

ACIP rabies: Titer frequency, clinical guidance and next steps

Agam Rao, MD

CAPT, US Public Health Service

Co-Lead, ACIP Rabies WG

Advisory Committee on Immunization Practices
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Updated table with WG preferences

Risk category	Nature of Risk	Typical Population	Disease Biogeography ¹	Primary Immunogenicity PrEP	Long-term immunogenicity
#1: Elevated risk for unrecognized and recognized exposures and	Risk of virus exposure is continuous. Exposure is often in high concentrations and may go unrecognized. Direct and indirect exposures.*	Laboratory personnel working with live rabies virus in research, diagnostic, or vaccine production capacities (e.g., necropsy of suspect rabid animal or working with rabies virus cultures)	Laboratory	IM [0, 7 days]	Titers at regular intervals
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Guidance for titers

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Ensuring long-term immunogenicity for those in risk group #3: frequency of titer check

- Data included in GRADE analysis shows primary immunogenicity is at least up to 3 years
- Taken together, WG felt titer value at any point during 1-3 years could be checked once to ensure long-term immunogenicity
 - WG opted for titer at 2 years to be consistent with time point for titer checks for those in #2 risk group
- No further titer checks indicated because persons in this risk group have only recognized exposures

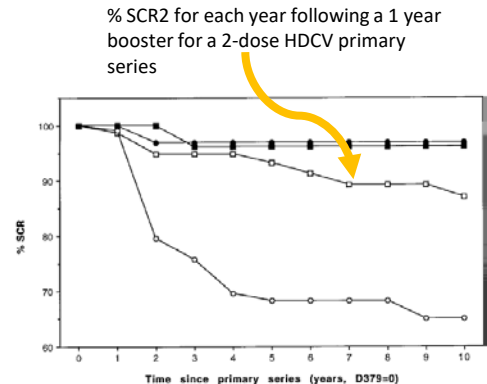


Figure: Evolution of seroconversion rate (% SCR) from day 379 (2 weeks after 1 year booster) to year 10

Strady et al. JID. 1998

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Summary of proposed clinical guidance

- Updated table of risk groups
 - Reorganized risk groups for PrEP and titles of three risk groups based on changing rabies landscape
 - Included biogeography information for each risk group to make it easier to navigate
 - Provided more examples of occupations for each risk group
- To ensure long-term immunogenicity, titer introduced as an option for persons in #3 risk group at 2 years
- Minimal antibody titer of 0.5 IU/mL

Summary or proposed changes

	Primary immunogenicity	Long-term immunogenicity
#1 risk group (i.e., laboratorians)	IM [0, 7 days]*	Titers every 6 months after primary series
#2 risk group (i.e., persons who handle bats or enter high density bat environments)	IM [0, 7 days]*	Titers every 2 years after primary series
#3 risk group (i.e., veterinarians, vet assistants, animal handlers, vet students, travelers etc.)	IM [0, 7 days]*	Titer once at 2 years after primary series OR Booster once no sooner than day 21 and no later than 3 years‡

*2008 ACIP recommendations was [0, 7, 21/28 days]

‡2008 ACIP recommendations was for no titer or booster

WG considerations throughout discussions about approach to PrEP

- ACIP PrEP recommendations were initially many more doses and with suboptimal vaccines
- 2008 ACIP recommendations have been effective
- Rabies is nearly 100% fatal
- Proposed changes
 - Supported by robust data
 - Address evolving rabies landscape
 - Reflect new data and increased confidence in modern cell culture vaccines
 - Not have suboptimal immunogenicity to current PrEP
- WHO and ACIP recommendations do not have to align
 - Dose and cost-sparing options are top priority for WHO

Next steps

- Potentially vote on 2 PrEP policy questions in February 2021
- Begin to present about PEP to ACIP committee

Acknowledgements

- Rabies ACIP WG
- Doug Campos-Outcalt
- Rebecca Morgan
- Jessica MacNeil
- Ryan Wallace



Thank you!