



PATIENT NAME: Ginger Millard
SPECIMEN ID: 477765
SPECIES: Canine
GENDER: Female
AGE: 14.6
WEIGHT: 39.8 lb
BREED: Red Heeler

MRN: 1066037
DRAW DATE: 15-Feb-23
RECEIVED DATE: 22-Feb-23
REPORT DATE: 25-Feb-23
SAMPLE TYPE: Dried Serum - 2

VETERINARIAN:
FACILITY:

PH:
FAX:

Wellness Dashboard

<p>Vitamin D</p> <p>Elevated</p> <p>198.5</p> <p>Sufficiency: 100-150 ng/mL</p>	<p>B12</p> <p>High</p> <p>>2250</p> <p>Normal: 220-1080 pg/mL</p>	<p>Magnesium</p> <p>Low Normal</p> <p>2.1</p> <p>Normal: 1.7-2.9 mg/dL</p> <p>supplementation when below 2.2mg/dL</p>	<p>tCa</p> <p>Normal: 8.5 - 12.0 mg/dL</p>
<p>PTH¹⁻⁸⁴</p> <p>Normal: 4 - 38 pg/mL</p>	<p>Folate</p> <p>Normal</p> <p>12.2</p> <p>Normal: 4.3 - 21.0 ng/mL</p>		

<p>Inflammation (CRP)</p> <p>Mild</p> <p>4.9</p> <p>Optimal: ≤ 2.0 Normal: ≤ 3.9 Mild Inflammation: 4 - 9.9 Mod Inflammation: 10 - 39.9 High Inflammation: ≥ 40 (mg/L)</p> <p>↑</p>	<p>Previous</p> <p>2.1</p>	<p>Chemistries</p> <p>Albumin Normal</p> <p>CAR: 1.3</p>
<p>Patient is in a mild inflammatory state. Refer to differential list.</p>		<p>Patient CRP/Albumin Ratio (CAR) is within normal limits.</p>

Additional Tests

<p>Cancer Risk</p> <p>Elevated</p> <p>7.4</p> <p>Very Low Risk: ≤ 2.1 Low Risk: 2.2 - 5.2 Elevated Risk: 5.3 - 8.9 Highly Elevated Risk: ≥ 9.0</p>	<p>Previous</p> <p></p>	<p>Osteoarthritis (HA)</p> <p>Positive</p> <p>45.6</p> <p>Normal: ≤ 20 Positive: > 20 (ng/mL)</p> <p>↓</p>	<p>Previous</p> <p>64.02</p>
<p>Patient's CRA score is elevated with a heightened likelihood there may be an occult cancerous process. The patient's degenerative joint disease may be contributing to this elevation. Refer to differential list.</p>		<p>Hyaluronic acid is above the reference interval and is indicative of degenerative joint disease, however, severe liver disease can elevate hyaluronic acid. Evaluate liver function.</p>	

6.1

3311

need consult? email consult@vdiilab.com

Differential List



VDI Lab Services
4685 Runway St. Ste K Simi Valley, CA 93063
ph: 805-577-6742 fax: 805-426-8115

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The following differential list is modified based on:

- Outside Ref Interval
- Within Ref Interval
- Not Performed
- Impacts List

Specialty

- Cancer Risk
- CRP
- HPT
- HA
- B12
- Folate
- PTH 1-84

Chemistries

- ALB
- ALT
- ALP
- BUN
- Creatinine
- Glucose
- Total Protein
- Globulin
- AG Ratio
- Calcium
- BUN/Creat Ratio
- Total Bili

Other Modifiers

- Age
- Breed
- Medication

CAR Ratio
1.3

The list of possible sources are common inflammatory diseases that correspond to the level of inflammation in this patient. Potential actions below may aid in further differential diagnosis. **BASED UPON CLINICAL PRESENTATION, SOME SOURCES CAN BE IMMEDIATELY EXCLUDED.**

Possible Source

(in decreasing probability)

Potential Action based on clinical relevance

Actions are organized by least invasive/expensive first

Post-Surgical Wound Healing Degenerative Joint Disease Liver disease (non cancer) Pancreatitis Dental disease Cancer IBD Fungal	→ → → → → → → →	review patient history imaging, synovial fluid analysis, sfLDH liver function tests, imaging cPLI, imaging examine patient TK1 Cancer Panel (VDI), imaging, biopsy rule-in through exclusion (CRP/HPT α severity), imaging, biopsy serological panel, culture, imaging
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Potential Action

code 3322

1) Patient should be carefully evaluated for disease. Recommend routine chemistries and imaging if clinical findings warrant.
 2) Since cancer risk is elevated (CRA score), cancer and other inflammatory conditions listed above should be evaluated. Please note this is not an exhaustive list. If found, disease should be treated and Canine Cancer Panel should be performed to confirm resolution.

