient Data Computer System

Division Chief, **Laurel Preheim, M.D.**, Professor of Medical Microbiology and Immunology and Professor of Medicine, has served at the VA Medical Center as Associate Chief of the Medical Department and, since July 1, as Acting Chief. This has involved him in many aspects of the VA's development, including the implementation of a more sophisticated version of the VA's integrated patient data computer system. A physician can now sit in an examination room with a patient at one side and a computer terminal on the desk, bring up the patient's record, and write prescriptions electronically. The physician order system for prescriptions allows the selection of a drug from a pick list. That eliminates legibility and spelling problems. The physician can then select a dose, frequency, quantity, and refills from pick lists. The VA computer system will immediately check for drug interactions. In the event of a serious interaction, the system will require the physician to type in a justification for the prescription. The potential of this system to prevent certain types of medication errors has hastened its implementation. This is particularly important in view of last year's Institute of Medicine report ascribing tens of thousands of deaths each year to iatrogenic causes. The VA, however, does require paper prescriptions for controlled substances despite a number of security features in the Computerized Patient Record System (CPRS).

## Alcoholism and Pneumonia

Dr. Preheim, works with **Martha Gentry-Nielsen Ph.D.**, Associate Professor of Medical Microbiology and of Medicine, in a laboratory that has gained VA support for its studies of a rat model of pneumococcal infection. The model involves rats with liver damage in an attempt to gain insight into why human alcoholics struggle with infections like pneumococcal pneumonia. The model has been used to explore humoral and white blood cell factors in host defenses against pneumococcal infection. Dr. Gentry-Nielsen recently presented data from the model at a scholarly meeting in Japan.

## Sexually Transmissible Diseases Research

The involvement of **Gary Gorby M.D.**, Associate Professor of Medical Microbiology and of Medicine, with the health department has increased this year with the Division's participation in a sexually transmissible diseases training grant from the Centers for Disease Control and Prevention. This grant expands a training program developed in St. Louis by Washington University School of Medicine

faculty member, **Bradley P. Stoner, M.D. Ph.D.** Dr. Stoner is both a physician and an anthropologist. He is an infectious diseases specialist whose scholarly work includes study of sexually transmissible diseases from the perspective of an anthropologist.

In addition to this special educational program in sexually transmissible diseases, Dr. Gorby has an VA Merit Review and NIH-funded laboratory at the VA Medical Center focused on invasive gonococcal disease. Most women with gonorrhea have a cervical infection. But a few suffer a systemic illness. How is it that gonococci cross the barrier of the fallopian tubes? Dr. Gorby has conducted a series of experiments, focusing heavily on bacterial genetic factors, to understand why some bacteria can penetrate the barrier. This work has crucial implications for understanding many other diseases since potentially pathogenic bacteria colonize other body sites in many patients, crossing barriers to cause disease in only a few of those patients.

An important part of Dr. Gorby's experiments is microscopic examination of sections of fallopian tubes to evaluate the extent of bacterial penetration. Dr. Gorby has devised computerized image analysis techniques to facilitate these evaluations.

## Travel Clinic Program

Dr. Bittner leads the Division's staffing of the Douglas County Health Department Travel Clinic. This clinic serves travelers to less developed countries by providing pre-travel counseling, prescriptions, and immunizations to deal with issues like diarrhea, malaria, and vaccine-preventable diseases. In the 15 years that Creighton infectious diseases specialists have staffed the clinic, travel medicine has seen a number of changes. Sore buttocks have become less of a problem among travelers seeking to prevent hepatitis A, now that an active hepatitis A vaccine has almost completely replaced gluteal injections of immune globulin. This has changed strategies for pre-travel visits. Rather than scheduling patients just before departure (to get maximum benefit from passive antibodies in immune globulin), the clinic now encourages patients to come at least a month before departure to give the new hepatitis A vaccine time to stimulate antibody production. But even travelers who visit the clinic just before departure can gain benefit from hepatitis A vaccine, according to several clinical studies.

The Travel Clinic operates on fees paid by patients to the County Health Department and schedules patients by appointment (444-7207).

## Mycobacteria Overview

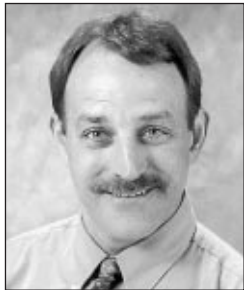
Although **Edward Horowitz M.D.**, Associate Professor of Medicine, and of Medical Microbiology and Immunology, has a primary commitment in the Division of General Internal Medicine, he is an infectious diseases specialist involved in this Division's activities. In a number of editions of the standard infectious diseases textbook by Mandell, Dr. Horowitz co-authored the chapter on mycobacteria that cause diseases other than tuberculosis His overview was based not only on review of the literature, but also on clinical experiences recorded in Omaha.



# Chronic Hepatitis C Infection

by **Jeremiah Donovan, M.D.**

PROFESSOR of INTERNAL MEDICINE



Jeremiah Donovan, M.D.

