

University of Pennsylvania School of Veterinary Medicine travels to Turkana, Kenya

This past November Dr. Abby Maxon Sage and fourth year student Ernest Scott Weber V'97 traveled to Kenya to conduct research for the African Medical Research and Education Foundation (AMREF) working with Dr. Timothy Wachira and Eberhard Zeyhle. Using ultrasound to establish the prevalence of hydatid disease in livestock, they spent two weeks working outside Nairobi in the town of Kiserian and another two weeks doing field research in Turkana.

The Turkana is found in northwest Kenya on the volatile Sudan border, and is both the country's largest district and most sparsely populated area. The Turkana people are nomadic, raising



camels, sheep, goats and cattle for their livelihood. This region also has the world's highest number of reported human cases for hydatid disease because of the lack of proper sanitation and education. The AMREF hydatid project has spanned over a decade.

Hydatid disease is caused by the dog tapeworm *Echinococcus granulosus*. Only in the family *canidae* can adult tapeworms mature to produce fertile eggs that pass through the feces. Few clinical signs are seen in dogs. Livestock become infected by grazing on land contaminated by dog feces. In livestock the tapeworms cause cysts, which develop primarily in the liver and lungs. Although mature worms cannot produce fertile eggs in livestock, dogs are reinfected when they eat infected offal of slaughtered goats, sheep, cattle, or camels. Infective dog feces are also responsible for causing the disease in people. AMREF has been responsible for deworming dogs and using ultrasound for human diagnosis of hydatid disease. AMREF has also developed the PAIR method for dealing with

multiple cysts in humans that includes ultrasound guided puncture, aspiration, inspiration, and re-aspiration.

Dr. Sage and Scott Weber evaluated the use of diagnostic ultrasound as a mass screening technique for the detection of hydatid cysts in the liver and right lung of sheep and goats. Three hundred animals were examined using ultrasound and then followed through slaughter to compare *post mortem* findings. This work continues research previously conducted by Dr. Sage and Amanda Fine V'97 in 1995.


After completing the work in Nairobi the team prepared to drive to the Turkana. The only road to Turkana was roughly graded and had few service stations. The last outpost of civilization was the town of Lodwar rising out of the arid land. All the roads were covered in sand drifting from all directions. Several sandstorms made the visibility next to none. A drum of petrol was needed for the remainder of the journey. The next hundred miles were the longest of the journey. Desert stretched on both sides of the road. The trip was plagued with automotive problems from two flat tires to problems with the

condenser, points, and plugs. After piecing together the land rover and having used both spare tires, a third flat tire occurred while rolling into base camp some three hours after anticipated arrival.

Field work in this region included using diagnostic ultrasound to attempt to screen camels and donkeys for the detection of hydatid cysts. The ultrasound technician from AMREF also examined people for hydatid disease. Scott Weber accompanied the technician to help ultrasound people at a refugee camp for two days.

Two publications are anticipated for this last and most recent venture into the Turkana using ultrasound diagnosis in livestock.

This research was made possible from the University of Pennsylvania International Programs fund. The research conducted overseas in these less fortunate areas emphasize the need to share expertise, now taken for

granted in the United States, to better the quality of life abroad. Hopefully the University of Pennsylvania School of Veterinary Medicine will continue to encourage and support faculty and student involvement in International Veterinary Medicine.  —Scott Weber



Dr. Scott Weber was awarded The Thouron Award. He is the first veterinary student to receive this award. It was established and is entirely supported by gifts from Sir John Thouron and the late Esther du Pont, Lady Thouron, of Unionville, PA, as an academic exchange and experience to foster better understanding and closer friendship between the people of the United Kingdom and the United States. The exchange program is set up to bring young people of exceptional ability from each country into contact with the ideas and peoples of another country. In the 30 years of its existence the Thouron Award has played an influential role in shaping the lives and careers



Shown here, l to r, are Dr. Willi Weichelt, V'64, Dr. Scott Weber, V'97, Jane Whitehouse Thouron, Seija Weichelt, Susan Kelly and Dean Alan Kelly.

of alumni. Dr. Weber will be studying for two years at the Royal Dick College of Veterinary Medicine at the University of Edinburgh and at the Center of Tropical Medicine there as well.