



PROPOSED POLICY OPTIONS FOR CHIKUNGUNYA VACCINE USE AMONG U.S. LABORATORY WORKERS

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Chikungunya virus infections among laboratory workers

- At least 44 infections identified among laboratory workers worldwide over ~ 50 years¹⁻³
 - 43 cases overt disease, 1 asymptomatic infection, no deaths
- 4 disease cases in U.S. laboratorians since chikungunya became notifiable disease in 2015
 - Similar symptoms as with infection acquired via mosquito-borne route
 - One case hospitalized for observation, no deaths
- Identified cases underestimate all infections as no formal laboratory surveillance system

1. The Subcommittee on Arbovirus Laboratory Safety of the American Committee on Arthropod-Borne Viruses. Am J Trop Med Hyg 1980;

2. Rusnak JM, et al. J Occup Environ Med 2004; 3. US national arboviral disease surveillance system, 2015–2022

Routes of laboratory transmission

- Aerosol
- Percutaneous
 - Needlestick while working with and injecting mice
 - Forceps prick while dissecting mosquitoes infected with chikungunya virus
- Mucosal (possible)



Factors for consideration

- Vaccination required for only limited number of staff who might be exposed to live chikungunya virus
 - Vaccination not necessary for workers handling routine clinical samples
 - Recommendations only for laboratorians undertaking research or very specific diagnostic work using live virus (e.g., plaque reduction neutralization tests)
- **Work group summary**
 - Benefits of vaccination outweigh risks for small group of laboratorians working with live virus, given potential for acquiring chikungunya virus infection which can result in severe polyarthralgia and possibly chronic arthralgia

Draft recommendation

Chikungunya vaccination is recommended for laboratory workers with potential for exposure to chikungunya virus.

Information accompanying recommendations

- Local biosafety committee should undertake risk assessment of potential for chikungunya virus exposure considering
 - Type of work to be performed
 - Biosafety level at which work is being conducted
- Vaccination not necessary for workers handling routine clinical samples

Draft recommendation

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