Evidence of hepatitis C infection is present in more than four million Americans. This is four times the number of people in the United States infected with the HIV virus. Until recently, less press and information about the HCV infection has been published. Before 1989, this infection was considered non-A non-B hepatitis. It was caused by infected blood being transmitted into someone. Patients were infected by blood transfusion, by intravenous drug use,

by receipt of clotting factor before 1987, or by receiving transplanted tissue. Since 1992, however, the blood supply in the United States is nearly free of hepatitis C virus and the leading reason why people are infected today is IV drug use (Figure 1). Other factors that may carry a low or unproven risk for causing infection include perinatal transmission (mother to child), body piercing or scarification, long-term dialysis, occupational exposure for health care workers (nurses, phlebotomists, dentists, etc.), intranasal cocaine users, and having unprotected sex with multiple partners. To prevent infections it is important to discuss risk factors with our patients and to identify those who may be infected and are candidates for treatment, and those who may be at risk so that they may reduce that risk.

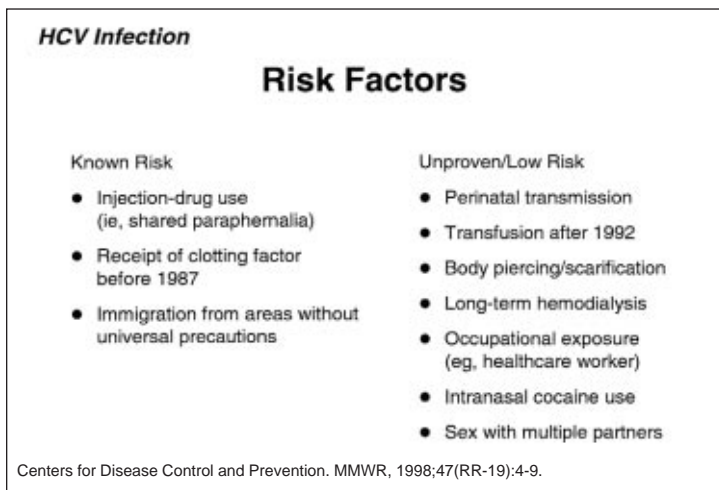


Figure 1

After identifying persons who have been or may have been exposed to the HCV, the next step is to determine whether they are infected. The best screening test for hepatitis C infection is an ELISA test for hepatitis C antibody. This test will be positive in over 95 percent of the patients who are infected with the virus or who have been infected. An ALT (alanine aminotransferase) determination is also helpful but may be normal even in the face of ongoing infection and inflammation. ELISA false negatives occur in patients with renal failure and organ transplants. False positives occur in patients with hypergammaglobulinemia and in patients with autoimmune hepatitis. To determine whether patients are actively infected and how responsive to therapy

they will be, the use of polymerase chain reaction (PCR) technology is extremely important.

Important pieces of information can be obtained in the HCV with PCR testing. Results show whether the patient has virus circulation in his or her blood. In patients with risk factors such as prior IV drug use and abnormal ALT levels, this is not as important since in all likelihood they are infected. Patients who have persistently normal ALT levels need to know whether the HCV antibody test by ELISA testing is true, or a false positive. The possibility that the patient may have been infected, but no longer has demonstrable virus in his or her blood stream, can be determined if they are HCV with PCR negative. Unfortunately, the HCV antibody is not protective of infection and the patients could become infected again. However, at the time when the HCV with PCR was drawn they did not have virus. Secondly, the response to and duration of therapy can be predicted by obtaining a HCV with PCR-genotype and the viral load (amount of virus per ml of blood). However, the latter is less important. Several different genotypes of the virus have been described based upon nucleic acid sequence variation of the non-structural portion of the virus. In the United States, 70-75 percent of patients are genotype 1, (1a or 1b). It is debatable whether or not the genotype 1 leads to more severe disease. Clearly, the genotype 1 virus patients are more difficult to treat because their response rates to therapy are lower (40 versus 70 percent) and the duration of therapy required for long-term sustained viral clearance is longer (12 months of therapy versus 6 months) than for the non-1 genotypes. The distribution of genotypes around the world is shown in Figure #2.

