

# **ONCOLOGY: DEMYSTIFIED**

Cancer diagnosis, referral, and management for the  
primary care clinician

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# AGENDA

- Introductions
- Diagnosis – what to do before referral
- Referral – what happens after that?
- Management
  - Treatment-related side effects
  - Palliative care for cancer patients



# INTRODUCTIONS



**THE OHIO STATE UNIVERSITY**  
VETERINARY MEDICAL CENTER



UNIVERSITY OF MINNESOTA  
Driven to Discover™

**COLLEGE OF VETERINARY MEDICINE**

**AMC**

Animal Medical Center

SINCE 1910



**THE OHIO STATE UNIVERSITY**  
VETERINARY MEDICAL CENTER

**mspca**  **angell**

*Kindness and Care for Animals®*

# POLL #1

- What is your primary practice type?

## **POLL #2**

How many patients have you diagnosed with cancer in the last week?

## **POLL #3**

How comfortable do you feel discussing a cancer diagnosis?

**What do you want to know about cancer diagnosis, management, treatment, etc?**

# WHY DOES THIS MATTER?



- Onco demand >>> supply
  - Long referral wait times
  - Diagnosis requirement
- Lost revenue
- Client expectations
  - Cost
  - Number of treatments
  - Logistics

# CANCER DIAGNOSIS



- What to do next?

*“Always poke that tiny cancer”*



*(...and maybe give it some Benadryl first)*

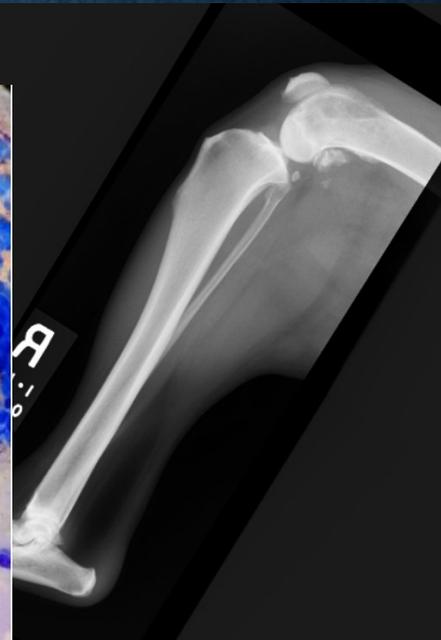
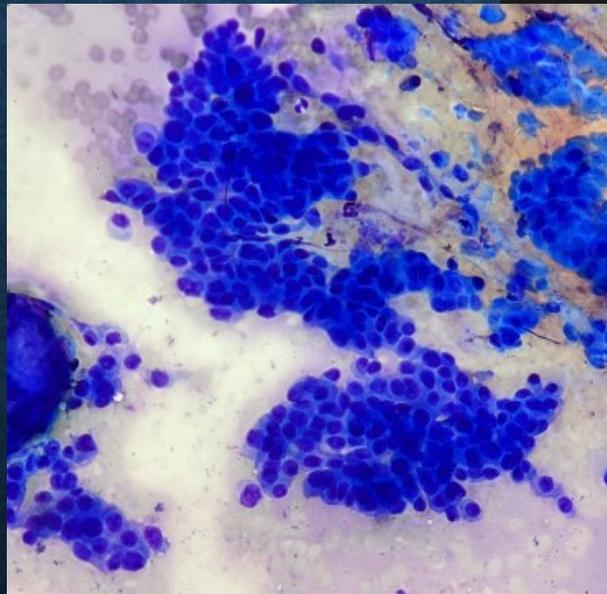
# EXCEPTIONS TO THE “JUST POKE IT” RULE

- Bladder tumors\*\*
- Prostate tumors\*\*
- Highly vascular/cavitated lesions should be approached with caution



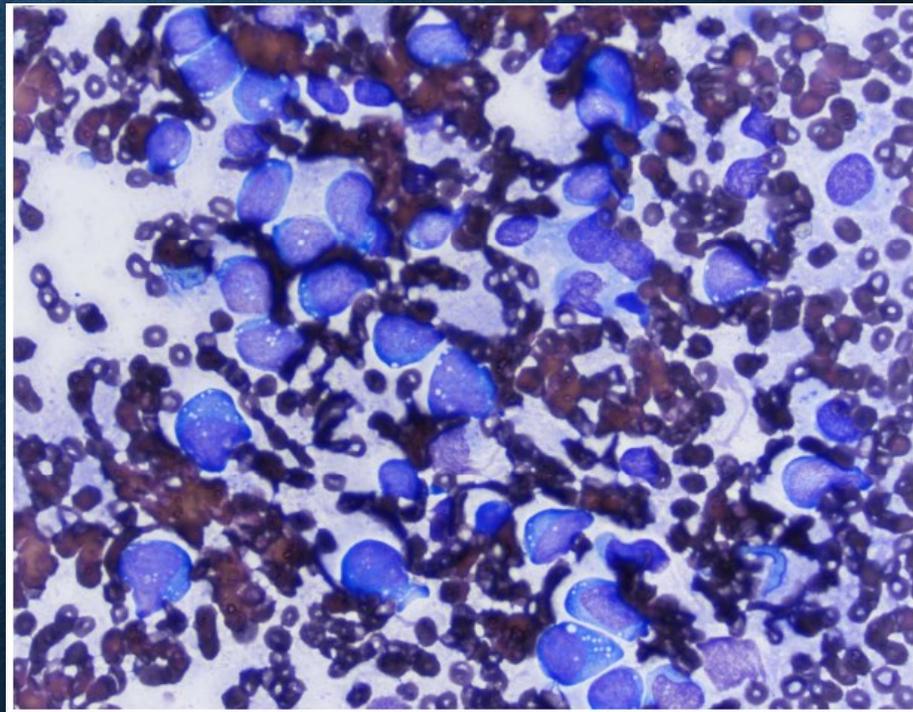
# THINGS YOU CAN POKE!

