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Shaping the Future of Pharmacy

Are you mentor material?

Sharing your pharmacy practice setting with students can be a very rewarding and fulfilling experience...

Many schools of pharmacy are currently facing the challenge of sustaining and finding sufficient experiential education offerings. This increased demand for good quality rotations has placed an increased need for pharmacy mentors in a variety of practice settings.

Students bring enthusiasm, interest, and eagerness to learn to your practice site. We often hear from preceptors that they find it very rewarding to participate in the experiential programs and that they feel good about shaping the future of the profession of pharmacy.

If you know of any pharmacists or other health care providers interested in participating in our experiential programs please have them

contact our Office of Experiential Education to discuss our program objectives and expectations for our experiential rotations. ■

Save the Date!

9/26/06 Job Expo
Morosko Student Lounge

9/27/06 Interview Day
Rome Commons Ballroom

9/28-9/29/06 2nd Annual
New England Pharmacists Convention
Foxwoods Resort Casino

11/2/06 Preceptor Appreciation Dinner
500 Blake Street Cafe (New Haven, CT)

12/27/06 Henry A. Palmer CE Finale

For more information on these and other upcoming events please visit our web calendar at www.pharmacy.uconn.edu

School of Pharmacy



PRECEPTOR News

Summer 2006 Experiential Education Newsletter

University of Connecticut

Message from the Director

It has been another very exciting and busy academic year at the School of Pharmacy as we recently started another new P4 class with their first Advanced Pharmacy Practice Experiences (APPEs) for 2006-2007. Currently APPEs represent 25% of the curriculum for the Doctor of Pharmacy degree and we try to offer a diversity of practice settings for our students throughout New England and across the nation. Pharmacy as a profession has many unique practice opportunities that APPEs allow our students to experience. I would like to use this edition of the Preceptor News to highlight just a couple of these unique experiences.

This past spring, we welcomed two visiting French pharmacy students, Morgane Tiffaine and Melina Jaffre, from the Universite De Rennes in France. They were here to study and contrast the French and U.S. systems of pharmacy practice in the institutional setting. Lisa Stump, Director of Pharmacy at Yale-

New Haven Hospital, graciously offered their institution as a learning site

“Expanding the health care experiences of our pharmacy students in the global community better prepares them to meet the future challenges of our profession.”

for these two students. Morgane and Melina were able to rotate throughout the hospital with their clinical pharmacists to experience pharmacy practice within the U.S. Both students had a positive experience and we hope that this can develop into an exchange program between our respective universities. Expanding the health care experiences of our pharmacy students in the global community better prepares them to meet the future challenges of our profession.

This edition of the Preceptor News also highlights some of the diversity incorporated into our experiential program. I would like to thank all of you who are actively supporting our experiential programs. Your dedication

Continued on Page 3

Dean Robert L. McCarthy, along with Associate Dean Andrea K. Hubbard and Department Head of Pharmaceutical Sciences John B. Morris, welcomes Dr. Marie Smith to the School of Pharmacy faculty as both Department Head of Pharmacy Practice and a clinical professor.



Inside this edition...

French Students	Page 2
Strategic National Stockpile Exercise	Page 3
What is Nuclear Pharmacy?	Page 4
Dr. Marie Smith	Page 4
Spotlight	Page 5
Alaskan Rotation	Page 6



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The French Connection: Visiting Students Morgane & Melina Enjoy their Stay in the States

Morgane Teffaine and **Melina Jaffre** are pharmacy students from Univers De Rennes, a university located west of Paris in France. These students completed rotations at Yale-New Haven Hospital while living in Middletown, Connecticut and studying under the University of Connecticut's School of Pharmacy. Morgane and Melina are interested in learning about the American culture and examining the differences between clinical pharmacy practice in the United States and in France.

Pictured Above: Bienvenue Morgane and Melina! Philip Hritcko, Director of Experiential Education welcomes our student visitors from Univers De Rennes of France, Melina (left) and Morgane (right).

Although Morgane and Melina had a dream of spending one of their rotations in the United States, there were no study abroad programs at their university. Morgane recounts that she and Melina contacted over 40 different pharmacy schools in the U.S. in an attempt to find a university that would consider allowing them to complete rotations through their program. Morgane says, "Dr. Hritcko's was the only positive response we received; all other universities ignored our request." Their persistence paid off when director of experiential education, Dr. Hritcko, recognized the possibility of a future partnership between Univers De Rennes in France and the University of Connecticut. Dr. Hritcko coordinated the students' rotations with Yale-New Haven Hospital, and also organized their accommodations with two other UConn students in Middletown.