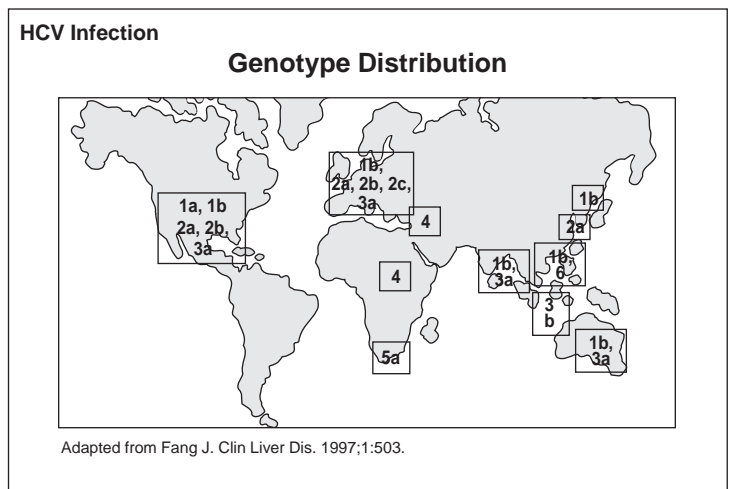


Figure 2

## Natural History of Hepatitis C Infection.

Hepatitis C causes a chronic infection in over 70 percent of patients infected. Acute cases of hepatitis C are relatively rare and it is unlikely that we will see one, unless we see patients who have recently had a needle stick from a known hepatitis C patient or from a patient who is new to IV drug use. Most IV drug users are infected with the

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# Pillars, Past and Present



**Richard W. Booth, M.D., FA.C.P., FA.C.C., FA.C.P.E.**, Professor Emeritus of Medicine and former Chief of Cardiology.

Dr. Booth founded the Creighton Cardiac Center in 1961 and served as its first Chief until 1971. From 1971 until 1996, he served as the first Medical Director of Saint Joseph Hospital, while continuing to practice medicine and to teach at Creighton University. He retired in 1996. Dr. Booth also served as National Vice President of the American Heart Association and President of the Combined Health Agencies Drive. He was a charter member of the American Association of Medical Directors and the Omaha chapter of the International Wine and Food Society.

**Who were your most influential teachers and why?** Dr. Marion A. Blankenhorn, Chairman of the Department of Medicine at the University of Cincinnati, and Dean William S. Middleton, of the University of Wisconsin. These were two great friends and Dr. Blankenhorn sent me to Dr. Middleton for my internship. They taught me the advantage of a meticulous physical exam.

**What would be your advice to a newly qualified doctor?** The face of medicine has changed incredibly during my practice years. The prerogatives of the physician have been eroded by the government and by insurance companies. Socialization of medicine could be just around the corner. If this occurs it will change the kind of people who go into our profession forever. So if you are not already, become politically active.

**How do you relax?** By reading novels and building model ships.

**What are you currently reading?** The Complete Temples of Ancient Egypt by Richard H. Wilkinson. I have had an abiding interest in archeology.

**Why did you come to Creighton?** A new chairman came to Ohio State University who was a cardiologist and it seemed reasonable for me to leave because he was bringing many of his faculty with him. The opportunity to build a cardiology department from scratch at Creighton appealed to me.

**Why did you pick cardiology?** During World War II, I was sent to the University of Illinois to study electrical engineering and while in the service I worked in long lines communication. Cardiology seemed the specialty in medicine most related to that past experience.

**What was your favorite trip?** My wife and I went to France, to Burgundy and to Bordeaux with her cousin, a wine merchant, to visit the world's greatest wineries.

**What is your worst habit?** Talking too much and listening too little.

**What is your greatest regret?** I began in research early in my career but later on did not have the time to pursue that interest.

**How would you like to die?** In the state of Grace.

# Division News

## Allergy

submitted by **M. Janet Barger-Lux, M.S.**  
SENIOR RESEARCH ASSOCIATE IN MEDICINE

### Annual meeting of AAAAI

Investigators from the Creighton University Center for Allergy, Asthma & Immunology are at work on several sessions and presentations for the annual meeting of the American Academy of Allergy, Allergy & Immunology, to be held in New Orleans in March, 2001.

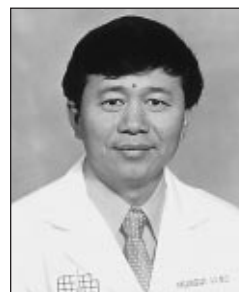
**Devendra K. Agrawal, Ph.D.**, Professor of Medicine, will lead two symposia, "Airway Smooth Muscle: Contribution to Airway Inflammation in Asthma" (with **Thomas E Casale, M.D.**, Professor of Allergy/Immunology, participating as a speaker) and "Apoptosis in Asthma: a Pro-Inflammatory or Healing Phenomenon." **Robert G. Townley, M.D.**, Professor of Medicine, and Dr. Agrawal will speak at a seminar on "Mycobacterial Vaccines and Asthma," and Dr. Townley is arranging a seminar on "The Effect of PDE Inhibitors in Allergy and Asthma" and a workshop on "The Effect of Vaccines on the Immune Response in Persons with Allergic Diseases."

### Research grants

New grants will support a host of basic-science and clinical studies by Creighton scientists in the Allergy Division. Five new pre-clinical research awards will support Dr. Agrawal's continuing work on cellular and biochemical aspects of airway responsiveness and atopic disease. Dr. Townley will continue his clinical research on the treatment of sinusitis, allergic rhinitis, and asthma with the support of four new grants from industry sponsors and the Health Future Foundation. Dr. Casale will direct a dozen new clinical trials to study the safety and efficacy of agents for managing urticaria, asthma, chronic plaque psoriasis, allergic rhinitis, and chronic obstructive pulmonary disease.

