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Equine/Small Animal Mixed Internship/Externship Goals

General knowledge:

- ∞ Basic restraint methods of horses,
 - Equine twitch – skin, ear, nose
 - Chain shank – over the nose or under the chin?
 - Sedation
- ∞ Trailer loading techniques
- ∞ Basics of lunging/leading etc
- ∞ Identify and read a tattoo, and know corresponding age
- ∞ Nutrition basics
 - Life stage diets
 - Diets for specific health conditions
 - Common deficiencies and specific requirements
 - Supplements
- ∞ Basic parasitology
 - Life cycles
 - Identification
 - Treatment and control and design of herd health programs
- ∞ Basic principles of acupuncture
- ∞ Referring cases to CSU, Littleton Large Animal Clinic, other
- ∞ Emergency response procedures

Basic Skills:

- ∞ Physical examination
- ∞ Prepurchase examination and interpretation/recommendations - equine
- ∞ Neonatal exam – know normal parameters
 - IGG testing
 - Enema
- ∞ Neuro examination and interpretation
 - Focus on safety of animal and people
- ∞ Administer medications – be able to do it and teach clients to do it
 - Oral
 - IM – landmarks and risks
 - IV
 - SQ
 - Eye medications
- ∞ Wound repair
 - Suturing
 - Appropriate materials
 - Suture patterns

- Bandaging
- ∞ IV catheter
 - All animals plus foals
 - Abocath
 - Mila
 - OTW
 - Set-up of IV fluids
 - Fluid rates
 - Maintenance of fluids, CRI and fluid pumps
 - Instructing clients how to manage (change, cap, administer fluids, flush, etc)
- ∞ Euthanize
 - Canine/feline
 - Foal
 - Adult Equine
 - Standing horse
 - Fractious
 - Calm/sick
 - Down horse
 - Pre-arranged elective
 - Assist client with arranging burial
 - Assist client with removal of remains
- ∞ Grief counseling/support
- ∞ Necropsy
 - Submission of samples for analysis
- ∞ Saddle fit

Preventive medicine:

- ∞ Vaccination protocols
 - Canine/feline
 - Pregnant animals
 - Foal
 - Adult equine
- ∞ Principles of vaccination and risks vs. benefits
- ∞ Deworming protocols
 - Canine/Feline
 - Pregnant mare
 - Foal

Pharmacology:

- ∞ Dosage and use, indications and contraindications, risks, breed differences etc
 - Antibiotic therapy
 - Anti-inflammatory therapy
 - Sedation
 - Topical medications
 - Anti-ulcer drugs

Diagnostics and imaging:

- ∞ Obtaining diagnostic radiographs, interpreting results, and effectively communicating results/prognosis/treatment options to clients
- ∞ Radiographs
 - Techniques – position of machine, cassette, label, and people; settings
 - Prepurchase or repository films – what films and when
 - Wounds, masses, growths
 - Contrast evaluation of wounds/tracts
- ∞ Ultrasound
 - General machine use
 - Packing/cleaning and unpacking
 - Label, freeze, measure, print with all machines
- ∞ Endoscopy
 - Set up and take down of equipment with and without video
 - Technique and interpretation
- ∞ Clinical pathology
 - Collect appropriate samples
 - Interpret results in light of clinical findings

Musculoskeletal:

- ∞ Perform a general musculoskeletal exam equine
 - Limbs
 - Back
 - Spine
- ∞ Lameness
 - Observe and identify lameness in all 4 limbs
 - Head nod
 - Hip hike
 - Ultrasound Equine
 - Tendons and ligaments
 - Flexors – identify and assess SDF, DDF, check, suspensory
 - Extensors
 - Below fetlock
 - Pastern
 - Stifle
 - Patellar ligaments
 - Meniscus
 - Wounds or draining tracts
 - Foreign body
 - Gas or abscess pocket
 - Disruption of bony contour
 - Nerve blocks equine– landmarks, principles, drugs, restraint
 - PD
 - Abaxial
 - BS
 - Low 4 point
 - High 4 point
 - Joint blocks/injections equine – landmarks, principles, drugs, restraint
 - Coffin

