

# Early Cancer Diagnosis: Don't Miss the Warning Signs

Presenters: Dana Connell

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**IDEXX**



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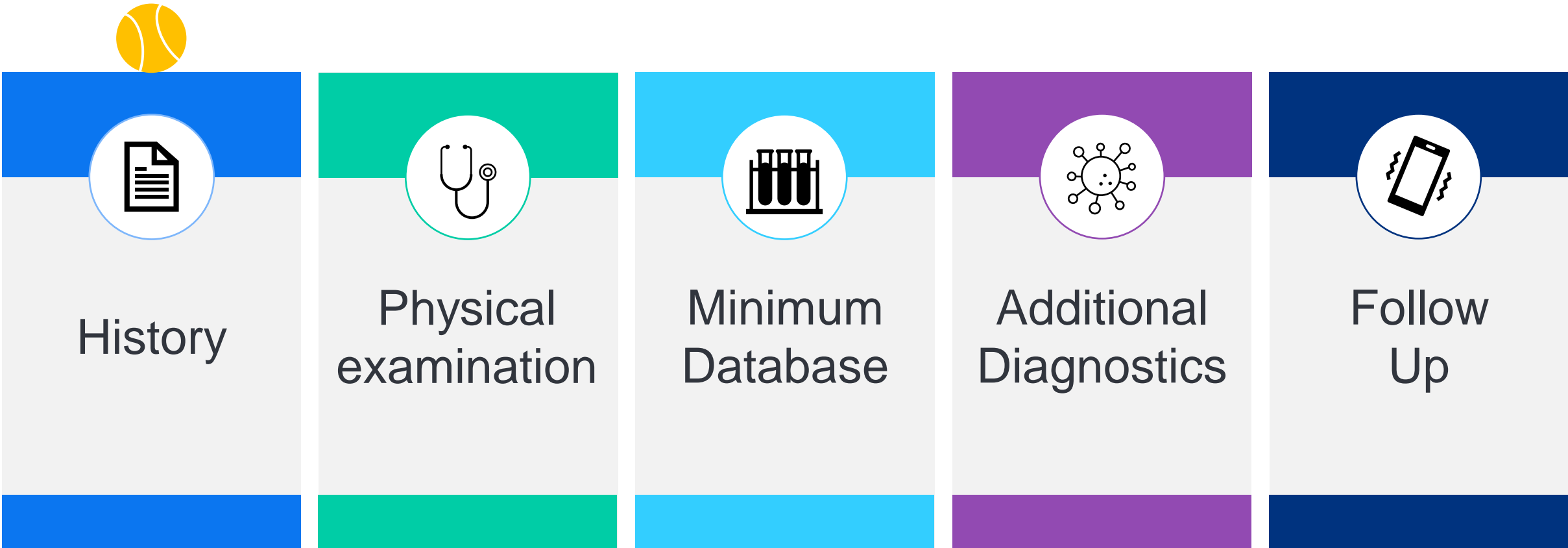
# Agenda

## Learning Objectives

1. Recognize specific questions that can be easily integrated into current history-taking techniques to maximize information which may lead to a suspicion of cancer in the patient with specific and non-specific clinical signs.
2. Recall portions of the full physical examination necessary to be included in every patient examination to detect potentially subtle changes which can indicate early formation of cancer.
3. Understand strategies for reviewing routine blood work to gain additional insights into body systems and changes which may be a sign of cancer.
4. Learn strategies to identify appropriate recommendations for clients based on these early signs, with focus on additional diagnostics.
5. Review currently offered diagnostics to aid in the early diagnosis of cancer in canine and feline patients.



All components of a visit can be used to gather information which may point you toward an early diagnosis of cancer





# A history is the first opportunity to become the detective for early signs of cancer

Bowser is here for his annual examination. Do you have any questions?

