

Health and Diseases

Equine Science – Chapter 8

Keeping your horse and pony healthy will be the most important job you have as the owner of an equine. There are many health and disease issues that you need to be aware of in order to recognize if an animal in your care is at risk and perhaps in need of special care by your veterinarian. It is important to establish a good working relationship with your veterinarian and, with his or her assistance, to develop a health-management plan for your horse.

There are many excellent books on the health, diseases and veterinary care of equines. The information they contain is extensive – and can be overwhelming for most horse owners. This chapter will focus on information that all horse owners should know, rather than trying to cover all health and disease issues or subjects.

What is “Normal”?

Being able to recognize whether an animal is healthy is the first thing you need to learn. To do this, you need to be extremely observant and thoroughly check over each animal in your care, following the routine described below, several times every day. If you do this conscientiously and attentively, you will quickly learn what is “normal” for a particular animal – which is important because “normal” differs from one animal to the next. Just like people, all horses are not the same; there is a variation from one individual to the next.

Once you know how “normal” looks for each horse in your care, you’ll be able to recognize immediately if something is not right with a particular horse, just by:

- the position of the ears
- the way the animals responds that day
- the look in the animal’s eye
- the way the animal is standing
- a swish of its tail
- or even by the touch of your hand

To develop the baseline “normal” picture for a horse in your care, run your hands over its body every time you feed the horse or clean its stall. Run your eyes over its body as well, scanning from the tips of the ears to the tip of the tail, and all the way down the body and legs, on both sides. Do this at least twice a day.

Another part of knowing what’s “normal” for the horses in your care is keeping track of each one’s usual patterns of eating, sleeping, drinking, urination, defecation and activity patterns. The more you can recognize these, the better you’ll be able to notice immediately when something is not quite right.

Temperature, Pulse and Respiration (“TPR”)

There are three excellent indicators of the health of any animal, including equines. They are referred to as “TPR”, which stands for temperature, pulse and respiration. Below is a list of ranges that are considered “normal” for the average adult horse and foal at rest:

	Adult*	Foal*
Temperature (F)**	100 ± 1	100 ± 2
Pulse (beats/minute)	40 ± 5	80 ± 10
Respiration (breaths/minutes)	12 ± 4	30 ± 10

- * PLEASE NOTE – All numbers are for readings taken at rest and in healthy animals. Remember that exercise, environmental temperature, humidity, fever, stress, age and anxiety can affect pulse and respiration. Knowing what is “normal” for your horse is what is important!
- ** If you wish to convert degrees to Fahrenheit to degrees Celsius: $(F+32) \times 5/9 = C$

Being able to take readings of TPR – also referred to as “vital signs” – is a skill good horsemen need. If you need to call your veterinarian for an acute situation, being able to take the current vital signs for the horse in question and report them to your veterinarian over the phone can be

helpful. (In an emergency situation, when time may be critical, call your veterinarian first. Then, once help is on the way, you may be able to take the horse's vital signs before the veterinarian arrives.

A good practice is to keep a separate, clearly labeled index card with the health information for each horse in your barn. Head the card with the horse's name, write a description of the animal (color, markings, gelding or mare, etc.), and note the animal's normal TPR. You may also want to list the usual location of the horse – its stall number, or in which pasture it can typically be found. If all the horses in your barn have the same veterinarian, post contact information for him or her next to the phone. If they don't, record contact information for your veterinarian of choice on each horse's TPR card, too. That way information will be available even when you aren't.

An index-card file box or recipe box is a great place to keep the TPR information cards. Most horse owners who have such a box of cards keep it in the tack room, available for easy access.

Update information on the card as necessary. Recheck and update TPR information for every horse on the farm at least one time per year.

TAKING "TPR"

Learning to take the temperature, pulse and respiration of your horse is not difficult. Practice so you know exactly how and can do it quickly in an emergency situation. For determining "normal" TPR, though, take readings in "normal" conditions: when the animal is at rest and in a familiar setting, and when the outside temperature is average for your part of the country. As noted above, extreme heat or cold, exercise or excitement of any kind can affect readings.

Temperature

To take your horse's temperature, which is done rectally, you will need a veterinary thermometer. Because both the older conventional thermometers and the newer digital thermometers are currently available, you're wise to learn how to use both.

Conventional Thermometer

This type of veterinary thermometer has a little loop at the far end. Securely tie one end of a length of string, 1 to 2 feet long, to the loop. For safety, tie the other end of the string to a clothespin or hair clip – which you will clip to the horse's tail when the thermometer is in place. This will prevent the thermometer from getting sucked into the anus of the horse or expelled and broken.

Before inserting a conventional thermometer to take a horse's temperature, shake it down so that it reads below 96 degrees F. When you shake, also be sure to hold the clothespin or hair clip so it doesn't swing loose and break the thermometer!

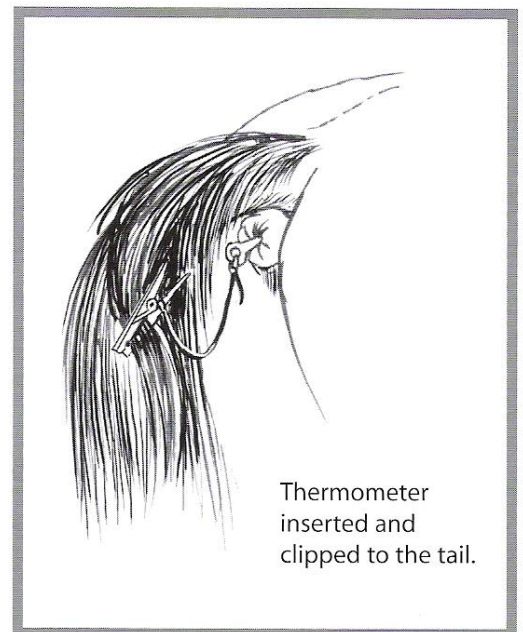
Digital Thermometer

Digital thermometers, now available for use in equines, do not need to be shaken down -- and most do not have a ring for attaching a string and clip. Because digital thermometers typically produce a reading in a minute or less, the person taking the reading is expected to stay with the horse and hold the thermometer to ensure that it doesn't get sucked in to the anus or expelled or broken.

Inserting a thermometer

Whichever type of thermometer you're using, apply a small amount of petroleum jelly or antibiotic ointment to the bulb end for lubrication. (If you have nothing else to use, spit also works!) In general, as for most work around horses, stand on the left side and close, being careful that the horse doesn't kick at you. (Most horses are good about getting their temperature taken, but stay aware.) Hold the tail and move it gently to the side, exposing the anus. Then insert the thermometer gently, rotating it as you do. If needed, pull the thermometer back and forth an inch or two, getting the lubricant to help with the insertion process. Insert the conventional-type thermometer approximately 3 or 4 inches into the anus. For a digital thermometer, the depth of insertion is usually less, but models vary greatly. Check the manufacturer's instructions for guidance.

For a conventional thermometer, clip the clothespin or hair clip firmly to the tail and stay with the horse. Leave the thermometer in for 3 to 4 minutes to be sure of getting an accurate reading. Then remove the thermometer and once it is safely in your hand, release the tail-clip.



For a digital thermometer, stay with the horse and keep your hand on the thermometer. The time need for an accurate reading is generally less than one minute, but check the manufacturer’s instructions to be sure. At the end of the recommended time, remove.

With a conventional thermometer, reading the horse’s temperature may be hardest part of the job. You will need good light (which may be a flashlight if you’re working at night), and you may need to rotate the thermometer to see how far the fluid has risen. Practice until you’re sure you can accurately read the temperature with ease when you really need to.

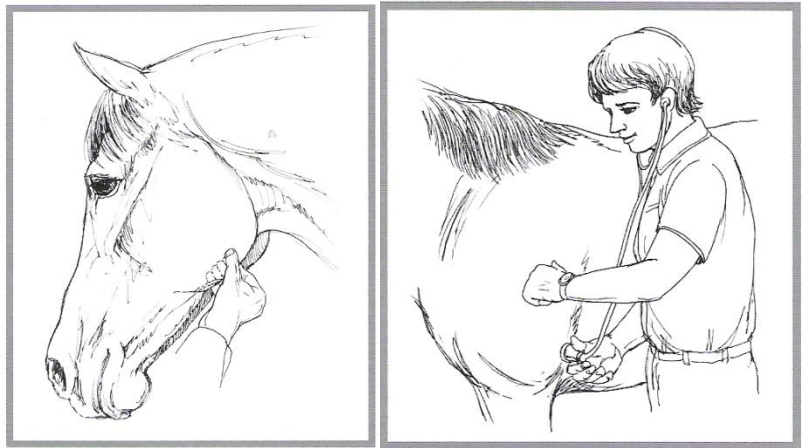
Digital thermometers are easier to read; they display the animal’s temperature numerically.

Most veterinary thermometers sold in the United States measure temperature in degrees Fahrenheit. Some also display the reading in Celsius.

Pulse

The horse’s pulse rate, also known as its heart rate, is a measurement of how fast the heart is pumping blood throughout the body. You can measure the pulse rate with a stethoscope, placing it near the heart; along the left side of the horse’s body (the heart is closer to the left side than the right), “under the elbow” and along the girth line. Some veterinarians suggest positioning the horse’s left front foot slightly forward to help you place the stethoscope at a spot where you’ll be able to hear a strong heartbeat.

Another way to take a horse’s pulse is to place your fingers on the facial artery, which is just inside the jaw or cheek groove (the area between the jawbones).



Whether you are using a stethoscope or putting your fingers on a facial artery, count the number of beats per minute. This is the pulse rate of the horse.

Respiration

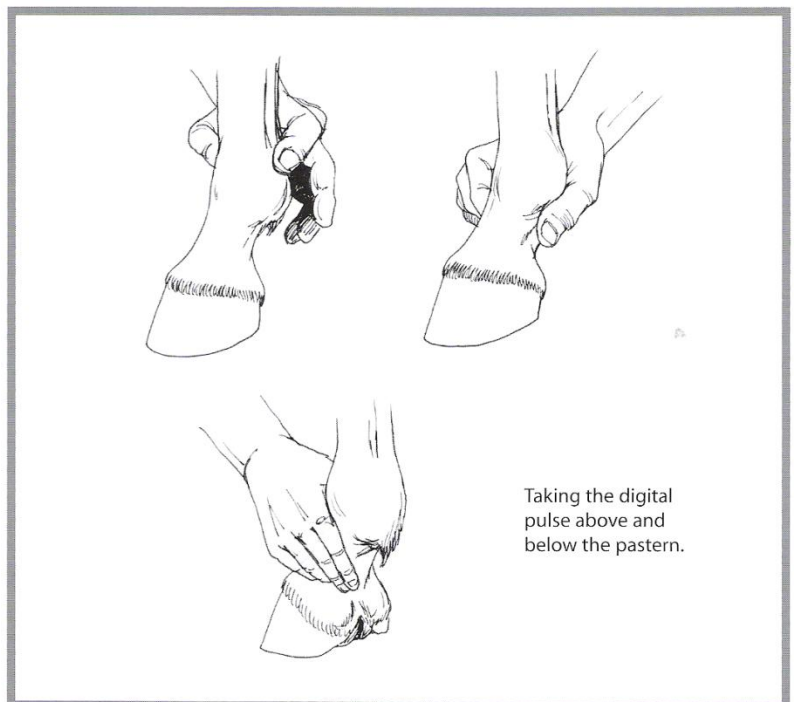
The easiest way to take a horse’s “respiratory rate” is to hold a tissue or other easily moved paper about 3 inches in front of one of the horse’s nostrils. Count the number of times the tissue moves per minute. Another way is to watch the animals flank rise and fall: count the rise and fall as one movement, and count how many times this happens per minute. This will give you the rate of respiration.