- Oral tumors
  - ..or biopsy
  - Take pictures!
- Anal sac/perianal tumors
- Mammary masses
- Thyroid tumors
- Lytic bone lesions



# CYTOLOGY = INCONCLUSIVE

- Why?
  - Poorly exfoliating
  - Ruptured cells
  - Unclear morphology
  - Inflammation
  - Blood contamination



# NOW WHAT?

- Poorly exfoliating
  - Repeat FNA – consider suction
  - Wedge biopsy
- Ruptured cells
  - Repeat FNA, use gentle technique, avoid suction
  - Wedge biopsy
- Uncertain morphology
  - ICC
  - Wedge biopsy
- Inflammation
  - Meds and time
  - Wedge biopsy
- Blood contamination
  - Repeat FNA, use gentle technique, consider smaller needle
  - Wedge biopsy

# NOW WHAT?

- Wedge biopsy: why not just cut it out?
  - Margins
  - Nonsurgical disease
    - Inflammatory
    - Histiocytoma
- When to consider referral for surgery:
  - No option for complete margins
    - Distal limb
    - Oral tumors
  - Feline ISS
  - Regrowth following first surgery

# BIOPSY



I H C

A man in a dark blue suit and red tie stands with his arms raised, surrounded by falling pink petals. The text "I H C" is in three red boxes above him, and "SAY Yes to the" is written in a cursive font below him.

SAY *Yes* to the

A composite of three microscopy images showing brown-stained cells. The top image is a large field of view. The bottom-left image is a smaller field of view with the text "Secondary antibody only control" below it. The bottom-right image is another smaller field of view with the text "Copyright (C) 2015 abcam plc" below it.

# UNCONCLUSIVE

Possible causes

Uncertain morphology

Missed the lesion

- Deep
- Thick surrounding stroma/inflammation

Consider second opinion

Call your friendly neighborhood pathologist

# WHILE YOU WAIT FOR REFERRAL

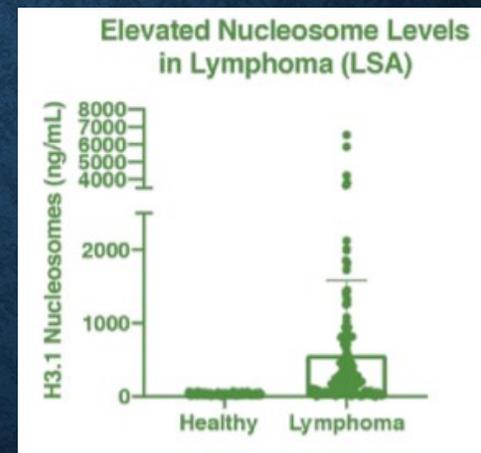
- Additional diagnostics
  - Chest x-rays
  - FNA draining lymph nodes
  - Bloodwork
  - +/- Ultrasound
  - Flow cytometry\*\*
- NSAIDs
  - Especially for carcinomas
- Pain management
  - Gabapentin
  - Amantadine
- Antibiotics
  - Oral/nasal tumors
  - Ulcerated tumors
  - Bladder tumors \*\*culture first
    - \*\*can also consider prazosin

# A WORD ON CANCER SCREENING TESTS

## How does the **nu·Q** vet Cancer Screening Wellness Test Work?

DNA is compacted within a cell's nucleus in the form of nucleosomes which are bead like structures comprised of DNA coiling around a histone protein core.

When a patient (human or canine) has cancer, nucleosomes from those cancer cells are released into the blood and can be measured using antibodies that are specific to nucleosomes.