"We owe a debt of gratitude to the pharmacy team at Yale-New Haven Hospital. Without their cooperation and assistance, we would never have been able to provide a meaningful experience for the French students." Lisa Stump and her staff pitched in and put together rotations in seven different areas, including cardiology, intensive care and drug information.

Morgane and Melina were surprised by the amount of interaction pharmacists have with patients in the U.S. "In France, the clinical pharmacists have little interaction with the patients; most times they are just involved in drug development and stay downstairs in a basement all day." They were also impressed by the responsibilities pharmacists had in the hospital. Both students found that the pharmacists at Yale Medical were happy to answer any questions. In France, pharmacy students have little interaction with patients and are solely responsible for drug development, as opposed to America where pharmacists make recommendations and offer advice to patients. Morgane and Melina both agree that this was a great experience to see how pharmacy is practiced outside their country.

When asked if they enjoyed their time here, they both quickly responded "Yes!" The students went on to describe how everyone here helped their experience to be more enjoyable. From the pharmacists at Yale-New Haven, to Dr. Hritcko and the UConn students, everyone made them feel at home in Connecticut. Morgane and Melina returned to Univers De Rennes with a new outlook on clinical pharmacy practice. They also bring home with them a new friendship between the University of Connecticut and Univers De Rennes that will hopefully continue to expand and allow UConn students to experience rotations in France.

PRECEPTOR News, the Experiential Education newsletter for the School of Pharmacy at the University of Connecticut, is published semiannually.

Please send comments to: Dr. Philip Hritcko, Director, Office of Experiential Education, at philip.hritcko@uconn.edu; (860) 486-1592.

Contributors: Elizabeth Anderson, Arielle Begin, Dennis Chapron, Jennifer Glazer, Philip Hritcko, Kaitlin Hurd, and Karen Logan.

What is Nuclear Pharmacy? ~ continued from page 4

nuclear pharmacy is strikingly similar to that of a traditional pharmacy - a prescription for a particular product is presented, and the nuclear pharmacist must prepare and dispense that prescription. While traditional pharmacists dispense doses in milligrams; nuclear pharmacists dispense in millicuries. Traditional pharmacists dispense tablets and capsules, nuclear pharmacists dispense radioactive material in liquid or capsule form. Traditional pharmacists generally dispense the prescription to the patient, nuclear pharmacists dispense to a hospital or clinic nuclear medicine department where the dose is administered to the patient.

There are some inherent differences in nuclear pharmacy practice, which ultimately warrant the designation as a specialty pharmacy practice. There are certain areas of practice unique to nuclear pharmacy, as well as a separate class of drugs that are used. The most striking would be the fact that radioactive material is being used to create the final products. While the quantity used is small, there are still certain precautions that must be taken into account when handling products on a day to day basis.

In most nuclear pharmacies, the pharmacist is responsible for obtaining the desired radioactive material, either from a manufacturer, or from an in-house generator system. The most commonly used isotope in nuclear medicine is Technetium-99m that is readily and continuously available from a generator system.

In addition to preparing and dispensing the radioactive products, nuclear pharmacists are available to provide drug information to other health professionals, to aid the nuclear medicine staff in the selection of products, and to assist in the interpretation of unusual studies. Nuclear pharmacists receive extensive training on the various radiopharmaceuticals used, as well as information on the safe handling of radioactive materials and the procedures that will minimize radiation exposure.

Nuclear pharmacists serve as vital links in the provision of nuclear medicine services. By working closely with the nuclear medicine staff, nuclear pharmacists can contribute a tremendous amount to the provision of care for the patients who are undergoing nuclear medicine procedures. While similar to traditional pharmacy, nuclear pharmacy is also in many ways unique, and can be a challenging and rewarding career choice.

Stockpile ~ continued from page 3

assisting in the dispensing room. Several of UConn's own P4 students, including Angelique Rovaldi, handed out prescriptions and answered participant's questions. Other pharmacy roles in a POD include: clinical screening support; triage; dispensing and/or dosage form preparation; patient counseling; hip pocket training of lay volunteers; and staff coordination and supervision. Students had the opportunity to work alongside pharmacists and healthcare technicians as they participated in roles that required communication and pharmacy practice skills in a simulated emergency situation.