Digital pulse

There is one other pulse rate the horse owners need to be familiar with: the digital pulse. “Digital” means “of the fingers/toes/extremities” – or, in the horse, “of the foot”. Learning to check for a strong digital pulse is not a simple matter of counting the number of beats per minute, because this pulse can be difficult to locate and detect. But the ability to take a horse’s digital pulse can be very important in certain situations.

Although barely detectable in a healthy horse at rest, the digital pulse in a foot becomes strong and throbbing if there is an injury to that foot or leg or possibly laminitis in the foot, or if the horse has bruised the sole of the foot and an abscess is “brewing”. In short, a strong and throbbing digital pulse indicates that something is not right with the relevant foot.

Taking the digital pulse involves observing and comparing what you can feel with what is “normal” for your horse. If you suspect a problem, you will be looking for a detectable



and strong throbbing where usually the digital pulse is very faint and almost undetectable.

In equines, there are two places in the foot region to check for a digital pulse:

1. The more accurate but more difficult place is just to the outside of the center on the back of the pastern. Just above the coronary band. Unless the foot has a problem, even experience horse men have a hard time finding the right spot here to place their fingers to detect a digital pulse – because the pulse will be very faint. But if, for example, the horse is having a laminitic episode, the pulse will throb strongly and be easy to find. For this reason, this is the best site to use if laminitis is suspected.
2. The easier place to detect a digital pulse is just above the pastern joint. At this site, the digital pulse can more easily be detected, even by an inexperienced horse person. At this site as well, the digital pulse will throb if there is a problem in that foot.

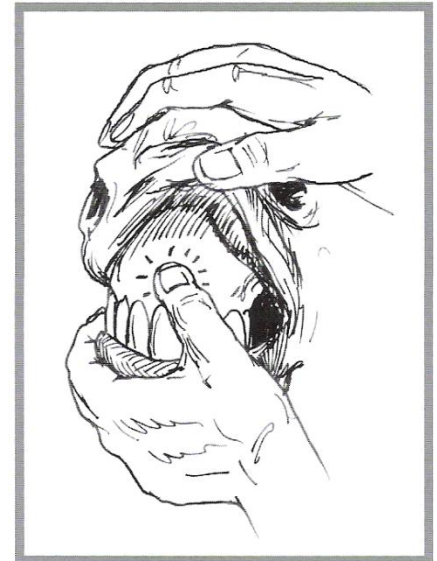
Capillary-Refill Time (“CRT”)

Animals that go into shock will have a slowed capillary-refill time (CRT). This is because the body systems are calling all the available blood to the center of the body and away from the extremities in an effort to maintain function of the vital organs. A slowed CRT can also result when an animal is bleeding somewhere, within or outside the body.

There is a simple way to evaluate CRT. Lift up the horse’s upper lip and look at the color of the gums. In a normal, healthy animal, the gums should be a medium-pink color:

- not too light – (washed-out pink to white in color)
- not too dark – (dark pink to red in color)

To determine CRT, press your finger against the gum and hold for a few seconds; the area under your finger will become pale. Release and count the seconds (one-one thousand, two-one thousand, etc.) until normal color returns. A healthy horse will have a capillary-refill time of 1 to 3 seconds.

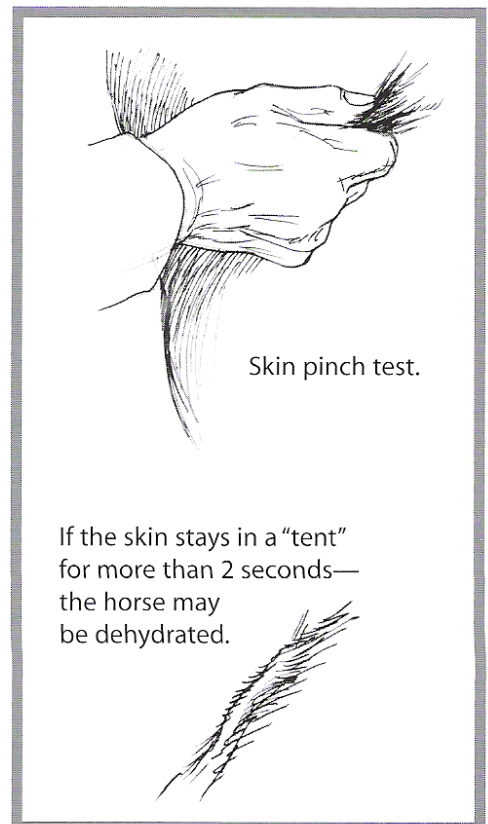


Taking the capillary-refill time (CRT).

Skin-Pinch Test

The “skin-pinch test” is a simple test for dehydration of a horse’s body. Pick a point near the junction of the neck and shoulder, just in front of the slope of the shoulder and at the center of the neck. Pinch a small fold of skin between thumb and forefinger and hold for a few seconds. Then release and count (one-one thousand, two-one thousand, etc.). The skin fold or “tent” should return to the horse’s neck in 1 to 2 seconds. If it lingers longer, it could be an indication that the horse’s body is dehydrated.

Another way to check for dehydration, preferred by some veterinarians as more accurate, is to open the horse’s lips and check with the tip of your finger whether the gums feel moist. Gums that, instead, feel dry or “tacky” are another indication that the horse may be dehydrated.



First-Aid Kit

Every barn should have a first-aid kit. So should every horse trailer – or at least take a first-aid kit along with you when hauling horses. Horses have a reputation for hurting themselves. Experienced horsemen say, “if there is something for a horse to get hurt on, the horse will find it!”

Although people tend to select items for their first-aid kits based on their previous experience with emergency situations, there are some essentials that belong in any first-aid kit – to clean wounds, to bandage wounds, to wrap legs, to splint legs, and to give first-line relief or protection for a number of other injuries. Below is a list of some items to include in an equine first-aid kit:

- stethoscope
- thermometer
- watch (with second hand – for taking vital signs)
- sterile bottle of saline solution
- sterile bottle of distilled water
- sterile syringes for flushing wounds (25 cc and 10 cc – no needles)
- Betadine or Nolvasan solution
- Plastic cup
- Sterile gauze pads
- Sanitary pads or diapers
- Large rolled cotton
- Quilted leg wraps (at least 2)
- Ace bandages (at least 2)
- Vetrap (at least 2 rolls)
- Adhesive tape
- Duct tape
- Scissors (a sharp and a blunt pair)
- Hoof pick
- 4 rubber door stops (for heel elevators)
- Jackknife (a leathman tool is great!)
- Hemostat
- Flashlight (with extra batteries)
- Latex gloves
- Clean towels
- Humane twitch
- Ice packs (the chemical kind)
- Wound dressing
- Triple antibiotic salve
- Petroleum jelly
- Bottle of rubbing alcohol
- 2 adult-size soccer shin guards (use as splints if necessary)
- 1.5 to 2 foot length of 6” PVC pipe cut in half lengthwise (use as splints if needed)
- Pad of paper, pen and pencil
- Veterinarian/s contact information (tape inside lid of first-aid kit)
- Card with “normal” ranges for TPR (tape inside lid)

A plastic toolbox, fishing box or cooler can make a great waterproof container for your first-aid kit. Keep your primary kit in your tack room and make sure everyone knows where it is. Also make sure everyone understands that the first-aid kit is for emergency situations, not everyday use, and that anything taken or used must be returned or replaced immediately. (Taping a list of contents inside the lid may help you keep the kit properly stocked.) Your first-aid kit needs to be stocked and ready for the next emergency situation, whenever it happens. Never forget to take a first-aid kit along when you are hauling horses.

Sign and Symptoms

Because animals cannot talk, they cannot tell us when or where a health problem is bothering them. In order to assess their condition, we have to rely on “signs” and “symptoms”: indications that something might be wrong, and clues to what that something might be.

NOTE: Strictly speaking, “sign” and “symptom” are defined differently:

- Symptom – subjective evidence of a health issue perceived by an observer. Example: the animal is not eating, seems to have a lowered activity rate, just stands in the pasture with head lowered, is lying down, has diarrhea, is pacing in circles, etc.
- Sign – object, “measurable” evidence of a health issue. Example: temperature, pulse, respiration, a diagnostic-test results, etc.

Horse people have typically used the words “sign” and “symptom” to mean the same thing. Likewise, the Merck Veterinary Manual, a well-known reference book on animal health care, also uses the two interchangeably. For this book, too, the words “sign” and “symptom” will be used interchangeably, both meaning any observation or measurable indication that an animal has a health issue or disease.

Some Common Equine Health Issues

It is not possible to present or discuss all health issues affecting equines in this book, but it is possible to select a number of such issues that are common enough and/or serious enough that all horse owners in the United States should be aware of and knowledgeable about them. Before beginning the detailed list of these health issues, here are some terms that will occur repeatedly in this survey:

- **Disease** – an imbalance in normal body function (the healthy body is “in balance”); an infection or state of illness in one or more parts of the body, causing health illness

- **Infection** – the condition resulting from the presence of organisms (bacteria, virus, protozoa, fungus, rickettsia) in the body that cause health issues or disease
- **Infectious** – able to cause the spread of disease by means of organisms such as bacteria, virus, protozoa, fungus and rickettsia (called “infectious agents”); be aware that not all “infectious” health problems are passed by animals-to-animal contact (said to be “contagious”); some infectious health problems need only a “vector” to pass them along to another individual (see definitions of “contagious” and “vector” below)
- **Contagious** – able to be spread from one animal to another through exposure to the ill animal itself, to its body secretions, to a wound or a sore, or to a parasite, etc., from the infected animal
- **Non-contagious** – not able to be spread from one animal to another through exposure to the ill animal itself or its body secretions, to a wound or a sore, or to a parasite, etc., from the infected animal
- **Bacterial** – caused by or related to bacteria; bacteria are single-celled living organisms; some need oxygen to live (aerobic) and others do not need oxygen to live (anaerobic)
- **Viral** – caused by or related to a virus; viruses are minute bundles of genetic material wrapped in a protective layer of protein; they are not living organisms, do not need oxygen to survive, do not need to eat like living organisms, have no waste products; viruses need to be inside a living organism in order to reproduce; they do not survive for long outside the body; once inside a living organism, a virus can cause health problems and affect the immune system of the host; viruses are not easily controlled by medications – treatment is difficult
- **Rickettsial** – caused by or related to rickettsia; rickettsia are microorganisms that are smaller than bacteria but bigger than viruses in size; they are found in and usually spread by parasitic arthropods such as ticks, lice, fleas and mites
- **Fungal** – caused by or related to a fungus; a fungus is a plant that can be microscopic or of large size; fungi (plural of “fungus”) do not contain chlorophyll; they are protected in the environment in spore form and reproduce from spores; the fungal classification includes yeast, molds, mildew and even mushrooms; fungi can be found in soil, feces and dead/decaying animal tissue
- **Protozoal** – caused by or related to protozoa; protozoa are one-celled organisms that are not visible to the naked eye but are easily seen under a microscope; they cause some health-related issues in horses
- **Systemic** – describes an illness or health-related issue that is within the animal’s body; it may affect one, several or all parts of the body
- **Reservoir** – in the context of health and disease, a reservoir is a living or non-living place where infective agents are stored or reserved until they are introduced to an animal or the environment or the animal, thus causing health or disease issues
- **Vector** – a living or non-living thing that can transmit infective agents to another living thing, causing a health or disease issue; e.g., a mosquito or a hypodermic needle can be vector for Eastern Equine Encephalomyelitis (EEE)
- **Immunity** – the condition that results when animals have, produce or obtain antibodies that enable them to fight off health issues; immunity can be:
 - **Passive** – passed to the offspring from the maternal parent; in the horse, antibodies are not passed across the placenta (as in humans and many other species); instead, the foal must obtain antibodies from its dam by ingesting the first thick milk, or “colostrum”, within 18 to 24 hours after birth
 - **Active** – obtained by building antibodies in response to a disease or to vaccination; may be:
 - **Short-term** – lasts for short period of time, such as weeks, months or a year
 - **Permanent** – for the lifetime of the animal