©Volition Veterinary

# A WORD ON CANCER SCREENING TESTS

Laboratory Diagnostics / Molecular Diagnostics / CADET® BRAF/PLUS

**CADET® BRAF and  
CADET® BRAF-PLUS**

Accurate canine bladder and prostate cancer test

© Antech Diagnostics

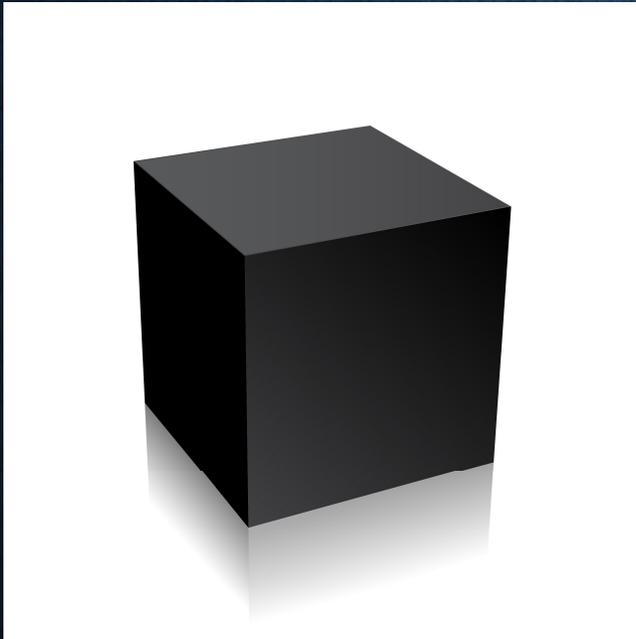
## **POLL #4**

How many patients have you referred for oncology care in the past month?

## POLL #5

- How comfortable do you feel with the referral process and keeping track of your patients' care plan following referral?

# REFERRAL



- What happens to my patient/client next?

# INITIAL CONSULT

- Review diagnosis & prognosis
- Recommend additional diagnostics
  - Review treatment options
    - Levels of care

## **POLL #6**

Do you administer chemotherapy in your practice?

# CHEMOTHERAPY

- Goal = systemic treatment
- Can often start on same day
- Usually given every 1-3 weeks
- USP<800> regulations

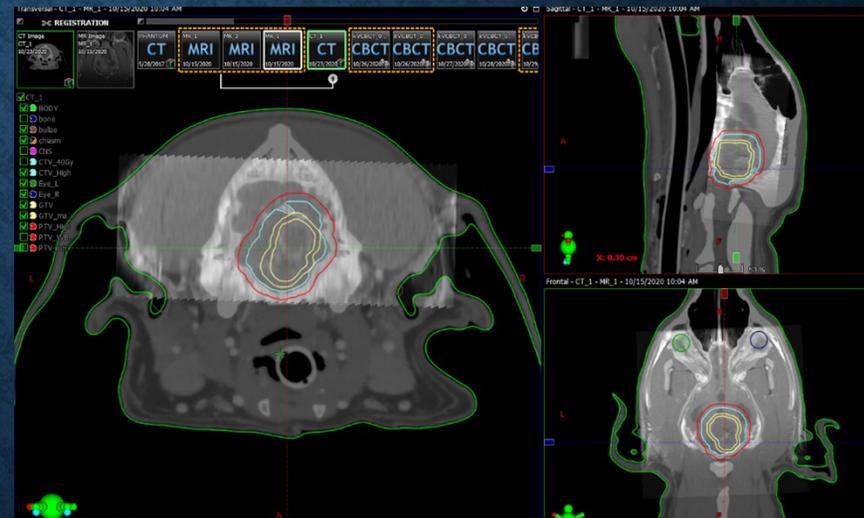


- How will my do



# RADIATION THERAPY

- Goal = local treatment
- Almost never same day treatment
- Often requires CT scan for radiation therapy planning
- Requires general anesthesia
- [A day in the life](#)