The SNS exercise is a critical part of the education of pharmacy students and professionals because it provides a simulation of a possible real life event. Although Tyczkowski hopes that the training never needs to be put to use, the bottom line is "if something were to happen, it is good to have a number of trained people to help address the needs of the population." After surviving an outbreak of the bubonic plague, UConn pharmacy students and healthcare professionals are prepared to deal with future community healthcare crises.



Pictured Clockwise From Top: Volunteers rotate through stations at the Bioterrorism Exercise; Medication stockpile waiting to be dispensed; Peter Tyczkowski, '78, counsels victims; Angelique Rovaldi, '06, dispenses medication at the Bioterrorism Drill in Glastonbury, CT.

An Atypical Alaskan Rotation: Opportunity in Dillingham Amidst Yup'ik Culture



Pictured Above:
A 2006 graduate, Sarah McCabe, Pharm.D., takes the Oath of a Pharmacist at the School of Pharmacy Hooding Ceremony.

Sixth (P4) year pharmacy rotations provide students with tangible experience and act as a bridge, linking classroom knowledge to real world experience. Students are able to select their rotations; some are close to home, some take the student around the country

providing new and exciting experiences in pharmacy. The rotations allow students to venture out, experience new cultures, and more importantly provide students with new ideas and methods of practicing pharmacy. In October 2005, Sarah McCabe chose a less typical rotation, at the Indian Health Services (IHS) in the town of Dillingham, Alaska.

Dillingham's population is 2,500 people; the town boasts 26 miles of paved roads and one pharmacy. The chief economy is fishing, mainly in the summer, leaving many locals unemployed through the winter. The population is comprised of white people and natives who belong to the Yup'ik Tribe.

Sarah found herself working side by side with local doctors who encouraged her learning and valued her opinions. They were happy to answer her questions, about why a patient was on a particular drug or dose, and they also took her view into consideration. This rotation gave Sarah the opportunity to experience all aspects of pharmacy. The pharmacy in Dillingham is designed with an over the counter pharmacy, along with full hospital services. This layout gave Sarah a chance to see a live birthing, and to partake in, and witness, other experiences that she typically would not have been exposed to had she stayed in Connecticut.

Because Dillingham is such a small town, Sarah says she was able to gain a better understanding of her patients. In particular, it was the rounds that gave Sarah this level of intimacy that other rotations might lack.

Sarah said, "as a pharmacy student there, it was easy to coordinate the pharmacy services for all of the patients because in rounds I was able to get a clear understanding of where each patient was coming from."

In reminiscing about her experience in Dillingham, Sarah recalls that she also learned how to immunize. She declares that her very brave preceptor was the first person she immunized. Although now a part of the pharmacy education, immunization training was not part of Sarah's education at UConn. Sarah explains that she was able, and very happy, to take part in the flu vaccination clinic that the hospital was offering to staff and to people in the community.

Sarah thinks fondly of the simpler way of life in Dillingham, Alaska where, she says, people are willing to pay much more for a snow mobile than a car. Sarah will take her new experiences with her as she moves to a job in drug development at the University of Buffalo, where she just might need one of those snow mobiles. ■



Above: The striking scenery of Dillingham was the backdrop for Sarah McCabe's rotation in Alaska, an area so remote that it must be accessed by boat or plane. Dillingham is an isolated, but awe-inspiring place often referred to as "Nature's Front Porch," and home to the Yup'ik, creators of the mask shown.

Patient Information: DOXYCYCLINE 100 MG ORAL TABLET

The Strategic National Stockpile Exercise

State Public Health Organization: _____
24-hour Information Telephone Number: _____

This drug treats infections. It belongs to a class of drugs called tetracycline antibiotics. You have been given this drug for protection against possible exposure to an infection-causing bacteria. This drug treats:

✓ Plague

Ever wonder what would happen if a major biological threat was unleashed on North America? How would federal, state, and local communities address the problems associated with an act of bioterrorism or a major health crisis? On April 18-19, 2006 students from the University of Connecticut School of Pharmacy participated in the Strategic National Stockpile (SNS) Exercise.

This year's exercise, a "mock" outbreak of the Bubonic Plague, called for participants to cooperate with the SNS to address the scenario. Community volunteers across Connecticut attended various points of distribution (POD) to act as "victims" for the drill. Smith Middle School in Glastonbury was one of the seven sites for the event. With schools closed for April vacation, the location was a perfect host for the exercise, as a path from initial admission to diagnosis to distribution of medication weaved through the school's hallways.

Local police and security teams patrolled the campus, highlighting the importance and seriousness of the drill. The event is meant to be enacted as realistically as possible, ensuring that participants from the healthcare fields will better understand the demands of such a crisis. When volunteers arrived on the scene, they were handed a consent form. Next, the "victim" was sent to a station where they were diagnosed and assigned a color (red, yellow, or green) that corresponded to which path they were to follow to the next station. For most, the next stage in the drill was to enter the dispensing room where technicians distributed prescriptions and patient information handouts. The site at Smith Middle School operated like a well-oiled machine, cycling volunteers one after the other. While some visitors went through the drill as victims, others received a tour from coordinators as to the purpose and benefit of the event. One tour leader explained that the site also offered a special needs unit for handicapped persons as well as individuals who do not speak English as a primary language.

Licensed pharmacy volunteers participated in the exercise, which was organized by the Connecticut Pharmacists Association (CPA) and the Connecticut Pharmacy Commission. The CPA Bioterrorism Subcommittee responsible for this event includes members Marghie Giuliano, R.Ph., Bob Guynn, R.Ph., Dom Sammarco, R.Ph., and Keith Shuster, R.Ph. Associate Dean Andrea Hubbard, Ph.D. and Mr. Peter Tyczkowski, R.Ph., served as faculty liaisons between students and coordinators at regional PODs. Tyczkowski was on hand in Glastonbury,

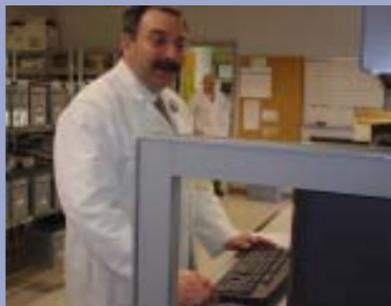
Continued on Page 7

Message from the Director ~ continued from front cover

and commitment throughout the year is invaluable to our program. Through your participation you are making a significant contribution to the educational development of our pharmacy students.

Sincerely,

What is Nuclear Pharmacy?



Nuclear pharmacy is a specialty area of pharmacy practice dedicated to the compounding and dispensing of radioactive materials for use in nuclear medicine procedures.

Pictured Above: Peter Sposato prepares radioactive doses at Cardinal Health.

Pictured At Right: Safety precautions are paramount when dealing with radioactive materials.

Pictured on Opposite Page: Preceptor Karen Hoang, '04, works with School of Pharmacy Students at Cardinal Health.

Because the term radiation evokes dire images of danger, it is important to understand that radiation is found in many different forms in ordinary settings. Electromagnetic radiation is emitted from the sun, from signals sent from radio and TV stations, from radar used to track airplanes, and even visible light. Nuclear pharmacy involves a type of radiation termed radionuclides. A radionuclide atom has an unstable nucleus. Recalling chemistry, the nucleus of an atom consists of protons and neutrons. If a nucleus, for whatever reason, has an excess of either one of these constituents, it will try to "give off" the excess component and return to a stable state. By doing so, the atom gives off this energy in the form of radiation. There are many naturally occurring radionuclides. Any nuclide with an atomic number greater than 83 is radioactive. An atom's atomic number is simply the total number of protons found in the nucleus. There are also many naturally occurring radionuclides with lower atomic numbers.

While some radionuclides occur naturally in the environment, there is another class of man-made or artificial radionuclides. Artificial radionuclides are generally produced in a cyclotron or some other particle accelerator, in which a stable nucleus is bombarded with specific particles (neutrons, protons, electrons or some combination of these.) This makes the nucleus of the starting material unstable, and causes the nucleus to try to become stable by emitting radioactivity.

Nuclear medicine uses small quantities of radioactive materials with a known type of emission. By tagging the radioactive source to some compound that is known

to localize in a specific area of the body, the compound will carry the radioactive material to the desired site. By using a specific detection device called a gamma camera, it is possible to detect the emissions given off by the radioactive material and create images of the relative distribution of the radioactive source in the body.