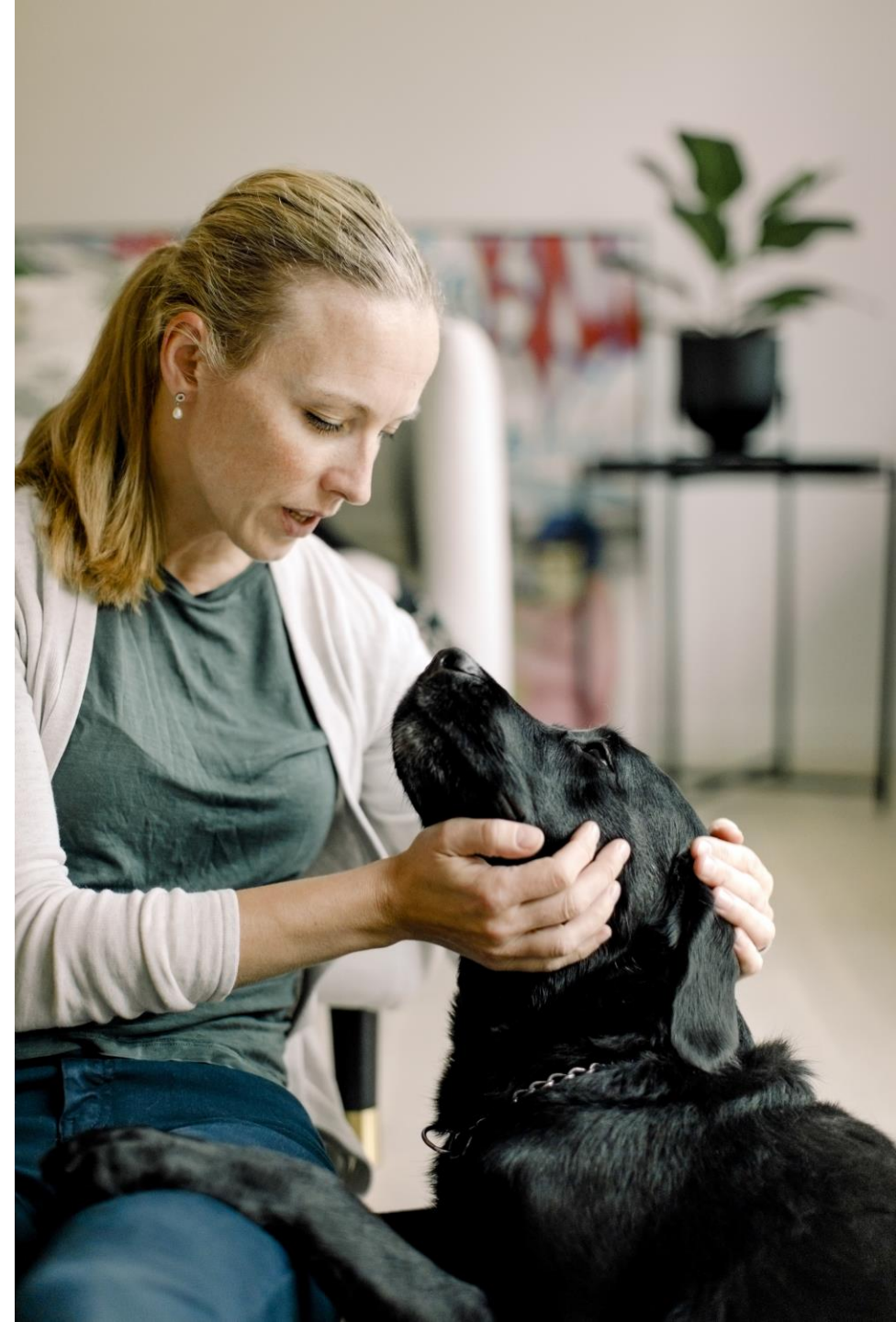


Bowser is here for his annual examination. What concerns do you have today?

I don't think so.



He has really slowed down this last year.



# All visits start with understanding the goal of the visit

**Why is your patient in the clinic?**

**Is this a sick or a well visit? Has the reason for visit changed?**

**What are the owner's goals for the visit?**

**Does your owner want a diagnostic workup or comfort care?**

**What are the owner's concerns?**

**Ultimately this is what needs to be addressed.**

**Pet specific questions**

**Create a checklist**

# Areas with specific focus in history taking

## Category of Information

## Focus Areas

### 1. Presenting Complaint

- Problem
- Duration
- Changes

### 2. Basics, Nutrition and Elimination

- V/D/C/S
- Behavior changes
- Appetite changes and current diet
- Elimination habits

### 3. Lifestyle and home health

- Travel
- Interaction with other animals
- Vaccine status
- Retroviral status (cats)