With those terms established, here is our lists of health issues that are common among horses in the U.S. (C=Contagious, N=not contagious)

Health Issue	Signs/Symptoms	Vaccination Available	Comments
Bacterial: Health issues caused from infection by bacteria			
Anthrax C	High fever; colic; depression; lack of appetite; swelling in throat, neck, shoulder and belly regions; increased respiration rate; bleeding from body openings; lack of alertness, staggering, coma death; toxins damage nervous system and blood-clotting mechanism	Yes – some reaction is common; consult your veterinarian; vaccinate only in anthrax-endemic areas	Highly contagious; rapidly fatal; infects most animal species, including man; spore-forming bacteria can lie dormant for extended periods of time; once inside the body, spores release bacteria; quarantine infected horses immediately; carcasses must be burned, buried and limed – consult veterinarian and county health official.
Brucellosis C	Nonspecific symptoms make diagnosis difficult; intermittent fever; low activity; stiff muscles; reluctance to move; discharge of pus from withers or poll, known as “fistulous withers” or “poll evil”, can result – but not all cases of fistulous withers or poll evil are due to <i>brucella abortus</i> bacterial infection	None available	Currently rare in U.S. due to success eradicating brucellosis from cattle population, in which it causes abortion; sometimes called “undulant fever” in humans; horses can be infected from contaminated food sources and body discharges (highly contagious); quarantine infected animals; consult your veterinarian.

<p>Leptospirosis C</p>	<p>Causes periodic ophthalmia and abortion or stillbirth in horses; foals born from infected mares may show signs of fever, respiratory distress, jaundice (yellow discoloration of skin and/or mucous membranes), and kidney disease; diagnosis is based upon physical exam, history and blood test; diagnostic laboratory test is available</p>	<p>No approved vaccine for horses.</p> <p>There are approved vaccines for dogs, cats and cattle</p>	<p>Bacteria cannot live long outside host animals, but are carried by and shed in urine of host animals (horses, cattle, dogs, cats, sheep, pigs, deer) for months, even years, infection comes from drinking contaminated water or grazing near host animal's urine deposit in pasture</p>
<p>Lyme Disease N</p>	<p>Causes joint disease, lameness and arthritis-like symptoms; fever, muscle soreness, limb swelling; other complication may include heart, kidney, and nervous-system problems; symptoms differ by species; antibiotic and/or penicillin treatment is essential; if symptoms return, stronger or longer treatment may be necessary; blood diagnostic test is available</p>	<p>No approved vaccine for horses; there is a vaccine for dogs</p>	<p>Affects animals and humans; several tick species are vectors; rodents are a major host animal; dogs can serve as hosts; transmission most common in spring and fall, as ticks are actively seeking horses; problem worst in Northeast and mid-Atlantic regions of U.S., although other regions are also affected, including Midwest and West; to reduce risk, keep horses out of brushy pastures during spring and fall; spray legs and undersides with tick-repellent product; check horses daily for ticks.</p>
<p>Salmonellosis C</p>	<p>Problem usually begins with carrier horse that shows no signs but sheds bacteria; signs include depression, fever, being "off" feed, soft feces or diarrhea, abdominal pain or colic; infection lasts 4 to 5 days; can be fatal; in several cases, diarrhea may become watery, with foul odor – animal may rapidly become dehydrated, plasma protein levels can become dangerously low; severe cases are treated with IV fluids and electrolyte replacement; antibiotic treatment is controversial; other drugs may help alleviate complications; consult your veterinarian immediately</p>	<p>No</p>	<p>Most common cause of diarrhea in adult horses; spread by contaminated feed, water, environment or by contact with infected animals; wide variety of species can be source, including rodents, reptiles, birds, horses and other domestic animals; stress – from transportation, change in feed, training, hot weather, deworming, use of a broad-spectrum antibiotic, etc – may increase likelihood of contracting salmonellosis; isolate infected animals; wear protective clothing and latex gloves when handling infected animals and keep clothing isolated when not in use; all persons must boot-dip in and out of facilities; disinfect all areas where infected horses have been; horses can shed bacteria for months</p>
<p>Strangles (Distemper) C</p>	<p>Short incubation period – 3 to 6 days; fever as high as 106F; first sign is mucous discharge from nose; may have discharge from eye; mucus become thick, yellow and significant (purulent); dry, painful cough; horse may stand with head lowered and neck outstretched; swelling of lymph glands in throatlatch and lower-jaw area may make swallowing difficult – feed "water-plumped" soft feed; in severe cases, breathing difficulty can result; lymph glands may burst or need to be lanced and drained by veterinarian, after which healing begins and sign subside; immediate bacterial infection can spread to other lymph glands, cause "bastard strangles"; complete rest and nursing care are needed; hot packs on abscesses may speed their maturation to burst or to be lanced; severe cases with difficulty breathing may require tracheostomy, feeding by stomach tube; use of antibiotics is controversial</p>	<p>Yes – vaccine is available for equines; currently intranasal administration is preferred</p> <p>NOTE: "acquired immunity" from past infection gives some protection for about 2 years</p>	<p>Worldwide problem; severe short-term respiratory infection; transmitted by inhalation of droplets/discharge from infected animal's sneezing or coughing, by environmental exposure or by ingestion of bacteria from contaminated feed, water or other items in environment, such as stalls, pails, grooming tools, horse trailers, etc.; usually seen in animals less than 5 years of age; older animals seem to develop resistance/immunity; discuss a plan with your veterinarian to isolate infected animals and disinfect all contaminated areas; manure and bedding of infected animals should be burned and buried; wear protective clothing and latex gloves when handling infected animals; boot-dip in and out of facilities; for a minimum of 4 weeks after disinfection, do not use any areas where infected horses have been; bacteria can remain in environment for 2 months, with some documentation indication as long as 6 months/even up to 1 year—however, researchers now think some animals may remain "carriers" of infection, which might explain outbreaks on facilities at a much later date.</p>

<p>Tetanus (Lockjaw) N</p>	<p>Incubation period usually 1 to 4 weeks; commonly but not always associated with wound of type that creates anaerobic conditions, i.e., deep puncture wound that heals over; after incubation period, first sign is stiffness about head and neck; other signs include erect ears, tail stiff and held away from body, prominent third eyelid (nictitating membrane), colic, difficult walking, turning, and backing, "saw-horse" stance, muscle spasms and twitches, severe spasm reaction to noise or motion, increased heart and respiratory rates, sweating (common), flaring nostrils, difficulty breathing, inability to eat or drink, jaws locked, horse down; death results from respiratory-system paralysis, body usually arched position; mortality rate about 80%</p>	<p>Yes – 2 types of vaccine available: toxoid and antitoxin</p> <p>Toxoid should be given annually to horses after initial 2 doses given 2 to 4 weeks apart</p> <p>"antitoxin" – should be given immediately after deep puncture wound, only to non-vaccinated animals; if given to toxoid-vaccinated animals, can cause liver disease</p>	<p>Worldwide problem; usually wound-induced infection; bacteria are in soil and in manure and other body excretion, in protective "spore" form; only area in U.S. that seems not to have tetanus bacteria in soil is northern Rocky Mountains; tetanus affects most mammals, including humans; birds (avians) seem to have high resistance; horses seem to be most sensitive of all species except possibly humans; bacteria thrive once introduced into a wound – especially deep puncture wound – with an anaerobic (without oxygen) environment; interestingly, tetanus bacteria are found in intestinal tracts of most animals and do not cause illness; "toxoid" is an inactive vaccine and is longer-term, so yearly vaccination can protect horses; "antitoxin", created from antibodies taken from another horse, is effective for only about 2 weeks; vaccinate pregnant mares 6 weeks prior to foaling date; vaccinate foals shortly after birth; consult veterinarian</p>
<p>Fungal (Systemic): health issues caused by infection from fungus (systemic means "in the body"); although rare in horses, systemic fungal infections are hard to treat once established; usually found in older or immune-suppressed horses</p>			
<p>Aspergillosis N</p>	<p>Respiratory illness; nasal discharge, difficulty breathing; can also cause severe diarrhea; chronic signs of body wasting; can be rapidly fatal, especially when respiratory and digestive tracts are both involved; can spread to brain and optic nerve and cause blindness; nasal swab for diagnosis or tissue sample – ELISA test</p>	<p>No</p>	<p>Worldwide; fungal infection spread by fungus spores in damp hay; infects horses that inhale spores; greater problem in stabled horses because of poorer ventilation/less fresh air</p>
<p>Blastomycosis N</p>	<p>Respiratory form causes mild respiratory illness (systemic); skin form causes nodules and abscesses that break open and drain (non systemic)</p>	<p>No</p>	<p>Problems in central U.S.; 2 forms, respiratory and skin; spores are in ground or environment</p>
<p>Coccidioidomycosis N</p>	<p>Causes mild respiratory illness; can spread through body; can infect skin – but rare; blood test is available; treatment is difficult</p>	<p>No</p>	<p>Problem in dry areas of southwestern U.S.; spores are in ground or environment; can cause abortion in horses; also causes problems in cattle, sheep, pigs, dogs and cats</p>
<p>Histoplasmosis N</p>	<p>Causes mild respiratory illness, chronic cough, recurring bouts of pneumonia, difficulty breathing, loss of weight, loss of muscle, fever, diarrhea, eye problems, enlarged liver and spleen; diagnostic is fine-needle aspiration of lung or tissue sample; medications available; treatment, as with most fungal infections, is difficult</p>	<p>No</p>	<p>Problem in central U.S.; fungal spores are in soil contaminated by manure of chickens, birds, and bats; horses can be infected.</p>
<p>Protozoal: Health issue caused by infection from protozoa</p>			
<p>Equine Proplasmiasis (Babesiosis) N</p>	<p>Signs include high fever, swollen legs, weakness, rapid pulse rate, pale gums, swelling of eyelids and head; infection cause breakdown of red blood cells – severe anemia results; infection onset is rapid; death can result in 1 to 2 days; horses that recover can be carriers for several years; good diagnostic tool is blood smear – detection of protozoa in red blood cells under microscope confirms diagnosis; ELISA test of blood sample may be helpful</p>	<p>No</p>	<p>Protozoal infection; vector is tropical horse tick; health problem in southern U.S. – seen in Florida, Texas and other southern states; insect repellents that control ticks are helpful; check animals daily for ticks, especially after trail rides; keep animals out of tick-infested areas</p>

