University Health System

Rabies Post-Exposure Prophylaxis (PEP) with Human Rabies Immunoglobulin (HRIG) Algorithm for Adult and Pediatric Patients

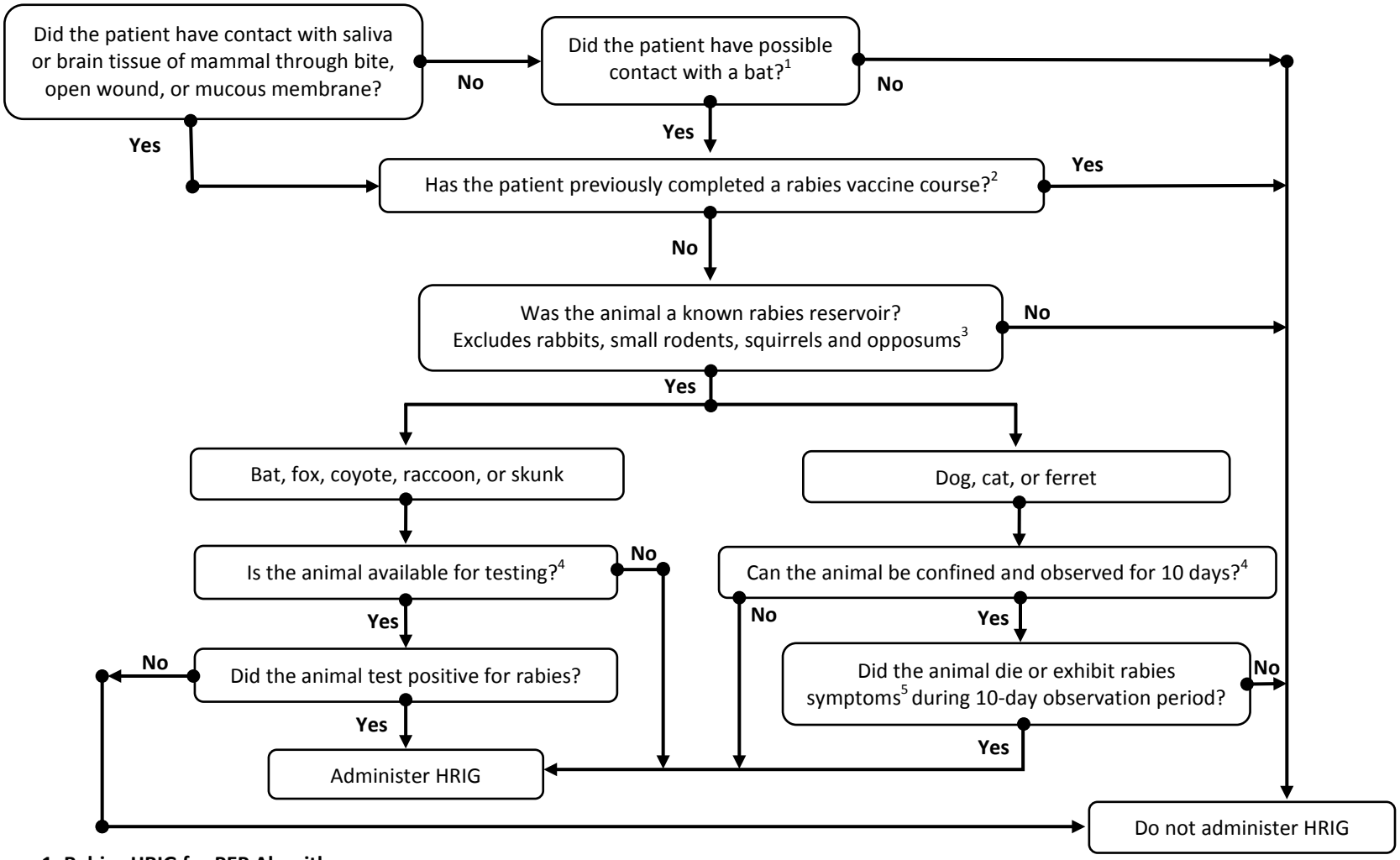

Figure 1. Rabies HRIG for PEP Algorithm

[1]Contact with bat includes persons who were in the same room with a bat even if a bite mark cannot be found. Examples include a sleeping person who finds a bat in the room or a bat found in a room with a previously unattended child.

