

## Sand Colic

West Valley Equine

Veterinary Services, LLC



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Arizona... warm and sunny with beautiful desert geography enjoyed all year-round beckoning visitors to come and live here. The desert, as beautiful as it is, presents a significant problem to horse owners in the Southwest...**SAND**. If you are one of the lucky ones, your horses have the privilege of living on irrigated pastures. However, most owners in the Southwest have their horses on sand or dirt paddocks. The problem is that horses inadvertently eat sand as they browse the pasture, eat off the ground, or pull their food out of their feeders onto the ground. Rarely do horses eat sand or dirt on purpose.

So, what happens to the sand inside the horse? The sand usually moves quickly through the stomach and small intestine. Once the sand reaches the cecum and large colon, its movement slows and it tends to settle to the ventral (lowest) portions of the large intestine due to its weight and gravity. If the horse only ingests small amounts, most will be passed through the large intestine without side effects. If the horse ingests large amounts of sand, the sand accumulates in the large intestine. This accumulation can reach a "critical level" where the horse becomes symptomatic.

There are different symptoms presented by horses with an accumulation of sand in their intestines. A common presenting complaint is ADR- "Ain't doing right, Doc". This is a common presentation of intermittent colic, depression, losing weight or unable to gain weight (regardless of what the owner feeds them), and decreased appetite. Another common symptom is watery diarrhea. As the sand accumulates in the large intestine, it acts like sand paper and erodes the intestinal mucosa (lining of the gut). One of the large intestine's functions is to absorb water. Due to sand accumulation and irritation to the mucosal lining, water is not absorbed well, resulting in watery manure. This same theory explains why horses with a lot of sand lose weight or are unable to gain weight. The horse's intestinal lining is damaged and does not digest nutrients well. Because of the damage sand causes, this can cause discomfort and pain leading to depression, going off feed, or colic. A horse can show one or any combination of these symptoms with sand in its digestive tract.

There are various methods which an owner or veterinarian can diagnose a horse with sand problems. The easiest method is to take a small amount of manure (5-6 fecal balls) from the top of a fresh manure pile and dilute the manure with water. This can be mixed in a bucket, rectal sleeve or clear bag. First, one should break apart the manure manually and then sift off the top layers, which will result in the sand settling to the bottom due to

gravity. More than 1/2 tsp of sand per 5-6 fecal balls is significant. However, horses can



pass varying amounts of sand at different times - so this method should be repeated. This technique can give owners and veterinarians a ballpark idea of the degree of sand inside the horse. Another method to diagnose sand accumulation is for the veterinarian to listen to the horse's abdomen with a stethoscope. The veterinarian will auscultate at the lowest aspect of the abdomen (gravity) for sand. Sand inside a horse's intestine sounds like waves on a beach. Again, depending on how active the horse's

intestinal motility is, sometimes a veterinarian may not hear much sand movement even if the horse has a lot (for example, if the horse's motility is hypomotile/slow during a colic episode). The last way to diagnose a sand problem is take abdominal radiographs (x-rays). Because the abdomen is so large, a very powerful x-ray machine must be used- usually only at referral hospitals.

So, how is sand accumulation treated? The best way to treat sand problems is to PREVENT them which means keeping the horse from ingesting it. In Arizona, it is difficult to prevent horses from eating any sand at all. But, one can certainly reduce the bulk of ingestion. The primary time horses ingest sand is at feeding time. To reduce the amount ingested, some methods which work are:

- Rubber mats under feeders or out in paddock/stall where horse is fed
- Use large feeders on ground which can't be overturned (old bathtubs/large plastic feeders)
- Feed on top of shavings or straw
- Or least expensive way in the paddock--- feed on old dried manure (raked out to form thick ground covering)
- Offering grass hay during the day to give the horse something to do (rather than scrounge every morsel off the ground)
- If you have one of the rare horses that just likes to eat dirt... a grazing muzzle may be needed (these muzzles have openings around the nose so horse can breath & drink easily through them). Obviously, these need to be removed at feeding time.

Once a horse already has sand accumulation, PSYLLIUM is the only way to rid of sand (short of surgery). There are many different products sold by veterinarians and feedstores. ex. Equi-Aid, Vet-Lax, Assure, Sand Clear. etc. Psyllium looks like bran, but it is not. A common misconception by owners is that bran will treat sand colic. Bran will NOT remove sand from a horse's digestive tract. Psyllium comes in two forms, a powder or flavored pellets. The pelleted form is more palatable (tasty) to most horses and easier to feed. The powder form tends to blow away more easily, is less palatable, and can't be

mixed with water (or will turn into an undesirable gel mass). The recommended "colic" dose of psyllium for a symptomatic horse is a double dose per day for 2 weeks on, then 2 weeks off until the sand accumulation is resolved. This could take 1-3 months. Studies have shown that mixing psyllium with a probiotic (ie. Probios) improves sand clearance. A psyllium product, Assure, now has probiotics mixed in with the psyllium. Or, you can buy a probiotic and mix them together yourself. After the initial high dose therapy, a maintenance dose of psyllium of 1 scoop per day for 1 week a month is recommended to prevent sand build-up. Sometimes when a horse with a lot of sand accumulation starts on psyllium, the horse may act colicky due to irritation and resulting inflammation of the sand passing through the gut. Your veterinarian may prescribe bute or banamine when a horse is treated for sand colic. Bute (phenylbutazone) and Banamine (flunixin meglumine) are anti-inflammatories which can reduce this discomfort. Some horses may also get gaseous when starting on psyllium. If this occurs, exercise, small amounts of bute or banamine given orally, and/or 30-60cc Maalox can ease this transient effect. Remember, psyllium is a helpful supplement to clear sand but will only work in combination with prevention. If your horse is still eating large amounts of sand, all the psyllium in the world won't eliminate all the sand.

If your horse is treated for sand colic by a veterinarian, they will probably initially pass a nasogastric tube and give your horse psyllium, water and mineral oil. Studies have shown that the combination of psyllium and oil improve sand clearance. Sometimes during sand colic episodes, the horse's intestines will slow down and become gas distended. If this happens, a combination of intravenous and/or oral fluids may be needed to treat the horse to improve the intestinal motility and expel the painful gas. If the horse has an enormous amount of sand and is not responsive to medical treatment by your veterinarian, surgical intervention may be needed. The horse is sent to a referral surgical facility and the sand is "dumped" from the large intestine by a surgeon. Usually the prognosis is good, but there is a risk of the large intestine rupturing during surgery due to the heavy weight of the sand- a horse can have as much as 100 lbs of sand in them!

The important thing to remember about treating a sand problem is PREVENTION!  
Treatment will not be effective if the horse continues to ingest large amounts of sand.