<p>Equine Protozal Myeloencephalitis (EPM) N</p>	<p>Protozoa multiply in body, invade spinal cord and brain; signs include stumbling, falls, head tilt, weakness, lameness, muscle wasting (can be on-sided), head and face nerve damage; signs worsen progressively; many animals recover, but permanent neurologic problems are possible; early detection and treatment seem to lessen changes of permanent damage; diagnosis by detection of antibodies in cerebral spinal fluid (CSF) moved by "spinal tap"; strong new medication being researched; anti-inflammatory drugs may be given to decrease swelling in brain and spinal cord.</p>	<p>No</p>	<p>Seen in U.S., with current research providing more information; opossum has been implicated as reservoir for protozoa carrying infection; other species are being considered; protozoa shed in manure of opossum contaminate feed and water sources; causes neurologic problems in horse, which appears to be one of most commonly affected species; researchers suspect many more horse may be exposed to EPM, which goes unrecognized if not signs are displayed.</p>
<p>Giardiasis (Giardia infection) N</p>	<p>Can cause gastrointestinal upsets; one possible cause of chronic diarrhea; most infections are without clinical signs; diagnosis is difficult, as signs of infection and cysts (protective sacs) containing giardia in feces tend to come in cycles; fecal exams can be used as a diagnostic tool but are not very accurate; anti-protozoal medications are available for use in horse</p>	<p>No</p>	<p>Worldwide problem; seen in most of U.S., particularly in West; can infect wild and domestic animals, birds and humans; rare in horse; wild animals are suspected reservoir; giardia are also considered "internal parasites"; usually acquired by ingestion or by drinking contaminated water; giardia contained in protective cysts and shed in feces can remain protected, even in cold water, for several months; cyst wall breaks down when ingested by a host animal; protozoa then reproduce and cause infection in host.</p>
<p>Equine Ehrlichiosis N</p>	<p>Swollen legs – especially hind; reluctance to move; staggering gait; loss of coordination; diagnostic tool is blood smear showing "inclusion bodies" present in white blood cells; antibiotic treatment is highly effective; confine affected animal to prevent self-inflicted injury; give complete rest for 3 weeks.</p>	<p>No</p>	<p>Problem in California, Rocky Mountain area and Midwest; non-contagious; transferred to horse by tick bite; effect is mild in animals under 3 years of age, more pronounced in animals 3 years and older; use fly/insect sprays that also are effective to ticks; inspect animals daily; be especially observant after trail rides</p>
<p>Potomac Horse Fever N</p>	<p>Animals are lethargic, off feed; causes fever (can be as high as 108 F), colic, diarrhea (mild or severe), "pipe-stream" diarrhea, colitis, laminitis; infection is mild in about 50% of cases; some severe cases are complicated by acute laminitis; some deaths are caused by infection itself, others by laminitis complications; hard to distinguish from other gastrointestinal infections; no really good diagnostic tools; antibiotics are preferred treatment, along with intravenous fluids; oxytetracycline (antibiotic of choice) is extremely expensive.</p>	<p>Yes - at least lessens severity of infection; does not always prevent infection</p> <p>Initial inoculation is 2 does 3 to 4 weeks apart; then once or twice a year; advised in affected regions</p>	<p>An acute-diarrhea health issues; first seen in areas near and around Potomac River in Maryland and Virginia; has appeared since then in many other U.S. States and in Canada, usually in the river valleys; typically occurs in summer and fall; not recorded outside North America; an arthropod is suspected vector – not confirmed.</p>

Viral: Health issues caused from infection by viruses			
<p>Equine Infectious Anemia (Swamp Fever) C</p>	<p>Signs differ for 3 potential phases of viral infection: Acute – high fever, severe anemia, weakness, swelling of belly and legs, weak pulse, irregular heartbeat Subacute – recurring fever, weight loss, anemia; swelling of chest, belly, sheath and legs; horse may be jaundiced (tissues turn yellowish); rectal exam may reveal enlarged spleen Chronic – recurring fever, anemia; horse tires easily and is unable to work; can relapse into acute or subacute type weeks, months or years after infection.</p> <p>Death is possible; no effective treatment; animals are carriers for life. Coggins or ELISA test is a diagnostic tool – by blood sample; animal will show positive results 2 to 4 weeks after infection; testing lab must report positives to federal authorities; know your state’s regulations for transportation of animals within state and across state lines – acceptable date on Coggins papers differ from state to state</p>	<p>No – vaccine is not available</p> <p>If “positive” test results, draw blood and retest to confirm positive result before euthanizing any horse</p>	<p>Worldwide problem; acute or chronic viral infection; not known to infect man; spread by blood, saliva, urine, milk and all body secretions; usual vectors are biting and blood-sucking flies, mosquitoes, and other insects; can also be spread by traces of infected blood on syringes and surgical tools; can penetrate mare/foal placenta attachment; persists in white blood cells (WBC) for life of the animal; death is rare; carriers generally appear healthy; due to strict control measure in the U.S., not infrequent in this country; infected animals must be put down or branded and kept permanently in a screened-stall facility at least 200 yards from all other horses; animals can be shipped to a recognized isolation facility; foals that have nursed from an infected mare can actually be clean of the virus – to avoid false positives, test such foals a month or even more after weaning, as they may carry antibodies from nursing for at least a month.</p> <p>*Require a current negative Coggins test before allowing any new horse onto your farm</p>
<p>Equine Influenza (Flu) C</p>	<p>Incubation period usually 1 to 3 days, but can range from 18 hours to 7 days; onset abrupt; fever as high as 107 can last up to 3 days; significant nasal mucous discharge; harsh, dry cough (cough with no mucous accompanying is important finding) may persist for several weeks; depression; horse is off feed, weak; less common signs include mucous discharge from eyes, swollen lymph nodes about head and neck, limb edema (fluid-caused swelling), stiffness, difficulty breathing, pneumonia, and even laminitis; mild cases recover in 2 to 3 weeks, but severe cases may last as long as 6 months; restrict exercise in recovering horse – respiratory tissue takes more time to heal than signs may suggest and returning to exercise too early can lead to serious secondary problems; control dust</p>	<p>Yes – Horses that are shipped, shown or on large farms should be vaccinated</p> <p>Currently 2 strains of flu vaccination: A-1 and A-2.</p> <p>Injectable or intranasal</p> <p>Injectable – use initial 2-dose series, 4 to 8 weeks a part</p> <p>Intranasal – use one initial dose</p> <p>Both types – follow with annual inoculation or more often if horse is shown, travels or is exposed to incoming horses on the farm</p>	<p>Worldwide in horses, except in New Zealand and Australia; acute, highly contagious respiratory viral infection; immune state of infected animal greatly affects severity and outcome; case range from mild, almost inapparent infection to severe; rarely fatal except in animals that are young, old or in poor condition; transmitted by respiratory secretions carried on contaminated feed, bedding, water buckets, manure forks, handlers’ clothing, hands, etc. ; good ventilation and stable hygiene are essential for recovery; animals build antibodies from exposure to different strains of virus; virus mutation can produce new flu strains; nasal swabbing for diagnosis must be done early after onset of signs; discuss vaccination need, frequency, and management with your veterinarian</p>

<p>Equine Viral Arteritis (EVA) C</p>	<p>Incubation period 2 to 13 days, average 7 days; signs can be slight and so are often missed; can include fever, being off feed, nasal discharge, watery eyes, conjunctivitis, lethargy, colic, diarrhea, dehydration; accumulation of fluid in belly area, scrotum, sheath and hind legs; small blood spots inside nostrils are conjunctiva; causes injury to walls of arteries (hence the name), can result in hemorrhages; signs more severe in horses that are young, old or in poor condition; death (rare) has been seen in young foals; animals recover on their own – medication usually no needed; aborted fetuses are partially decomposed, may have fluid in body cavities, edema of lungs; diagnostic tools include swab samples from nose, throat and eye – obtain as soon as possible after onset of signs; blood and placenta samples, and blood and tissue samples from aborted fetus, can be used for diagnosis.</p>	<p>Yes – a modified live-virus vaccine</p> <p>Some state require veterinarian approval for vaccination</p> <p>Antibody production in response to vaccination can be confused with infection in animals inoculated prior to export</p> <p>Vaccinate in areas known for EVA</p>	<p>Acute respiratory infection; transmitted in secretions and air-borne from respiratory tract by coughing, sneezing, mucous discharges, etc.; virus can also be shed in stallion's semen, causing viral abortion in impregnated mare; stallions can become carriers of virus – but mares, geldings and young stock cannot; sound management needed to control spread of this virus</p>
<p>Equine Viral Encephalomyelitis (Sleeping Sickness)</p> <p>EEE (Eastern Equine Encephalomyelitis) N</p> <p>WEE (Western Equine Encephalomyelitis) N</p> <p>VEE (Venezuelan Equine Encephalomyelitis) C</p>	<p>Signs are very similar for EEE, WEE and VEE: First signs are fever, quiet and depressed attitude; neurological signs begin about 5 days after infection, may include compulsive walking, circling, loss of coordination; animal acts blind, walks into walls and fences, becomes very depressed and unaware of surroundings, carries head low, presses head against walls, becomes unable to swallow; convulsions and in some cases death follow; severity of signs varies from animal to animal and between EEE, WEE and VEE strains; no specific treatment; requires supportive care by veterinarian; fluids and anti-inflammatory drugs are usually helpful; diagnostic tools are available but not conclusive; examination of brain of dead animal is most accurate; call you vet and get a necropsy in the event of death, as this health issue can be confused with others (such as rabies)</p>	<p>Yes – 3 different vaccines; give based on problems in your region</p> <ul style="list-style-type: none"> • EEE • WEE • VEE <p>Initially vaccinate with 2 doses 30 days apart, then annually prior to the onset of mosquito season.</p> <p>In areas with year-round mosquito population or disease prevalence, may need to vaccinate every 3 to 6 months.</p> <p>Vaccinate pregnant mares with inactive vaccine 3 to 6 weeks prior to foaling</p> <p>VEE has not been a major problem in the U.S. in recent years, except along Mexican border</p>	<p>3 different virus strains of concern in the U.S. – EEE, WEE, and VEE; Eastern is of greatest concern, with fatality rate of 70 to 90%; Western is of least concern, with fatality rate of 20 to 50%; however, all 3 cause serious health problems; equine encephalitis also occurs in Canada and Mexico; can infect humans; transmitted by bit of infected mosquito; birds, rodents and other animals are reservoirs for virus; horse is a “dead-end host” for EEE and WEE but can serve as a reservoir for VEE, spreading infection if bitten by a mosquito; warmer, tropical-type climates have more problems; swampy areas are mosquito breeding areas; use fly repellents and screened windows in areas of most concern; get rid of areas of standing water; keep horses in barns during time of day when mosquito activity is highest (dawn and dusk for most mosquito species); consult with your veterinarian</p>

