# HT Vista Clinical and Useability

Dr. Tali Buber, DVM Veterinary medical director









HT Vista is the first non-invasive medical device that allows veterinarians to rule out cancer of subcutaneous and dermal masses on the spot and in the clinic



# Lumps and Bumps

4

H⊤Vista

- Cancer is the worldwide leading cause of death for pets over ten years old.
- Early detection is the most important step in cancer treatment and has been shown to improve prognosis.
- Many dogs present to veterinary clinics with "lumps and bumps."
- These lumps and bumps can vary widely in size and severity.
- We can NOT know whether a mass is benign or malignant by just looking....



# Did you know?

### 14.5M

New masses detected annually, US alone

#### 40%

Of the masses are not even sampled



Many samples are diagnosed by external pathologists



Of cytology samples are non-diagnostic

# **Fine Needle Aspiration**

6

✓ Minimally invasive

x Mild patient discomfort

- ✓ Low risk
- ✓ No anesthesia
- ✓ Fast results

H**T**Vista

- x 20% of cytology samples are non diagnostic
- Diagnosis is delayed if samples are sent to a specialist
- x High cost for owners



# Biopsy

- ✓ The gold standard-definitive
- Results determine optimal treatment plan

- x Anesthesia needed (local or general)
- x Recovery (surgery, Ecollar, medications)
- x Expensive (procedure and histopathology)



7

# We can NOT know whether a mass is benign or malignant by just looking....





HT Vista A new, non-invasive screening tool in your clinic

# The Physiological Rationale Behind The Technology

Malignant and benign tumors show different thermophysical properties

Thermal Diffusivity in living tissues:

- Density
- Thermal conductivity
- Metabolism
- Vascular network
- Heat capacity



### Our algorithm



2 min overall test time



• MARK area of concern and healthy area



data: signal is analyzed using computer vision and artificial intelligence. **Result returns on the spot** 

#### HTVista REPORT

Further investigation is recommended



The mass appears to be **benign** 

#### **HDI Report**





#### **Clinical partners**

















### Second Study

A prospective validation study was held from November 2021 to July 2022 at veterinary community clinics in Israel.

525 masses were scanned with the HT Vista, aspirated or biopsied, and sent to laboratories for diagnosis.

#### **Diagnostic Procedures Done on Scanned Masses**

HTVista



#### Validation Study Results



HT**Vista** 



HTVista - tested on over **1000** dogs



#### The high Negative Predictive Value gives confidence in ruling out cancer.

\*Based on a validation study done on approximately 400 dogs in community clinics



#### HT Vista – a new screening test for cutaneous and subcutaneous masses

#### What is a screening test?

- A screening test is done to detect potential health disorders or diseases.
- The goal is early detection, to reduce the risk of disease or to detect it early enough to treat it most effectively.
- Example- Cushing's Syndrome screening test (Veterinary medicine)



#### A good screening test

• High sensitivity

The ability to determine positive results correctly (detect malignant tumors)

True positives / Total positives results

• High negative predictive value

The likelihood that a negative test result is truly negative (a benign result = benign tumor) True negative results / Total negative

### We don't want to send home a patient with cancer









### Case Study - Stella

- Signalment: 10y, female Beagle.
- **History**: The owner noticed several lumps. One of them itches.
- **Physical examination**: Three SC lumps on the right thorax and right axilla.

#### Lipoma Lipoma **Mast Cell Tumor** HT\_VET\_201 HT\_VET\_201 HT\_VET\_201 Test ID Mass area Test ID Date and time Mass area Date and time Test ID Date and time Mass area 331 24-01-2022 04:09:39 **Right stifle** 333 24-01-2022 04:18:00 332 24-01-2022 04:13:14 **Right** axilla **Right thorax** Stela Stela Stela HDI score HDI score HDI score ID No. 16843 ID No. 16843 ID No. 16843 1 2 3 4 5 6 7 8 9 1 0 0 0 0 0 0 0 0 0 0 10 Gender Gender Gender Female Female Female 8 8 8 Further investigation Age The mass appears Age Age Further investigation The mass appears Further investigation The mass appears recommended. 9 9 9 to be benign to be benign. Breed Breed Breed Beagle Beagle Beagle

\* Please take into consideration that the HTVET System is not intended to provide a diagnosis but rather to bused as a decision support tool. Please consult with the veterinarian to understand the clinical interpretation.

\*Please take into consideration that the HTVET System is not intended to provide a diagnosis but rather to bused as a decision support tool. Please consult with the veterinarian to understand the clinical interpretation.

 Please take into consideration that the HTVET System is not intended to provide a diagnosis but rather to be used as a decision support tool. Please consult with the veterinarian to understand the clinical interpretation.

# Masses Suitable for Examination

HT Vista is a safe, fast, and highly accurate imaging system that is based on a revolutionary Heat Diffusion Imaging (HDI) technology, designed for the examination of **the majority of palpable cutaneous and subcutaneous masses in dogs**.

Currently, we recommend avoiding using the HT Vista in the following cases:





Convenient screening test encourages earlier evaluation of masses allowing more timely intervention



Portable

Fits with any clinic workflow and makes screening easy for staff and patients



A needleless platform ensures a stress and pain-free experience for the patient and less work for the staff



Experience peace of mind when communicating a benign result to the pet owner



Easy to use

Intuitive platform means easy staff training and integration



Enables objective decision-making regarding the need for further diagnostics and/or management



#### Affordable

A cost-effective screening tool to add to your diagnostic offerings



Fast

Real-time analysis provides immediate results and facilitates discussions on next steps



#### Improve Compliance

Increase acceptance of recommended treatment plans with screening during the patient's visit

# Way of use

### **Optical Module**





#### Heating

The tissue is heated up to 6-10 Celsius using a visible blue light (460 nm) for 10 seconds during the test.



### Successful test key points





## Clipping

#### Good Clipping



**Bad Clipping** 



HTVista



ht				3:17 pm, July 13th  🤶
	< Back	Masses (0)	Search mass ID or area	
( + )				
	Luna Smit			
छ	Eand Sinit			
	Patient ID. 13579			
	Sex: Spayed female			
	Breed: Labrador			
	Retriever			
	Age. II			
	Scan new mass			
215				
U	<b>CHTVET</b>			
HTVista				















### Successful test key points







#### Good Masks

#### Bad Masks





## Stay still





### Mass location







# Step By Step





HTVista

## Support Landing Page







- Tali Buber, DVM.- Veterinary Medical Director <u>tali@htbioimaging.com</u>
- Ela Simner- Product Manager <u>ela@htbioimaging.com</u>
- Alex Sirotkin Costumer Success <u>Alexandra@htbioimaging.com</u>

Thank You HT Vista

