



Biological Production Division  
National Institute of Health  
Islamabad, PAKISTAN

**FOR THE REGISTERED MEDICAL  
PRACTITIONER**

**ANTI-RABIES SERUM**  
(Equine Immunoglobulins)

**Composition:**

Anti-Rabies serum is a sterile preparation containing purified and concentrated immunoglobulins obtained from the serum of healthy horses immunized against fixed Rabies Virus. Each bottle contains 10 ml serum containing 200 international units /mls.

**Therapeutic Indications and usage:**

Anti Rabies Serum is used for post-exposure prophylaxis of rabies infection in persons after exposure to scratches, bites or other injuries including mucous membrane contamination with infectious tissue, such as saliva, caused by a confirmed or suspected rabid animal.

Human Rabies Immunoglobulin must always be used in combination with a rabies vaccine. Combined Serum Vaccine treatment is the best specific treatment for post exposure Prophylaxis of Rabies in man (WHO expert committee TRS 523,1973).

**Administration of rabies immunoglobulin:**

Rabies immunoglobulin (RIG) should be given for all category III exposures, irrespective of the interval between exposure and beginning of treatment.

Sensitivity to serum must be determined first. A skin test must be performed prior to the administration of ERIG.

As much as possible of the recommended dose 40 IU/kg of body weight of ERIG) should be infiltrated around the wounds if anatomically feasible. The remainder should be administered intramuscularly (into gluteal region) in a single dose and followed by a complete course of vaccine.

The first dose of Anti Rabies vaccine is given at the same time but at another site. Treatment should be started as soon as possible after exposure but in no

case should it be denied to expose person whatever time interval has been lapsed.

To ensure production and maintenance of titer, booster doses should be given at 10, 20 and 90 days following the last daily dose of vaccine in all cases.

**First Aid: (Recommended in all exposures)**

1. Since elimination of Rabies virus at the site of infection by chemical or physical means is the most effective mechanism of protection. Immediate washing and flushing with soap and water, detergent or water alone is imperative (recommended procedure in all bite wounds including those un related to possible exposure to Rabies).
2. Apply 40 – 70 % alcohol, tincture or aqueous Iodine solution, or 0.1 % quaternary ammonium compounds.

**Management at Hospital by or under directions of a physician.**

The medical practitioner should manage the patient as **emergency** on top priority according to ABC method:

- A. **Assessment:** Assess and confirm about Rabid bite.
- B. **Bathe:** Bathe the wound with water, if venom is visible.
- C. **Comfort & Reassurance:** Avoid panic and assure the patient that there is no reason to be nervous or frightened.
- D. **Dressing:** Apply pressure bandage and immobilize the patient, which would delay venom spread.
- E. **Essential Life Support Measures:** If patient is in shock and requires cardiopulmonary resuscitation, then treat accordingly.
- F. **Find:** Find transport for the nearest hospital.

**A. Management in the Hospital:**

- a. Apply First aid treatment.
- b. Apply ARS by careful instillation in the depth of wound and by infiltration around the wound.
- c. Postpone suturing of wound: if necessary, use anti serum locally as stated above.
- d. Where indicated institute Anti tetanus procedures and administer antibiotics and drugs to control other infections.

## B. Specific Systemic Treatment:

Nature of Exposure	Status of biting animal irrespective of previous vaccination	Recommended treatment
	At time during 10 of exposure days	
1. Contact but no lesion, indirect contact, no contact.	Rabid	None
2. Licks of the skin, abrasion or scratches ,minor bites ( covered areas of arms, trunk and legs)	(a) Suspected as rabid. (b) Or animal unavailable for observation.	Start vaccine, stop treatment if animal remains healthy for 5 days (a,c)  Start vaccine administration serum upon positive diagnosis and complete the course of vaccine serum + vaccine.
3.Licks of mucosa: major bites (multiple or on face ,head ,finger or neck)	Suspect (b) or rabid domestic or wild animal unavailable for observation.	Serum + vaccine Stop treatment if animal remains healthy for 5 days (a,c).

- (a) Observation period in this chart applies only to dogs and cats.
- (b) All unprovoked bites in endemic areas should be considered suspect unless proved negative by laboratory examination (Brain F.A).
- (c) Or if its brain is found negative FA examination .
- (d) In general, exposure to rodents and rabbits seldom, if ever, requires specific Anti-rabies treatment.

**Contraindications:** Patients with history of allergic symptoms or hypersensitivity to horse serum should receive antirabies serum with extreme caution.

**Precautions:** Before injecting antirabies especially of equine origin inquiry must be made regarding any allergic manifestation. The patient has ever had any previous injection of serum of any type. Regardless of history a sensitivity test should be done before the injection either by skin test or conjunctival test. As an added precaution a syringe containing 1 ml of 1:1000 epinephrine should at hand.

**Storage:** The serum should be stored between + 2 to +8°C.

## Supportive Treatment:

Antibiotics, antipyretics, anti-emetics, steroids, Anti-Histamines, Anti-Tetanus Serum or any other supportive therapy can be given as needed and recommended by the physicians.

## Adverse reactions:

They are many immediate or delayed allergic type reactions. The observed immediate reactions are anaphylactic reactions with hypotension, dyspnea and urticaria. Delayed reaction consist of inflammatory reaction, fever pruritus rash o urticaria, adenopathy and arthralgias. Anaphylactic reactions can occur during and after the treatment even it the hypersensitivity test is negative. Anaphylactic reaction can occur even with the test.

## Precautions:

Hypersensitivity to human immune globulin preparations, increased risks of hypersensitivity with specific immunoglobulin A deficiency. As an added precaution a syringe containing 1ml of 1:1000 epinephrine should be available at hand for management of possible anaphylactic reactions. Do not exceed recommended doses as this may reduce the immune response to Rabies vaccine.

Avoid IV admin, and IM inj into central region of gluteal area. Admin rabies immunoglobulin and vaccine in separate syringes and to different sites with different lymphatic drainage.

## Storage:

The product is potent for two years from the date of manufacturing if kept at + 2 to +8°C.

## Presentation:

Anti-Rabies serum is supplied as 10 ml liquid in glass vials.

## Disposal:

Left over Anti-Rabies serum and used empty vials should be disposed off as biomedical waste.

## Manufactured By:

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