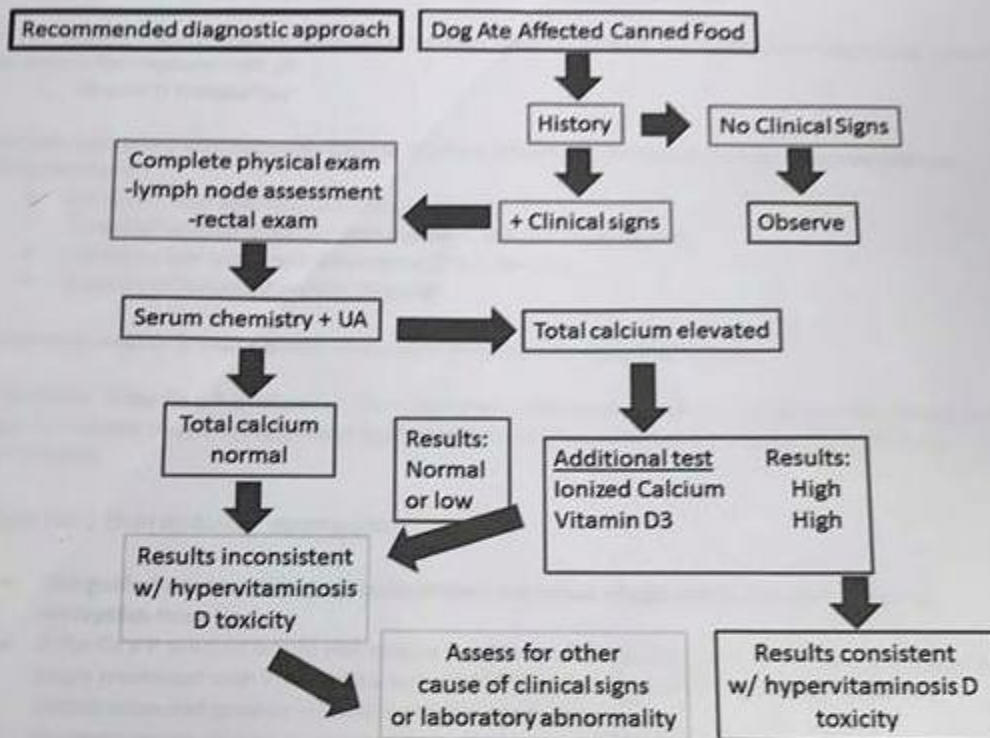


Diagnosis and Treatment for Hypervitaminosis D



Diagnostic approach:

Minimum recommendation for dogs that have consumed affected canned product:

- Always recommend discontinuing affected canned product
- **History** - perform a nutritional assessment and ask questions to identify potential clinical signs associated with excessive vitamin D intake including lethargy, inappetence, vomiting, diarrhea, polyuria/polydipsia. See link for brief diet history from: <https://www.wsava.org/Guidelines/Global-Nutrition-Guidelines>
- **Physical examination** - a thorough physical examination to include hydration status, joint pain (growing puppies), and other associated findings that may occur in dogs with hypercalcemia
- **Serum chemistries** - to detect hypercalcemia and/or azotemia and determine serum phosphorus
- **Urinalysis** - to detect hyposthenuria [urine specific gravity (USG) < 1.008] or inappropriately concentrated USG (< 1.030) with concomitant azotemia

If the results of initial screening (items above) are normal, have the owner continue to observe and contact you if there are any abnormal findings.

If hypercalcemia exists (total serum calcium above upper reference range), we suggest to measure ionized calcium in fasting dog and consider all potential causes (excessive vitamin D intake; neoplasia -

lymphoma, anal gland adenocarcinoma, others; primary hyperparathyroidism; hypoadrenocorticism, etc) and perform appropriate tests to exclude concurrent primary diseases.

If you suspect dietary-induced hypercalcemia (high ionized calcium), we recommend submitting serum or plasma for measurement of:

1. Vitamin D metabolites

Findings consistent with excessive vitamin D intake include the following changes in serum/plasma concentrations:

- Increased total and ionized calcium (serum)
- Increased vitamin D metabolites (calcidiol and calcitriol) (serum)
- Low to normal parathyroid hormone (PTH) (serum)
- Negative PTH-related protein (plasma)

If excessive vitamin D intake is confirmed, start treatment as described below.

Additionally, if the Ca x P product is > 70 , collect a serum/plasma sample for measurements above and begin immediate treatment to protect against soft tissue mineralization (see below for additional information).