## Cardiology

submitted by **Syed Mohiuddin, M.D.**



Huagui Li, M.D., Ph.D.

### New cardiologist

**Huagui Li, M.D., Ph.D.** joined the faculty of the Creighton University Cardiac Center, as an Associate Professor of Medicine, effective July 1, 2000. Dr. Li graduated from the Sichuan Medical College, Chengdu, P.R., China in 1982. He completed two Residencies at the First University Hospital of West China University of Medical Sciences, Chengdu, China — Internal Medicine in 1985 and Cardiology in 1988.

Dr. Li earned a doctorate in Cardiovascular Physiology in 1992 and completed a Fellowship in Cardiology in 1994, both at the University of Western Ontario, London, Ontario, Canada.

He was an Assistant Professor of Medicine and Director of the Basic Electrophysiology Laboratory at the University of Wisconsin Medical School, Milwaukee Clinical Campus for two years.

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# Division News

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Dr. Li comes to The Cardiac Center from the University of Nebraska Medical Center, where he had been an Assistant Professor of Medicine since 1996. He is a Fellow of the American College of Cardiology and a member of the North American Society of Pacing and Electrophysiology.

## Cardiology Update 2000

The Creighton University School of Medicine, The Cardiac Center and the Continuing Medical Education Division sponsored "Cardiology Update 2000" on October 7, 2000 at The Cardiac Center. It was designed for family physicians, internists, nurse practitioners and physician assistants. The program provided the most up to date information on the diagnosis and management of common cardiovascular problems, including acute coronary syndromes, congestive heart failure, atrial fibrillation, asymptomatic carotid disease and primary and secondary prevention strategies in coronary artery disease.

## Risk factor management clinic

The Cardiac Center plans to open a new clinic in October 2000, focusing on weight management and other risk factors for coronary artery disease. **Antonio P. Reyes, M.D.**, Assistant Professor of Medicine, will be the Medical Director of this Clinic.

## Endocrinology

submitted by **M. Janet Barger-Lux, M.S.**

### Cooperative study

**Robert Anderson, M.D.**, Professor of Medicine and of Biomedical Science, is a participating investigator in a VA Cooperative Study #465, "Glycemic Control and Complications in Diabetes Mellitus." The study began with the initiation meeting in mid-July, and will continue for seven years. Our site is one of 20 VA Centers participating nationwide. The goal is to study the relationship of cardiovascular (macrovascular) complications to glucose control.

### Research presentations

The annual meeting of the American Society for Bone and Mineral Research took place September 22-26, 2000, in Toronto. Two entries from the Creighton University Osteoporosis Research Center were featured as Plenary Posters in the opening session of the meeting: "The Results of a Multi-center Trial of the Antifracture Efficacy of Raloxifene," with **Dr. Robert R. Recker** one of the lead investigators, and work by **Hong Win Deng, Ph.D.**, Assistant Professor of Medicine and Assistant Professor of Biomedical Sciences, on "The Genetic Basis of Normal Variation in Bone Density."

At an oral session, Dr. Deng will present his study of the genetic basis of susceptibility to osteoporotic fracture. He is slated to receive a Young Investigator Award (his second) for this work. More than 20 other posters from the Endocrine Division will include studies of vitamin D from sun exposure, calcium intake and healthy weight, bone strength in animal models, bone effects of participation in sports by prepubertal girls, new approaches to the evaluation of bone microstructure, and treatment of postmenopausal osteoporosis.

### Editor's note

The last edition of **Creighton MEDICINE** erroneously identified **Dr. Robert Anderson** as a Professor of Medicine and an Assistant Professor of Biomedical Science. Dr. Anderson is a Professor of Medicine and a Professor of Biomedical Science.—**Syed Mohiuddin, M.D., Editor.**

## Gastroenterology

submitted by **Stephen Lanspa, M.D.**

PROFESSOR OF MEDICINE and of PREVENTIVE MEDICINE and PUBLIC HEALTH

### New faculty member

The Division of Gastroenterology has been fortunate to recruit **Jeremiah Donovan, MD, F.A.C.P.** Dr. Donovan is an Omaha native who trained at the University of Nebraska, became Chief Resident in Internal Medicine, and then joined the faculty of UNMC following fellowship training. Dr. Donovan joined Creighton University in May as Professor of Internal Medicine. He is an experienced researcher with many publications and ongoing grant support. He is a reviewer for *Annals of Internal Medicine*, *MKSAP*, *Gastroenterology*, *Hepatology*, and the *American Journal of Gastroenterology*, among others. He serves on the editorial board of *Liver Transplantation and Surgery*. Dr. Donovan's areas of focus are viral hepatitis, expertise in ERCP, and postgraduate teaching.

### Professional activities

**James Woodbury, M.D.**, Adjunct Assistant Professor of Medicine, was moderator for a program on "Cost-Effective Management of GERD and Dyspepsia". He also addressed the Omaha Ostomy Society in June with the topic "Crohn's Disease vs. Ulcerative Colitis: Causes and New Treatments."

