Keeping Your Horse Healthy

Basic overview of common diseases, illnesses, parasites and injuries of the equine.
Is My Horse Healthy?

The first step to determining if your horse is sick is to know what is normal:

6 essential parameters to assess:

1. Temperature: 99.5 – 100.5 ° F
2. Pulse: 25-44 beats per minute
3. Respiration: 8-15 breaths per minute
   - Should always be lower than pulse (inversion if higher)
4. Capillary Refill Time: < 2 seconds
5. Mucous Membranes: pink
6. Skin Pliability: pinch skin on side of neck, should return to normal within 3 seconds
Is My Horse Healthy?

- **Other Parameters**
  - Body Condition Score
  - Movement
  - Hair Coat
  - Hoof Condition
  - Body fluids – tears, nasal discharge, urine, feces, sweat, saliva
  - Gut sounds
  - Feeding habits
  - Behavior – normal vs. disorders
Terminology

- **Virus**: small infectious agent (not alive) that can only replicate inside living cells of a living creature
- **Bacteria**: microorganisms, alive
- **Fomite**: object/substance that can transmit an infectious agent
- **Vector**: carrier organisms that transmit disease from one source to another
- **Intermediate Host**: host that is required in part of the disease transmission process
- **Dead-End Host**: disease cannot be further transmitted once it is in the dead-end host
- **Reservoir host**: maintains the infectious agent, acts as “living quarters”
- **Antigenic drift**: minor change in genetic material of a virus
- **Antigenic shift**: major change in genetic material of a virus
General Signs of Illness

- Depression
- Lethargy (slow moving/lack of energy)
- Anorexic/inappetance (no or lack of appetite)
- Fever (infectious cause, pain)
- Colic
Common Infectious Diseases of Horses

- Equine Influenza
- Equine Rhinopnuemonitis
- Strangles
- EEE, WEE, VEE
- Rabies
- West Nile Virus
- Equine Infectious Anemia
- Tetanus
- Potomac Horse Fever
- EPM
- Equine Viral Arteritis
Equine Influenza

- Virus
- rapid spread of infection
- Incubation period of 1-2 days
- Signs: fever, frequent dry cough, nasal discharge
- Fomites major source of transmission
- Horses that have immunity (vaccination or natural exposure) develop minimal or no clinical signs, but can still shed virus
Equine Influenza

- Stall rest essential
  - For each day horse has fever, rest 1 week
- Dust-free environment
  - Wet hay, bedding or use dust-free bedding
- Vaccination: Available, 3 doses initially, then booster every 6-12 months
Equine Rhinopnuemonitis

EHV-1 and EHV-4

- Virus
- EHV-4
  - Respiratory infections, primarily in foals and yearlings
  - Incubation period 2-10 days
  - Upper respiratory signs, nasal discharge, occasional cough, enlarged submandibular lymph nodes
- EHV-1
  - Abortion in mares at 8-11 months gestation
  - Neurological form
Equine Rhinopnuemonitis
EHV-1 and EHV-4

- EHV-4
  - Transmission: horse becomes infected when inhales the virus exhaled by a horse shedding the virus
  - Vaccination: Available, 3 doses initially, then annual booster
Strangles

- *Streptococcus equi* - bacteria
- Incubation 2-14 days
- signs: fever, depression, loss of appetite, nasal discharge, swollen lymph nodes under jaw/throat latch region
- Vaccination: Intranasal, 2 doses initially, then booster every 6-12 months
Eastern, Western and Venezulean Encephalomyelitis

- **Virus**
- Encephalitis = inflammation of brain
- Reservoir hosts – birds, rodents, reptiles
- Vector – mosquitoes, other biting insects
- Horse to horse transmission unusual, but possible for EEE
- People can get EEE (from mosquitoes, not from infected horses)
- WEE – horses and humans are dead-end hosts
- VEE can be transmitted from horse to horse

- **Signs:** neurological deficits, diarrhea, depression, recumbency, death
- **Vaccination **Core**
  - 2 doses initially, then yearly booster
Rabies

- **Virus**
- Contracted from the saliva of infected animal from bite or open wound
- 100% fatal
- Neurological signs

**Vaccination** **core**
- Annually
West Nile Virus

- Transmitted by mosquitoes
- Neurological signs, fever, depression, recumbency
- Horses are dead-end hosts

Vaccination: **core**
- 2 doses initially, then annual booster
Equine Protozoal Myeloencephalitis

- *Sarcoysitis neurona* (parasite)
- Affects brain, spinal cord
- Signs: neurological signs: subtle lameness, weakness, wobbling, recumbency, ataxia
- Vaccine: available, not reliable, may interfere with testing a horse suspected to have the disease
Tetanus