### 4. Medications

- Current/previous
- Response
- Duration

# The way questions are asked can augment amount of information obtained

Open-ended  
questions

Leave time to  
answer

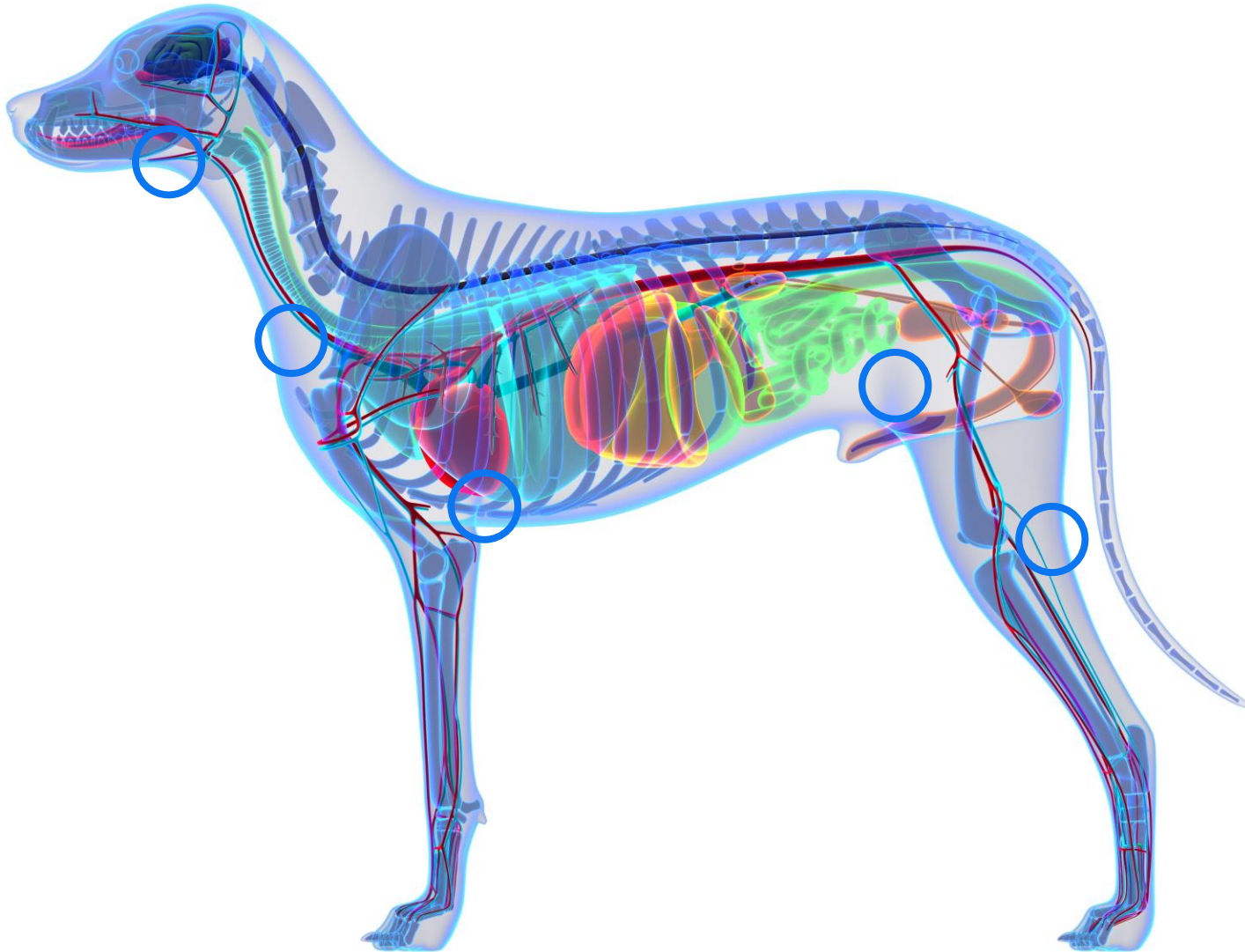
“Tell me about  
a day in the  
life of...”