**John Ferry, M.D.**, Associate Professor of Medicine, presented a faculty of speakers for a program on recent developments in clinical gastroenterology on September 29th.

Dr. Lanspa has been appointed to the editorial review board of *Gastrointestinal Endoscopy*. Dr. Lanspa will complete a second term on the board of governors representing Nebraska for the American College of Gastroenterology.

## General Internal Medicine

submitted by **Joann Derby, M.D.**

ASSISTANT PROFESSOR OF MEDICINE

### Faculty development

The faculty development program on July 19, 2000 went very well. It included talks by faculty members: **Drs. Bruce Houghton, Anna Maio, Henry Sakowski, Joann Derby** and **Karen Lisko**. The Division of Medicine remains dedicated to teaching, and is proud to have received the Teaching Service Award from the Internal Medicine Residents, for excellence in teaching.

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# Division News

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## Stanford program participant

We are also very proud of **Dr. Henry Sakowski**, having been selected for the Stanford Faculty Development Program. This program selects six medical faculty each year for training as Clinical Teaching seminar facilitators. The one-month training provides participants with background knowledge and seminar leadership skills required to deliver a series of eight 2-hour seminars to their colleagues and to residents. The seminars consist of didactic presentations, group discussions, role-play exercises, videotape review, and personal and institutional goal setting. The curriculum covers seven educational categories: Learning Climate, Control of Understanding and Retention, Evaluation, Feedback, and Promotion of Self-directed Learning.

Participants will be expected to develop a set of recommendations for improving their institution's environment of clinical teaching. During the first year following the training at Stanford, the facilitators return to their home institutions to conduct the seminars for medical teachers. As part of the evaluation of this "train the trainer" diffusion process, the facilitators are asked to play a critical role in gathering evaluation data during the post-training year. After finishing the program, Dr Sakowski will be able to serve as a regional and national faculty development resource for instructional improvement.

## Hematology/Oncology

submitted by **Joann Derby, M.D.**

### Thoracic Oncology

The Thoracic Oncology Program has been developed to offer the latest lung cancer treatment advances to patients. The program consists of three integral components. The first is a solid base of expertise in the treatment of solid tumors through clinical trials. As the founding member of the National Cancer Institute funded Missouri Valley Community Clinical Oncology Program, Creighton Oncology has provided more patients with access to state-of-the-art therapy for solid tumors, including lung cancer, than any other institution in the region. Organized clinical trials provide closer monitoring, while providing the latest treatment.

The second component is a Multidisciplinary Chest Tumor Clinic that is held every Tuesday at Saint Joseph Hospital. Following the clinic, a conference is held to review clinical data from new patients and to follow up on tests or procedures from patients previously referred to the clinic. The clinic members consist of faculty from all of the disciplines involved in caring for lung cancer patients—pulmonary, medicine, diagnostic and interventional radiology, pathology, radiation oncology, medical oncology and thoracic surgery. Rather than multiple visits to specialists over several weeks, patients can see all of the relevant specialists in one afternoon. A convenient and comprehensive consultation is provided to the patient, after first discussing recommendations with the referring physician.

The third component is the availability of early detection of lung cancer through the use of low-dose spiral CT scans of the lung. The Health Future Foundation is supporting a clinical trial designed to help define the high-risk groups most likely to benefit from screening CT scans. The Lung Cancer early Awareness Program (the LEAP trial)

offers eligible participants free low-dose spiral CT scans. **Peter Canaday, M.D.**, Assistant Professor of Radiology, is co-investigator with **Walter Scott, M.D.**, Associate Professor of Surgery, and Associate Professor of Preventive Medicine and Public Health. Dr. Scott specializes in lung cancer. Dr. Scott is also author of *Lung Cancer—A Guide to Diagnosis and Treatment*. If you have patients you would be interested in enrolling, you can contact Dr. Scott at 280-4138.

In addition to patients with known or suspected lung cancer, the Thoracic Oncology program specializes in evaluating and treating patients with mediastinal tumors, chest wall tumors and esophageal cancer. The new treatments along with improved detection provided by the Thoracic Oncology Program offers state-of-the-art technology available to lung cancer patients.

## Infectious Diseases

submitted by **Marvin J. Bittner, M.D., M.Sc.**

### Verbots in the classroom

Dr. Gary Gorby's innovative work with computers involved him as a US West Fellow in 1998-99. He developed a teaching presentation in which he speaks to a computer. Speech recognition software understands his voice. The computer then generates responses. These are expressed with a so-called "verbot" named Sylvie. Sylvie generates a face on the computer screen that answers Dr. Gorby's questions in a voice that is remarkably natural, accompanied by appropriate facial expressions. Dr. Gorby has used Sylvie in his lectures to second-year medical students.

In addition to his other responsibilities, Dr. Gorby is Program Director for the Division's fellowship training program. This program offers Fellows two years of experience in a variety of clinical settings, including Saint Joseph Hospital, the VA Medical Center and the Nebraska Health System.