- Fetlock
 - Radiocarpal
 - Metacarpal
 - Tibiotarsal
 - Tarso-metatarsal
 - Distal intertarsal
 - Observe/perform – pastern, stifle, shoulder, median/ulnar, tibial/peroneal
- Doses and drugs for blocks/injections
 - Hylartin
 - Antibiotics
 - Steroids – what, where, and when to use
 - Carbocaine dose
- ∞ Diagnose and treat equine
 - Laminitis
 - Hoof abscess or bruise
 - Navicular disease
 - Arthritis – where (common locations), when, treatment, prognosis, etc
 - Cellulitis
 - Foreign body
 - Lymphangitis
 - EPSSM
 - Diagnose
 - Diet changes
 - Other management
 - Exertional rhabdomyolysis (tying up)
 - Back soreness
 - Kissing spines
- ∞ Joint supplements
 - Adequan, legend, glucosamine
 - Cosequin, cortaflex, etc
 - NSAID choices and doses equine, canine, feline patients
- ∞ Bandaging and cast application/removal Equine
 - Teaching clients to do it
 - Determining after care
 - Lower forelimb
 - Upper/lower forelimb
 - Lower hind limb
 - Hock
 - Foot
 - Heel bulb
 - Abscess
- ∞ Hoof care - equine
 - Farrier work
 - Spend 1-2 days with farrier
 - Know basics of shoes - what kind and when to use
 - Pull a shoe
 - Pare an abscess/identify a bruise
 - Hoof-wall resection
 - White line disease

- Solar abscesses
- Proper use of a hoof knife
- Proper use of hoof testers
- Supplements

Reproduction Eqine:

- ∞ Components of a general breeding soundness examination (BSE)
 - Mare
 - Stallion
- ∞ Drugs – dosage and use all species
 - Lutalyse (prostin)
 - Ovuplant vs. HCG vs. Deslorelin
 - Oxytocin
 - Estrumate
 - Regumate
- ∞ Rectal palpation equine
 - ovaries
 - Cervix
 - Uterus – tone, pregnancy (and determine age), fluid, etc.
 - Bladder
 - Follicle vs. ovulation depression
- ∞ Ultrasound Mare
 - Right and left ovaries
 - Cervix
 - Uterus
 - Pregnancy
 - 14-18d
 - 23-28d
 - 40d
 - twins
 - Bladder
 - Follicle vs. CL vs. recent ovulation vs. ovarian tumor
 - Use of each ultrasound rectal and transabdominal
 - Measuring, typing, printing, etc
- ∞ Identify and pinch twins
 - When and how
- ∞ Vaginal spec exam
 - Stages of cervix
 - Visually identifying cervical tears
- ∞ Vaginal palp exam
 - Cervical palp
 - Appreciate tears
 - Identifying stage of estrus
- ∞ Insemination frozen, cooled fresh
 - Evaluation of semen
 - Know how to pack and ship semen in Equitainers
 - Protocol for insemination
- ∞ Flush/lavage
 - Pre and post breeding
 - Post RP – large volume

- ∞ Infusing
 - Dosages and use of infusion drugs
 - Gentamycin/sodium bicarb
 - Ticarcillin, Ampicillin, Penicillin, Ceftiofur, Amikacin
 - Clotrimazole
- ∞ Uterine culture and cytology
 - Obtain and transport culture/cytology
 - Set up culture and sensi
 - Basic cytology
- ∞ Uterine biopsy
- ∞ Caslick's
 - Local block
 - Technique to put in
 - Technique to remove
- ∞ Monitoring for foaling
 - Options available – cameras, foal alerts, milk tests
 - Signals to look for
- ∞ Assist in dystocia
- ∞ Retained placenta
 - Managing
 - Simple vs. complex
 - Retained tags
- ∞ Abortion work-up
 - Samples
 - Testing
 - Familiarity with causes
- ∞ Diagnosis and treatment of mastitis
- ∞ Epidural
- ∞ Collection of stallion

Internal Medicine:

- ∞ Respiratory
 - Examination
 - At rest
 - Rebreathing
 - Crackles/wheezes
 - Expiratory vs. inspiratory efforts/noises
 - Radiographs
 - Thorax
 - Ultrasound
 - Thorax
 - Endoscopy – know normal vs. abnormal anatomy
 - Upper airway
 - Larynx
 - Arytenoids – grading of paralysis
 - Pharynx
 - Trachea
 - Guttural pouches
 - Sinuses