[2]See table 1 for vaccine post-exposure prophylaxis recommendations for patients who have previously been vaccinated.

[3]All mammals have the potential to be infected with rabies. The following are considered reservoirs that may put patients at risk of transmission and infection: dogs, cats, bats, ferrets, fox, coyotes, raccoon, and skunks. Animals not considered reservoirs include rabbits, hamsters, guinea pigs, squirrels, mice or opossums.

[4]If unknown, attempt to obtain further history prior to clinical decision. Animal testing should be coordinated with metro health.

[5]Symptoms of the acute neurological phase include hyperactivity, agitation, hypersalivation, hydrophobia, altered mental status, autonomic stimulation, progressive paralysis, and seizures.

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Dosing and administration information

Post-exposure prophylaxis (PEP) is recommended for patients presenting with bites from possible rabies reservoirs

- PEP should be initiated as soon as possible after exposure, but appropriate assessment of the above factors should be taken into consideration prior to administration
    - CDC recommends domesticated animals be confined and observed or wild animals be euthanized and tested if able to identify rabies infection
        - PEP should be administered if animal shows signs of rabies infection during observation or animal tests positive
- The algorithm (Figure 1) is used to assess patient risk for rabies infection secondary to bite exposure
- Administer PEP if it is deemed appropriate
    - PEP includes human rabies immune globulin (HRIG) + human diploid cell vaccine (HDCV)
    - HRIG (HyperRAB®) dose: 20 units/kg (rounded to nearest 300 units for adult patients > 45 kg)
        - Pediatric dose: 20 units/kg – Rounding is acceptable if rounded dose remains within 10% of calculated dose
            - Patients < 21 kg, order the exact 20 unit/kg dose
            - Patients ≥ 21 kg and < 45 kg, round to the nearest 150 units
        - Administration
            - Infiltrate as much HRIG as possible around the bite site
            - Administer remaining volume into deltoid (intramuscular) in opposite limb of vaccine administration – do not administer vaccine and HRIG in the same site
                - Facial bites: For lower risk animal bites (ie. dog or cat), consider avoiding HRIG administration in the face and use alternative site
            - Pediatric consideration:
                - Alternative site/remaining volume HRIG injection:
                    - Age < 3 years old: anterolateral thigh or gluteus
                    - Age ≥ 3 years old: deltoid, anterolateral thigh, or gluteus
                - Volume of HRIG dose may require multiple separate injections
    - HDCV (Imovax®) should be administered in all patients deemed appropriate for PEP administration
        - Patients who have previously completed a series of vaccinations receive a shorter course for re-vaccination. HRIG is NOT indicated in these patients.
        - HDCV is the formulary vaccine at UHS; other formulations include purified chick embryo cell (PCEC) or rabies vaccine adsorbed (RVA)
            - Vaccine series should be completed with same vaccine (if possible)
        - Pediatric administration
            - Site and needle size vary based on age and size of the child
            - Vaccine is not recommended to be administered in the gluteus

Table 1. Recommended HRIG and HDCV based on patient factors

Vaccination Status	HRIG	HDCV				
Not vaccinated	Day 0	Day 0	Day 3	Day 7	Day 14	Day 28
Immunocompetent	✓	✓	✓	✓	✓	-
Immunocompromised*	✓	✓	✓	✓	✓	✓
Previously vaccinated	-	✓	✓	-	-	-

*Immunocompromised: HIV CD4 < 200, post-transplant requiring immunosuppressive therapy, corticosteroid use, recent cytotoxic chemotherapy, neutropenia (ANC < 500), current antimalarial use, functional asplenia

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