- Bacteria – *Clostridium tetani* – produces toxin
- Highly fatal
- Signs: history of recent wound, sawhorse stance, lockjaw, overresponsive to light, sound, or touch, prolapse of 3rd eyelid, fever

Vaccination:

- Tetanus Antitoxin
  - If sustains wounds, immediately effective, protects for 2 weeks
- Tetanus Toxoid *core*
  - Takes about 2 weeks to protect, lasts one year
  - 2 doses initially, then annual booster, unless injury/surgery
Equine Infectious Anemia

- Virus
- Signs: fever, anemia, jaundice, depression, edema, chronic weight loss
- Infected for life – no cure, no treatment
- Coggins test – blood test to detect presence of EIA virus
  - Yearly test required if horse leaves property or sold
- Transmitted by horseflies and deerflies
Potomac Horse Fever

- Rickettsial disease: *Ehrlichia risticii*
- Original outbreak occurred along the Potomac River
- Signs: profuse, watery diarrhea, fever, depression, shock, laminitis
- Transmission: unclear, involves vectors (not horse-to-horse)
- Vaccination: varies in effectiveness, should at least decrease severity of disease
  - 2 doses initially, then booster every 6-12 months
Equine Viral Arteritis

- Virus
- Signs: fever, limb edema, depression, loss of appetite, swelling around eyes, nasal and/or ocular discharge, skin rash
- Most horses recover uneventfully, even without treatment
- Transmission: breeding stallions, fomites
- Vaccination available, rarely used unless in breeding situations
External Parasites

- External parasites can transmit diseases, affect growth, cause physical irritation or wounds and threaten the health of a horse.
- Control is very important and best achieved by understanding basic biology and habits of the parasites.
External Parasites

FLIES

- Life cycle: egg, larva, pupa, adult
- House flies, stable flies, face flies, horn flies, horse flies, deer flies, black flies
- Gnats
- Mosquitoes
- Biting midges (*Cuicoides sp.*)
External Parasites

FLIES

Control

1. Eliminate breeding materials
   - Manure, straw, bedding, etc
   - Standing water (mosquitoes)

2. Control of moisture

3. Mechanical control

4. Insecticides as necessary
External Parasites

FLIES

Good Sanitation is the FOUNDATION to a SUCCESSFUL fly control program
External Parasites
FLIES

- Good Sanitation includes:
  - Remove manure and bedding from stalls, run-ins, pastures, feeders, hay racks, etc
  - Eliminate standing water
  - Keep potential fly breeding sites dry
  - Pastures, pens, etc should have good drainage
External Parasites
FLIES

Control:

- Screening entryways
- Fans – direct blast downwards and outwards
- Sticky fly tape
- Fly jugs and traps
- Biological control – parasitic wasps
- Insecticides
  - Premises sprays with residual activity (up to 6 weeks)
    - organophosphates
  - Pyrethrin-based sprays, fogs, mists that can be used on or around horses, no residual activity
External Parasties

BOT FLIES

- *Gastrophilus intestinalis* & *G.*
- Yellow eggs on legs, chest, necks, belly, flank
- Horse lick the areas with eggs, ingest eggs, warmth and moisture of tongue stimulate them to hatch
- Larvae migrate to stomach and attach to stomach wall
External Parasites

BOT FLIES

- Can cause severe damage to oral tissues, stomach wall & small intestines
  - Including obstruction, perforations, colic
- Control: external remove of eggs
  - Sponge area where eggs are attached with warm water, stimulates eggs to hatch, larvae will quickly die of exposure
  - Can also use warm water-insecticide
- Control: deworming: ivermectin
  - (others available)
External Parasites
BOT FLIES
External Parasites

CATTLE GRUBS

- Can affect horses pastured near cattle
- Burrow under skin, form hard nodules, usually on neck, withers, ribcage
- Surgical removal by a veterinarian
External Parasites

LICE

- Signs: scruffy skin, unkempt coat, excessive rubbing & scratching
- Year round, but more common in winter months due to heavy hair coat providing protection and drier skin
- Biting lice & sucking lice
- Treat with topical insecticide labeled for lice on horses
External Parasites

**TICKS**

- Physical removal
- Insecticides labeled to control ticks on horses
  - must
- Important to control
  - Large numbers can cause anemia
  - Tick-bite paralysis (*D. andersoni*)
External Parasites
MITES

- **Sarcoptic mange**
  - Most common
  - Begins at withers, spreads to back, shoulders, neck