# RT HAS CHANGED!



# DEFINITIONS

- Modes of radiation planning/delivery\*\*

- 3DCRT – forward planning
- IMRT – inverse planning
  - VMAT – arc therapy

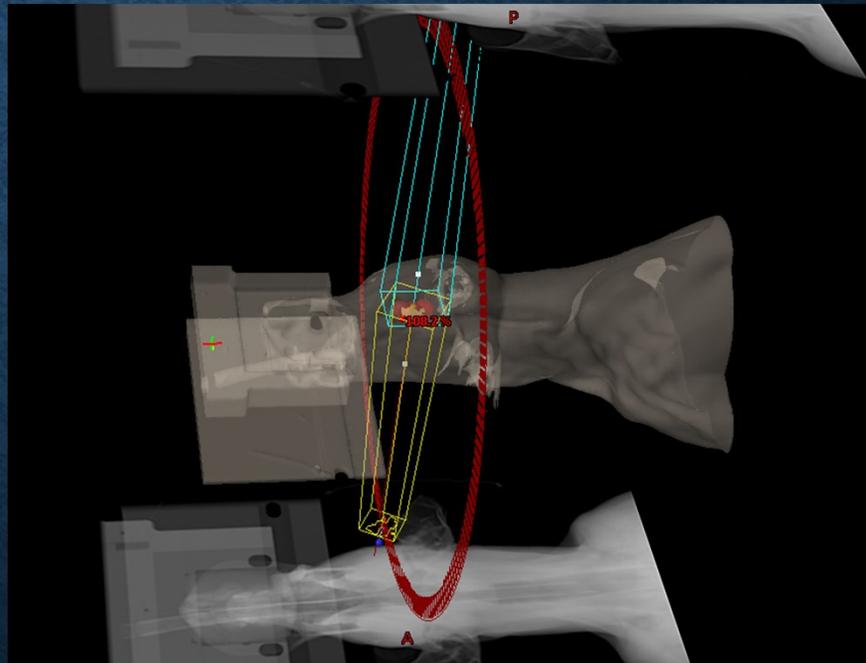
\*\*external beam RT

- Radiation fractionation/intent

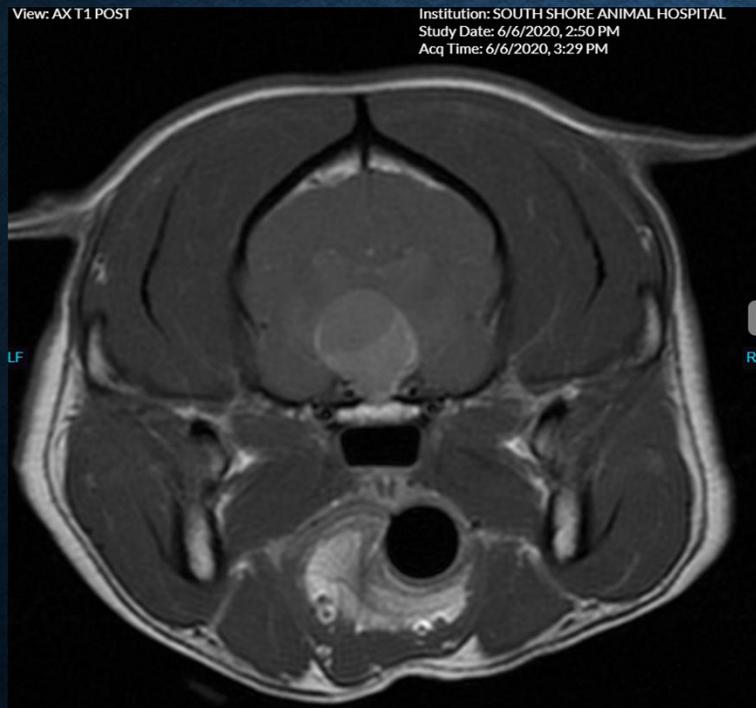
- Full course/definitive – 20 daily fractions
  - I.e. 2.5 Gy per fraction = 50Gy
- Stereotactic – 3-5 daily fractions
  - I.e. 8 Gy per fraction = 24 Gy
- Palliative – 4-5 daily or weekly
  - I.e. 5 Gy per fraction = 25 Gy
- “moderately hypofractionated” – 10 daily fractions
  - I.e. 4 Gy per fraction = 40 Gy

# RADIATION THERAPY

- Advanced techniques
  - IMRT
  - SRT
  - VMAT



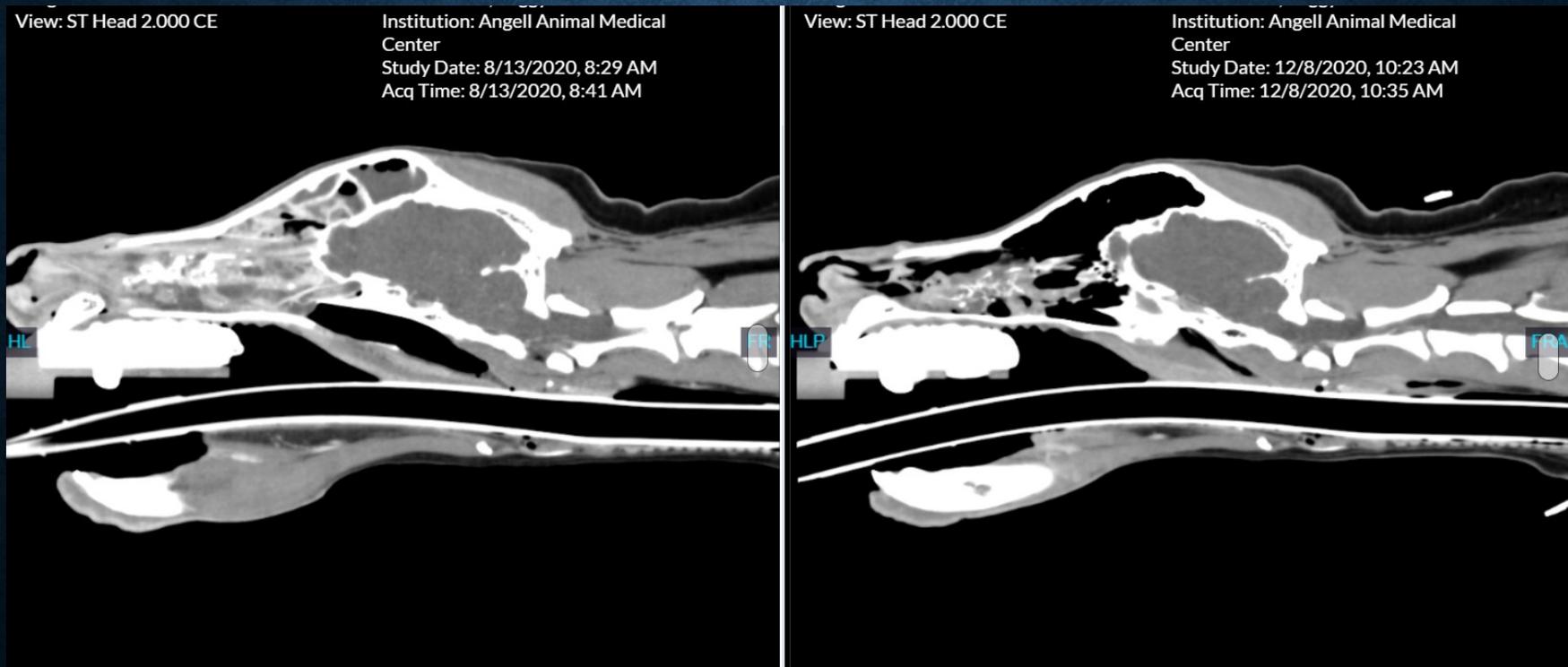
# CASE EXAMPLES: PITUITARY (SHEBA – DEFINITIVE/20 TREATMENTS)



