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# Gastrointestinal Hypomotility and Gastrointestinal Stasis in Guinea Pigs

## Basics

### OVERVIEW

- Gastrointestinal (GI) hypomotility is slowing of normal emptying of the stomach and passage of food through the intestinal tract.
- Gastrointestinal stasis is a severe slowing of normal emptying of the stomach and passage of food through the intestines, with little to no movement of food.
- Proper digestion of food and gastrointestinal tract motility are dependent on the ingestion of large amounts of roughage and long-stemmed hay. Diets that contain inadequate amounts of long-stemmed, coarse fiber (such as the feeding of only commercial pelleted food without hay or grasses) can cause gastrointestinal hypomotility.
- When gastrointestinal motility slows or stops, ingesta, including fur and other material, accumulates in the stomach. Guinea pigs cannot vomit to expel nonfood contents from the stomach.
- Dehydration of stomach contents often occurs, making the contents more difficult to pass. With medical treatment, GI motility usually returns, and stomach contents soften and will usually pass. Without treatment, retention of dried-out food and hair and shifts in intestinal bacteria can be fatal.
- Anything that causes the guinea pig not to eat, such as disease, pain, stress, or starvation may cause GI hypomotility.
- The process is often self-perpetuating; GI hypomotility and dehydration cause the guinea pig to not eat, making GI stasis worse.



### SIGNALMENT

- More commonly seen in middle-aged to older guinea pigs on poor diets, but can occur in any aged guinea pig

- Seen in all breeds or genders

## **SIGNS**

- Many guinea pigs with GI stasis have been fed an inappropriate diet (e.g., cereals, grains, commercial pellets only, sweets, large quantities of fruits, lack of feeding long-stemmed hay) or have recently suffered an illness or stressful event.
- Affected guinea pigs have a decreased appetite. They often initially stop eating pellets but continue to eat treats, then stop eating completely.
- Fecal pellets become scant and small in size; eventually, no fecal pellets are produced in guinea pigs with complete GI stasis.
- Initially, they are bright, alert and otherwise act normally; then they show signs of pain, such as teeth grinding, a hunched posture, and reluctance to move.
- Some may develop diarrhea.
- The veterinarian may detect excessive gas in the intestinal tract or hear decreased stomach sounds on listening to the abdomen with a stethoscope.

## **CAUSES**

- Motility disorders occur as a result of poor diet, underlying disease, pain, or stress.
- Often GI hypomotility is caused by feeding diets with insufficient grasses and long-stemmed hay and/or excessive amounts of simple carbohydrates. Examples of improper diets include one consisting primarily of commercial pellets, especially those containing seeds, oats, or other high carbohydrate treats; cereal products (bread, crackers, breakfast cereals); and large amounts of fruits containing simple carbohydrates. Proper GI motility relies on the guinea pig's eating large quantities of indigestible coarse fiber, as found in long-stemmed hay and grasses. Most commercial pelleted diets contain inadequate roughage, coarse fiber, and excessive carbohydrates.
- Conditions that result in a lack of appetite may also cause GI hypomotility/stasis. Common causes include dental disease (malocclusion, molar elongation, tooth root abscesses), kidney or bladder stones, vitamin C deficiency (scurvy) metabolic disease (kidney or liver disease), pain (from dental disease, trauma, postoperative pain), cancer, toxins, or changes in the environment.
- Stressful conditions that cause a decreased appetite include hospitalization, boarding, new animals in the household, social stress, fighting, and a lack of exercise (cage confinement, obesity).

## **RISK FACTORS**

- Diets containing insufficient amounts of hay
- Any condition that causes a lack of appetite

## **TREATMENT**

### **APPROPRIATE HEALTH CARE**

- Remove any underlying cause, if possible.
- Guinea pigs that are stable may be treated on an outpatient basis when possible.
- Guinea pigs that are severely dehydrated, weak, or demonstrating signs of shock require hospitalization.

### **ACTIVITY**

If the guinea pig is not debilitated, encourage exercise for at least 10–15 minutes every 6–8 hours as activity promotes gastric motility; provide supervised freedom from the cage or access to a safe grazing area.

### **DIET**

- There is no better medication for hypomotility than food.
- It is absolutely imperative that the guinea pig eat. Offer a large selection of fresh, moistened greens such as cilantro, romaine lettuce, parsley, carrot tops, dandelion greens, spinach, collard greens, etc., and good-quality grass hay. Also, try offering the guinea pig's usual pelleted diet.
- If the guinea pig refuses these foods, syringe-feed a gruel such as Critical Care for Herbivores (Oxbow Pet Products) or Emerald Herbivore (Lafeber Company, Cornell, IL); feed as much as the guinea pig will readily accept. Alternatively, pellets can be ground and mixed with fresh greens, vegetable baby foods, water, or juice to form a gruel.
- Do not feed starchy, sweet, or fatty foods.

- Encourage drinking by offering fresh water and wetting leafy vegetables.
- The diet should be permanently modified to include sufficient amounts of roughage and long-stemmed grass hay; foods high in simple carbohydrates should be prohibited or limited to the occasional treat.

## **SURGICAL CONSIDERATIONS**

Surgery is not a part of treatment and can make GI stasis worse.

## **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.

### **Fluid Therapy**

Providing fluids in the form of oral, subcutaneous (under the skin injections), or IV route is one of the most important aspects of treatment. Most guinea pigs are treated with subcutaneous fluids, which can be administered by your veterinarian or can be a part of home treatment. In more severe cases, IV fluids are necessary.

### **Pain Medication**

Pain medications such as meloxicam (Metacam or Mobic), buprenorphine, or carprofen are essential to treatment of GI hypomotility/stasis. Intestinal pain, usually from gas distention, impairs mobility and decreases appetite, and may severely inhibit recovery.

### **Gastric Prokinetic Agents (drugs that improve the propulsion of contents through the stomach and into the intestines)**

- Metoclopramide (Reglan) improves stomach motility and coordinates stomach and upper small intestinal motility.
- Cisapride works directly on gastrointestinal smooth muscle, stimulating motility; improves gastric emptying; and promotes increased motility of both the small and large intestine.

### **Antibiotics**

Some guinea pigs with severe overgrowth of potentially dangerous bacteria may require antibiotics.

### **Treatment of Intestinal Gas**

Simethicone may be helpful in alleviating painful intestinal gas.

## **FOLLOW-UP**

### **PATIENT MONITORING**

- Response to therapy varies, according to the underlying cause of the stomach (gastric) motility disorder.
- Monitor appetite and production of fecal pellets. Guinea pigs that are successfully treated will regain a normal appetite and begin to produce normal volumes of feces. Initially, the fecal pellets are sometimes expelled bound together with hair.

### **EXPECTED COURSE AND PROGNOSIS**

- The length of treatment depends on the ability to resolve the underlying disorder or on response to therapy.
- Early medical management carries a good to excellent prognosis.
- The prognosis for guinea pigs that have stopped eating completely and stopped passing feces for greater than 24–48 hours is usually poor; GI tract motility may never return to normal.

## **KEY POINTS**

- Strict feeding of diets containing adequate amounts of indigestible coarse fiber (long-stemmed hay) and low simple carbohydrate content, along with access to fresh water, will often prevent episodes. Allow guinea pigs to have sufficient daily exercise, and prevent obesity to help prevent future episodes.
- Response to therapy varies, according to the underlying cause of the motility disorder.
- See your veterinarian immediately whenever your guinea pig stops eating.

# Notes

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