<p>Rabies C</p>	<p>Incubation period varies greatly from species to species, within species, and from case to case; incubation is usually from 3 to 21 days after exposure, but for most documented cases in dogs it is 21 to 80 days – and one documented human case developed 7 years after exposure; transmission from inhalation is rare but has been documented; signs may include behavioral changes such as irritability, excitability, anxiety, ataxia (lack of coordination), odd stance, rolling; colic may develop; animal may become vicious, biting or striking with hooves; pupils may dilate; there are 2 phases/forms, 1) "furious" and 2) "dumb" or "paralytic" – and any given case may demonstrate both; virus travels from site of bite to muscle, to nerves to spinal cord and brain, then usually from brain to salivary glands; salivation is used as diagnostic tool: general assumption is that if an animal exhibits salivation (seen more in dogs), the brain has already been infected</p>	<p>Yes – all horses should be vaccinated annually in areas with reported rabies cases</p> <p>Also vaccinate dogs and cats on premises</p> <p>An oral wildlife vaccine has been used with success in Canada and Europe but is not yet approved for use in U.S.</p>	<p>Worldwide problem; a quick and short-term(acute), potentially fatal viral infection; affects all warm-blooded species, including humans; non commonly seen in rodents; usually associated with bite from rabid animal, but can result from infected animal's saliva getting in to an open wound of skin crack or penetrating mucous membranes; horses can be bitten by a rabid animal – wild animal, bat, dog, cat, etc.; indications of infection include normally nocturnal animals (such as bats or opossums) wandering out in the open in daylight; affected wild animals lack normal fear of humans; diagnosis can be difficult and rabies has in many cases been confused with other health problems; consult a veterinarian immediately if rabies infection is suspected; if any human is bitten by any animal, including your neighbor's dog, consult your county health department, which will access potential risk based on vaccination history and the presence of rabies in your region</p>
<p>Rhinopneumonitis (Equine Herpesvirus 1 and 4) – referred to as EHV-1 and EHV-4 C</p>	<p>First sign is significant nasal discharge, commonly referred to as "snots"; can progress to thick mucous and pus-like discharge, fever, inflamed conjunctivae; dry cough, lasting 2 to 3 weeks, is common; potentially fatal secondary complication of pneumonia can result; in pregnant mares, EHV-1 results in late-term abortions that can occur weeks or even months after exposure; EHV-1 can also cause neurological signs including staggering gait, loss of coordination, and some types of paralysis; EHV-4 rarely results in abortion; foal can acquire passive immunity from dam, so ingesting colostrums is extremely important; no specific treatment: rest is critical to minimize secondary bacterial infections; consult your veterinarian if outbreak is suspected.</p>	<p>Yes – EHV-1 and EHV-4 vaccines are available. Immunity last 2 to 4 months</p> <p>Vaccination of pregnant mares at 5, 7 and 9 months of pregnancy recommended</p> <p>For young foals out of "vaccinated" mares, three initial vaccinations are recommended: at 4 to 6 months of age, at 5 to 7 months of age, and at 6 to 8 months of age; follows with boosters at 3-month intervals</p> <p>For foals out of non-vaccinated mares, discuss with your veterinarian</p>	<p>Known as "Rhino", equine herpesvirus is most common cause of respiratory infection in foals, weanlings and yearlings; can cause abortion in pregnant mares; highly contagious, can spread from farm to farm; horse is a "reservoir" for the virus and apparently can be a "silent" (symptom free) carrier; infection can occur from direct or indirect contact with infected nasal discharge or with an aborted fetus or its placenta or placental fluids; farms with high numbers of horses are more at risk; isolate all incoming animals for 3 to 4 weeks before mingling with other horse on farm; practice good farm management, keeping horses in small separate herds and separating pregnant mares from young stock; if an outbreak occurs, no animal should leave farm until 3 weeks after recovery of last infected animal; disinfect premises; discuss with veterinarian</p>
<p>Viral Enteritis (Rotavirus Infection) C</p>	<p>Incubation period of 18 to 24 hours; rapid onset of pronounced apathetic attitude, high fever and diarrhea of variable severity; severe diarrhea (can last 5 to 7 days) affects newborn foals more because they dehydrate quickly; dehydration destroys cells that line intestines and produce lactase (milk sugar); in most foals, lactase-producing cells regenerate within a few days, but if they don't, longer-range problems may develop; diarrhea can be treated with Pepto-Bismol (consult veterinarian for dosage level); use ointments around anus and hind legs to prevent "skin scalding" from diarrhea, may need to wean foal and put on a solid diet of hay and grain.</p>	<p>Not yet available; vaccine is currently being researched</p> <p>Talk with your veterinarian</p>	<p>Virus mainly affects foals up to 6 months of age – period when passive immunity from dam is declining; older animals are not usually affected but may become reservoirs for virus; formally seen only in Kentucky and southern U.S., but now a worldwide problem; virus is shed in stools of infected or recovering foals – or of mature horses that do not show symptoms; transmitted by contaminated feed, water, bedding, handlers' clothing, hands, grooming and cleaning tools; consult veterinarian about products to disinfect premises and equipment – bleach is not disinfectant that works best for this virus</p>

<p>Vesicular Stomatitis C</p>	<p>Incubation period 2 to 8 days; excessive salivation may be first sign; small blisterlike, fluid-filled “vesicles”, varying from pea size to much larger, develop in mouth (on tongue, gums, lips), inside nose and on coronary bands of feet; blisters swell and break; animals drool, refuse to eat and drink, may be lame, develop fever; no specific treatment; most animals recover in about 2 weeks; signs are similar to foot-and-mouth disease, and state and federal veterinary officials must be contacted in suspected cases of either; because foot-and-mouth does not affect horses, a confirmed equine case of vesicular stomatitis can help rule out foot-and-mouth for other livestock on same farm; blood sample and ELISA tests are diagnostic tools</p>	<p>Yes – used in affected areas of the U.S., but under state and USDA veterinarian direction</p>	<p>Affects horses, cattle, pigs, occasionally sheep and goats; humans can be infected; affects many non-domestic animals, such as deer, bobcats, raccoons, rodents, and monkeys – so repercussions of an outbreak can be great; documented in South and North America; mostly seen in warmer climates (Mexico, Central America, northern South American); infects cold-blooded animals as well – fish, insects – and even plants; insects and animals movement are suspected vectors; route for spread of infection is not known; contact with lesions is suspected, as are respiratory tract secretions; wear rubber gloves when handling sick animals; do not share feed, water buckets, equipment, etc.; disinfect all buildings and equipment, including transportation vehicles.</p>
<p>West Nile Virus (WNV) N</p>	<p>Signs can include Fever, listlessness, disorientation, aimless walking, weakness, paralysis, ataxia (lack of coordination), inability to stand, difficulty swallowing, overexcitability from small stimuli, facial paralysis, head pressing, convulsions, coma and even death; evidence of virus has been seen in aborted fetuses (a finding whose implications are still being researched); diagnostic tests are being developed</p>	<p>Yes – “conditional” license in 2002; permanent license in 2003. As with all “new” vaccines use with caution</p> <p>Always consult with your veterinarian about vaccination needs and schedules to ensure vaccination program; individual horses may have special health requirements</p>	<p>Viral infection; potentially fatal to horses, humans and birds; not seen in U.S. until 1999; causes encephalitis; approximately 90% of infected horses show no or mild signs of illness; severe cases can cause death; older, immune-suppressed individuals may be more at risk; transmission still not completely understood; research is ongoing; mosquitoes are primary vector transmitting virus from bird species to horses or to humans; dogs and some other mammals seem somewhat resistant to infection even though antibodies verify that they have encountered WNV; horses and humans do not “naturally” transmit WNV to other horses or humans; however, blood transfusions have been implicated as means of transmission in humans; mosquito control is most effective management practice; do not turn horses out at dusk and dawn, which are principal feeding times for mosquito species implicated as primary vectors so far</p>
<p>Other Equine Disorders/Ailments:</p>			
<p>Colic N</p>	<p>Switching tail, looking around at belly, kicking, rolling, pawing, repeatedly lying down and then standing up; sweating; urinations and defecating frequently with little output; other signs of anxiety; rapid ear movement; onset is usually sudden; in many types of colic, slowly walking the animal can be helpful, but in a few types it can cause more harm and possible permanent internal damage; call veterinarian, because colic is always an emergency situation</p>	<p>No</p>	<p>Most common emergency affecting horses; many types of “colic” (terms refers to any type of abdominal pain in horses) exist: from impaction, obstruction, twisted gut, gastrointestinal upset, parasites, said in gut, toxic feed/plants, spasm, trapped gas, reproductive hormones and/or problems, drug or vaccination reaction, overeating and many other causes; rapid changes in diet, environment, workload, etc., may all be contributing factors; talk with veterinarian about prevention and strictly maintain a parasite-control problem</p>

<p>Equine Cushing's Disease N</p>	<p>Caused by a metabolic imbalance resulting from disturbed hormone production; signs include abnormal hair coat or lack of ability to shed hair, frequent urination, ravenous appetite, obesity, excessive drinking of water, muscle weakness, depressed attitude; some animals, have bulging pad of fat above the eyes; immune system is compromised and secondary health problems and infections can result; last-state animals may exhibit muscle wasting; diagnostic tools exists that test blood chemistry; new medications are being developed; consult your veterinarian</p>	<p>No</p>	<p>A tumor grows on pituitary gland in brain, presses on normal tissue and suppresses gland's normal functions, including production of hormones that regulate body temperature, appetite and shedding of hair; usually seen in older horses (average age of 20 years)</p>
<p>Heaves (COPD = Chronic Obstructive Pulmonary Disease; RAO = Recurrent Airway Obstruction; also called Emphysema) N</p>	<p>Signs include cough (usually dry and not productive; can become productive in severe cases), shortness of breath with exercise, watery nasal discharge, flaring nostrils even at rest - especially in hot and humid weather, wheezing, apparent difficulty breathing, "heave line" along abdomen; coughing and upper-airway spasm may result after horse is fed grain or hay or ridden in dusty arena or after sweeping or raking of stalls or barn aisle; in acute bout, early diagnosis is essential to help avoid irreversible, long-term damage to lower airways; diagnostic tools include tracheal flush and endoscopy; medication, expectorant, inhalants and anti-inflammatory drugs are available to relieve symptoms</p>	<p>No</p>	<p>Heaves generally starts in response to inhalation of contaminants in environment; molds, fungus, spores in hay or bedding are common problems, as are ammonia, dust, smoke and other airborne irritants; lack of proper ventilation in horse barns is contributing factor; exposure to airborne irritants can cause bouts of coughing and respiratory distress; allergic sensitivities can result; seasonal allergies can also become a problem in some horses, as in humans; best management tools is to provide ample fresh air – run-in sheds are ideal; feed dust-free feeds and hay (soak hay or sprinkle with water); for severe cases, which should not be fed hay, beet pulp and commercial heaves products are available; remove horse from stall before cleaning or bedding; keep horse outdoors when sweeping and raking aisle</p>
<p>Navicular Disease N</p>	<p>Inflammation of navicular bone and damage to surrounding tissues and supporting structures; short periods of lameness; horse appears to be walking on its toes with short, choppy stride and stiff gait; sensitivity to hoof testers applied to back 1/3 of hoof (near frog) is usually indicative of navicular problems; nerve block helps to confirm lameness in one or both feet (more commonly front feet); X-ray of feet may reveal bone changes and confirm diagnosis; veterinarian may suggest medication for pain and inflammation; CAUTION: long-term use of anti-inflammatory drugs can cause stomach problems including ulcers</p>	<p>No</p>	<p>Disorder of foot; usually in front feet; problem in many breeds, particularly for athletic animals in disciplines involving significant foot impact and stress; injury to bones and supporting ligaments, or what is called the "navicular complex"; short, straight pasterns seem to predispose horse to navicular problems; innovative types of shoes are available to help alleviate foot pain</p>

