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# Clostridial Enterotoxigenesis in Guinea Pigs

(Diarrhea Related to an Intestinal Toxin  
Produced by a Bacteria, *Clostridium  
perfringens*)

## Basics

### OVERVIEW

- A complex syndrome characterized by severe, life-threatening diarrhea, weakness, and lethargy associated with overgrowth of a particular bacteria, *Clostridium difficile*, and the toxins that the bacteria produce.
- A normal bacterial population in the large and small intestine of guinea pigs is necessary to keep the intestines healthy, to digest fiber, and to keep potentially dangerous bacteria from overgrowing. In the normal animal, *Clostridium* spp. are found in low numbers, in a vegetative form, and not dangerous.
- Antibiotics that kill off the normal, healthy population of intestinal bacteria will allow overgrowth of enterotoxin-producing *Clostridium difficile* and sometimes other dangerous bacteria.

### SIGNALMENT

Seen in any age or gender of guinea pig in which inappropriate oral antibiotics have been given

### SIGNS

- Most common—sudden onset of watery diarrhea, depression, lack of appetite, and listlessness; often a foul-smelling diarrhea; may contain mucus or blood
- With severe diarrhea, guinea pigs become listless, appear painful (hunched posture, teeth grinding), and eventually become shocky and lie on their sides.



## CAUSES

Certain strains of clostridia produce an intestinal toxin that causes diarrhea, depression, and death.

### RISK FACTORS

- Low-fiber, high-carbohydrate diet
- Improper antibiotic use
- Stress

## TREATMENT

### APPROPRIATE HEALTH CARE

- Hospitalization is required, although successful treatment is rare. Once the bacteria produce toxins and those toxins become absorbed, successful treatment is nearly impossible.
- Aggressive IV fluid therapy and IV antibiotics are required; however, even with aggressive treatment, the prognosis for recovery is extremely poor.

### ACTIVITY

Restricted during sudden (acute) disease

### DIET

- It is important that the guinea pig continue to eat during and following treatment. Not eating will cause gastrointestinal motility disorders, further derangement of the gastrointestinal bacteria, and overgrowth of clostridia and other dangerous bacteria.
- Offer a good-quality grass hay and a large selection of fresh, moistened greens such as cilantro, romaine lettuce, parsley, carrot tops, dandelion greens, spinach, collard greens, etc. If the patient refuses these foods, syringe-feed a gruel such as Critical Care for Herbivores (Oxbow Pet Products) or Emerald Herbivore (Lafeber Company, Cornell, IL). Alternatively, pellets can be ground and mixed with fresh greens, vegetable baby foods, water, or juice to form a gruel.
- Do not feed treats that are high in carbohydrate or simple sugars, as this can worsen disease.

## MEDICATIONS

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered all-inclusive.

- Antibiotics—Metronidazole is the most common antibiotic used. It is usually given IV in hospitalized guinea pigs.
- Pain medications are used to control intestinal pain from gas formation and dilation.

## FOLLOW-UP

### PATIENT MONITORING

Monitor appetite and fecal production, as well as a return to producing solid fecal pellets, for a positive response to therapy.

### PREVENTION/AVOIDANCE

- Feed a diet consisting of good-quality grass hay, fresh leafy greens, vegetables, and pellets.
- Do not administer oral antibiotics unless directed by your veterinarian.

### EXPECTED COURSE AND PROGNOSIS

The prognosis is poor to grave in guinea pigs demonstrating profuse, watery diarrhea and signs of shock.

## KEY POINTS

- Clostridal enterotoxigenesis can cause severe, sudden, watery diarrhea. This can be life-threatening, even with aggressive treatment.
- Never administer oral antibiotics unless specifically directed by your veterinarian.

# Notes

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