RABIES AND ITS PREVENTION
RABIES

• Etiology – Rabies neurotropic virus, Lyssavirus genus
• Is a zoonotic disease
• Transmitted mainly by exposure to rabid animals (By bite, scratch, lick on damaged skin or intact mucosa)
• Incubation period is highly variable, the length of which depends on the size of the inoculum and its proximity to the CNS
ANIMALS WHICH CAN TRANSMIT RABIES

Animal reservoirs of Rabies

1. Urban cycle:
   - Dogs responsible for 96.3% of human deaths caused by Rabies
   - Cats accounted for 1.7% of deaths
   - Cattle, pigs, sheep, pet monkey etc.

2. Sylvatic cycle (Jungle cycle):
   - Foxes, Raccoons, Jackals
   - Skunks
   - Big rodents mainly, mongooses
CLINICAL FORMS OF RABIES IN HUMANS

Furious Rabies
(80%) - 2 to 7 days

Hyperactivity,
hydrophobia,
Aerophobia
↓
Paralysis
↓
Coma
↓
Death (respiratory failure)

Paralytic Rabies
(20%) - Up to 30 days

Ascending Paralysis
↓
Coma
↓
Death (respiratory failure)
## WHO RECOMMENDATIONS FOR ANIMAL BITES

### Category 1

<table>
<thead>
<tr>
<th>Type of contact with suspected or confirmed domestic or wild animals or animal unavailable for observation</th>
<th>Recommended treatment</th>
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<tbody>
<tr>
<td>Touching or feeding of animals, licks on</td>
<td>None if reliable case history available and intact skin</td>
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Category 2

| Nibbling of uncovered skin, minor scratches or abrasions without bleeding, licks on broken skin | Administer vaccine immediately |
| Stop treatment if animal remains healthy throughout an observation period of 10 days |
| Or, if the animal is euthanized and found to be negative for rabies by appropriate laboratory technique |
Category 3

Single or multiple transdermal bites or scratches, contamination of mucous membrane with saliva (i.e., licks)

Administer rabies immunoglobulin and vaccine immediately (Serovaccination)

Stop treatment if animal remains healthy throughout an observation period of 10 days

Or, if the animal is euthanized and found to be negative for rabies by appropriate laboratory technique
WOUND TREATMENT

• Washing and flushing for 15 minutes with water alone or soap and water
• Application of 70% ethanol, iodine or any other substance with virucidal activity
• Bleeding indicates potentially severe exposure and must be infiltrated with human or equine rabies immunoglobulin
• Antibiotics and tetanus prophylaxis may be needed
• Avoid suturing of wounds
ADMINISTRATION OF RABIES IMMUNOGLOBULIN

• The dose of HRIG is 20 iu per kg of body weight and that of ERIG is 40 iu per kg of body weight. In case of ERIG, skin test for sensitivity is not essential but be prepared to manage anaphylaxis if it occurs.

• As much as anatomically feasible the RIG should be infiltrated thoroughly into and around the wound. The remaining portion of the calculated amount of the RIG if any is to be injected in the deltoid region or anterolateral surface of thigh.

• If the calculated dose is insufficient to infiltrate all the wounds, sterile saline may be used to dilute it 2-3 fold to permit thorough infiltration.
5 dose regimen (1-1-1-1-1)
-One dose of the vaccine should be administered on days 0, 3, 7, 14 and 28
-Given in deltoid region or in small children (<2 yrs), into the anterolateral thigh
INTRAMUSCULAR REGIMENS FOR RABIES

2-1-1 regimen

-Two doses of the vaccine should be administered on day 0 in both deltoid muscles

-One dose in the deltoid muscle on day 7 and one on day 21
INTRADERMAL REGIMEN FOR RABIES PEP

2-2-2-0-2 regimen
-Volume per intradermal site is 0.1ml
-Given on days 0, 3, 7 and 28
-One dose (0.1ml) is given at two different lymphatic drainage sites
SHORT RABIES PEP OF PREVIOUSLY VACCINATED PERSONS

-No rabies immunoglobulin to be given

Schedule 1
-One dose to be injected IM or ID on days 0 and 3

Schedule 2
-4 site ID can be used
-4 injections of 0.1ml each distributed over both deltoids, thigh or suprascapular areas at a single visit
PRE-EXPOSURE RABIES PROPHYLAXIS

INTRAMUSCULAR
-One intramuscular dose is given on days 0, 7 and 21 or 28

INTRADERMAL
-One intradermal dose of 0.1ml is given on days 0, 7 and 21 or 28
Thank You