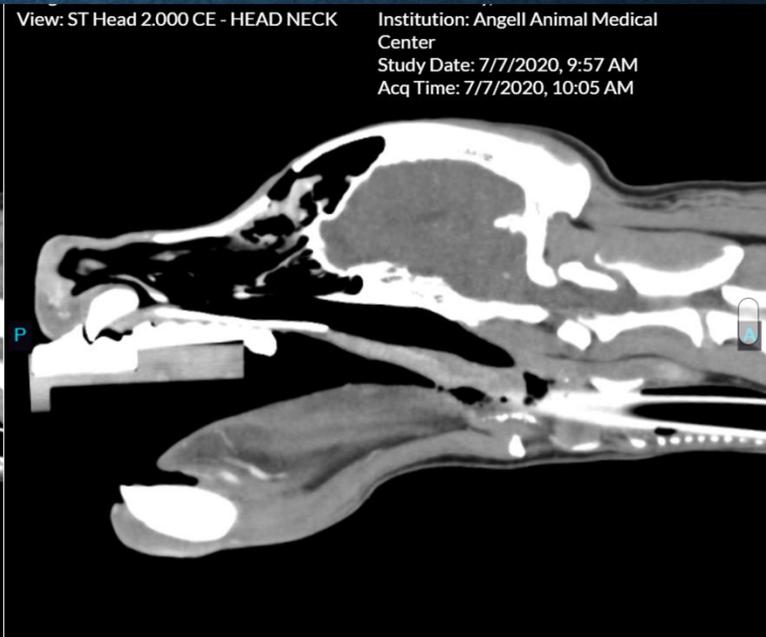
# CASE EXAMPLES: MENINGIOMA (RUBY – DEFINITIVE/20 TREATMENTS)