<p>Laminitis (Founder) N</p>	<p>Signs usually include lameness, throbbing digital pulse, feet hot to the touch; horse may lie down unexpectedly; may assume “laminitic stance” – front feet out ahead of body and weight shifted toward hind end to relieve burden on front feet; other signs can include fever, chills, sweating, diarrhea, fast pulse rate, and rapid breathing; in severe cases, rotation of coffin bone can occur; call veterinarian immediately; while awaiting veterinarian, hose legs and feet often with cold water or stand horse in buckets of cold water and ice, then put in stall bedded heavily (about 6 inches thick) with sawdust, savings or sand; supply fresh water but remove all feed and hay; keep horse confined and do not walk or exercise; best treatment involves veterinarian and farrier working together; horse may need shoeing with wedge pads to elevate weight off heels; severe cases may require surgery on deep flexor tendon to alleviate pressure on coffin bone; because affected animals can be prone to further episodes of laminitis, grass hay is best diet for them; monitor access to lush pastures, carbohydrates/grain in diet, and high-quality hays; anti-inflammatory and pain medications are normally given; your veterinarian may prescribe other medications</p>	<p>No</p>	<p>Laminitis can be acute and short-term or chronic (long term/continuous); research into this very complicated and serious equine health issue is ongoing; types of laminitis including grain founder (caused by excessive carbohydrate intake), grass founder (usually from lush spring grass, especially after a drought year; research has recently implicated 3 sugars in grass, known as “fructans”); road founder (from repeated concussion on hard surfaces), water founder (from excessive water intake, especially after exercise), post-parturient founder (associated with placenta retention after foaling); can also be secondary to illness or infection or a reaction to drugs or vaccination; in each case, something compromises normal digestive-tract functioning and releases toxins into bloodstream, triggering inflammation of laminae in the foot</p>
<p>Thrush Possibly spread from one horse to another in common muddy paddock areas</p>	<p>Mostly seen along cleft of frog; causes black, odorous, in some cases “cheesy-looking” discharge; it appears to be eating away at frog; can cause lameness; if severe, can affect sensitive laminae or hoof; clean hoof well and apply anti-thrush medications (some old-time horse men like to use a mixture of bleach and water) once or preferably twice a day, continuing until at least 10 days after signs of infection have disappeared</p>	<p>No</p>	<p>Bacterial infection of the foot; bacteria causing thrush are “anaerobic” – able to thrive in an environment without air, such as mud- and manure-packed feet – so standing in muddy condition for long periods predisposes animals to thrush; can become serious health issue if not treated immediately; frequent hoof-cleaning and regular farrier visits to trim and clean out frog area are helpful preventive practices</p>
<p>White-Line Disease (Seedy Toe) N</p>	<p>Sometimes referred to as “seedy toe”; affects white line on rim of hoof; infection starts at ground level and works its way up and around the white line, creating hollow space between hoof wall and sensitive laminae; have farrier pare out infected tissue; treat with farrier- and/or veterinarian-recommended medications; horse may need corrective shoeing until healed; clean environment and daily care are essential</p>	<p>No</p>	<p>Caused by bacteria, yeast or fungus infection; seen more in shod horses, rare in barefoot animals turned out on clean pasture; keep affected animal in clean environment; daily hoof cleaning and medication required; serious problem that must be attended to with dedication</p>

Parasites

The many different parasites that affect equines can be divided into two major groups:

- Internal
- External

Parasite-caused health issues are not necessarily contagious, but almost all parasites can be “transferred” from one animal to the next. Some can also affect other animal species, including humans.

Ridding a horse of parasites requires intensive treatment. The animal may also need to be isolated to help prevent the transfer of parasites to other animals on the farm.

Most internal and external parasites pass through a four-stage life cycle:

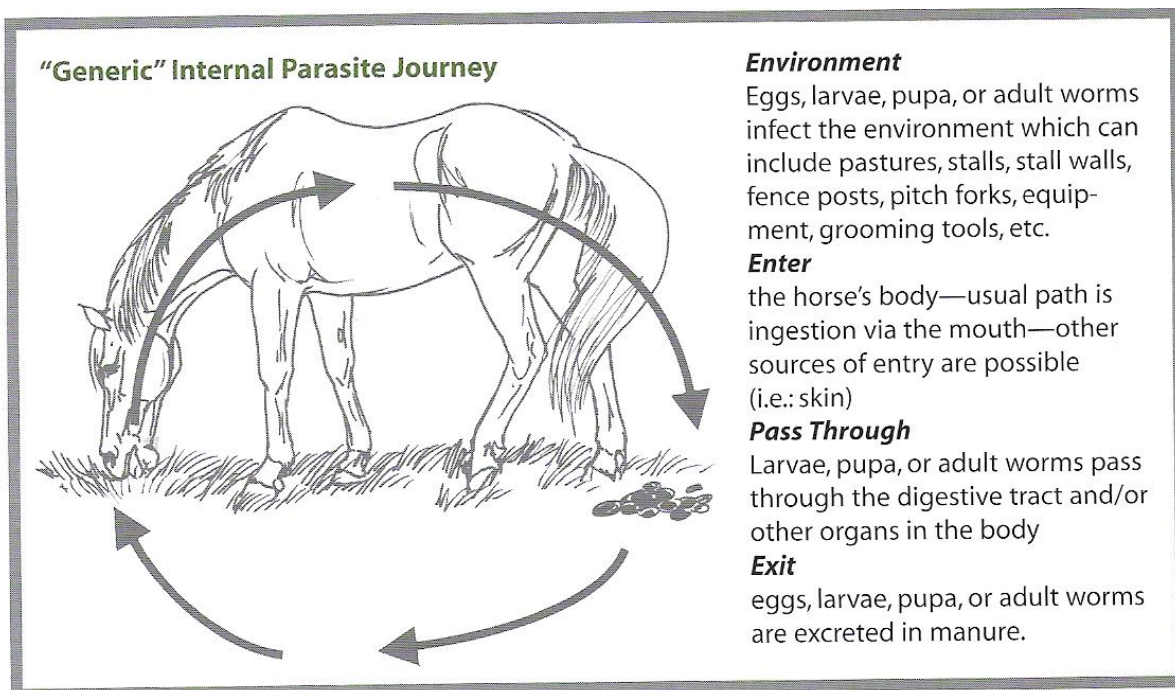
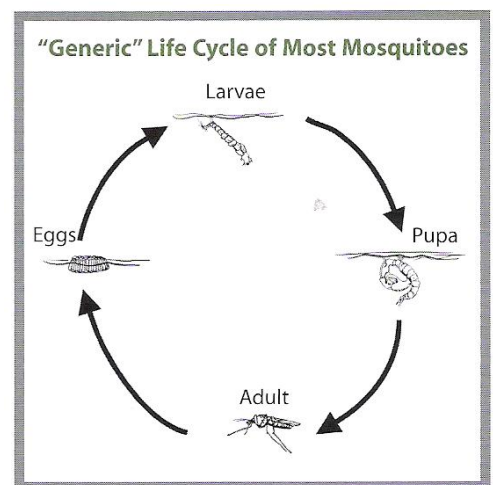
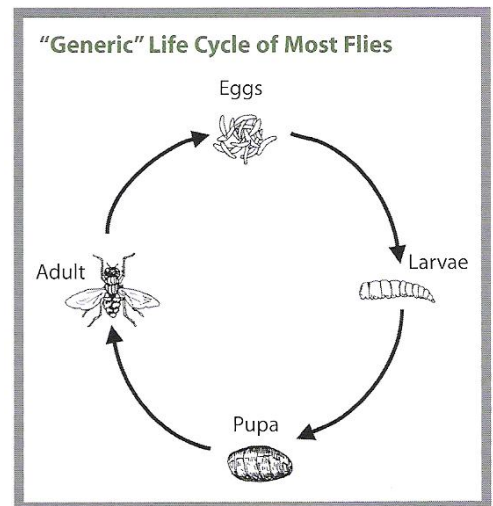
- Egg
- Larvae
- Pupa
- Adult

See the drawings of the “Generic” Life Cycle for the cycle common to most types of flies and mosquitoes that are external parasites affecting the horse.

Most internal parasites pass through the horse’s body as part of their life cycle. For a representation of this process, see the “Generic” Life Cycle drawing – but be aware that each species of internal parasite has slightly differing target organs by which it

- enters
- passes through
- and exits

the horse’s body. Most internal parasites are also in the environment for a period of time. Read the “Life Cycle/Affected Organs” section for more special information on each internal parasite.



The following detailed chart provides information on the more common external and internal parasites that horse owners need to be aware of.

T = can be transferred from one horse to another N = not transferred from one horse to another

