

Emergency protocol for diarrhea in infant and juvenile rabbits, cottontails and hares

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An infant lagomorph presenting with runny stool will often be close to death within hours of onset if the condition is not treated immediately and aggressively. Such animals succumb primarily to dehydration, but inflammation and shock are often contributing factors.

We have used the treatments below to successfully save infant and juvenile lagomorphs who were close to death from diarrhea. All treatments below should be undertaken only under the advice and supervision of a licensed veterinarian. Find an experienced rabbit veterinarian at www.rabbit.org/vets

While the author recognizes that it is best to prescribe medications for *known* pathogens, she has seen enough young lagomorphs quickly die from dehydration and other complications of diarrhea to realize that it is not always possible to identify the causative agent in time. A very sick baby rabbit may have no time to wait for a culture and sensitivity test, or even a fecal exam. For this reason, I recommend that the following emergency treatments be provided as a lifesaving measure. (If a baby rabbit is dying anyway, then these things may give the only chance of survival).

Among the most common causes of diarrhea in young rabbits are *Escherichia coli* and *Eimeria* spp. The treatments below are meant to combat primarily these two agents, and are shown in the order that we administer them to effect the greatest preventive and palliative care possible.

KEEP THE BABY WARM AND QUIET. A dehydrated baby rabbit can easily become hypothermic, which is not only life-threatening, but can interfere with the efficacy of the treatments below. Towel-wrapped warm water bottles or bags are a safe source of heat.

1. To arrest diarrhea quickly (of critical importance):

Imodium (loperamide) at 1 mg/kg Q 4-8 hours (depending on severity). This is available over the counter at most pharmacies.

2. Hydration:

Subcutaneous Lactated Ringers Solution (10ml/kg total in 2-3 boli over 24 hours. This can be increased if the diarrhea is severe, to prevent dehydration and keep electrolytes at normal levels. Consult your veterinarian about the proper dosage.

3. Antibiotics:

a. **ciprofloxacin** at 20 mg/kg Q 12 hours – PO (oral administration) only. Oral administration provides immediate contact with intestinal pathogens that injections will not handle as quickly or directly. Although there may be some concern about potential fluoroquinolones' potential interference with normal cartilage development in juvenile mammals, (1) we have seen no evidence of this in the many lagomorphs we have treated with these antibiotics and (2) if the choice is a possible cartilage problem or death, the choice seems clear.

b. metronidazole at 20mg/kg Q 12 hours – PO only; see above.

4. Anticoccidial medication:

1. Ponazuril/toltrazuril (20mg/kg Q 24 hours)

OR

2. Trimethoprim sulfa or Albon (sulfadimethoxine)

(Note: We have found that ponazuril (Marquis by Bayer) is far superior to the sulfa or

potentiated sulfa antibiotics for killing coccidia. My own (unpublished) data show complete parasite eradication (as determined from sequential fecal exams showing progressively more shrunken and vacuolated sporocysts) in three days of treatment.

5. Helminthicidal medication:

Panacur (fenbendazole) at 20mg/kg Q 24 hours (Note: albendazole has a higher radiomimetic toxicity than fenbendazole or oxibendazole, has been associated with acute, fatal toxicity in rabbits. It is NOT recommended for this species.)

6. Recommended analgesia (pain relief):

1. pediatric simethicone suspension (0.5 – 1.0 cc Q 6-8 hours) for gas relief
2. sulfasalazine (30 - 50 mg suspended in clean water Q 12 hours)
3. barium suspension (0.5-1.0 ml Q 12 hours) (also helps arrest diarrhea)
4. meloxicam (0.1 – 0.3 mg/kg Q 24 hours)

OR

5. Banamine (flunixin meglumine) (not both! Use only one NSAID!)
6. Tramadol (2-6mg/kg Q 12 hours)

(Note: If Banamine is used, famotidine (antacid) is also recommended, but should not be administered for an hour after other medications have been given.)

7. General immune support and bacteriocidal action:

colostrum (contents of 2 capsules dissolved in about 10cc pasteurized goat milk). Administer small amounts over several hours, about 1-2 cc at a time, or as much as the baby will accept.

8. Absorption/adsorption of intestinal toxins:

Questran (cholestyramine resin) - by prescription at most major pharmacies DO NOT ADMINISTER THIS AGENT FOR AT LEAST ONE HOUR AFTER ALL OTHER ORAL MEDICATIONS HAVE BEEN GIVEN, AS IT MAY INTERFERE WITH OR INACTIVATE THE OTHER DRUGS.

Suspend about ¼ teaspoon in 10 ml of water, and allow to hydrate for approximately 10 minutes. Give 1-2 cc of this suspension every 12 hours, but DO NOT give it within an hour of other medications, as it may absorb them. DO NOT give any other medications for 4-6 hours after Questran dose, as Questran will continue to absorb/adsorb substances from the gut lumen, reducing or eliminating their efficacy.

Updated on 17 October 2009

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