### Educational and professional activities

Dr. Laurel Preheim directs the second-year medical students' infectious diseases course. This course underwent substantial change this year with the retirement of **Eugene Sanders M.D.** and **Christine Sanders Ph.D.** from the faculty.

In his work as Saint Joseph Hospital epidemiologist, Dr. Edward Horowitz has directed the infection control program that has a number of important accomplishments. Institution of the vancomycin order sheet, requiring physicians to state their reasons for prescribing vancomycin, has substantially reduced inappropriate use of this antibiotic. This is particularly important because of the role of vancomycin's use in increasing the prevalence of vancomycin-resistant enterococcus (VRE). VRE is a super-bug that, as of September 1999, was untreatable by any FDA-approved antibiotics. Even worse, laboratory experiments showed that the vancomycin resistance gene of VRE could be transferred to *Staphylococcus aureus*. This made elimination of inappropriate use of vancomycin a priority, and the Saint Joseph Hospital program a model of success.

Dr. Bittner received the degree of Master of Science in Clinical Epidemiology from the Harvard School of Public Health in June. Dr. Bittner met the research requirement for his degree with his studies of handwashing improvement at the Omaha VA Medical Center. In earlier

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# Chronic Hepatitis C Infection

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virus within the first six months of using. A health care worker with a needle stick from a hepatitis C patient should have a HCV antibody done initially to see whether they were infected previously. Then at 12 weeks after the exposure, a HCV with PCR (qualitative assay) could be drawn to look for evidence of HCV in the bloodstream. Early treatment of patients who have acute HCV infection should be considered.

Most patients we see with hepatitis C are chronically infected. Many times the problem is we do not know who will and who won't go on to develop cirrhosis and the complications thereof. Figure 3 outlines in schematic form the spectrum of HCV infection. The rule of twenties is fairly accurate and easy to remember when talking to

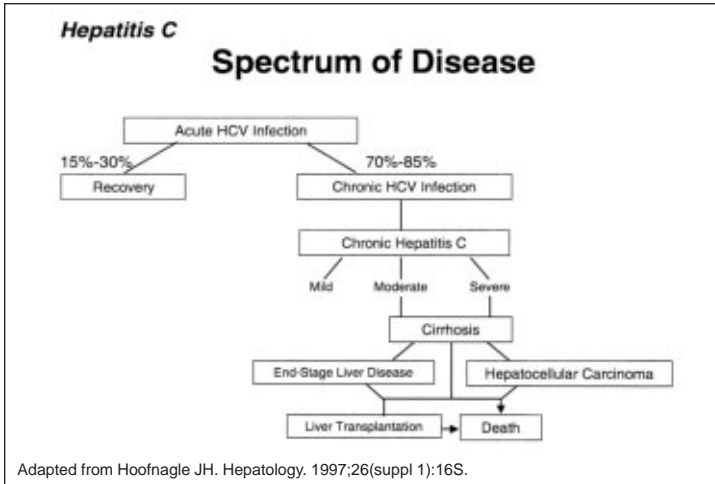


Figure 3

patients. Twenty percent of patients have acute hepatitis and it resolves within six months. Twenty percent of patients will go on to get cirrhosis and it usually takes 20 years or more to do that. Of the patients who are cirrhotic, 20 percent may develop hepatocellular carcinoma. Although these numbers are estimates they are in the right general area for counseling patients.

## Treatment for HCV infection.

The most important thing for a patient with hepatitis C infection to do is to stop drinking alcohol. Alcohol consumption leads to a marked increase in viral replication and tissue injury. It accelerates the inflammatory process and can lead to the development of cirrhosis at a much faster rate and in a higher number of patients than those who don't drink. At present the standard of care is to treat patients with interferon and ribavirin. The development to this point in treatment of hepatitis C mimics my research experience in this field. We first treated patients in 1989 with interferons alone. Then we added ribavirin to interferon and soon we were using pegylated interferons with and without ribavirin.

The goal of therapy is to eradicate virus whenever possible. When that is not possible, the goals are to slow the progression of disease, improve hepatic histology, reduce the risk of hepatocellular carcinoma and improve the quality of the patient's life. At present many of these goals are achievable with therapy. Figure 4 graphically presents the response of patients to therapy with interferon alone and interferon plus ribavirin for 24 weeks and 48 weeks of therapy. Shown here are the results of patients with negative HCV with PCR levels six months after stopping therapy. As you can see, combination therapy