- Esophagus
- TTW, BAL
- Diagnose and treat
 - Infectious causes
 - Viral
 - Bacterial
 - Allergic disease
 - Acute
 - Recurrent
 - Foal respiratory disease
- Sinus disease
 - Percussion
 - Trepine
 - Tap and flush
- ∞ Colic work-up
 - NGT intubation
 - Pass
 - Reflux
 - What to give?
 - Secure for transport
 - Medical rectal exam abdominal palpation
 - Left kidney
 - Aorta
 - Pelvic flexure
 - Cecum
 - Spleen
 - Bladder
 - SI distention
 - Impaction – what, where, consistency?
 - Fecal balls in SC
 - Gas distention of colon
 - Torsion vs. displacement
 - Ultrasound
 - Identify structures – SI, large colon, kidney, bladder,
 - Know normal vs. abnormal
 - Intestinal wall thickness
 - Motility
 - Assess for fluid
 - Abdominocentesis (belly tap)
 - Perform and interpret, labs
 - Diagnose and treat
 - Pelvic flexure impaction
 - Nephrosplenic entrapment
 - Roll
 - Phenylephrine
 - Spasmodic colic
 - Small intestine distention
 - Know when to refer

- ∞ Other Gastrointestinal
 - Diagnose and treat Equine
 - Grain overload
 - Diarrhea
 - Adult, foal
 - Sample submission and interpretation
 - Know transmission risks
- ∞ Neonatal examination
 - Diagnose and treat
 - Meconium impaction
 - Enema
 - Ruptured bladder
 - Septic foal
 - Weak neonate
 - Neonatal maladjustment
 - FPT
- ∞ Choke/Foreign Body
 - Drugs
 - NGT and flushing
 - Endoscopy of esophagus
- ∞ Cardiovascular
 - Normal
 - Murmurs – identify and characterize
 - Systolic vs. diastolic
 - Grading
- ∞ Neurologic disease
 - Epidural
 - CSF tap – lumbosacral
 - Know basics of diagnosis, treatment, prognosis, etc of common neuro diseases
- ∞ Metabolic diseases
 - Cushing's disease
 - Hypothyroidism
 - Equine metabolic syndrome
 - Other endocrinopathies
- ∞ Urinary
 - Rectal palpation
 - Ultrasound
 - Bladder
 - Kidneys
 - Ureters
 - Urinary catheter
 - Male
 - Female
 - Foal
 - Identify and treat
 - Calculi
 - UTI
 - Renal disease

- ∞ Other
 - Ultrasound
 - Liver
 - Abscesses
 - Masses/foreign bodies/wounds

Surgery/Anesthesia:

- ∞ Castration
 - Canine/equine
 - Standing
 - Down
 - Cryptorchid
 - Adult
- ∞ Check ligament desmotomy
- ∞ Hernia surgery
- ∞ Neurectomy principles and guidelines
- ∞ Periosteal strip
- ∞ Splint bone removal
- ∞ Enucleation
- ∞ Trauma surgery/HBC – field principles, safety, restraint
- ∞ CPR
- ∞ Anesthesia
 - Sedation use and doses
 - Field anesthesia - standing
 - Hospital anesthesia - general
 - Know components of triple drip and small animal cocktails
 - Know induction drugs and doses
 - Induce a horse for surgery
 - Monitor and record vitals and maintain a plane of anesthesia for surgery
 - Recovery from anesthesia

Ophthalmology:

- ∞ Use of ophthalmoscope
 - Identify basic structures
 - Retina/fundus – identify significant changes vs. normal aging changes
 - Optic disc and vasculature
 - Vitreous
 - Lens
 - Iris
 - Pupil
 - Anterior chamber
 - Cornea
 - Conjunctiva
 - Nictitans
 - Adnexa
- ∞ Perform and interpret fluorescein stain
- ∞ Topical anesthesia
- ∞ Ocular nerve blocks

- ∞ Administer ocular medications
 - Ointments
 - Drops
 - Creams
 - Subconjunctival injections
- ∞ Implant and use an SPL system
- ∞ Know basic medications and when to use
 - Steroids
 - Antibiotics
 - Anti-inflammatories
- ∞ Corneal scraping/debridement
 - Cytology
 - Culture
- ∞ Corneal biopsy
- ∞ Grid keratectomy
- ∞ Tonometry
- ∞ Foal entropion correction
- ∞ Eyelid repair – blocks, sutures and patterns, prognosis, etc
 - Upper eyelid
 - Lower eyelid
- ∞ Excision of 3rd eyelid
- ∞ Diagnosis and treatment
 - Glaucoma
 - Corneal ulcers
 - Staging of ulcers
 - Tumors/masses
 - Conjunctivitis
 - Uveitis
- ∞ Know when to refer

Dental:

