

## Post-Exposure Anti-Rabies Treatment Recommendations

**Both vaccine and Immune globulin are necessary for post-exposure anti-rabies treatment. Careful attention to the following details will prevent confusion between these two different products.**

- 1. Human Diploid Cell Vaccine (HDCV), product name: Imovax®, or Purified Chick Embryo Cell Culture Vaccine (PCEV), product name: RabAvert™**
  - Post-Exposure Prophylaxis (PEP) should be started as soon as possible after exposure and should be administered to exposed individuals regardless of the elapsed interval. HDCV or PCEV should be administered together with Rabies Immune Globulin except in certain previously immunized individuals, as indicated below.
  - Four doses of 1.0 mL of HDCV or PCEV are required (a single dose is 1 vial of HDCV/PCEV). The first dose should be given as soon as possible after exposure (day 0). Additional doses are to be given on each of days 3, 7 and 14 after the first dose. HDCV/PCEV should be given intramuscularly into the deltoid muscle, or the anterolateral upper thigh in infants. HDCV/PCEV should never be given in the gluteal region or at the same site as rabies immune globulin. Routine follow-up antibody titres are not necessary. Neutralizing antibodies develop 7 days after immunization and persist for at least 2 years.
- 2. Human Rabies Immune Globulin, product name: Imogam® Globulin or HyperRAB™ or KamRAB™ Administration**
  - A single dose (20 unit/kg) of immune globulin should be administered as soon as possible and at the same time as the first dose of HDCV/PCEV (day 0).
  - If anatomically feasible, the full dose of immune globulin should be thoroughly infiltrated in the area around and into the wound(s). The immune globulin may be diluted 2-3-fold in a solution of 0.9% sodium chloride to provide the full amount of immune globulin required for thorough infiltration of the wound(s). When more than one wound exists, each area should be locally infiltrated with a portion of the RIG using a separate needle and syringe. If the site of the wound is unknown, the entire dose should be administered intramuscularly. Under no circumstances should vaccine (HDCV or PCEV) be administered in the same syringe or at the same site as immune globulin
  - Protective antibodies are present immediately after passive vaccination with immune globulin, but they have a half-life of only 21 days. Since vaccine-induced antibodies begins to appear within 1 week, there is no value in administering immune globulin more than 8 days after initiating an approved vaccine course. Immune globulin is supplied in 2 mL vials, containing 150 unit/mL. or 1 mL vials, containing 300 unit/mL. The dosage is  $20 \text{ unit/kg} \times (\text{client weight in kg}) \div 150 \text{ unit/mL} = \text{dose in mL}$  or  $9.09 \text{ unit/lb.} \times (\text{client weight in lb.}) \div 150 \text{ unit/mL} = \text{dose in mL}$  (e.g. for a 70 kg female, 5 vials or 10 mL immune globulin must be infiltrated) or  $20 \text{ unit/kg} \times (\text{client weight in kg}) \div 300 \text{ unit/mL} = \text{dose in mL}$ , dose in mL or  $9.09 \text{ unit/lb} \times (\text{client weight in lb}) \div 300 \text{ unit/mL} = \text{dose in mL}$  (e.g. for a 70 kg female, 5 vials)
  - The table below can be used to determine how many vials are required. Do not administer in excess of the recommended number of vials. Where the physician is treating more than one patient, the total patient weight should be determined, and the appropriate number of vials ordered.

## Human Rabies Immune Globulin Dose / Weight Table

Client's Total Body Weight		Number of RIG vials
lb.	kg	
To 33	To 15	1
34 – 66	16 – 30	2
67 – 99	30 – 45	3
100 – 132	46 – 60	4
133 – 165	61 – 75	5
166 – 198	76 – 90	6
199 – 231	91 – 105	7
232 – 264	106 – 120	8
265 - 297	121 - 135	9
298 - 330	136 - 150	10

### 3. Post-Exposure Treatment of Previously Immunized Individuals

- i. When a previously immunized individual is exposed to the Rabies virus and
  - a) they have previously demonstrated rabies antibody or b) their previous vaccination was with HDCV or PCEV, within the previous 2 years the individual should receive 2 doses of HDCV or PCEV, one dose on day 0 and one dose on day 3. Do not administer immune globulin.
- ii. When a previously immunized individual received either pre or post-exposure rabies immunization with a vaccine other than HDCV or PCEV and
  - a) they did not demonstrate an antibody response or b) the vaccine was not administered within the previous 2 years both immune globulin and 4 doses of HDCV or PCEV should be administered. A serum sample may be taken before vaccine or immune globulin is given, to test for antibody titre. If protective antibody (greater than 0.5 unit/mL) is demonstrated, the course may be discontinued provided at least 2 doses of HDCV or PCEV have been given.

### 4. Antibody Determination

- Where antibody levels are required, a sample of 5mL whole clotted blood or serum there from, should be submitted to the nearest Regional Public Health Laboratory or directly to the Ontario Ministry of Health (MOH), Public Health Ontario (PHO) Toronto Laboratory, 661 University Ave, Suite 1701, Toronto, Ontario M5G 1M1, telephone: 416-235-6566, toll-free: 1-877-604-4567, fax: 416-235-6552. There is no charge for this test. To establish laboratory priority, please indicate the purpose of the sample (for example, indicate it is to determine the titre following a series of pre or post-exposure prophylaxis).
- The following table provides an interpretation of rapid florescent focus inhibition test (RFFIT) neutralizing antibody titres.

Unit/mL	Interpretation
less than 0.5 unit/mL	Inadequate response
0.5 unit/mL	Minimal potency requirement reflecting adequate response
greater than 0.5 unit/mL	Satisfactory

The noted recommendations are derived from:

The Ontario Ministry of Health (MOH) Management of Potential Rabies Exposures Guideline:

[https://www.health.gov.on.ca/en/pro/programs/publichealth/oph\\_standards/docs/protocols\\_guidelines/Mgt\\_of\\_Potential\\_Rabies\\_Exposures\\_2020.pdf](https://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Mgt_of_Potential_Rabies_Exposures_2020.pdf) (April 2020)

The “Rabies Vaccine” chapter in the Canadian Immunization Guide (Seventh Edition, Public Health Agency of Canada (PHAC):

[https://publications.gc.ca/collections/collection\\_2014/aspc-phac/HP40-3-1-2014-eng.pdf](https://publications.gc.ca/collections/collection_2014/aspc-phac/HP40-3-1-2014-eng.pdf) (April 2014)

For more information on the vaccine or immune globulin, please refer to the product monograph or call the Durham Region Health Department at 905-668-2020 or 1-800-841-2729.