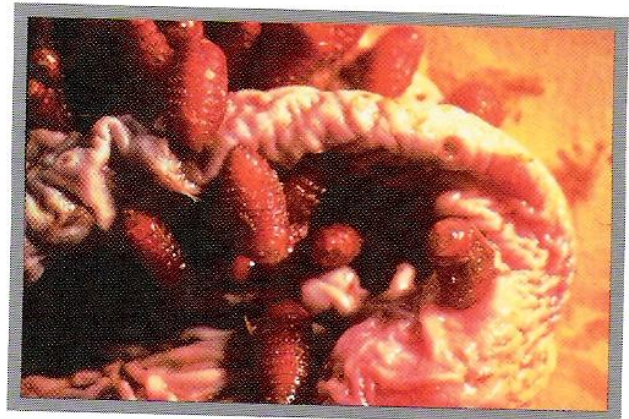
Parasite	Background	Life Cycle & Affected Organs
External Parasites		
Please Note – although external parasites are not considered “contagious” they are “transferable” – they can be spread from one animal to another in a barn or other shared environment		
<p>Flies N</p>	<p>Two main types: 1) “biting” flies, which feed on blood (called blood-suckers), include stable fly, horsefly, deerfly, horn fly, black fly, gnat; 2) “non-biting” flies, which feed on secretions from eyes, mouth, nose and open wounds, including housefly and face fly; both biting and non-biting flies can transmit contagious disease to non-infected animals; some transmission are by contact only, others by transfer of infected blood and/or by the bite itself; flies are a constant pest for horse and horse owner; annoyance by flies can cause horse to behave irrationally in ways that are dangerous to itself and to humans, even causing stampedes; reduce exposure by decreasing amount of times that animals spend grazing; cleaning stalls daily is helpful for control; insecticides are helpful but must be used with caution as they can be toxic to humans, horses and other animals; bug zappers may be helpful; also remember that intense heat within a manure pile will help kill many larvae and flies generally only hatch from the outermost layer; use of natural, non-chemical and biological pest control should be considered; “fly predators” (very small, non-biting parasitic wasps that ingest fly larvae) have become increasingly popular in recent years; face masks and fly sheets may be helpful; some people report Skin So Soft lotion is helpful</p>	<p>All flies pass through four-phase like cycle:</p> <ul style="list-style-type: none"> • egg • larva (or maggot); larvae – plural • pupa • adult <p>Total life cycle varies greatly; 1 to 3 weeks for most types of fly</p> <p>Different fly species lay eggs in different places; some in manure, others around grassy, wet areas or leaves, some in open wounds</p> <p>Affected Organs</p> <ul style="list-style-type: none"> • eyes • nose • mouth • skin • open wounds • other organs can be affected by fly-transferred health issues
<p>Mosquitos N</p>	<p>Biting and “blood-feeding” mosquitoes can transmit many health problems, including encephalomyelitis viruses; only females feed on blood – males feed on nectar and other plant juices; many horses are very sensitive to toxin injected by mosquito during biting process, and allergic reactions are possible; annoyance to biting can cause irrational behavior in horses – dangerous to itself and humans, even causing stampedes; as with flies, reduce problem with good management: shorten grazing time during mosquito season (especially after rainfalls, when large mosquito hatches are likely), and don’t graze animals during dusk and dawn, when most mosquito species feed; get ride of mosquito larvae by eliminating standing water on your property (unclog rain gutters; dispose of old tires and anything that can hold water; regularly clean and refill bird baths with fresh water); for mosquitoes that persist (they can fly or be carried by wind for great distance), insect repellents can be helpful; a “fisherman’s trick”, wiping exposed areas with sheet of Bounce fabric softener, is reported to help horses and humans</p>	<p>Mosquitoes lay eggs on surface of standing water of damp/wet soils; breeding grounds include puddles, swamps, ponds, ditches, water troughs; total life cycle is 10 to 14 days, with several generations each year</p> <p>Affected Organs:</p> <ul style="list-style-type: none"> • skin • other organs can be affected by mosquito-transferred health issues
<p>Lice T</p>	<p>Two types of lice affect horses: 1) “biting” lice feed on skin, and 2) “sucking” lice feed on blood; horse lice do not affect humans; large numbers of sucking lice can cause anemia; horse lice are seen more in winter and spring; affected horse’s rubbing to relieve itching can result in poor hair coat and hair loss; sores on skin can also result; lice are usually first noticed in mane, in tail and on head and neck regions; eggs (“nits”) are seen attached firmly to horse’s hairs; spread by horse-to-horse contact or contact with infested stalls and stable areas; grooming tools and riding equipment are common sources of transmission; eliminating lice from a herd or facility can be difficult; special insecticide powders and solutions are effective; deworming products containing ivermectrin are helpful in breaking life cycle of lice – consult your veterinarian; quick action is essential!</p>	<p>Life cycles of biting and sucking lice differ: biting lice hatch in 5 to 10 days and mature in 3 to 4 weeks; sucking lice hatch in 11 to 20 days and mature in 2 to 4 weeks; because of differing life cycles, treatment every 2 weeks is recommended to maximize effectiveness; lice can live without a host for only about 7 days</p> <p>Affected Organs: skin</p>

Mange Mites T	Mange mites cause “mange” or “scabies” on host animal: the 2 general types of mange mite affective horses are 1) the burrowing or “sarcoptic” type, which causes most damage by leaving irritation poison under skin of host and 2) the biting or “psoroptic” type; though most mange mites are specific to a single animals species, “sarcoptic” mange mites affect most species, including humans; in horses, both sarcoptic and psoroptic mites produce itchy scales that gives hair a patchy appearance; usually seen first around head, neck and shoulders; crusty, thick, though, wrinkled-looking skin results; rubbing to relieve itching may rub hair off and results in open sores; skin scraping or biopsy is needed to confirm diagnosis; sarcoptic mange MUST be treated; isolate animals that may be affected and consult with veterinarian; ivermectrin is currently most veterinarians’ treatment of choice; insecticides or lime/sulfur products may also be recommended; typically, treatments are to be repeated at least 3 or 4 times at 12 to 14 day intervals	Mange mites can live up to 2 or 3 weeks after being removed from host; life cycle of most mites is about 15 days Affected Organs: skin
Ticks T	Found across U.S. and worldwide; problem for many animals species, including humans; worst in spring and fall; ticks are blood-suckers; tick infestation can cause depression, loss of appetite, poor condition, and weakness from blood loss; ticks also transport rickettsial, protozoal and bacterial diseases that can infect horses, humans, deer, dogs, birds, and other species; found on all parts of body; in horses, ticks are most likely to attach in or near the ears; there are many different types of ticks, some host-species-specific; largest exposure is on the range, pasture and trail; cutting tall grass, weeds and brush deprives ticks of natural habitat; control tick infestation by using insecticides labeled as effective against ticks (with caution and according to manufacturer recommendations); ivermectrin can be useful in breaking tick life cycle; fire ants and parasitic wasps have been used for biological control with some success; after trail rides, hose horse all over with water by high-pressure hose to remove ticks before they can attach; remove attached tick by first dabbing with rubbing alcohol and then removing with tweezers, grasping as close to skin as possible and pulling straight and slowly to remove whole tick, including head/mouth parts; then swab site with alcohol and drop tick into separate container of alcohol to kill; in any head/mouth parts still remain, try to remove again and dab site with alcohol; research is ongoing	Ticks ‘four-stage life cycle’ – egg, larva, nymph and adult – is long compared to most other parasites; most tick species have a 1-year life cycles, some others’ life cycles are as long as 2 to 4 years; tick larvae have 3 pairs of legs; nymphs and adults have 4 pairs of legs; ticks can survive months or even years without host/without food Affected Organs: skin, other organs can be affected by tick-transferred health issues
Ringworm T	Ringworm is actually a fungal infections, not a “worm”; worldwide problem; affects all domestic animals, including horses; can be transmitted from horse to human; spread mostly by contact with infected animals or with objects such as grooming tools, stable equipment, tack, etc.’ fungus infects hair shafts; patchy hair loss is first sign of infection; round or circular pattern may develop from a center origin; in many cases seen in girth area and called “girth itch”; skin scraping or fungus cultures are diagnostic tools; infection can last several weeks to several months – usually does not last long in healthy animals; medications are available but not always necessary; most treatments are topical, some with over-the-counter drugstore products; isolate infected animal; clipping hair and washing horse with iodine-based scrub may be useful; remember to disinfect animals grooming tools, tack, equipment, etc.	An external “fungal” parasite; no particular life cycle Affected Organs: skin
Internal Parasites Please Note – although internal parasites are not considered “contagious” they are “transferable” – they can be spread from one animal to another in a barn or other shared environment		
Blood Worms (Strongyles)	Known as “blood worms”, strongyles are one species of the larger group of round worms	Strongyles are broken into two groups – large and small strongyles
Large Strongyles T	Worldwide problem; large strongyles come in 3 types, all very damaging: one type passes through walls of horse’s intestines and circulatory system, damaging intestines and blood vessels and possibly causing blood clots; other 2 types migrate through walls of digestive tract and other vital organs, such as liver and pancreas; signs of large-strongyle infestation can include anemia, weakness, loss of condition, diarrhea, colic of several kinds, and possible rupture of intestine; because horse can pick up infection by grazing, removing manure from pastures or break it apart mechanically to kill eggs/larvae by exposing to sun and air; diagnostic tool is examination of stool sample for parasite eggs under microscope; deworm horses every 8 weeks; effective products are anthelmintics (dewormers: benzimidazoles, pyrantel, ivermectin)	Entire life cycle can take 6 or more months: from eggs in manure, to ingestion via mouth, to passing through digestive tract and/or other body organs, and then out of horse as eggs in manure once again Affected Organs: small intestine, large intestine, blood vessels, liver, pancreas, muscles
Small Strongyles	Worldwide problem; small strongyles, of which there are many different species, stay in the horse’s digestive tract, damaging its lining – they do not migrate to other parts of the body; can be found in cecum and large intestine; diagnostics include finding bright-red larvae in manure – eggs are not usually seen in fecal sample; treatment is more difficult than for large strongyles; anthelmintics (benzimidazoles, pyrantel, ivermectin) are not as effective as for large strongyles; severe cases may	Life cycle can take 6 or more months; from eggs in manure, to ingestion via mouth, to larvae in digestive tract and out of the horse as eggs in manure once again