Reflective  
statements  
and active  
listening

Intake forms



# Consistency in a physical examination is key



## External palpation

Skin masses, ulcers, asymmetry  
(don't forget paw pads)

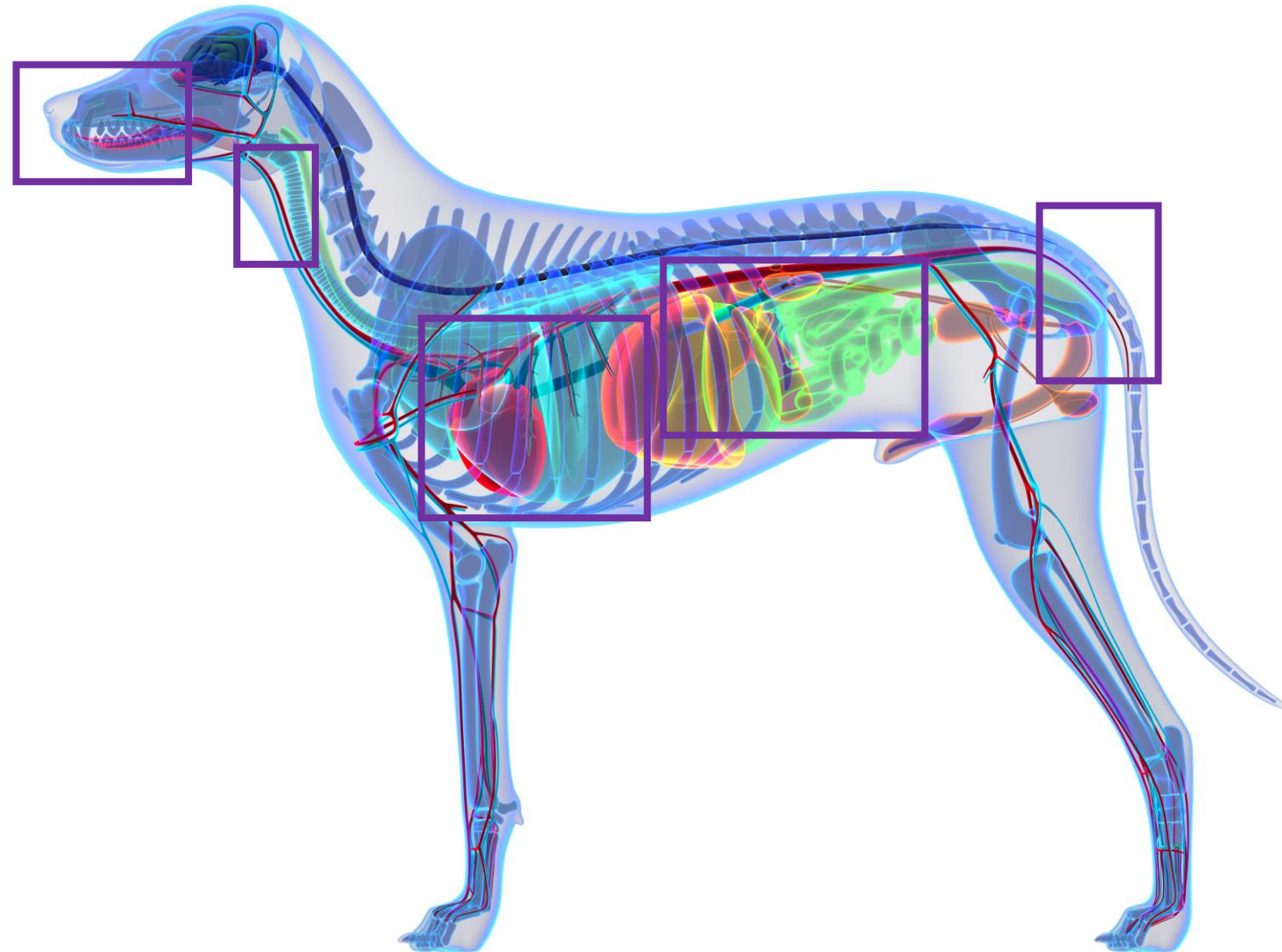
## Lymph node palpation

Primary, reactive, metastatic  
(don't forget facial LN)

## Bone palpation

Irregularity, pain, limping

After external palpation, the focus shifts to deeper structures



### Head and Neck

Airflow, oral cavity, ears, eyes, throat palpation

### Auscultation

Heart, lungs, trachea

### Abdomen and Rectal

Organomegaly, asymmetry (don't forget rectal exam in dogs)

