



Position Paper—Arthropod Containment

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February 2001

Dear Dr. Benedict,

The American Biological Safety Association (ABSA) appreciates the opportunity to provide comments on the draft "Arthropod Containment Guidelines" (ACG) of the American Society of Tropical Medicine and Hygiene (ASTMH). It is clear that much considered thought and effort have gone into the preparation of this document. Your group is to be commended for initiating these guidelines. We hope that the input that follows will help to make them even more useful for safety professionals and the research community.

Arthropods Containing Known Infectious Agents

On page 13, the paragraph begins, "Readers will observe that the..." The paragraph should read, "Readers will observe."

Arthropod Containment Levels

The technical concept of being able to work with an arthropod bearing a class 3 pathogen in a low-risk area can be appreciated. However, consideration should also be given to the possibility of a transmission

of such a pathogen from a low-risk area to a high-risk area. The world's population is uncommonly mobile today. Arthropods in a low-risk area could unknowingly be transmitted to a high-risk area by a national or international air traveler. Such situations are occurring with vectors and animals already. This situation needs consideration when selecting containment for class 3 pathogen-infected arthropods. Greater emphasis should also be placed on steps to protect workers from infected arthropods.

Arthropod Containment Level 1 (ACL-1)

The use of sharps with engineered sharps injury protection is to be endorsed. The statement requiring engineering controls in this level and others is evidence that the authors are proactive and current in recent safety and health developments.

Arthropod Containment Level 2 (ACL-2)

Some guidance on the prevention of viable stages to the drainage system following hand washing would be prudent (e.g., the use of filters or biocidal traps). Clarification on autoclave placement would be helpful. The Biosafety in Microbiological and Biomedical Laboratories (BMBL) indicates that autoclaves must be in the facility, and it provides transport requirements if viable materials need to be moved to the autoclave room for sterilization. Such guidance is not given here. Also, specific recommendations regarding the Heating, Ventilation, and Air Conditioning (HVAC) system are lacking. These details would be useful.

Arthropod Containment Level 3 (ACL-3)

There is a suggestion that containers be autoclavable or disposable. Later, it is recommended that these containers be disposable. It is prudent to autoclave all containers before disposal.

In the section on floor drains, there is consideration for a heat or chemical treatment system. This specific consideration is not detailed for the plumbing or showers to protect arthropod escape. Also, floor drains are not recommended, but showers are required. ACL-2 is referenced for plumbing, but the previous plumbing section discusses effluent treatment systems at ACL-3 which is part of the plumbing system. This needs to be clarified.

A recommendation is made for appropriate filter/barriers to prevent the escape of arthropods. It is unclear if this is in addition to the use of High Efficiency Particulate Air Filter (HEPA) filters. If this is to be done in addition to the use of HEPA filters, then is there an optimal mesh size for the screens?

There is a recommendation that spaces around doors need to be sealed with tape or plastic sheeting. Clarification needs to be provided if that is to be done at all times or only at the times that the facility is being decontaminated.

Arthropod Containment Level 1 (ACL-4)

In the first paragraph there is a passage that reads, "...pathogens often require experimental attempts to infect arthropod... ." The passage should read, "arthropods."

General Packaging Requirements for Transport of Live Arthropod Vectors

The definition for select agent is given as etiologic agents listed in 42 Code of Federal Regulations (CFR)

72. The select agent listing is detailed in Appendix A of 42 CFR 72.6 so as not to confuse these agents with the list of etiologic agents. This reference needs to be corrected to be consistent with the Centers for Disease Control and Prevention (CDC) listings.

Table 1: Summary of Arthropod Containment Levels

There could be some changes made that would make this table easier to read and use. Under the heading of Arthropod Containment Level 1-4, each column with a numbering would also indicate ACL-1, ACL-2, ACL 3, ACL-4, or the heading Arthropod Containment Level would be followed by ACL-1, ACL2, etc. The fates of exotic arthropods are not clear. They are clustered with ACL-2 through ACL-4, but they are also separately listed under ACL-1.

General

There is a comment in these guidelines about vaccines being available for LaCrosse but not for Eastern Equine Encephalitis (EEE). The BMBL indicates that both EEE and Western Equine Encephalitis (WEE) vaccines are still available from the CDC or United States Army Medical Research Institute for Infectious Diseases (USAMRIID). Both vaccines are no longer available since efficacy testing is incomplete. The current and expected availability of these vaccines should be clarified.

Thank you once more for the chance to have provided input for a set of guidelines.

Sincerely,

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President, American Biological Safety Association