# CASE EXAMPLES: NASAL CARCINOMA (MYSTIC – SRT/3 TREATMENTS)



# CASE EXAMPLES: NASAL CARCINOMA (STELLA – DEFINITIVE/18 TREATMENTS)



# CASE EXAMPLES: HEART BASE TUMOR (OTIS- SRT/3 TREATMENTS)



# CASE EXAMPLES: HEPATOCELLULAR CARCINOMA (KUMA- SRT/3 TREATMENTS)

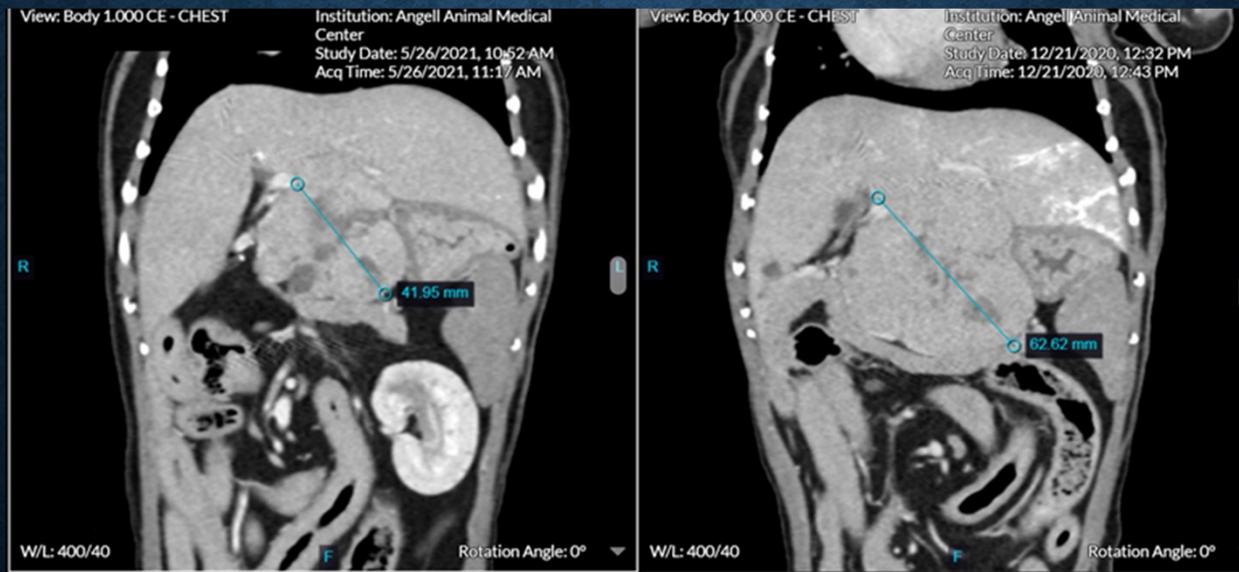


Photo credit: Dr. Lyndsay Kubicek

# CASE EXAMPLES: ANAL SAC ADENOCARCINOMA (JACK- PRT/4 TREATMENTS)



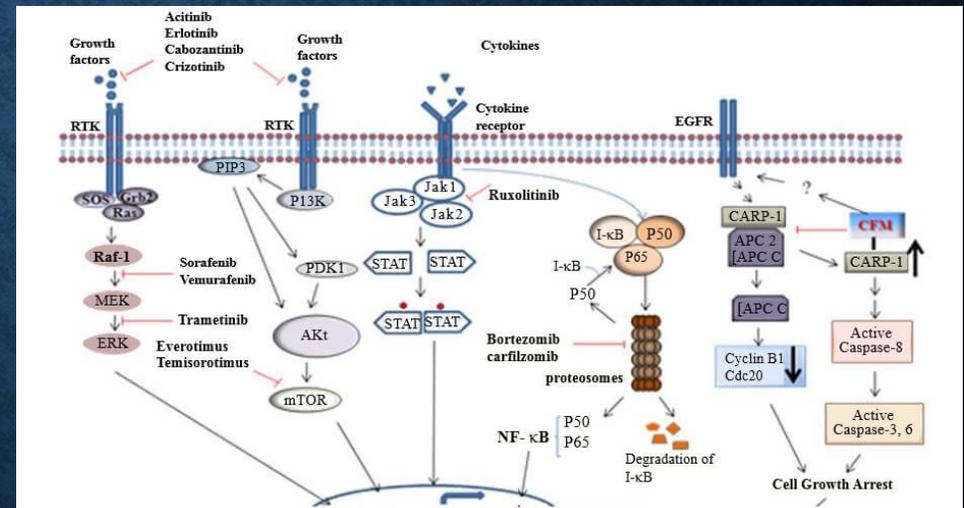
Photo credit: Dr. Kristine Burgess



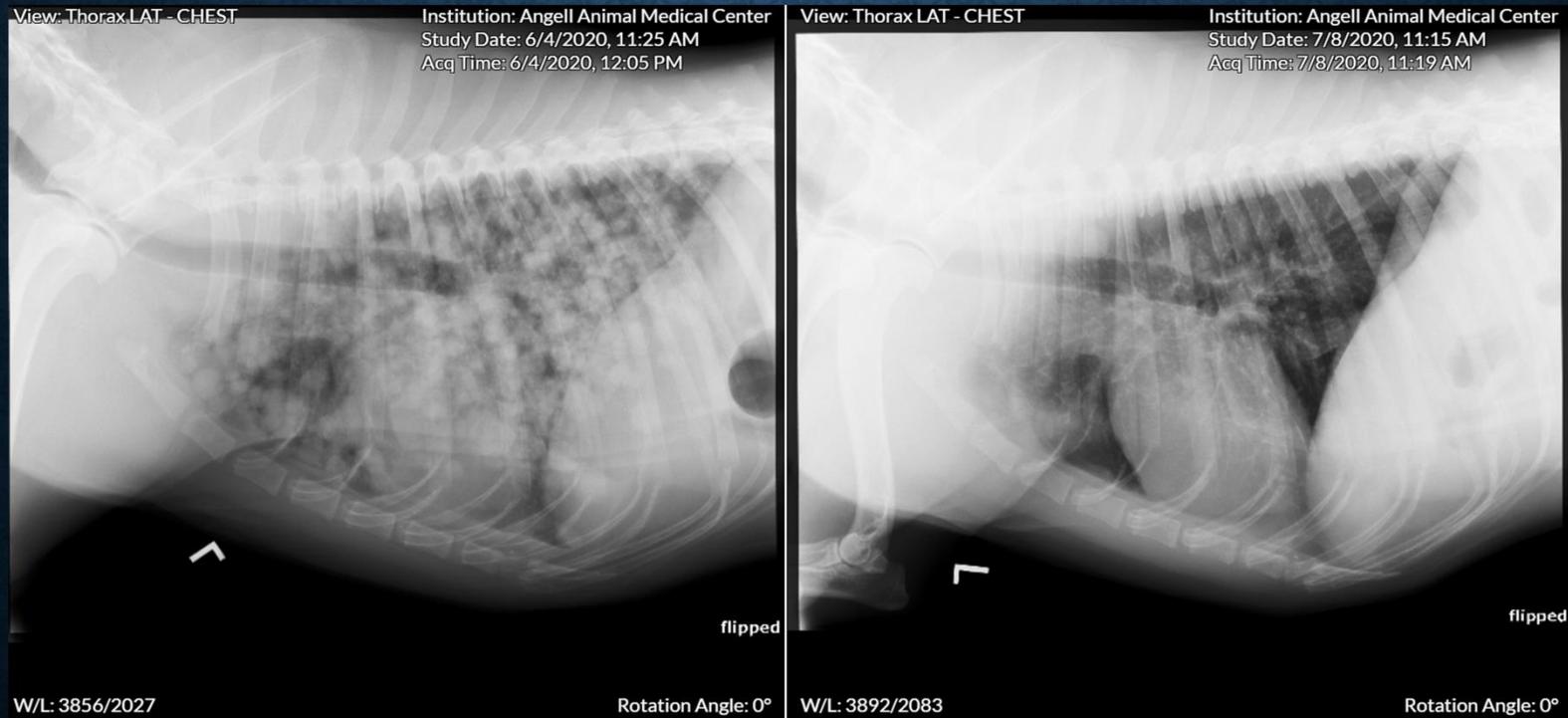
# OTHER MODALITIES

- Targeted therapy

- Palladia™
  - Mast cell tumor
  - Neuroendocrine, carcinomas, etc.
  - Combination therapy
- Kinavet (masitinib)
  - No longer on the market
- FidoCure®



# CASE EXAMPLES: HIGH GRADE SARCOMA (YOGI - PALLADIA + VINORELBINE)



# OTHER MODALITIES

- Electrochemotherapy



# OTHER MODALITIES

- Immunotherapy
  - Oncept™ melanoma vaccine
  - Tumor lysate vaccines
  - Immunocidin
  - Stelfonta



© Clinician's Brief

# CLINICAL TRIALS

## SEARCH FOR VETERINARY STUDIES

To search for a specific study, please use one or more of the search options below OR click the 'Show all Studies' button to view all studies in the AAHSD.

[Show All Studies >](#)

Or, to narrow your search, please use one or more of the search options below.

**DIAGNOSIS**  
or keyword:

**RECRUITING**  
Status:  Recruiting  All, including completed studies

**PRIMARY**  
**FIELD**  
of Veterinary  
Medicine:

**SPECIES:**

[Search >](#)



Find Studies Submit Studies More Information

You are here: Animal Health Studies (AAHSD) - Search Results

## AVMA Animal Health Studies Database

[< Start New Search](#)

We found 44 result(s).  
You can narrow this search further with the filter located to the left. Animal owners interested in participating in a study are encouraged to discuss their eligibility for any relevant study with their veterinarian.

**FILTER YOUR RESULTS**

- Species
- Location
- Primary Field
- Recruiting Status

**AAHSD000425 - A Ganglioside Targeted Cancer Vaccine for Canine Melanoma**  
Melanoma (cancer of pigment producing cells in the body) is malignant cancer of both humans and animals. The main treatment for the cancer in the dog is surgery. Unfortunately, a large number of...  