Each piece of blood work offers clues to your patient's internal health



Hematology – CBC

Chemistry

Urinalysis

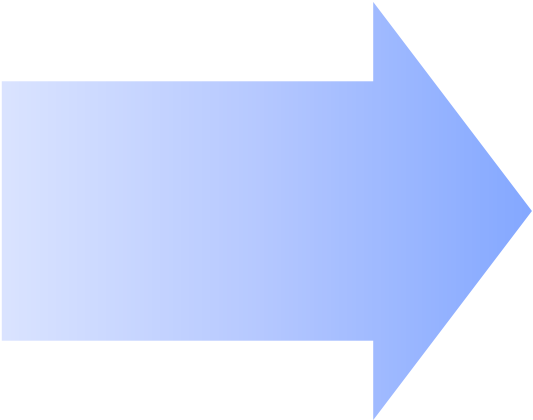
Endocrinology - Thyroid


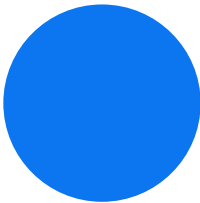
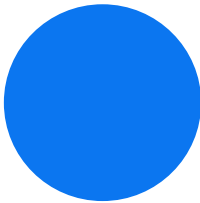
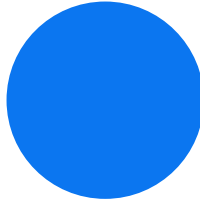
Serology – SNAP/Lab 4Dx

Parasitology – Fecal Antigen

Additional diagnostics may be recommended based upon information obtained during the visit

History	Physical examination	Minimum Database
Abnormalities?		



-  Cytology
-  Histopathology
-  Panels
-  Imaging

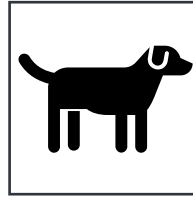
# Cancer Dx is a new diagnostic that can improve care of your patients

## What is Cancer Dx?



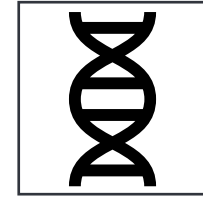
Molecular test  
performed at Idexx  
Reference Lab  
specific for  
lymphoma

## Who is it for?



Suspected  
lymphoma or well-  
patients with  
increased risk of  
lymphoma

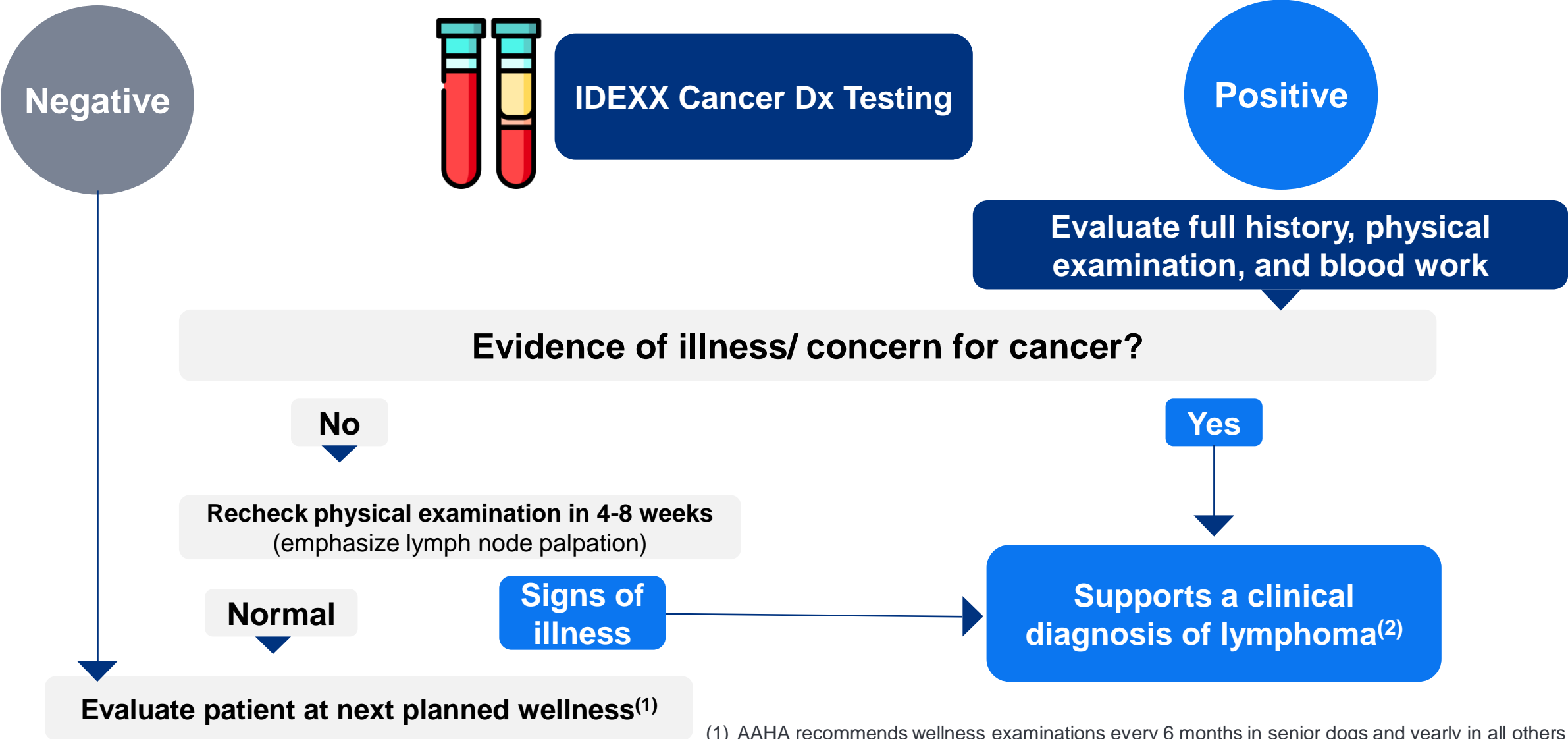
## Who is at risk?



