

KNOWLEDGE LIST
ONCOLOGY

- I Knowledge of neoplasms in animals (dog, cat, pocket pets, horses, cows)
 - A. Clinical signs, History, Physical Exam (PE)
 - B. Work up
 - 1. Diagnostic Imaging
 - a Bone Scan
 - b Thyroid Scan
 - c Computed Tomography (CT)
 - d Magnetic Resonance Imaging (MRI)
 - e Positron Emission Tomography (PET)
 - f Chest X-Ray (CXR)
 - g Abdominal X-Ray (AXR)
 - h Abdominal Ultrasound (AUS)
 - i Thoracic Ultrasound
 - j Echocardiology
 - k Radiographs
 - l Contrast radiography
 - 2. Diagnostic Tests
 - a Immunocytochemistries
 - b Immunohistochemistries
 - c Cytology
 - d Histopathology
 - e CBC
 - f Chemistry profile
 - g Urinalysis
 - h Electrophoresis
 - i Serum IgA quantitation
 - 3. Diagnostic Procedures
 - a Biopsy principles
 - b Bone Marrow Aspirate
 - c Fine needle aspirate (FNA)
 - C. Treatment options and goals of each
 - a Surgery (cryotherapy, hyperthermia, photodynamic therapy)
 - b Radiation Therapy (brachytherapy, tomotherapy)
 - c Chemotherapy (administration and safety major goal)
 - d Biological response modification
 - e Combinations of above
 - D. Prognosis
 - E. Staging
 - a WHO (World Health Organization)
 - b TNM (Tumor Node Metastasis)
- II Knowledge of Tumor classifications
 - A. Terminology: tumor vs neoplasm
 - B. Differentiate tumor biology between species, breeds
 - C. Causes and pathophysiology
 - D. Pathology, cytology, histologic class

- E. Pseudoneoplasms: lick granuloma
- F. Differentiate between benign tumors and malignant tumors
- G. Tumor biology, origins
 - 1. Mesenchymal
 - 2. Epithelial
 - 3. Round cell
 - 4. Melanoma
- H. Tumor names (listed alphabetically)
 - 1. Acanthomatous epulis
 - 2. Adenocarcinoma (ADC)
 - 3. Adenoma
 - 4. Astrocytoma
 - 5. Basal cell
 - 6. B-cell insulin-secreting
 - 7. Bile duct ADC
 - 8. Bronchogenic CA
 - 9. Canine Lymphoma Lymphoid Leukemia
 - 10. Canine myeloproliferative disorders and malignant histiocytosis
 - 11. Carcinoma (CA)
 - 12. Carcinomatosis
 - 13. Ceruminous gland ADC
 - 14. Chemodectoma
 - 15. Chondrosarcoma (ChSA)
 - 16. Ependymoma
 - 17. Feline Lymphoma and Leukemia
 - 18. Feline retrovirus
 - 19. Fibroma
 - 20. Fibrosarcoma (FSA)
 - 21. Glioma
 - 22. Granulomatous meningoencephalitis (GME)
 - 23. Hemangiopericytoma (HPC)
 - 24. Hemangiosarcoma (HSA)
 - 25. Histiocytoma
 - 26. Hyperplasia
 - 27. Infiltrative lipoma
 - 28. Insulinoma
 - 29. Leiomyoma
 - 30. Leiomyosarcoma
 - 31. Leydig cell
 - 32. Lipoma
 - 33. Liposarcoma (LipoSA)
 - 34. Lymphangiosarcoma
 - 35. Lymphoma (canine and feline)
 - 36. Malignant fibrous histiocytoma
 - 37. Melanoma
 - 38. Mast Cell Tumor (MCT)
 - 39. Meningioma
 - 40. Multiple myeloma
 - 41. Myeloproliferative disorders

42. Myoblastoma
43. Myxosarcoma
44. Neurofibroma
45. Neurofibrosarcoma (NFSA)
46. Osteosarcoma (OSA)
47. Papilloma
48. Perianal adenoma
49. Perianal gland ADC
50. Peripheral Nerve Sheath Tumor (PNST)
51. Pheochromocytoma
52. Pilomatricoma
53. Pituitary CA
54. Plasmacytoma
55. Pulmonary CA
56. Rhabdomyosarcoma
57. Schwannoma
58. Sebaceous adenoma
59. Sebaceous gland ADC
60. Seminoma
61. Sertoli cell tumor
62. Soft Tissue Sarcoma (STS)
63. Spindle cell SA
64. Squamous Cell Carcinoma (SCC)
65. Squamous metaplasia
66. Sweat gland (Apocrine gland) CA
67. Synovial cell SA
68. Thymoma
69. Thyroid CA
70. Transitional Cell Carcinoma (TCC)
71. Transmissible Venereal Tumor (TVT)
72. Trichoblastoma
73. Trichoepithelioma
74. Undifferentiated CA
75. Undifferentiated SA