**Species:**

**United States**, University of Florida | Gainesville, Florida  
Recruitment Open until 12/30/2025  
[Find out more](#)

**AAHSD0004374 - Brain Tumor Bank**  
Purpose of Study: The purpose of this study is to store samples from dogs with brain tumors (brain tumor tissue, blood and urine). These samples will be used in future studies.

[https://ebusiness.avma.org/aahsd/study\\_search.aspx](https://ebusiness.avma.org/aahsd/study_search.aspx)

# **MANAGEMENT OF TREATMENT-RELATED SIDE EFFECTS**

# CHEMOTHERAPY SIDE EFFECTS

- Nausea, diarrhea
  - Cerenia
  - Metronidazole
- Cytopenias (neutropenia, thrombocytopenia)
  - Check a CBC!
    - If appropriate, broad spectrum antibiotics\*\*
- Dermatologic (ie Tanovea)
  - Prednisone



# RADIATION THERAPY SIDE EFFECTS

- Acute side effects
  - Mucositis
  - Dermatitis
  - Keratitis
  - Colitis
  - Urethritis
  - Transient demyelination
- Anti-inflammatories
  - NSAIDs
  - Steroids
- Antibiotics
- Antispasmodics
  - Prazosin
- Pain management

# RADIATION THERAPY SIDE EFFECTS

- Late effects
  - Fibrosis
  - Strictures
  - Poor wound healing
  - Wounds/skin necrosis
  - Chronic -itis
- Treatment
  - Pentoxifylline
  - Steroids

# **PALLIATIVE CARE FOR CANCER PATIENTS**

## **POLL #7**

What is your go-to palliative care measure for cancer patients?

# PALLIATIVE CARE FOR CANCER PATIENTS

- Pain control
  - In many cases, NSAIDs >>> steroids
    - Exceptions:
      - Lymphoma/mast cell tumors
      - CNS
      - Pulmonary disease
- Management of secondary effects
  - Secondary infection
  - Wound healing
- Additional pain management tools
  - Gabapentin
  - Amantadine
  - Buprenorphine
  - Tylenol #4
  - Tramadol
  - Fentanyl patch

# SAFE USE OF NSAIDS IN CATS

## Retrospective case–control study of the effects of long-term dosing with meloxicam on renal function in aged cats with degenerative joint disease

Richard A Gowan BVSc, MACVSc (Feline Medicine)<sup>1\*</sup>, Amy E Lingard BVSc, FACVSc (Feline Medicine)<sup>1</sup>,  
Laura Johnston BVMS<sup>2</sup>, Wibke Stansen BSc, PhD<sup>2</sup>, Scott A Brown VMD, PhD, Dip ACVIM<sup>3</sup>,  
Richard Malik DVSc, DipVetAn, MVetClinStud PhD, FACVSc (Feline Medicine), FASM<sup>4</sup>