Dogs suspected of  
having lymphoma  
All dogs 7 and  
above  
At risk breeds 4  
and above\*

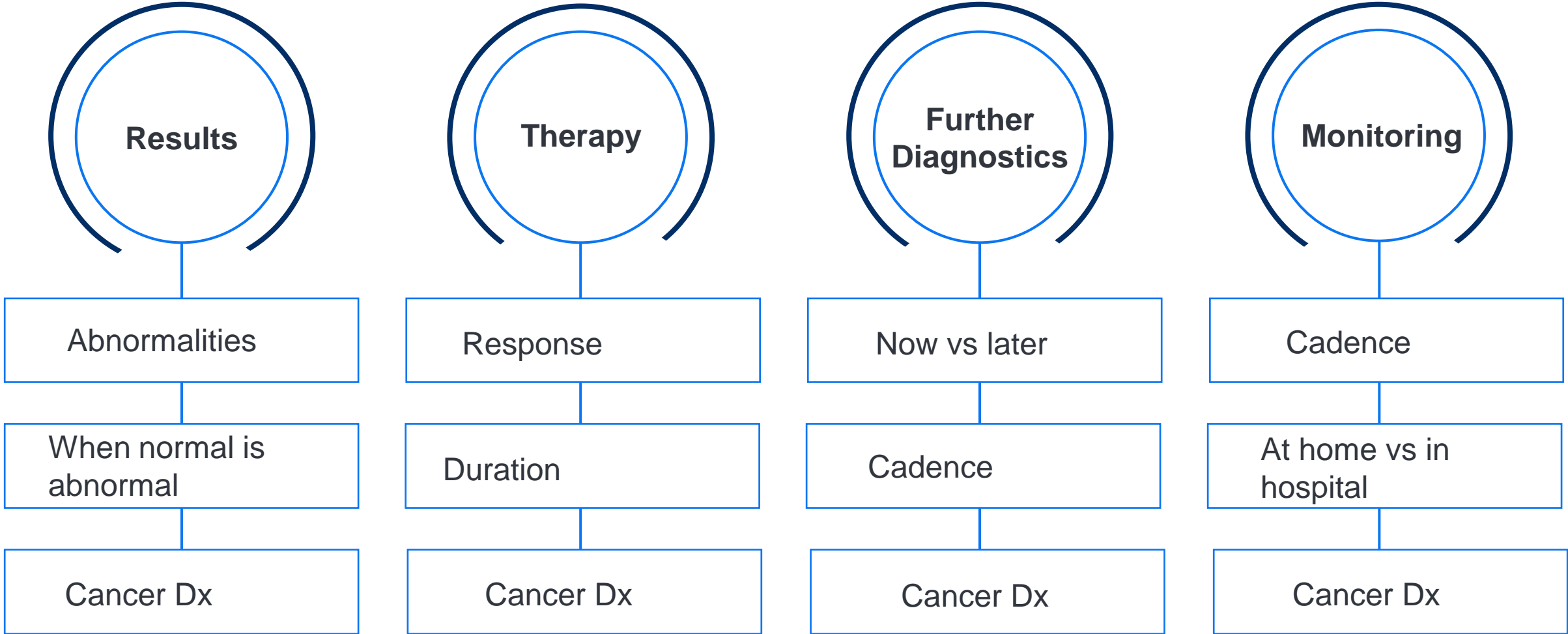


# What happens after the test is performed?



(1) AAHA recommends wellness examinations every 6 months in senior dogs and yearly in all others  
(2) Additional diagnostics such as cytology and imaging could be considered to guide treatment and prognosis

# The care doesn't end when the patient leaves the clinic



# Clear communication strengthens relationship and fosters care

At the end of the visit	After the visit
<p>Sign-posting- when will you be calling and with what components</p> <p>Reflective statements about visit</p> <p>Open-ended questions</p>	<p>Team approach to care</p> <p>Options for further diagnostics and therapy</p> <p>Specificity of monitoring</p>

**Meet Diamond**  
8 yo FS Dalmatian



# Diamond



## Presenting Complaint and History

- Diamond is an 8-year-old, spayed female Dalmatian that was presented for a recent onset of coughing with blood (hemoptysis)
- Changes noted at home
  - Diarrhea – 2 month duration
  - Polyuria and polydipsia (pu/pd)

Insert picture of veterinarians  
talking



# Diamond



## Physical Examination

- Cachexia (Body condition score 1/5)
- Episodes of coughing noted during examination
- Unkempt hair coat with flaking of skin
- On tracheal palpation, a ventral neck mass was found

A comprehensive panel including CBC-select, Chemistry, UA, T4 and Cancer Dx was submitted along with cytology of the ventral neck mass

# Diamond



## Diagnostics

- Mild non-regenerative anemia
- Elevated liver values (ALT 2x upper limit)
- Hyposthenuric urine
- Hyperthyroid
- Cancer Dx not consistent with lymphoma

