

FORM VS. USE
BITTING

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There are over forty recognized diseases and ailments caused by regular biting of a horse's mouth and many times more that amount in behavioral problems. Almost every horse owner has done it, bitted their horses and had a behavior problem and then proceeded to blame the problem on the horse. Webster defines the adjective “cruel” as willfully or knowingly causing pain or distress. So why is it every time a horse runs away with a rider, grabs the bit with its teeth, and refuses to let go or shakes his head so violently he nearly unseats his passenger, we still put a bit in a horse's mouth time after time?

There is a list of diseases and other ailments caused by bits that goes way beyond traditionalist training diagnoses on the horse, and delves into science. Sometimes these ailments are not caused by the bit but they can be aggravated and worsened by the use of one. Some horses are more susceptible to these diseases than others due to the conformation of their head, neck, and mouth.

A very common disease that more than half of horses ridden with a bit contact, is **mandibular periostitis** or **better known as bone spurs**. The area of the mandible when inspected on the skeleton of dead racehorses showed that most of them had very large bony growths right where the bit would rest on the bars of the mouth. This disease is not limited to racehorses, any horse with a rider with heavy or inexperienced hands can bring it upon a horse. Other injuries such as stepping on the reins or being tied by the reins and pulling back, along with several types of biting rigs can cause mandibular periostitis. (Johnson, 2002)

Less common, but still probable is the **injury of the interdental space of the maxilla**. This injury can be caused by a jointed bit of any kind. When a rider exerts pressure on the reins the bit acts in a nutcracker effect, pushing up into the roof of the mouth and causing trauma. In older horses it is common to see the first molars to come in contact with the bit eroded away. Equine dentists file the first molars to create what is known as a “bit seat”. Wolf teeth are commonly compressed painfully or even pulled out of place. Most horses have them removed at a young age because they are in the way of the bit.

The list of bit induced oral problems is equaled only to a list of respiratory diseases. A very common problem caused by flexion of the poll and the opening of the mouth with the bit in place is asphyxia. (Cook, 2003) When the horse is asked to carry its head and neck in such a position that the soft palate becomes elevated as the laryngeal entrance becomes significantly smaller cutting off or decreasing the air flow to the lungs due to the reflex of breathing and swallowing. (Krainer, McCracken, 1994, 1998) The saliva created by the tongue moving over the bit needs a place to escape and the horse either has to do that by swallowing or drooling. It would be expected that horses cannot swallow and breathe properly at the same time it simply is like rubbing your stomach and patting your head in unison.

A horse that breathes normally when loose in a paddock suddenly emits the sound known as “roaring” typically emitted by RAO (**Recurrent airway obstruction**) **diagnosed equines is an effect of biting**. The horse will only emit this sound when bitted, ridden, or driven, and it will go away completely when worked without a bit. The name of this condition is known as dorsal displacement of the soft palate (DDSP) (Merck, 2006). DDSP occurs when the apex of the soft palate rests on the epiglottis and creates a

barrier that does not allow air to efficiently enter the larynx. The noise the soft palate resting on the epiglottis can be characterized as a roaring, gurgling, or a decreased ability to inspire. (Merck, 2006) Some horses can overcome this by using a flash, grackle nose band or tying the tongue to reduce the action of the horses mouth when bitted.

Other respiratory diseases that are afflicted upon horses, which are ridden with a bit include, **collapse of the larynx, low blood oxygen levels** at the time of exercise, **Exercise-induced pulmonary hemorrhage (EIPH), pulmonary congestion, and Synchronous diaphragmatic flutter.** (cook, 2003) There are many more diseases out there veterinarians think are related to the biting of a horses mouths but science has yet to investigate them.

Trigeminal neuralgia, almost every horse owner has experienced it. A horse that violently shakes his head when being ridden. Many vets have blocked several of the cranial nerves in an attempt to stop the bazaar ridden behavior. In reality it is the bit to be blamed. Of course there are few other cases that head shaking can be placed upon, such as, other medical issues, not only the bit (cook, 2003). **This condition can be caused by sensitive horses anticipating the pain and pressure of the bit in their mouth.** A past injury such as, an injury of the spinal column, tooth problems, ulcers on the tongue, breathing problems, a sprained or strained muscle of the back, and/or neck when being ridden can aggravate and lead to this condition long after the initial injury has healed. The list can go on and on for the bit related problems of head shaking.

