### **EMANCIPATION OF THE RACEHORSE:**

### **Disarming the oral foreign body**

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#### Abstract

There is no scientific evidence to support the need for a bit to control a horse. On the contrary, there is a compelling body of evidence to show that use of a bit is incompatible with equine welfare, the physiology of exercise, and the safety of the rider. The aversive nature of the bit is inconsistent with learning theory and four of the five 'Freedoms' of animal welfare. A bit interferes with breathing. As a horse at the gallop takes one breath for every stride, a bit also interferes with the stride. In no equestrian discipline is breathing more crucial to performance than in horseracing Until such time as rules of racing are updated and bit-manacles are no longer mandated, a bridle with a functionally inactive bit (a dumb-bit) could be used for racing that will eliminate its most harmful effects. Based on empirical evidence from emancipating horses in other equestrian disciplines, there is no downside to introducing this welfare reform for racing.

#### Introduction

The Latin for 'hand' is *manus*. The diminutive of manus is *manicula* or 'little hand,' hence the word 'manacle.' To emancipate is to remove the manacles, i.e., handcuffs, shackles or other methods of restraint. The mandated bit-manacle is not only a handicap to performance but also a cause of much stress, many diseases and sudden death (Cook 1999a, 2007, 2016a). This manual explains how to disarm the manacle. By rendering an oral foreign body less harmful, the health and safety of horse and rider can be enhanced and performance improved.

During the pre-history of horse riding, bit-manacles were not introduced until the Bronze Age. Before, during and since, manacle-free (bitless) riding has been widely practiced. For thousands of years, the Bedouins trusted their very lives to a bitless bridle (Hanson and Cook 2015). With the discovery of oil in the Middle East bitless horsemanship vanished in one of its homelands. Happily, long before its demise, the art of bitless riding had spread to medieval Spain. From there, in the 16<sup>th</sup> century, horses were re-introduced in America, though by the 17<sup>th</sup> century the Conquistadors were using bits (Figs 1 and 2). Ironically, we now refer to the Eastern/Arabic root of bitless riding as 'Western' horsemanship. Following scientific scrutiny of the bit and recognition of its fundamental flaws (Cook, 1999), recreational riders worldwide have chosen to ride bitless in ever increasing numbers.

The above brief history of horsemanship reminds us that bitless riding is not new and the concept should not be thought of as revolutionary or particularly surprising, even when being considered for today's extreme sport of racing. The Bedouin bridle provides precedence for the historical equivalent of racing without a bit. During tribal raids, it was a matter of life or death that any one rider rode a horse that was faster than another. Manacle-free riding is merely a logical reversion to a simpler, safer and more effective method of rider/horse communication. The surprising thing is that, in 5000 years of use, so few of the bit's legion of negative side-effects have been recognised.

Since the beginning of the millennium, recreational riders have shown by example that a horse can be switched 'overnight' from bit to bitless. Unfettered by competition rules (which are the only 'reason' for using a bit), the process of transitioning to bitlessness is simple, quick and endlessly rewarding for horse and rider. It can be described in four steps (Cook 1999b):

- 1. Read the manual and fit a bitless bridle
- 2. Using a moment or two of groundwork, check that a horse responds to the rein cues for stop, go, left, right, and back.
- 3. Mount in a closed arena or small paddock and test ride at the walk, trot and canter
- 4. Proceed with customary routines.

All four steps can be completed on day one.

Switching a racehorse from bit to functionally bitless is not complicated but requires a few more steps and takes a little longer to introduce all three athletes; the horse, exercise rider and jockey. The three objectives are to comply with rules mandating the presence of a bit; to ensure that the bit is inactive; and to allow the horse to maintain an oral vacuum.



Fig 1. A 1646 engraving by Alonso de Ovalle of three Conquistadors (Wikimedia)



Fig 2. Equestrian statue of Francisco Pizarro in Lima, Peru (Wikimedia)

## . Explanation of the term 'dumb-bit.'

Today, the term dumbbell refers to a piece of 'keep fit' equipment used for weight training. In 18<sup>th</sup> century England it was an apparatus that enabled ringers of church bells to practice their 'ring changes' without using the church bells. As far as the parish was concerned, the practicing was silent, i.e., 'dumb.'

I am coining the term 'dumb-bit' to describe how a horse may wear a dummy bit at exercise without suffering the asphyxia, pain, fear and stress caused by a bit. A dumbbit does not handicap the horse's performance, as it is not used for control but simply for complying with the rules of racing. An exercise rider during training or a jockey during a race can control a horse more safely and effectively with a bitless bridle. Even though the reins of the bitless bridle are connected to the bit, they apply no force to the mouth and cause none of the bit's serious side-effects.

Ideally, the dumbbit should be of an innocuous and minimal form, so that its presence does not prevent a horse from closing its lips and maintaining an oral vacuum at exercise. A number of currently marketed bits may serve this purpose, for example a bridoon bit from a double bridle. A bridoon would certainly be suitable as a starter dumbbit, even if it did not allow for the lip seal so essential for proper breathing at fast paces during training ('work') or racing. It would enable a horse to become accustomed to the dumbit principle during a training canter ('jog') (Fig 3). For fast work, a bridoon could be filed down until it permitted a lip-seal. An alternative would be a dumbbit made from a slender link-chain (Fig.4). This enables a horse at the start of exercise to close its lips, swallow, and generate the oral vacuum essential for unimpeded breathing at fast exercise (Cook 2014a, b).



Figure 3. A dumbbit, using a jointed bridoon and two bit-bypass straps. A jointed bridoon is not the ideal dumbbit, as the diameter of its canons adjacent to the 'O' rings is wide enough to prevent a horse maintaining an oral vacuum at fast exercise. This one, for example, has a diameter of 10mm at the level alongside the 'O' ring. Nevertheless, in the early stages of transitioning to a dumbbit it will serve well enough for exercise at the walk, trot and slow canter, when an oral vacuum is less vital.

To adapt a familiar proverb, 'one swallow makes a runner' (Cook 2015). The horse still has a foreign body in its mouth but no pressure is applied on bone or soft tissue other than the weight of the bit. As a result, it creates no noxious neurological 'noise' and, by comparison with a bit, is painless and harmless. As the dumbbit does not move, salivation is not triggered and the tongue and jaw remain immobile during exercise, as they do in a horse at liberty.



Figure 4. A link-chain dumbbit, five and a half inches long (13.7cm), is attached to a pair of standard, stainless steel snaffle 'O' rings. The weight of the 'O' rings could be reduced by using a lighter metal. