Experiences in the "Hot Zone"

Cols. Nancy and Gerald Jaax Visit the CVM

Mark Troxel[†]

On April 11, 1997, the College of Veterinary Medicine was host to Cols. Nancy and Gerald Jaax of the United States Army Medical Research Institute of Infectious Disease (USAMRIID). Their presentation focused on the purpose of USAMRIID and its role in the 1989 outbreak of the Ebola Reston virus at a monkey quarantine facility in Reston, VA.

Gerald and Nancy Jaax are 1972 and 1973 graduates of the Kansas State University College of Veterinary Medicine. Following graduation, both served as members of the Army Veterinary Corp. Both later transferred to USAMRIID to receive advanced training. Gerald Jaax, now a diplomate of the American College of Laboratory Animal Medicine, was previously director of laboratory animal medicine training at USAMRIID. Nancy Jaax, a diplomate of the American College of Veterinary Pathologists is currently in charge of pathology training at USAMRIID. They have also served as consultants to the Surgeon General.

USAMRIID, located at Fort Detrick in Frederick, MD, maintains impressive facilities to study the world's most lethal microorganisms and protect against outbreaks and biological warfare/terrorism. For example, within two weeks of the impending ground war in Desert Storm, USAMRIID produced approximately 4,000 liters of hyperimmune serum against all seven serotypes of the botulinum toxin to protect the troops. It has 23 biocontainment laboratories, six of which are certified at Biosafety Level 4 (BL-4). BL-4 consists of "dangerous and exotic agents that pose high risk of life-threatening diseases" without a treatment or vaccine. USAMRIID also has a 16 bed medical research ward, a BL-4 patient containment, and a special immunizations program. Additionally, USAMRIID maintains an emergency aeromedical evacuation team which can deploy anywhere in the world to bring back an individual infected with a BL-4 agent.

Biomedical Communications, ISU

Cols. Gerald and Nancy Jaax speak at the College of Veterinary Medicine about the Ebola-Reston incident and the role of USAMRIID in public health.

Following the Ebola-Reston incident in 1989, USAMRIID showed that it could successfully establish a field BL-4 containment facility. Of 42 USAMRIID employees tested, there was no seroconversion. This demonstrated that even if the virus had been Ebola Zaire, a human pathogen with a 90% mortality rate, none of the team would have been infected. It also provides hard data that shows that the procedures and equipment they used could successfully prevent the further spread of a virus.

Summarizing the importance of continued research in infectious disease, Nancy Jaax quoted Bernard Dixon, "Such is the adaptability and versatility of microorganisms as compared with humans and other 'higher' organisms, that they will doubtless continue to colonize and alter the face of the Earth long after we and the rest of our cohabitants have left the stage forever. Microbes, not macrobes, rule the world."◆

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