Comments and recommendations are made in the absence of clinical background on the patient. The list of inflammatory diseases and diagnostic procedures are not exhaustive. For more detailed discussion regarding results, comments, or recommendations, please contact VDI at 805-577-6742.



Hyaluronic Acid Report

PATIENT NAME: Ginger Millard
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Hyaluronic Acid (ng/mL)

Positive

45.6

Normal: ≤20
Positive: >20

Change from Previous

Significant Change



Patient History

ID	Date	Result ng/mL
432708	3/8/2021	54.5
463290	4/27/2022	64.0

Interpretive Comments - need consult? email consult@vdi lab.com

Hyaluronic acid is above the reference interval and is indicative of degenerative joint disease, however, severe liver disease can elevate hyaluronic acid. Evaluate liver function. sHA may be elevated in wounds, ACL/CCL injury, severe liver disease, and in patients being treated with PSGAG (ie, Adequan) and oral HA supplement. Supplementing with oral HA has been shown to improve joint function. Follow recommendations below.

TRENDING - sHA has decreased significantly from prior. It generally would indicate a decrease in synovial fluid production and/or leakage from the capsule. Evaluate patient.

Phases of Degenerative Joint Disease			
Pre-/Early	Mild	Moderate	Severe
HA: Serum HA (sHA) below the positive cutoff. HA is being produced and maintained inside the joints. CRP: Typically absent, except in IMPA	HA: sHA above positive cutoff. HA is being produced but early degeneration allows some HA to leak into peripheral blood. CRP: Typically absent, except in IMPA.	HA: Moderate to high levels of sHA increasing with disease severity. HA is being produced but significant degeneration causes HA to leak into peripheral blood. Joint cushioning & lubrication is negatively affected. CRP: Mild inflammation may be present in moderate OA, IVDD, due to mechanical damage inside the joint. IMPA presents with elevated CRP.	HA: High to declining sHA levels. In severe DJD, chondrocyte cell death limits the production of HA. HA that is produced is leaked into the peripheral blood. Joint cushioning & lubrication is severely affected. CRP: Moderate to high inflammation may be present in OA, IVDD. Elevated CRP in IMPA.
No clinical signs present, but dog may be predisposed or at high risk of DJD.	Dog may begin showing some stiffness or rigidity. Doesn't interfere with day-to-day activity, but gait may change during exercise.	Dog may be showing noticeable pain, stiffness, lethargy with dog being uncomfortable, crying, or becoming increasingly reluctant to walk around.	Dog is typically reluctant to walk, go to the bathroom, or perform daily activities due to increased pain that has become unbearable.

Supplementation Guide

Dosing Guidelines - Twice Per Day				
PRODUCT NAME	Active Ingredient	PRODUCT STRENGTH	# of Pumps	mL/Day
Trixsyn® Canine Hyaluronan	Sodium Hyaluronate	13mg/pump	1 pump, twice per day	N/A
Trixsyn® Canine Performance	Sodium Hyaluronate Astaxanthin	13mg/pump 1mg/pump	1 pump, twice per day	1 pump, twice per day
Other				

Vitamin D Report



VDI Lab Services
4685 Runway St. Ste K Simi Valley, CA 93063
ph: 805-577-6742 fax: 805-426-8115

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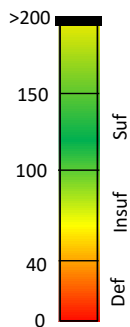
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25(OH)D
(ng/mL)

Elevated

198.5

Deficient: ≤ 40.0
Insufficient: 40.1 - 99.9
Sufficient: 100 - 150
Elevated: ≥ 150

Dose at time of draw:

400 IU/day

decrease dose by

-300 IU/day



New Recommended Dose Range

Low End Sufficiency
(~100 ng/mL)

High End Sufficiency
(~130 ng/mL)

100 IU/day

200 IU/day

For most patients without underlying conditions, or taking corticosteroids

For patients that warrant a higher VitD level and/or those on corticosteroids.

Patient History

ID	Date	Result ng/mL	Known Dose iu/day
463290	4/27/2022	85.6	0
175344	11/15/2022	61.0	0

Interpretive Comments - need consult? email consult@vdilab.com

Your patient is found to have elevated vitamin D levels. If patient is above 200 ng/mL stop or reduce supplementation and retest in 8-10 weeks or 4 months for obese patients.