	require treatment with large doses of fenbendazole for 5 consecutive days	Affected Organs: cecum, small intestine
Bots (<i>Gastrophilus</i> spp) T	Worldwide problem; both internal and external parasite; bot fly (of which there are 3 species, with varying life cycles) is the external parasite; adult fly looks like small honeybee; in most cases, female lays eggs on horse's leg; horse rubs or licks leg and takes eggs or larvae into mouth; after bot eggs hatch, larvae attach to tongue and burrow into mouth tissues; if female bot fly lays eggs on horse's head, neck or chest region, hatched larvae move to mouth on their own; after about 1 month, larvae migrate to upper digestive tract (stomach or small intestine), attached by "oral hooks", and develop for 8 to 10 months, then pass out of digestive tract, still in larval state; pupae mature in soil and hatch into adult flies in 3 to 5 weeks; the flies are very annoying to horses while laying their eggs; larvae can cause development of infected lesions in horse's mouth; additional/possible severe damage in digestive tract can include colic, ulcers, perforations (holes); death can result; use bot-specific dewormer in late summer and fall – at least twice in most regions of the U.S.; in areas with killing frost, do one deworming about 30 days after that frost; use of fly repellents may help prevent bot flies from laying eggs on horse	Life cycle takes about 1 full year to complete; bot lives inside horse's digestive tract over winter – for a period of 8 to 10 months! Affected organs: legs, mouth, tongue, stomach, small intestine
Lungworms (<i>dictyocaulus-arnfieldi</i>) T	Lungworm infection in horses in many cases is related to exposure to donkeys; donkeys can carry large populations of lungworms and do not usually show symptoms of infection; eggs or larvae are ingested by horse while grazing, migrate to bronchial tubes and lungs, mature to adults (up to 4 inches in length); adults lay more eggs in bronchial tubes; eggs are carried out of bronchial tubes by "ciliary action" (waving motion of hairlike structures projecting from lining of respiratory tract) and swallowed; eggs and some larvae are passed in manure to begin cycle again; eggs can hatch rapidly – within hours; adult worms can live several years inside host, and larvae can over-winter on pastures in warm/moist climates; lungworm infection can cause severe, persistent coughing for months, labored breathing with exercise, loss of appetite and weight; can cause death; hard to distinguish from other causes of coughs in horses; many times wheezing can be heard from stethoscope; diagnosis involves looking for larvae, not eggs, in fecal sample; ivermectin is effective for control of lungworms; deworm horses every 8 weeks; isolate any donkeys from horses and deworm donkeys and horse on same schedule	Entire life cycle of lungworm is 1 to 3 weeks, depending on climate; eggs hatch quickly in warm and moist environments Affected Organs: bronchial tubes, lungs, digestive tract
Pinworms (<i>oxyuris</i>) T	Primarily seen in stabled horse; live in large intestine of horse - where adults can grow to 1 to 6 inches; female worms migrate to anus and lay eggs, causing severe itching, possibly accompanied by anxiety, restlessness, depression, loss of appetite, colic, poor condition and poor hair coat; rubbing hind end to relieve itching may rub hair off of part of all of tail – "rat tail" – and rub skin raw, causing open wounds; eggs are sticky and adhere to bedding, stall walls, fence posts, anywhere infected horse has rubbed tail; diagnostics include applying clear tape near anus, then examining tape under microscope for eggs; washing anus with disposable paper towels and warm soapy water can help reduce worm load and alleviate itching; dispose of water and paper towels carefully to avoid spreading infestation; problem can be worse in young animals; treat with anthelmintics (benzimidazoles, pyrantel, ivermectin); horse species of pinworm cannot be transmitted to other domestic animals or humans	Entire life cycle is about 2 to 5 months; pinworms can complete all life stages and never leave large intestine of horse; eggs hatch in about one week; larvae drop to ground, are ingested by horse and develop into adults in large intestine of horse Affected Organs: large intestine, anus
Large Roundworms (<i>Ascarids</i>) T	One of most harmful species of roundworm for horses; causes severe problems for young animals; immunity to this parasite seems to develop in and protect mature horses, which are rarely infected; however, very old horse can be infected; symptoms can include poor growth, malnutrition, rough hair coat, unthriftiness, "pot belly", passing of gas, colic, diarrhea, intestinal rupture, cough and nasal discharge; adult worms can grow as long as 22 inches in small intestine; horse ingests eggs, which can be found in manure, on pasture, in water or feed, or sticking to handler's clothing, barn tools, grooming equipment, even to teats and udder of lactating mare – thus infecting nursing foals; in ideal warm/moist conditions (in manure or in horse's small intestine), eggs hatch in about 1 week; larvae penetrate intestinal wall and migrate into bloodstream, pass to liver and lungs; horse can cough up and swallow larvae, causing reinfection; for foals, an "interval" deworming program, starting at 2 months of age and repeated every 2 months, is recommended; if young animals are severely infected, consult your veterinarian immediately for a recommended deworming regime that will not kill all the worms in one treatment, as impaction colic and/or toxicity from mass of dead worms could result	Entire life cycle is 2 to 3 months; eggs can survive in environment for months or even years; eggs hatch in about 1 week; adults live and lay eggs in small intestine; eggs hatch into larvae that penetrate small intestine wall, enter bloodstream and so pass through liver and lungs Affected Organs: udder and teats, small intestine, liver, lungs

<p>Stomach worms (Habronema) T</p>	<p>3 different types affect horse; flies are “intermediate host”, transferring stomach-worm eggs and larvae from manure to body of horse and depositing by mouth around horse’s eye, mouth, nostrils, sheath and any open wounds; horse then ingests eggs or larvae; adult stomach worms (less than 1 inch in length) live freely in stomach or attached to stomach lining; can irritate stomach lining and cause ulcers, burrow into lining and cause small lumps or “nodules” that can interfere with digestion (weight loss is a common sign) or rupture and cause severe abdominal-cavity infection (peritonitis); larvae deposited on skin can cause skin lesions known as “summer sores”, fleshy sores that may bleed; eye infection (conjunctivitis) can occur; diagnosis is difficult, as eggs can easily be missed in fecal examination; extraction of stomach sample is better diagnostic tool; fly control and strict adherence to routine deworming program are important management tools; ivermectin is dewormer of choice – controls adult stomach worms and larvae that may infect skin, eyes, open wounds and other both openings</p>	<p>Flies are intermediate hosts, depositing eggs and larvae on horse’s body; horse ingests infected eggs of larvae; eggs hatch, larvae develop and mature worms live in stomach of horse</p> <p>Affected Organs: stomach, skin, eyes, nostrils, open wounds, sheath and other body openings</p>
<p>Tapeworms T</p>	<p>Three different types of tapeworm (adults 2 to 30 inches long, depending on type); tapeworms can be found in stomach, cecum and (most commonly) small intestine, attaching to lining of digestive tract; signs can include anemia, unthriftiness, weight loss, intestinal blockage, colic, infections in and perforation of digestive tract wall where worms attach, peritonitis (infection in abdominal cavity); repeated bouts of colic may indicate presence of tapeworms, diagnostic tools include fecal examination, but single fecal sample may be inconclusive, showing no eggs or worm segments; new testing methods may include an “ELISA” test; tapeworms affect horses of all ages; no immunity develops; preferred dewormers are pyrantel pamoate and praziquantel (recently approved for use in horses)</p>	<p>Larvae mature in horse’s digestive tract in about 6 weeks; mites are important part of life cycle: they eat tapeworm eggs, then grazing horses eat the mites; total life cycle of tapeworm is about 2 to 6 months</p> <p>Affected Organs: stomach, small intestine, cecum</p>
<p>Threadworms (strongyloids) T</p>	<p>Known as the “intestinal threadworm”; female is “parasitic” worm and male is “free-living” worm; female lives in horse’s small intestine and can produce parthenogenetic eggs – able to mature and hatch into larvae without fertilization by male; eggs are passed in manure, hatch in outside environment and release male and female larvae; in the environment, mature male and female threadworms mate and also produce eggs that hatch into larvae; larvae can enter horse’s body by ingestion or by penetrating skin (they like warm, moist environments, such as soiled bedding, and can penetrate skin of young foals housed in such conditions, causing skin lesions at entry point); worms migrate through body organs, including lungs; signs include weight loss, diarrhea (mucus-laden or bloody diarrhea is common), dehydration; in foals, sign of threadworm infestation can be confused with foal-heat diarrhea; infection is more severe in young foals than in mature horses; foals usually develop immunity to threadworms by 2 to 3 months of age; though immune, adults can serve as threadworm reservoir, with mare passing worms to foal in milk; because most young foals eat manure (coprophagy), they’re at risk of ingesting eggs or larvae from manure of mature horses; fecal exam is usually good diagnostic tool for threadworm infection; ivermectin and oxybendazole are effective dewormers; deworm broodmares within 24 hours of foaling and foals beginning at 3 weeks of age</p>	<p>Has 2 lifecycles: 1) parasitic life cycle (females only) inside body of horse and 2) free-living life cycle outside body of horse; total life cycle is 2 to 3 weeks</p> <p>Affected Organs: milk, skin, small intestine, body organs, lungs</p>

photos: © Farnam Horse Products



Internal parasites can cause significant damage to internal organs. Pictured above, in the gastrointestinal tract of a horse, are large round worms (Ascarids) on the left and bots on the right.

Vaccination Recommendations

Always talk to your veterinarian before setting up a vaccination schedule for the horses in your care. Recommendations will vary for different parts of the U.S., and also for individual animals. In developing such a schedule, you and your veterinarian will need to consider both the health requirements and the health status of each individual horse. For instance, the needs of a broodmare, a show horse, a young foal and an aged horse may all be different.

The needs of individual farms regarding vaccination protection can also vary greatly:

- How often do horses come to and/or leave the farm?
- What are the potential health risks on that farm?

Do what you can to help your animals stay healthy by talking with your veterinarian and developing a safe and effective vaccination plan tailored to the horses in your care.

In most parts of the United States, the minimum recommendation is to give the following vaccinations:

- Eastern Encephalomyelitis
- Western Encephalomyelitis
- Tetanus
- Rabies
- Influenza – if any animals are traveling to or from the farm and being exposed to other horses.

Other vaccination recommendations will be based on the needs for your region and your particular animal(s).

Keep You Animals Healthy

There are some very simple things you can do to help keep your animals healthy. These items promote good management and are referred to as “Best Management Practices”. Below are just a few Best Management Practices that you should consider:

- Feed horses nutritious, balanced foodstuffs that are not contaminated with manure or potentially disease-causing agents.
- Feed horses on a regular schedule – and a minimum of twice per day
- Provide fresh, clean water 24 hours a day
- Clean stalls or run-in sheds daily – and provide clean bedding
- Provide daily turnout and/or exercise
- Observe and handle animals at least 2 times per day
- Develop an effective parasite-control program – which, most veterinarians recommend, includes deworming horses at least every 8 weeks
- Do all you can to decrease parasite populations and protect your animals from both internal and external parasites
- Develop a safe and effective vaccination program
- Work with your veterinarian in developing both your parasite-control program and your vaccination program
- Provide farrier care at least every 6 to 8 weeks all year round
- Keep paddocks, turnout areas and pastures free of manure to prevent the spread of parasites and other disease-carrying agents
- Isolate any new or sick horse on the farm; consult your veterinarian for recommended length of time
- Think about and provide a “bio-secure” environment for the animals in your care

Biosecurity

Today, we frequently hear the term “biosecurity”. But what does it mean? Biosecurity involves keeping biological (living) things – both plants and animals – from being infected with agents that can cause health and disease issues. In other words, practicing biosecurity means keeping the animals in your care healthy by not allowing the transfer of infective agents to your farm or its inhabitants by mechanical means. The mechanical means could include:

- a new horse that comes to your farm
- the tires of your truck after returning from a horse show
- manure in your horse trailer from transporting a friend's horse

- your riding boots – if you wear them to another barn for a lesson and then, without disinfecting them, wear the same boots in your own barn
- a new puppy you brought home from the horse show
- your veterinarian’s or farrier’s boots
- using the same needle to inject two different horses
- and so many more – just use your imagination!

There are many infective agents in our normal environment. You can help to keep those agents off your farm, and to diminish the possibility of transferring such agents from one animal to another, by practicing some simple “biosecurity” measures, such as:

- disinfecting your boots when you go from one farm to another, before you wear them into your own or someone else’s barn or facility – a spray bottle with disinfectant is easy to use
- providing a boot dip made with commercially available disinfectants (many on the market contain phenol or quaternary ammonium compounds that are very effective); at a minimum mix your own boot dip of 1 gallon of water and ¼ cup of laundry bleach. Request farm visitors, including your farrier and veterinarian, to dip their boots before entering your barn. Also, ask if they have been on any farm with a health or disease issue – and, if so, what biosecurity measure they have taken to ensure that their equipment is free of infective agents.
- requiring the use of disposable boots
- removing manure from your horse trailer and disinfecting the trailer between uses
- isolating any new animals from at least 14 days prior to letting them mingle with your herd.

For more biosecurity ideas, talk with your veterinarian.

Summary

Maintaining horse’s health is a very important responsibility that comes with horse ownership and management. You need to take the health of your horse seriously and to do the best job you can to ensure that it is well cared for. Remember to:

- observe and handle your horse daily
- provide adequate, quality foodstuff and water
- maintain a consistent parasite-control program
- provide regular, consistent veterinary and farrier care.

Do your best to be familiar with the more common health issues that can affect your horse. No one expects you to know everything contained in this chapter by heart, but do use the information it presents – which has been carefully researched, compiled and summarized – as one of your tools in keeping the animals in your care healthy.