Suggested therapeutic approach:

- **The goal of treatment is to enhance urinary excretion of calcium and prevent calcium resorption from bone.**
- If the Ca x P product is > 70 and cardiac function and blood pressure are normal, immediately begin treatment with intravenous normal (0.9%) saline at 100-125 ml/kg/day to correct dehydration and provide moderate volume expansion.
- Reassess serum calcium concentration to evaluate the effectiveness of fluid therapy.
- If serum calcium does not decrease and the patient is hydrated, consider adding furosemide (2-4 mg/kg every 8-12 hours IV, SQ, or PO) or continuous rate infusion (CRI at 5 mg/kg/hr)
- Continue treatment until serum calcium normalizes and Ca x P product is < 70 .
- If additional treatment is needed to lower serum calcium, consider glucocorticoids after other causes of hypercalcemia have been excluded (i.e., neoplasia especially). Oral prednisone at 1 to 2.2 mg/kg every 12 hours.
- If calcium levels normalize, IV saline can be weaned. Oral furosemide & prednisone should be continued for an additional 1-2 weeks. Calcium levels should be monitored daily for 96 hours (4 days) after fluid cessation. It is recommended to continue monitoring serum calcium twice weekly for 2 weeks, then once weekly for 2 weeks to detect any relapse.
- If additional treatment is still needed to lower serum calcium, consider bisphosphonate pamidronate (Aredia). Bisphosphonate is administered IV (1.3 to 2 mg/kg) diluted in saline and given over 2 hours. Up to one retreatment may be required in 5 to 7 days.

References:

<https://www.merckvetmanual.com/endocrine-system/the-parathyroid-glands-and-disorders-of-calcium-metabolism/hypercalcemia-in-dogs-and-cats>

<https://www.animalhealth.msu.edu/Sections/Endocrinology/Calcium.php>



Hill's voluntary recall - Reimbursement

February 4, 2019

Dear Colleague,

Hill's makes all its products with an overriding commitment to the health and well-being of pets. With that in mind, on January 31st, we announced to voluntarily recall select canned dog food products due to potentially elevated levels of Vitamin D. No other Hill's products other than those listed are being recalled. **No Hill's Feline foods (Canned & Dry), Hill's Canine Dry foods, or Hill's treats are being recalled.**

Hill's recognizes that pet parents may have concerns about the health of their pets. All pets should be assessed on a case-by-case basis to evaluate their individual health, to gain an understanding of how much voluntarily recalled product they may have consumed and over what period of time, and to assess any health risks they may face.

To support veterinarians in their relationship with their clients and their pets and as an expression of our empathy for pet parents, Hill's will evaluate on a case by case basis, requests for **reimbursement of veterinary fees** including specific diagnostic tests and treatment for dogs who have eaten the voluntarily recalled diets and the veterinarian recommends diagnostic tests and treatment for vitamin D Hypervitaminosis.

Pet parents may receive reimbursement of diagnostic tests up to \$250 per patient to test for elevated calcium and up to an additional \$250 per patient (\$500 total) to complete a Vitamin D panel if indicated. Appropriate costs to include in the reimbursement are for an office visit and physical examination, Serum Blood Chemistry & Urinalysis, and Vitamin D panel if indicated. Further tests and medical treatment based on your clinical judgment may be required. The reimbursement instructions are attached, as well as all necessary forms to ensure all required materials are returned for reimbursement.

For more information, please contact the Hill's Veterinary Consultation Service at 1-800-548-8387 or email vet_consult@hillspet.com, or submit a case for VCS input at www.hillsvet.com/VCS.

At Hill's, we take great pride in the quality and safety of our pet food products. Hill's has identified and isolated the error and, to prevent this from happening again, we required our supplier to implement additional quality testing prior to their release of ingredients. In addition to our existing safety processes, we are adding our own further testing of incoming ingredients.

Sincerely,



Jolle Kirpensteijn DVM, PhD

Chief Professional Veterinary Officer, Hill's US etc.



Hill's voluntary recall January 2019 Diagnostic Testing Reimbursement Request Instructions

Hill's recognizes that pet parents may have concerns about the health of their pets. All pets should be assessed on a case-by-case basis to evaluate their individual health, to gain an understanding of how much voluntarily recalled product they may have consumed and over what period of time, and to assess any health risks they may face.

To support veterinarians in their relationship with their clients and their pets and as an expression of our empathy for pet parents, Hill's will evaluate on a case by case basis, requests for reimbursement of veterinary fees including specific diagnostic tests and treatment for dogs who have eaten the voluntarily recalled diets and the veterinarian recommends diagnostic tests and treatment for vitamin D Hypervitaminosis.

Qualifying conditions

- Patient was fed one (or more) voluntarily recalled canned dog food products
- The voluntarily recalled food was purchased between September 1, 2018 and February 1, 2019
- Only one reimbursement per patient (duplicate submissions will not be honored)
- Reimbursement requests will be reviewed for voluntarily recalled products in the United States
- A completed 'Patient reimbursement request form' and all supporting documentation included in the 'Reimbursement checklist' must be submitted.

Reimbursement process

- Complete the 'Patient reimbursement request form' (will be sent separately). Be sure to fill out the form completely and date and sign it and have the dog owner date and sign it
- Attach an invoice of the medical services provided.
- Send all materials requested in 'Reimbursement checklist' based on specific patient classification.
- All materials should be emailed to vet_consult@hillspet.com or mailed to Veterinary Consulting Service, Hill's Pet Nutrition, 400 SW 8th Avenue Topeka KS 66603.

The reimbursement request will be reviewed by Hill's and reimbursement will be provided at Hill's sole discretion. Your clinic will receive a reimbursement per the details provided in the 'Patient

reimbursement request form' (up to a maximum of \$500 per patient) as soon as possible after receipt of the forms *if you are a Hill's customer*. Expected processing time is approximately 4 weeks, but will vary based on the number of requests. Requests for reimbursement will be reviewed in the order they are received. If you are not a Hill's customer, processing may take longer.