If any of the following occur, wait 2 months from the date of change, then retest:

Major Diet Change

Change in Health Status (eg PLE)

Change of Vitamin D supplement or daily treats

Supplementation is stopped for longer than 4 weeks

Patient is put on Corticosteroids

Patient is put on NSAIDS

Supplementation Guide

Total Dose Recommended:

100 IU/day



200 IU/day

*Choose only one product for supplementation

PRODUCT NAME	PRODUCT STRENGTH	PRODUCT FORMAT	Low End Dose	High End Dose
RxD3 <i>Rx Vitamins</i>	100 IU/ drop	Liquid Drops <i>Applied to food</i>	<input type="checkbox"/> 1 drop/day	<input type="checkbox"/> 2 drops/day
RxD3 Forte <i>Rx Vitamins</i>	500 IU/ drop	Liquid Drops <i>Applied to food</i>	<input type="checkbox"/>	<input type="checkbox"/>

Retest NO SOONER THAN:

May 6, 2023

B12 (Cobalamin) Report

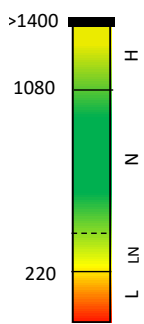


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Cobalamin (pg/mL)

High
>2250

Low (L): <220
Low Normal (LN): 220 - 400
Normal (N): 220 - 1080
High (H): ≥1080

In unfasted patients, actual B12 values may be lower, which may impact dose recommendation.

B12 Dose at time of draw:

0 mcg/day

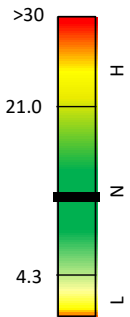
Increase B12 dose by:

0 mcg/day



New Recommended B12 Dose

Fasted Sample?	unknown
0 mcg/day	
B12 dosing recommendations are for daily supplementation. Continue indefinitely unless changes in health or diet require modification.	



Folate (ng/mL)

Normal
12.2

Low (L): <4.3
Normal (N): 4.3 - 21.0
High (H): > 21.0

Patient History

ID	Date	B12 pg/mL	Folate ng/mL	Known B12 Dose mcg/day
463290	4/27/2022	361.4	4.025	0
175344	11/15/2022	271.7	7.36	0

Folate vs Cobalamin Plot

Folate	High	SIBO Excess Dietary Folate		Excess Supplementation
	Normal	Low Dietary B12 CP / EPI / IBD / LSA Distal SI Damage	Normal	Excess Supplementation Cholangitis
	Low	Small Intestinal Damage CP / EPI / IBD / LSA	Proximal SI Damage Dysbiosis Antibiotics	Proximal SI Damage Antibiotics / LSA / Cholangitis
		Low		High

Cobalamin
chart assumes unsupplemented patient

need consult? email consult@vdiilab.com

Comments

Patient has elevated B12 levels and normal folate. High levels of B12 can sometimes be associated with underlying GI disease - patient should be evaluated.

Total B12 Dose Recommended:

0 mcg/day

PRODUCT NAME	PRODUCT STRENGTH	PRODUCT FORMAT	Drops Dose	mL Dose
RxB12 <i>Rx Vitamins</i>	250 mcg/mL 6.5 mcg/drop	Liquid Drops <i>Applied to food</i>	<input type="checkbox"/>	<input type="checkbox"/>
RxB12 Forte <i>Rx Vitamins</i>	1000 mcg/mL 33 mcg/drop	Liquid Drops <i>Applied to food</i>	<input type="checkbox"/>	<input type="checkbox"/>

*Choose only one product for supplementation

Magnesium Report



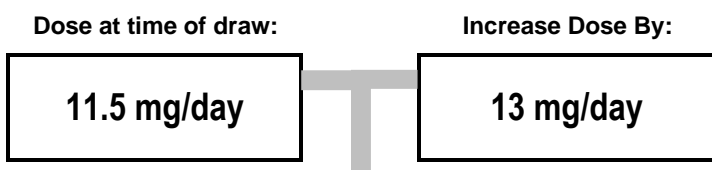
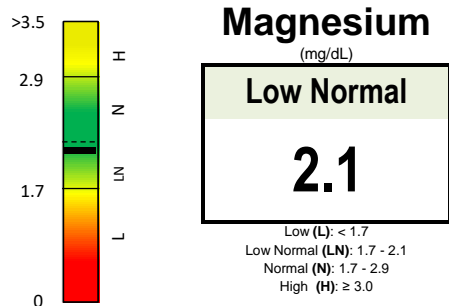
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New Recommended Dose

MagRatio	Not Available
24 mg/day	

Magnesium dosing recommendations are for daily supplementation. Continue indefinitely unless changes in health or diet require modification.

Patient History

ID	Date	Result m g/dL	Known Dose mg/day
463290	4/27/2022	1.8	0
175344	11/15/2022	1.9	0

Interpretive Comments - need consult? email consult@vdlab.com

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Patient has Low Normal Magnesium levels. Increase supplementation as indicated and retest in 90 days.

Supplementation Guide

Total Dose Recommended:		24 mg/day		
PRODUCT NAME	PRODUCT STRENGTH	PUMP VOLUME	PRODUCT FORMAT	Dose
Magnesium Lotion for Pets <i>Magnum Solace</i>	50 mg/mL	0.23 mL/pump 11.5 mg/pump	Topical Lotion	<input type="checkbox"/> 2 pumps/day
Other				<input type="checkbox"/>

Additional Reviewer Comments - need consult? email consult@vdlab.com

Retest NO SOONER THAN: May 28, 2023