

Surgical Services: Preimplanted Services Streamline Ebola Study

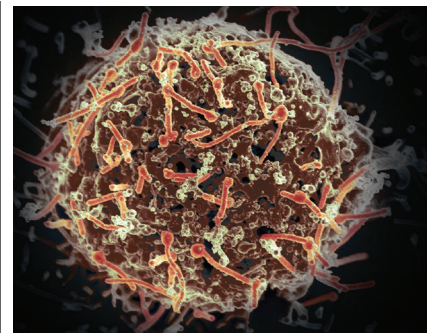
U.S. Government researchers were interested in the pathophysiology of the Ebola virus in the non-human primate model following either intramuscular or aerosol exposure. Characterizing the natural disease progression in the absence of treatment was an important prerequisite for designing therapeutic studies in the model. Consistency was a principal concern; therefore, they had very specific requirements for the macaque species and origin preferences.

THE CHALLENGE. Ebola Virus Disease is a severe, often fatal illness with high mortality rates. Laboratory studies on Ebola virus require the highest level of biocontainment (BSL-4) with highly-trained staff and specialized facilities to eliminate exposure risks to personnel. These studies posed internal resource challenges. They had skilled surgical staff on-site who were capable of performing difficult surgeries required to ensure data from multiple physiologic parameters could be collected. However, as their skill set included specialized expertise in biocontainment, their time was more valuable focusing on pending experiments vs performing surgical procedures.

THE SOLUTION. DSI worked closely with the government to establish an approved funding process to secure DSI's pre-implanted large animal solution. DSI's services team provided

an efficient single source solution and organized all of the logistics for preparation and delivery of healthy pre-implanted animals including:

- Upfront processes for ordering animals and providing health screening to meet study requirements
- Secured telemetry devices, surgical suite, pre and post-operative care and supplies, husbandry and technician time, crating, shipping and all animal health records
- Surgical implantation of 34 rhesus macaques with PhysioTel Digital M00 devices. All animals were implanted with single-use devices to record core body temperature and activity.
- Surgical implantation of 18 rhesus macaques with PhysioTel Digital L21 devices. All animals were implanted with catheters to record systemic blood pressure and left ventricular pressure, electrocardiogram, body temperature, and activity.



The Ebola virus. Credit: NIAID

A total of 52 pre-implanted, healthy rhesus macaques were delivered to the government facility ready for study acclimation.