Cytology of ventral neck mass diagnoses a neuroendocrine cancer and chest radiographs reveal metastatic disease

# Diamond was diagnosed with an advanced form of thyroid cancer



Recent onset of coughing with blood (hemoptysis)

Chronic diarrhea

Increased drinking and urination (pu/pd)



Body condition score 1/5

Multiple episodes of coughing during examination

Unkempt hair coat

Mass on ventral neck

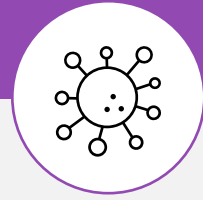


CBC- Mild non-regenerative anemia

Chemistry- Elevated ALT (2x upper limit)

Urinalysis- Hyposthenuria

T4- Marked hyperthyroidism



Cytology of mass on neck: neuroendocrine cancer

Chest radiographs: multiple discrete nodules consistent with metastatic neoplasia



Clinical diagnosis: Thyroid cancer with metastasis to the lungs

Options for client: Referral to oncologist or palliative care

Prognosis

# Diamond- 6 months previous



## Presenting Complaint and History

- Diamond is an 8-year-old, spayed female Dalmatian that was presented for a wellness examination
- Weight loss with a normal to increased appetite
- Going outside to roam a bit more often during the day and starting recently at night

Insert picture of veterinarians  
talking

# Diamond- 6 months previous



## Physical Examination

- Muscle wasting
- Loose stool on rectal examination
- Thyroid palpation- small mass in area of thyroid noted

A comprehensive panel including CBC-select, Chemistry, UA, T4 and Cancer Dx was submitted along with cytology of the ventral neck mass



# Diamond- 6 months previous



## Diagnostics

- Mild non-regenerative anemia
- Elevated liver values (ALT 1.5x upper limit)
- Hyposthenuric urine
- Hyperthyroid
- Cancer Dx not consistent with lymphoma

Cytology of ventral neck mass diagnoses a neuroendocrine cancer and chest radiographs were normal