- **Psoroptic mange**
  - “wet mange”
  - Begins on neck/withers or base of tail

- **Chorioptic mange**
  - Starts around tail and spreads to legs
Colic

- Colic = abdominal pain
- Not a disease, but a clinical presentation

Types

- Gas Colic (Gastric dilation)
- Small Intestines:
  - Displacements (hernia or incarceration)
  - Telescoping (Intussusception)
  - Twisting (volvulus)

- Colon:
  - Obstruction
  - Displacement
  - Twisting
Colic Causes

- Overeating concentrates
- Hay of poor quality (high fiber & low digestibility)
- Sudden change in type or amount of food or time fed
- Weather-related
- Pregnancy related
- Parasites
- Sand colic
- Stress
- Cribbing-related
- Exercise-related
- Gastric or intestinal ulceration
- Colitis
- Viral infections
Colic

- **Signs:**
  - Restlessness, anxiety, depression, isolation
  - Sweating
  - Pawing
  - Rolling
  - Repeatedly laying down & getting up
  - Looking or kicking at abdomen/flank

- Increased heart rate, respiration rate, capillary refill time
- Pale or bluish mucous membranes
- Distended abdomen
- Change in or lack of gut sounds
- Reduced/no manure output
- Stretching as if to urinate without urinating
Colic

What YOU should do:

- Call your veterinarian immediately
- BE SAFE!
  - Horse may become violent due to pain or may roll and thrash
- Do not administer medications unless vet tells you to
- Prevent rolling if possible and safe
- Keep horse calm & comfortable
- Remove food and water
  - Horses can’t vomit, if there is a blockage additional food/water could worsen situation
- Monitor vital signs every 20 minutes:
  - TPR, MM, CRT, gut sounds
Colic
To walk or not?

Walk when:
- Gas colic is suspected
- It is SAFE to do so
- Steady pulse below 55 beats per minute
- Normal to increased gut sounds
- Horse is alert

DO NOT Walk when:
- Pulse is > 55 bpm
- Decreased/no gut sounds
- Horse is depressed or irrational
- Horse has clammy ears or extremities
Internal Parasites

ROUNDWORMS

- Ascarids
- Primarily foals and young horses
- Horse ingests – small intestines – veins – liver, heart – lungs – coughed up & swallowed – small intestines – passed into environment
- Deworm every 2 months for 1st year of life
- Larva can survive in environment for years
- Signs: unthriftiness, pot belly, rough hair coat, slow growth, depression
Internal Parasites
ROUNDWORMS

Parascaris equorum egg on fecal flotation
Internal Parasites
STRONGYLES

- Bloodworms
- Most significant & most common – all ages
- Large and small strongyles
- Larva can survive harsh winter conditions, killed by hot, dry summer conditions
- Signs: poor growth, weight loss, poor appetite, rough hair coat, general weakness, anemia, recurrent colic, diarrhea, death
Internal Parasites

STRONGYLES

Large strongyles attached to the mucosa of the large intestine. Red dots (arrows) are the previous feeding sites of the adult worms.

EL₃’s can account for up to 75% of the encysted small strongyles burden.
Internal Parasites

PINWORMS

- Minor damage
- Severe irritation around the tail
  - Loss of hair & excessive rubbing
Internal Parasites

THREADWORMS

- Strongyloides
- Foals
  - As young as 4 days
- Signs: diarrhea, dehydration, weight loss
Internal Parasties

Tapeworms

- All ages
- Requires intermediate host – oribatid mite
  - Found as free-living forms on pastures
- Horse ingests mite
- Ulceration in large intestine & cecum, colic, intestinal blockage
- Praziquantel or pyrantel at 2x dose
Internal Parasites

CONTROL

- Each farm must design its own program
- Manure is the primary means most parasites are spread
- Proper manure disposal
- Pasture management:
  - Eliminate manure buildup, prevent overcrowding, rotate pastures (including with ruminants)
- Separate and manage horses by age groups
- Never feed on the ground!
Internal Parasites

CONTROL

- Anthelmintics
- “purge” and “continuous” methods
- Avermectins = Ivermectin
- Benzimidazoles = Fenbendazole
- Pyrimidines = pyrantel-pamoate, pyrantel-tartrate
Internal Parasites
Deworming Plan

- Deworm at least 4 times/year (adults)
  - Use drug effective against: ascarids, strongyles, pinworms
  - Should include praziquantel or double dose pyrantel once a year for tapeworms
- Annual cycle: Start in September and deworm every 4-8 weeks until end of March
- Caution about “rotating” dewormers
First Aid and Injuries

- Questions???