As nuclear medicine began to develop in the early 1970s, the concept of centralized nuclear pharmacies evolved to meet the growing demand. The centralized nuclear pharmacy serves as a "drugstore" for the nuclear medicine department of many hospitals. When a particular radioactive material was needed, a trained nuclear pharmacist was available to prepare the product and dispense it to the end user. The operation of a



Continued on Page 7

Dr. Smith Leads Pharmacy Practice

Marie Smith, Pharm.D., has been appointed as the new Department Head of Pharmacy Practice and Clinical Professor at the University of Connecticut School of Pharmacy. As an exceptional educator and innovative leader, she brings a wealth of academic and business acumen to this position, along with energy, enthusiasm, and a strong commitment to enhancing the appropriate use of medications in society.

Dr. Smith is a graduate of the University of Connecticut and the Medical College of Virginia (Pharm.D.). She completed a Pharmacy Practice Residency Program at Thomas Jefferson University Hospital in Philadelphia, PA and has completed post graduate work in global leadership executive education at the Wharton School at the University of Pennsylvania and INSEAD (France,) in addition to a one-year fellowship in change management at Johns Hopkins University.

In returning to UConn, where it all began for her, Dr. Smith envisions a bright future for the School of Pharmacy. Thorough collaboration and innovative leadership, Dr. Smith plans to build on the success of the school in bringing it to the next level of national and international recognition. ■



The University of Connecticut School of Pharmacy offers fourth year professional program students a variety of experiential rotations designed to link their didactic education to hands-on clinical experience. During their third year, pharmacy students select from 900 rotations offering experience in every facet of pharmacy practice. One rotation that is fast becoming popular is Cardinal Health, a nuclear pharmacy responsible for the distribution of radioactive products to hospitals in Connecticut.

One of only three nuclear pharmacies in Connecticut, Cardinal Health is an off-site pharmacy, therefore, there is no patient interaction. The nuclear pharmacy at Cardinal Health involves radioactive products that are used in imaging to detect tumors, aneurysms, irregular or inadequate blood flow and blood cell disorders typically found in the thyroid gland and the pulmonary system.

At first glance it is difficult to differentiate the Cardinal Health building from the medical and business offices in Glastonbury, Connecticut. Upon entering the Cardinal Health building it becomes clear that this is no typical medical office. A transparent glass wall occupies the back of the reception area and allows visitors to view inside the Cardinal Health lab. The doors into the restricted pharmacy area have signs on them that read "Caution: Radiation Area, Radioactive Materials, Authorized Personnel Only". This place is obviously only for highly qualified pharmacists.

Many precautions are taken to protect the pharmacists who deal with radioactive materials and ensure their safety. Each must wear ring badges on their hands in order to monitor radiation, in addition to a monitor on the label to check exposure. For additional safety in transporting these

"Spotlight" on Professional Experience Sites Cardinal Health

By Arielle Begin

materials, all unit doses of radiopharmaceuticals are placed in lead containers for delivery to the hospitals.

To the uninitiated, the lab seems like a high tech location found on the science channel, but to the Cardinal Health pharmacists this is their everyday environment. Karen Hoang, Pharm.D., a friendly UConn alumna and pharmacist at Cardinal



Health describes her daily routine. Her responsibility is compounding the drugs to add radioactivity. Since radioactive products have half-lives, timeliness is essential. Since radioactive medicine is very time sensitive many of the prescriptions must be filled overnight and distributed to the different hospitals during the day.

Karen Hoang is responsible for organizing the interns at Cardinal Health and providing the students with an accurate description of what the rotation entails. Students work hands-on to learn about products offered and the different ways to prepare them. The highlight of the rotation for students is the night shift they are required to work that gives the students a glimpse into the work of a nuclear pharmacist. Karen said that she first became

interested in nuclear pharmacy when she chose her rotation at Cardinal Health. "I knew almost nothing about nuclear pharmacy until my fourth year rotation. Now I stay involved in UConn's rotations to encourage students to get into the exciting field of nuclear pharmacy." ■

"To an outsider, the lab seems like a high tech episode of something only found on the science channel, but to the Cardinal Health pharmacists this is their everyday environment."