E7 Mitigating Entomological Hazards in Scene Investigation

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Learning Overview: After attending this presentation, attendees will have increased awareness of insects and arachnid pests that present potential scene hazards and how to avoid them, as well as basic principles of integrated pest management.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing investigator ability to reduce the annoyance and disease transmission potential of insect and arachnid pests that may be encountered during scene and case work.

Scene investigation presents many potential hazards. One hazard category, which may not always be at the forefront until well into the investigation, are the insects and arachnids that have the potential to bite, annoy, or transmit disease to investigators. Scene investigations often involve human habitations that are prime locations for insect and arachnid pests ranging from annoyance, to mechanical vectors, to established pathogen/parasite vectors. An appreciation of the risks associated with insect and arachnid pests at the scene is the first step to avoiding interaction with them and any potential pathogens they may be carrying. At one end of the spectrum are pests that represent mostly an annoyance hazard because their bites or stings that may trigger discomfort (unless an individual is allergic) but do not transmit pathogens. Pests in the annoyance category include fire ants, wasps, bees, pus moth caterpillars, black widow spiders, scorpions, centipedes, and bed bugs. In the intermediate category, pests represent a potential for mechanical transmission of pathogens or parasites and include such pests as cockroaches and non-biting filth flies. The other end of the spectrum includes pests that typically require blood for their life cycle and have the potential to be part of a pathogen/parasite transmission cycle. Some of the common member pests in this group include mosquitoes, ticks, biting flies, chigger mites, lice, and fleas. Identification, avoidance, and repellent practices at the scene and post-scene procedures can assist in reducing the annoyance and disease transmission potential of these pests.

Simple procedures can be implemented to avoid carrying back pests and/or to repel them while at the scene that can help reduce investigator interactions with them. Such methods of the judicious use of mosquito repellents, pant leg taping techniques, clothing treatments, personal protective equipment use, and just changing clothing can all be strategies useful in reducing pest interactions. In this presentation, the use of these techniques will be demonstrated. Additionally, principles of integrated pest management can facilitate the control of these pests if they inadvertently make their home in the office or lab. These principles are well established in pest management for other fields and could be adapted to the forensic investigation office or lab.

In this presentation commonly encountered scene insect and arachnid pests and the potential risks they may pose to investigators will be displayed in order to facilitate identification in the field. Additionally, methods to reduce interaction at the scene and procedures to take upon returning from the field will be discussed.

Entomology, Disease Transmission, Avoidance

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