III Knowledge of Chemotherapy

- A. Chemotherapeutic classes and mechanism of action, including nadirs
- B. Chemotherapy agents and protocols
- C. Side effects and adverse reactions of chemotherapy, treatment options
- D. Safe handling and disposal of chemotherapeutic agents
- E. Administration techniques of chemotherapeutic agents
- F. Ability to utilize multiple body measurement systems
- G. Rescue protocols
- H. Chemoprotectants
- I. Chemo resistance
- J. Alkylating agents
- K. Antitumor antibiotics
- L. Platinum drugs
- M. Enzymes

- N. Mitotic inhibitors
 - O. Emergency extravasation protocols
 - P. Ability to recognize cancer remission status
- IV Knowledge of Radiation Therapy
- A. Basic radiobiology and physics
 - B. Orthovoltage vs. megavoltage
 - C. Long and short term side effects of radiation therapy
 - D. Radiation safety
 - E. Acute Radiation Sickness
 - F. Identify and ameliorate radiation therapy side effects
- V Knowledge of Patient Management
- A. Ability to classify and suggest pain management
 - B. Complications of treatments (antiemetics, appetite stimulants, antidiarrheals, sepsis prevention, urothelial bladder wall protection, transfusion therapy)
 - C. RECIST method (treatment response score)
 - D. Chemoprotectants
 - E. Nutritional support of the cancer patient, metabolic alterations
 - F. Grief stages, counseling
- VI Organ and Systems Tumor sites
- A. Tumors Skin and Subcutaneous dog and cats
 - B. Tumors of GI System
 1. Oral Cavity (hard and soft palates, lips, cheeks) in dogs and cats
 2. Tongue
 3. Salivary Gland
 4. Esophageal
 5. Exocrine Pancreas
 6. Gastric in dogs and cats
 7. Hepatic in dogs and cats
 8. GI Tract dogs and cats - small or large intestine
 9. Perianal
 10. Anal sac
 11. Recto-anal
 12. Peritoneal
 - C. Tumors of Cardiovascular System
 - D. Tumors of Respiratory System
 1. Nasal Planum
 2. Laryngeal
 3. Tracheal
 4. Lung
 5. Nasal cavity dogs and cats
 6. Mediastinum
 - E. Tumors of Skeletal System Appendicular and Axial (skull, scapular, pelvic, rib, vertebral, nasal, paranasal)
 1. Bone
 2. Joint
 3. Fat

- F. Tumors of Endocrine System
 - 1. Thyroid
 - 2. Pancreas
 - 3. Adrenal
- G. Tumors of the Female Reproduction System
 - 1. Uterus
 - 2. Ovary
 - 3. Vagina
 - 4. Vulva
- H. Tumors of Mammary Glands
- I. Tumors of Male Reproduction Tract
 - 1. Testicular
 - 2. Prostate
 - 3. Penis
 - 4. Prepuce
- J. Tumors of Urinary Tract System
 - 1. Renal
 - 2. Bladder
 - 3. Ureter
 - 4. Urethra
- K. Tumors of Nervous System
 - 1. Brain
 - 2. Pituitary
 - 3. Spine- extradural vertebral
 - 4. Spine- extradural soft tissue
 - 5. Spine- intradural, extramedullary
 - 6. Intramedullary
- L. Ocular, retrobulbar tumors
- M. Otic, ceruminous gland, bulla tumors

VII Hematopoietic and neutropoietic growth factors

VIII Miscellaneous

- A. Mesothelioma
- B. Radiation induced sarcoma
- C. Metabolic emergencies
- D. Paraneoplastic syndromes and Hypercalcemia
- E. Disseminated intravascular coagulation
- F. Chemotherapy or radiation induced congestive heart failure
- G. Carcinomatosis
- H. Acute tumor lysis syndrome