This reimbursement is made available to help offset the costs of the physical examination and tests that would otherwise be borne by your client.

For more information, please contact the Hill's Veterinary Consultation Service at 1-800-548-8387 or email vet_consult@hillspet.com, or submit a case for VCS input at www.hillsvet.com/VCS.

Identify the SKU and Date Code/Lot Code

Locate affected products in the Table listed below

Product Name	SKU Number	Lot Code/Date Code
Hill's® Prescription Diet® c/d® Multicare Canine Chicken & Vegetable Stew 12.5oz	3384	102020T10
		102020T25
Hill's® Prescription Diet® i/d® Canine Chicken & Vegetable Stew 12.5oz	3389	102020T04
		102020T10
		102020T19
		102020T20
Hill's® Prescription Diet® i/d® Canine Chicken & Vegetable Stew 5.5oz	3390	102020T11
		112020T23
		122020T07
Hill's® Prescription Diet® z/d® Canine 5.5oz	5403	102020T17
		112020T22
Hill's® Prescription Diet® g/d® Canine 13oz	7006	112020T19
		112020T20
Hill's® Prescription Diet® i/d® Canine 13oz	7008	092020T30
		102020T07

		102020T11
		112020T22
		112020T23
Hill's® Prescription Diet® j/d® Canine 13oz	7009	112020T20
Hill's® Prescription Diet® k/d® Canine 13oz	7010	102020T10
		102020T11
Hill's® Prescription Diet® w/d® Canine 13oz	7017	092020T30
		102020T11
		102020T12
Hill's® Prescription Diet® z/d® Canine 13oz	7018	102020T04
		112020T22

Hill's® Prescription Diet® Metabolic + Mobility Canine Vegetable & Tuna Stew 12.5oz	10086	102020T05
		102020T26
Hill's® Prescription Diet® w/d® Canine Vegetable & Chicken Stew 12.5oz	10129	102020T04
		102020T21
Hill's® Prescription Diet® i/d® Low Fat Canine Rice, Vegetable & Chicken Stew 12.5oz	10423	102020T17
		102020T19
		112020T04
Hill's® Prescription Diet® Derm Defense® Canine Chicken & Vegetable Stew 12.5oz	10509	102020T05
Hill's® Science Diet® Adult 7+ Small & Toy Breed Chicken & Barley Entrée Dog Food 5.8oz	4969	102020T18
Hill's® Science Diet® Puppy Chicken & Barley Entrée 13oz	7036	102020T12
Hill's® Science Diet® Adult Chicken & Barley Entrée Dog Food 13oz	7037	102020T13
		102020T14
		112020T23
		112020T24



Hill's voluntary recall January 2019 Diagnostic Testing Reimbursement Request Checklist

Dear colleague,

Hill's recognizes that pet parents may have concerns about the health of their pets. All pets should be assessed on a case-by-case basis to evaluate their individual health, to gain an understanding of how much voluntarily recalled product they may have consumed and over what period of time, and to assess any health risks they may face.

To support veterinarians in their relationship with their clients and their pets and as an expression of our empathy for pet parents, Hill's will evaluate on a case by case basis, requests for reimbursement of veterinary fees including specific diagnostic tests and treatment for dogs who have eaten the voluntarily recalled diets and the veterinarian recommends diagnostic tests and treatment for vitamin D Hypervitaminosis.

We created the below checklist to help facilitate your reimbursement request for diagnostic testing related to the Hill's voluntary recall January 2019. Please remember:

- Dogs need to have eaten one of the voluntarily recalled Hill's Canine canned dog foods (see attached list).
- Owners should report that their dog(s) either show or have shown signs of hypervitaminosis D, such as vomiting, loss of appetite, increased thirst, increased urination, excessive drooling, and weight loss.
- Your professional judgment should confirm the need to perform appropriate screening analysis.

Documents to submit:

1. Step 1 - For pets receiving the screening protocol when laboratory results come back normal use the following checklist.

Screening Documents	<input checked="" type="checkbox"/>
Completed Pet Information Form	<input type="checkbox"/>
Purchase History Form	<input type="checkbox"/>
Pet Food Proof of Purchase	<input type="checkbox"/>
Results of serum chemistries & urinalysis	<input type="checkbox"/>
Invoice(s) for the office visit, serum chemistries, urinalysis	<input type="checkbox"/>

2. Step 2 - For pets with hypercalcemia that required Vitamin D panel assessment

Screening & Treatment Documents	<input checked="" type="checkbox"/>
Completed Pet Information Form	<input type="checkbox"/>
Purchase History Form	<input type="checkbox"/>
Pet Food Proof of Purchase	<input type="checkbox"/>
Results of serum chemistries & urinalysis	<input type="checkbox"/>
Complete Medical Records for the current situation	<input type="checkbox"/>

Please refer to the **Reimbursement instructions document** for specific information regarding the required reimbursement for the Hill's voluntary recall January 2019.