Check for updates

Original Article



**jfms**  
Journal of Feline Medicine and Surgery

### Effects of low-dose meloxicam in cats with chronic kidney disease

Kate KuKanich<sup>1</sup> , Christopher George<sup>1,3</sup>, James K Roush<sup>1</sup>,  
Sherry Sharp<sup>1</sup>, Giosi Farace<sup>2</sup>, Murthy Yerramilli<sup>2</sup>,  
Sarah Peterson<sup>2</sup> and Gregory F Grauer<sup>1</sup>

*Journal of Feline Medicine and Surgery*  
2021, Vol. 23(2) 138–148  
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Original Article



**jfms**  
Journal of Feline Medicine and Surgery

### A retrospective analysis of the effects of meloxicam on the longevity of aged cats with and without overt chronic kidney disease

Richard A Gowan<sup>1</sup>, Randolph M Baral<sup>2</sup>, Amy E Lingard<sup>1</sup>,  
Melissa J Catt<sup>2</sup>, Wibke Stansen<sup>3</sup>, Laura Johnston<sup>4</sup> and Richard Malik<sup>5</sup>

*Journal of Feline Medicine and Surgery*  
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DOI: 10.1177/1098612X12454418  
jfms.com  
 SAGE

# NASAL/ORAL TUMORS

- NSAIDs, pain control
- Clindamycin or other antibiotics
- Soft food
- “Home nebulization”
- Nasal flush
- Nasal phenylephrine drops



# LUNG TUMORS & PULMONARY METASTASIS

- NSAIDs vs steroids
- Cough suppressants
  - Hycodan
  - Dextromethorphan
  - Oral butorphanol
- Terbutaline or theophylline
- Diuretic



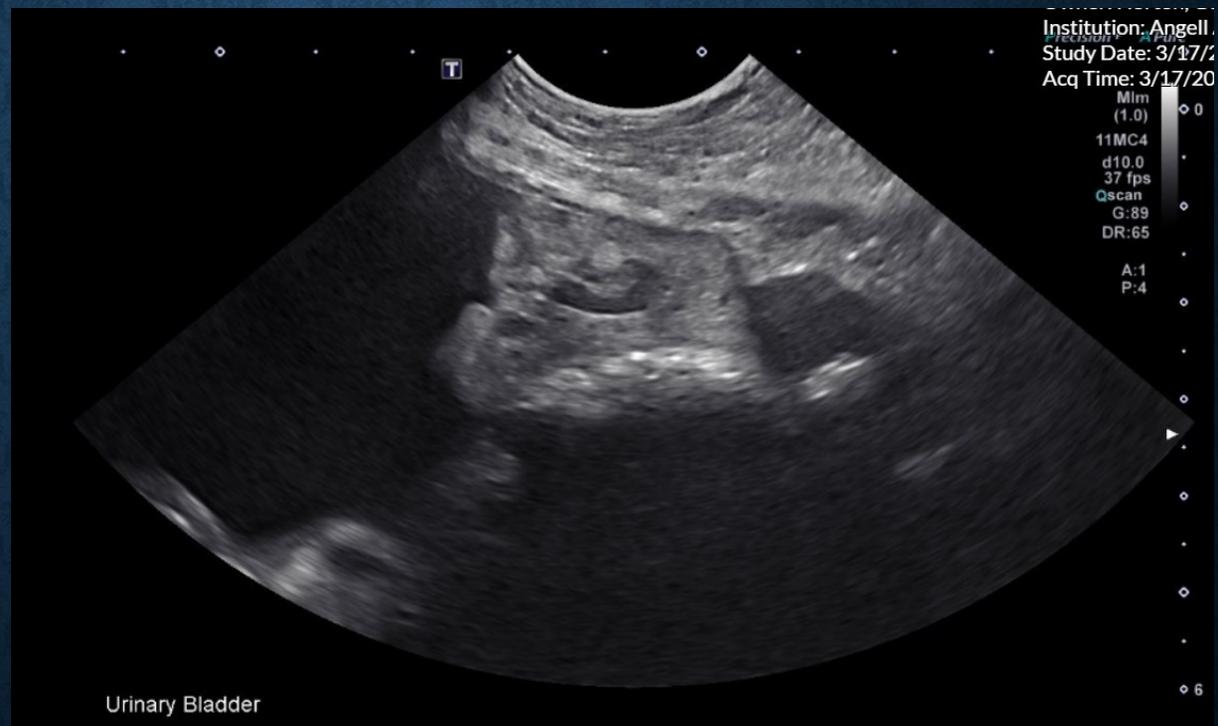
# ABDOMINAL TUMORS

- NSAIDs/steroids
- Gabapentin
- Cerenia
- Spironolactone?



# BLADDER, URETHRAL, AND PROSTATE TUMORS

- NSAIDs
- Prazosin
- Antibiotics PRN
- Stool softeners



# QUESTIONS?

Contact: [jwalz@mspca.org](mailto:jwalz@mspca.org)