G54 Viral Testing of Adult Mosquitoes Collected in West Virginia for West Nile Virus Using NASBA Assay

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After attending this presentation, attendees will understand the collection methods for mosquitoes, testing of mosquito samples for viral RNA, and how forensic equipment and methods can be used for viral testing.

This presentation will impact the forensic community and/or humanity by demonstrating the use of forensic methods and procedures that can be used to implement viral testing of field collected samples.

Since its discovery in the United States in 1999, West Nile Virus has spread across North America. Though not endemic to the continent, mosquitoes of the genera *Culex* have become vectors of the serocomplex that causes West Nile. Public health concerns have prompted laboratories across the nation to develop reliable and rapid tests to detect the virus in order to initiate surveillance methods. By combining efforts between public health and forensic agencies, testing protocols can be developed and performed on not only possible vectors but also infected individuals. Current microbial forensic techniques and equipment can be manipulated to detect viral pathogens using analytical extraction methods. The West Virginia Department of Health and Human Resources, Division of Surveillance and Disease Control (WVDHHR/DSDC) in conjunction with the West Virginia Office of Laboratory Services (WVOLS), and the Marshall University Forensic Science Center (MUFSC), collected adult mosquitoes for viral RNA testing. Viral RNA was isolated and detected by Nucleic Acid Sequence Based Amplification (NASBA) to ensure appropriate quality control measures necessary in microbial forensics applications.

West Nile Virus, TaqMan®, RNA

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