Some horses can become dehydrated when they refuse to drink because of a painful lesion caused by a bit having been previously in their mouth. Some horses gain scar tissue on their lips and corners of their mouths by bit's that pinch and an overzealous riders hands. Others refuse to eat and have permanent scarring in their minds and mouths from the memories of the length of steel that was inserted there.

The bit not only affects the cranium but also affects the spine, the surrounding muscles, the back, legs and many tendons because of the use we put it up to. An example is metacarpal and metatarsal osteitis or splints caused by the horse being constantly on the forehand. When the leg strikes the ground in such a manner it creates trauma in the metacarpal and metatarsal bones and depending on your horses conformation he may, or may not, develop splints because of this. (Merck, 2006)

Bits are not the only thing we stick on a horses head that can cause medical and mental problems. Bridles and bazaar contraptions come in every size, colour, and fancy sparkling styles you could possibly imagine and you can attach them to your horses head and bit every way fathomable. The most popular English bridle is the Cavesson. It consists of two straps that attach to the bit, a nose band, a brow band a throat latch, and all the straps connect to create the crown piece which goes over the poll. With the bit in place in the mouth the only other misunderstood part of this bridle is the nose band. The Cavesson nose band is used to keep the horses mouth closed when he opens it excessively to avoid the bit placed in his mouth.

There are many types of nosebands out there. Almost all of them are designed to place some of the bit's pressure on the nose and keep the horse from opening his mouth excessively when being ridden. The whole idea of nose bands in every shape and form is to provide support for a horse being ridden with a bit.

The Aachen Cavesson, or flash nose band is designed to keep the horses mouth shut. When the horse continues to fight this type of nose band the results are it usually

tightens. **An overly tightened nose band can lead to asphyxiation** because the delicate nasal passages are held in an unnatural position by the flash attachment. When the nostrils cannot flair properly and the horse cannot breathe through his mouth due to anatomical conformation he is stuck to breathe the best he can and thus, the rider to hope nothing long term comes out of an injury.

Another problem the flash nose band creates is ulcers of the mouth. With a regular Cavesson already designed to keep the horse's mouth shut and a flash keeping it tight shut the horse's teeth, especially if not serviced, can **cut into the cheeks, pinch the tongue and create infected, painful sores in the mouth.** Crank nose bands work similarly to the Cavesson but are tightened with a pulley strap mechanism to result in maximum tightness, which human hands could not otherwise achieve by pulling a strap through a buckle.

The Grackle or figure eight nose band was designed to keep the horse from opening his mouth or crossing his jaw when being ridden. It was also said to keep the horse from getting his teeth completely on the bit and allowing him to run away with his rider. This bridle; however, does avoid the teeth, and letting the delicate cheeks become free of being pinched by a tight nose band.

The drop down nose band offers a different degree of mouth closure. The nose band is situated where the mouth will have the most leverage to open, about an inch above the relaxed non-bitted mouth and below the bit when the horse is completely bridled. If tightened it can also restrict airflow like the flash nose band. It is designed to place some of the pressure of the bit on the more sensitive areas of the nose. It does not allow the teeth to be in constant contact with the cheeks but still keeps the mouth closed to keep a horse from avoiding the bit.

Western bridles are very similar in bit's except the nose band. Classical western riders do not use nose bands, but those riding in speed events often have tie downs. **Tie downs are used to prevent the horse from excessively raising his head.** It is also referred to by some riders as an aid to keep the horse's balance. Would you be able to walk across a tightrope if your arms were tied to your waist?

The jointed snaffle and non-jointed bit exert pounds per pound that your hands are placing upon the reins on the horse's mouth. Add a curb chain and it is roughly amplified by ten. The mouthpieces of most bits can vary in thickness, type of metal, ports, number of joints, and a vast assortment of other add-ons to cause pain and injury to the horse.