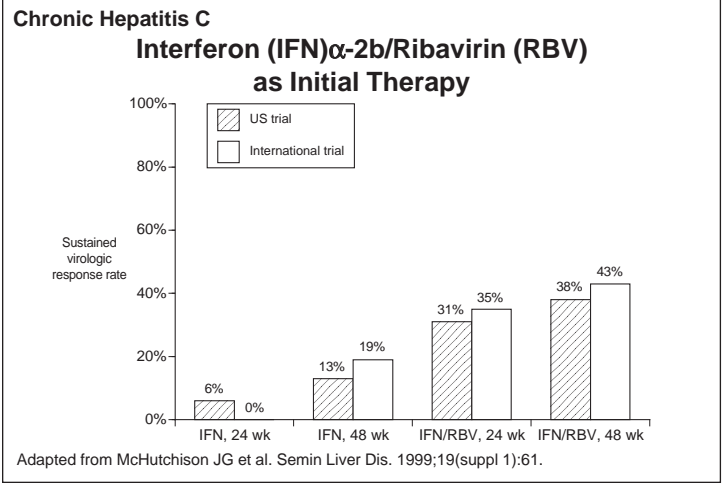


Figure 4

with interferon and ribavirin maintained a two to three-fold improvement in sustained virological response. This trial showed three other important things: 1) that the first sustained negative HCV with PCR might come at 24 weeks rather than 12 weeks; 2) patients with cirrhosis became negative HCV with PCR over 25 percent of the time as compared to interferon alone which was less than 10 percent; 3) patients with genotypes of virus other than 1 responded to combination therapy in 24 weeks equally as well as to therapy for 48 weeks. As you can see in Figure 5, the response rate of non-1 genotype patients is 66 percent.

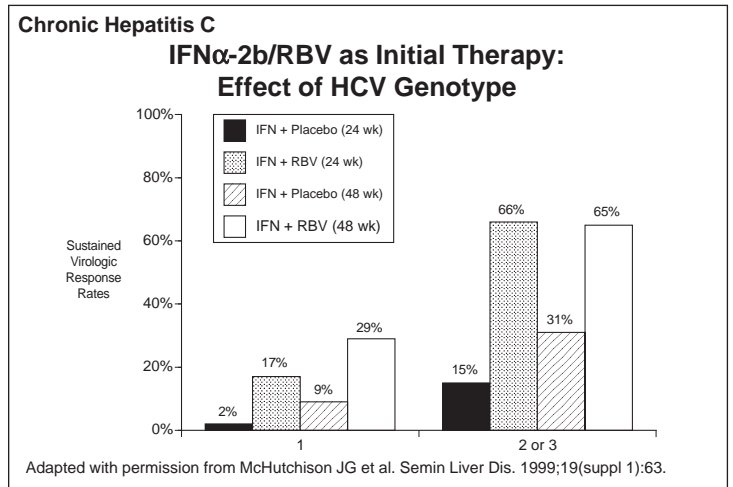


Figure 5

Early data from our ongoing research suggests that our results with pegylated interferon, and with pegylated interferon and ribavirin will be even better. Very few patients in our trials have been dropped because of side effects. Most are very manageable with careful monitoring and appropriate therapy.

Currently our team, including **Shelley Donovan, RN, BSN, Kim Garnette** and myself, is involved in ongoing trials of pegylated interferon plus ribavirin as first-line therapy for patients, and in-patients who have been treated previously with rebetron but either relapsed or failed to respond. Future trials with Schering-Plough's PEG-Intron and ribavirin along with Roche's Pegasus with and without ribavirin will be beginning soon. These trials provide medicines and some provide for clinic visits and blood work as well. If we can answer any questions you have about HCV in your patients we would be happy to do so. Our office number is 402-449-5991.



# Dermatology Therapies Available in 2000

continued from page 1

response by interfering with the formation of an immunologic synapse. LFA-3/IgG and anti-CD11a are examples of these monoclonal antibodies.

## Skin Cancer

Over the past 20 years, there has been an exponential increase in the incidence of skin cancer. The three most common types of skin cancer are basal cell carcinoma (BCC), squamous cell carcinoma (SCC), and malignant melanoma. BCC and SCC type cancers, commonly referred to as non-melanoma skin cancers, number greater than one million per year in the United States. Treatment options for these cancers offered in the Division of Dermatology include simple electrodesiccation and curettage, carbon dioxide laser ablation, simple excision, and MOHS surgery.

MOHS surgery, reserved for skin cancers in higher-risk areas such as the central face and the ears, or large or recurrent tumors, is named after a University of Wisconsin surgeon, Frederick Mohs, who pioneered the technique in the 1930's. The procedure was modified in the early 1970's to include frozen section analysis of tissue. This technique involves horizontal frozen tissue sections with mapping to accurately identify skin margins.

## Malignant Melanoma

The incidence of malignant melanoma has dramatically increased in recent years, but fortunately the mortality rate has concurrently dropped, likely as a result of earlier detection. With the publicity surrounding Senator John McCain's recent diagnosis of melanoma, awareness of this potentially fatal condition likely will be heightened further. Early detection with appropriate excision offers the only effective treatment. Metastatic melanoma carries an extremely poor prognosis. Standard oncologic approaches to malignancies with chemotherapy and radiation have proven to be ineffective. The most promising approach to this devastating disease appears to be immunotherapy with various trials ongoing in several U.S. sites.