# With some minor changes, this disease may have been detected sooner



Eating a normal amount of food but losing weight

Water always available inside and outside

Using doggie door more during the day and night



Body condition score 4/5 (slight muscle wasting)

Rectal examination reveals loose stool

Small mass noted on ventral neck

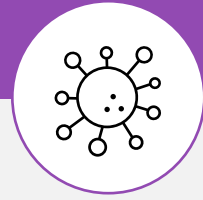


CBC- No significant abnormalities

Chemistry- Elevated ALT (1.5x upper limit)

Urinalysis- Hyposthenuria

T4- Hyperthyroidism



Cytology of mass on neck: neuroendocrine cancer

Chest radiographs: No evidence of metastatic disease



Clinical diagnosis: Thyroid cancer

Options for client: Referral to surgeon or palliative care

Prognosis

**Meet Gage**  
12 yo MN Border Collie



# Gage



## Presenting Complaint and History

- Gage is a 12-year-old male neutered Border collie that was presented for 4 days of anorexia
- Changes noted at home
  - Increased drinking and urination
  - Severe lethargy

Insert picture of veterinarians  
talking



## Physical Examination

- Enlarged lymph nodes (mandibular, prescapular and popliteal)
- Proliferative tissue at mucocutaneous junction of rectum
- Hepatosplenomegaly
- Lip-licking when abdomen is palpated

A comprehensive panel including CBC-select, Chemistry, UA, T4 and Cancer Dx was submitted along with cytology of multiple lymph nodes



# Gage



## Diagnostics

- Mild non-regenerative anemia and thrombocytopenia
- Hypercalcemia
- Increased SDMA, creatinine and BUN
- Hyposthenuria
- Cancer Dx consistent with T-cell lymphoma

Cytology of lymph nodes consistent with lymphoma

# Gage's owner is concerned about his profound lethargy and anorexia



Hasn't eaten at all  
in 4 days; 2  
weeks since  
normal appetite

Increased drinking  
and urination  
(pu/pd)

No longer greets  
owner at the door



Body condition  
score 2/5

Enlarged lymph  
nodes

Proliferative tissue  
around rectum

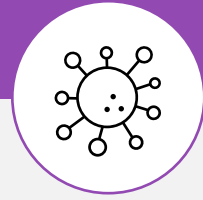
Organomegaly



CBC- Mild non-  
regenerative anemia;  
thrombocytopenia

Chemistry-  
Hypercalcemia,  
increased SDMA,  
creatinine, BUN

Urinalysis-  
Hyposthenuria



Cytology of lymph  
nodes: Consistent  
with lymphoma

Chest radiographs:  
Mediastinal mass

Abdominal  
ultrasound:  
Splenomegaly with  
mottled texture



Clinical diagnosis:  
Lymphoma  
(suspect T-cell)

Options for client:  
Referral to  
oncologist or  
palliative care

Prognosis

# Gage- 1 month prior



## Presenting Complaint and History

- Gage is a 12-year-old male neutered Border collie that was presented for a suspected UTI
- Changes noted at home
  - Vocalizing when defecating
  - Will still eat entire meal but slowing down

Insert picture of veterinarians  
talking

# Gage- 1 month prior



## Physical Examination

- Reddened tissue at mucocutaneous junction of rectum
- Prominent mandibular lymph nodes

A comprehensive panel including CBC-select, Chemistry, UA, T4 and Cancer Dx was submitted

# Gage- 1 month prior



## Diagnostics

- Hypercalcemia
- Increased SDMA
- Hyposthenuria
- Cancer Dx consistent with T-cell lymphoma

Clinical diagnosis of T-cell lymphoma

# A new diagnostic meant an earlier diagnosis for Gage



Asking to go outside more often

Vocalizing when defecating

Taking longer to finish kibble



Body condition score 4/5

Reddened and ulcerated tissue around rectum



CBC- No significant abnormalities

Chemistry- Hypercalcemia

Urinalysis- Hyposthenuria

Cancer Dx- Consistent with T-cell lymphoma



Chest radiographs- Mediastinal mass



Clinical diagnosis: T-cell lymphoma

Options for client:  
Referral to oncologist or palliative care

Prognosis

Want to Collaborate With IDEXX to Develop Case Studies  
and Participate in Clinical Trials?



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out a short  
(2-minute!)  
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