



# Rabies Work Group Update

Sharon Frey, MD, FACP, FIDSA

Chair, ACIP Rabies Work Group

**ACIP Meeting**

**June 24, 2021**

# Work Group Members

## ACIP Members

*Sharon Frey (chair)*

*Lynn Bahta*

## Liaison Representatives

*AAFP- James Stevermer*

*NASPHV- Katie Brown and Sally Slavinski*

*NACCHO- Matt Zahn*

*AAP- Elizabeth Bennett*

*APhA- Karl Hess*

*NACI- Julie Emili, Linlu Zhao, and Rob Stirling*

*FDA- Paula Agger and Robin Levis*

*NIH- Eun-Chung Park*

## Invited Consultants

*Subject Matter Expert- Deborah Briggs*

*Subject Matter Expert- Susan Moore*

*Travel medicine- David Shlim*

*Emergency Medicine – Greg Moran*

*APHL- Michael Pentella*

## CDC

*Rabies Work Group lead – Agam Rao*

*Immunization Safety Office – Pedro Moro*

*Division of Global Migration and*

*Quarantine- Kristina Angelo*



# Last ACIP meeting and continuing work group discussions

- May presentations
  - Rabies pre-exposure prophylaxis and children
    - Antibody response to rabies vaccine in children of all ages is similar to that in adults
    - WG's preference is for PrEP recommendations for children to align with those of adults
  - Post-exposure prophylaxis (PEP) background
    - Components of rabies PEP for previously vaccinated and naïve persons
    - Factors that should be considered before administering PEP (draft flowchart)
  
- Workgroup discussions
  - Rabies immunoglobulin (RIG) products licensed since 2008 ACIP recommendations
  - Data about changes to PEP schedule



# WG's goal for today

- PrEP
  - Review the Evidence to Recommendations framework presented at the October ACIP meeting and summarized at the February ACIP meeting
  - ACIP votes on 2 recommendations for children; these were passed for persons  $\geq$  18 years of age during February ACIP meeting
- PEP
  - RIG: Background, 2 product licensed since 2008 ACIP recommendations, and WG's consideration of recent changes to the WHO recommendations
  - Data about changes to PEP series and WG's preferences



# Anticipated timeline

-Finished discussion about PrEP and children  
-Begin PEP presentations

May 2021

-Present WG interpretation of data about RIG, PEP schedules  
-Votes on PrEP and children

June 2021

-PEP clinical guidance topics  
E.g., management of 1) schedule deviations for PrEP and PEP and 2) PEP initiated abroad

October 2021



# Today's presentations\*

- Rabies immune globulin
  - Post-exposure prophylaxis schedule
  - Rabies pre-exposure prophylaxis: Review of summarized EtR
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- Vote

*\*All presentations are provided by Dr. Agam Rao (CDC/NCEZID)*

# Today's vote: Proposed recommendation #1

ACIP recommends a 2-dose [0, 7 days] intramuscular rabies vaccine series in immunocompetent persons <18 years of age for whom rabies vaccine pre-exposure prophylaxis (PrEP) is indicated.

## Today's vote: Proposed recommendation #2

ACIP recommends an intramuscular booster dose of rabies vaccine, as an alternative to a titer check, for immunocompetent persons <18 years of age who have sustained and elevated risk for only recognized rabies exposures (i.e., those in risk category #3 of rabies PrEP recommendations table). The booster dose should be administered no sooner than day 21 but no later than 3 years after the 2-dose PrEP series.

| Risk category  | Nature of Risk   | Typical Population  | Disease Biogeography <sup>1</sup>   | Primary Immunogenicity PrEP | Long-term immunogenicity   |
|--|--|---|---|-----------------------------|--|
| <b>#1: Elevated risk for unrecognized and recognized exposures including unusual / high risk exposures (e.g., aerosol exposures and high concentration rabies virus exposures)</b> | Risk of virus exposure is continuous. Exposure is often in high concentrations and may go unrecognized, and can be unusual (e.g., aerosolized virus).  | 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 every 6 months (booster if titer <0.5 IU/mL)  |
| <b>#2: Elevated risk of both unrecognized and recognized exposures</b>   | Risk of virus exposure is episodic. Exposure typically recognized but could be unrecognized. Unusual exposures do not occur                            | Persons who frequently handle bats or at frequent risk for coming into contact with bats because of entry into high density bat environments (e.g., bat biologist)  | All geographic regions where bats are a reservoir for rabies <sup>2</sup>   | IM [0, 7 days]              | Titers every 2 years (booster if titer <0.5 IU/mL)   |
| <b>#3: Elevated risk of recognized exposures that is sustained</b>   | Risk of virus exposure greater than for population at large. Exposure is a recognized one.   | <p>Persons who work with animals</p> <ul style="list-style-type: none"> <li>Animal care professionals (e.g., veterinarians, technicians, animal control officers)</li> <li>Others who repeatedly handle terrestrial reservoir species (e.g., wildlife biologists, rehabilitators, and trappers)</li> <li>Spelunkers</li> <li>Veterinary students</li> </ul> <p>Travelers who will be performing activities (e.g., occupational or recreational) that put them at increased risk for exposure to rabid dogs and may have difficulty getting access to safe PEP (e.g., in rural area). Children may receive PrEP depending on the country to which they will travel (see CDC Traveler's Health destination pages)</p> | <p>All geographic regions where terrestrial<sup>3</sup> and non-terrestrial mammals are reservoirs for rabies</p> <p>Geographic regions internationally with endemic rabies</p> | IM [0, 7 days]              | <p>Titer once at 1-3 years (booster if titer &lt;0.5 IU/mL)</p> <p>OR</p> <p>Booster no sooner than day 21 and no later than year 3.</p> |
| <b>#4: Elevated risk of recognized exposures that is not sustained (i.e., ≤ 3 years)</b>   | Risk of virus exposure greater than for population at large. Exposure is a recognized one and only present for up to 3 years after primary vaccination | Same as for #3 but with risk ≤ 3 years (e.g., short-term volunteer providing hands-on animal care or a traveler with no risky travel planned beyond 3 years)  | Same as for #3  | IM [0, 7 days]              | None   |
| <b>#5: Low risk of exposure / (i.e., general population)</b>   | Risk of virus exposure is uncommon. Bite or non-bite exposure  | U.S. population at large  | Nationwide  | None                        | None   |

<sup>1</sup>For questions about the disease biogeography of the region where an exposure occurred, please contact your local or state health department

<sup>2</sup>Bats are reservoirs for rabies in all US states except Hawaii

<sup>3</sup>Terrestrial mammals are non-bat species (e.g., racoons, skunks, livestock)

# Thank you!

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