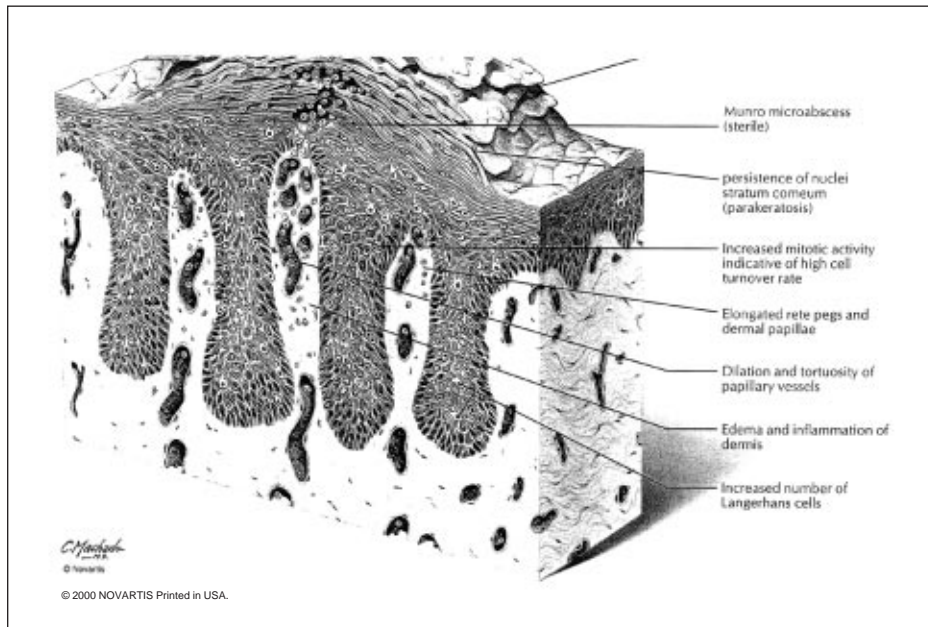
## Services

The Dermatology Division faculty conduct outpatient clinics at Saint Joseph Hospital, 110th and Q Sts., and the VA Medical Center.

Outreach clinics are also attended in Onawa, Denison, and Carroll, Iowa. Inpatient consultations are also offered at Saint Joseph Hospital, and Alegent Health Medical Centers at Bergan and Immanuel. Comprehensive care of skin, hair and nails is provided for patients of all ages. A wide range of surgical services are provided including excisional surgery, carbon dioxide laser surgery, chemical peels, sclerotherapy, and MOHS surgery. Phototherapy, including PUVA treatments, is available in the Saint Joseph Hospital clinic.

## Staff

The Dermatology Division is headed by **Christopher J. Huerter, M.D.**, Associate Professor of Dermatology. Dr. Huerter attended medical school at the University of Nebraska Medical Center and did an internship and residency in dermatology at the Cleveland Clinic Foundation. Former Division head, **Ramon Fusaro, M.D., Ph.D.**, Adjunct Professor of Dermatology and Adjunct Professor of Preventive Medicine and Public Health, works part-time and devotes most of his time to clinical research and research into photosensitivity disorders of the skin. **Melissa Ryan, B.S., ARNP** (Advanced Registered Nurse Practitioner) joined the Division in April. Melissa sees patients in the Dermatology Clinic and has been a valuable addition to the Division.



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## Division News

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work with Department Chair, Eugene Rich, M.D., Dr. Bittner showed that measurements of soap and towel consumption at the ICU sinks could be used to gauge hand washing in the ICUs. In the research project, Dr. Bittner provided feedback on handwashing frequency, based on soap and towel consumption, to one ICU, but not the other. Feedback had some effect, but it was short-lived. Further analysis of the data found that hand washing varies with season (less in the winter, when the skin is drier) and with workload (less with heavier workload).

# June 2000 Faculty and Service Awards

## Golden Apple / Aesculapian Awards

### CLASS OF 2000

Faculty: **Robert W. Dunlay, M.D.** (nominee)  
**James T. Frock, M.D.** (winner)

Resident: **Dan Davis, M.D.** (nominee)  
**Devin Fox, M.D.** (winner)

### CLASS OF 2001

Faculty: **Bruce L. Houghton, M.D.** (nominee)  
Resident: **Matthew Zollinger, M.D.** (nominee)

### CLASS OF 2002

Faculty: **James T. Frock, M.D.** (nominee)  
**Joseph D. Lynch, M.D.** (nominee)

## Teaching Service Awards

### TEACHING SERVICE

**General Internal Medicine Service**  
given by the residents in recognition of  
consistent excellence in house staff education

### JF SULLIVAN AWARD

**Joann Derby, M.D.**  
given by the house officers for  
excellence and dedication to resident education

## Contributed Services Awards

**Michael Davidian, M.D.**  
for excellence in student education

**John Hartigan, M.D.**  
Special Lifetime Achievement Award  
for superlative long lasting efforts

**Satish Mediratta, M.D.**  
for excellence in resident education



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