The most commonly used English bit is the loose ring, egg butt, Dee ring and full cheek snaffle. Each have the same mouth action but with different attachments for the reins and functional uses, such as, for horses that get pinched on their lips or cannot stand the rattle of a regular loose ring snaffle. When the reins are pulled upon by these bits they exert pounds-per-pound of pressure onto the bars of the horse's mouth. If jointed the bit will fold, press on the bars of the mouth, and jab into the hard palette. **This action is often referred to as the "nutcracker effect."**

Some bits, such as, the straight bit and ported or curved bits allow less or more room for the tongue to move around. The straight, non-jointed bit lays flat on the tongue, compressing it. Bit's with ports or a curved mouthpiece allow the tongue to lay in a more natural position. Of course there are double jointed bit's, which allow the tongue to lay in

a more natural position. When the reins are pulled upon with this bit in a horse's mouth the usual V shape of a single jointed bit turns into a U.

Curbs and bits with shanks add an increase of pressure exerted on the horse's mouth and poll. The longer the shank on the bit the more severe the pressure when a curb chain is added and a rider holds the reins. When a rider pulls back on the reins that are attached to a curb bit the shank moves rearward, the curb chain tightens on the mental nerve and puts pressure on the poll causing the horse to have no escape but give into the pressure. The mental nerve connects the lower lip, chin, and just behind the chin to the brain giving it feeling. (Krainer, McCracken, 1994, 1998)

Western bits with large ports can create additional damage further back in the horse's mouth on the hard palate. These bits are designed so a rider should use almost no bit contact on the mouth and use other forms of riding aids such as the seat, legs and neck reining. The port does not move. If a horse were to suddenly throw his head up in the air and a rider holding on to the reins in a regular western fashion the port would jab sharply into the hard palate and cause trauma. Horses being ridden in western with a port have actually been euthanized because the port of the bit ruptured the soft palate into the nasal cavity. Such injuries can happen quite easily if a horse steps on a rein. (Cook, 2006)

Unfortunately, in most associations a rider would be disqualified as it is an offence to ride without a bit in a horse's mouth. Some English events such as hunter and some jumping or western barrel racing allow the use of a hackamore, bosal, or side pull. Even when the hackamore and side pull are used it still exerts pressure on the sensitive nose and cartilage structures of the face as well as the poll because of the shank action.

Hackamores can be just as unnerving to a horse as a bit because they use a shank under the chin in the same fashion as a curb bit. **A side pull is gentle and provides good steering but limited brakes. A bosal** is essentially a nose band made of rawhide woven over metal or a stiff core (Cook, 2006). The bosal applies pressure both on the nose and under the chin when rein pressure is applied. The Mecate reins are also usually made of horsehair and rough to encourage the horse to neck rein and move away from the irritating rein pressure.

The only bridle that has been known to allow horses with previous biting problems to put it in their past are the no-bit bridles from various companies. These bridles do not harness a bit and the control comes from the nose band, and two rein straps that cross between the underside of the head just after the chin and before the cheekbones. To turn this bridle, one should apply indirect pressure on the opposite cheekbones. Stopping power is applied to the bridge of the nose where the nose band lies and gently tightens the rein straps under the head. These bridles feel identical to any snaffle bit but provide a happier, more in tune horse and virtually no ways to harm the horse. Of course anything can become harmful if used improperly. (Cook, 2006)

It is easy to see why some horses are only controllable when ridden in a rope halter or bitless bridle. There is no pain. When pain is involved the horse goes into flight mode, looking for a way to escape the pain and discomfort of a bit or other mechanical device, which humans use to control the horse.

In conclusion, **there are many ways in which, you can use a bit and each and every one of them can and usually will cause mental or physical damage to the**

horse. There are also many more add-ons and different types of bits and biting devices not mentioned here. The information provided above should make it easier in future decisions about biting your horse

Resources

Thomas J. Johnson, 2002

<http://www.ivis.org/proceedings/AAEP/2002/910102000458.pdf>

W. Robert Cook, 2003

Metal in the mouth: the abusive effects of bitted bridles

<http://www.bitlessbridle.com>

Robert A. Kainer and Thomas O McCracken, 1994, 1998

Horse anatomy, a coloring atlas

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<http://www.merckvetmanual.com>