- ∞ Oral examination with and without speculum
- ∞ Identify teeth by number and name
- ∞ Age an animal by teeth
- ∞ Sedate appropriately
- ∞ Prophy
- ∞ Extractions
- ∞ Radiology
- ∞ Apply speculum equine
 - Full mouth
 - Spool
 - Gum bars
- ∞ Pull wolf teeth
- ∞ Float equine
 - Routine
 - Motorized dentistry techniques
 - Hand floats
 - Dremel
 - Identify and correct waves, hooks, points, ramps, steps, etc

- Float parrot mouth
- ∞ Identify and remove caps
- ∞ Molar and premolar hooks
- ∞ premolar hooks
- ∞ Adjust incisor length and determine when is appropriate
- ∞ Incisor reduction
- ∞ Appropriately fill out dental charts

Skin:

- ∞ Local blocks
- ∞ Suture wounds –know concepts, anesthesia, restraint, prognosis
 - Eyelid
 - Heel bulb
 - Lower hind limb
 - Dorsal
 - Plantar
 - Lower forelimb
 - Dorsal
 - Palmar
 - Forearm
 - Neck
 - Shoulder
 - Gluteals
 - Gaskin
 - Forehead
 - Lip
 - Nostril
- ∞ Place and remove Penrose drain
- ∞ Use IV tubing as stents
- ∞ Lumps, bumps, and masses
 - Biopsy skin (punch) – block, biopsy, suture
 - Excisional biopsy of a mass
 - Lance abscess
 - Lance sarcoma
 - Inject skin lesions with cortisone
- ∞ Obtain sample from wound for culture and sensitivity
 - Interpret results for treatment
- ∞ Obtain sample for fungassay
- ∞ Skin scrape
- ∞ Diagnose and manage
 - Proud flesh
 - Surgical Trim
 - Manage medically
 - Hives
 - Acute vs. recurrent vs. refractory
 - Rain rot
 - Scratches
 - Ectoparasitism
 - Dermatophytosis (ringworm)
 - Common tumors

- Squamous cell
- Melanomas
- Sarcoid diagnosis and treatment
 - Cryosurgery and radiosurgery
 - Surgical excision of sarcoid
 - Transplant sarcoid
 - Topical treatment of sarcoids – options

Administrative/Office:

- ∞ Basic knowledge of the practice territory
- ∞ Calls
 - Call charges for regions
 - Shared and recheck call charges
 - Emergency charges
 - Waived call charges
 - PC work
 - Staff
 - Colleagues – CVT, other vets, etc
 - Local Non profit
 - Special circumstances
- ∞ Paperwork
 - Page 1 (bill, ticket), Page 2 (patient record)
 - Coggins papers
 - Dental forms
 - Health certificates
 - Interstate
 - Canadian
 - Foreign
 - Prepurchase forms
 - Maintaining a record
 - Treatment orders
 - PE findings
 - Medications – what, how much, when, how, etc?
 - Basic concept of a passport
 - Client Communications
- ∞ Filing system basics (medical records, x-rays, ultrasound printouts, lab work, etc.) – finding paperwork when needed
 - Logging in and out
 - For in house use and to send out of clinic
- ∞ Call back system
 - Requesting a call back
 - Receiving a call back
- ∞ Computer
 - Client financial records – find a balance, enter a payment, etc
 - Patient information – history, vaccines, etc
 - Familiarity with Vetlink Coggin’s
- ∞ Hospitalization
 - Admitting a patient
 - Daily flow sheet medical records
 - Discharging a patient

Lab:

- ∞ Sample submission procedures (basic)
 - Vetlink
 - CSU DL
 - CSU histopath and Antec
 - Other labs
- ∞ Lab tests
 - Run CBC on QBC analyzer and Unipette technique
 - Hand differentials
 - Heat Ppt fibrinogen
 - Use of ISTAT
 - Quantitative blood smear
 - PCV and TS
 - Fibrinogen normals and abnormal
 - Use the Heska dry chem machine for chemistry panels
 - Qualitative and quantitative fecals
 - Qualitative semen analysis
 - Staining procedures
 - Diff-quick
 - Gram stains
 - Cultures
- ∞ EIA (Coggin's) paperwork and submission
- ∞ Autoclave use and maintenance
- ∞ Cleaning and use of emasculators
- ∞ Check if products have been ordered

Competitions and outside events:

- ∞ Local Endurance horse trials
- ∞ Horse shows
- ∞ Pony club events
- ∞ AAH and Roaring fork horse Council Spring Winter Seminar and other short courses
- ∞ Speaking and demonstration opportunities
 - Feed companies
 - 4H clubs/other
 - PowerPoint
- ∞ Articles/information for the newsletter
- ∞ Client handouts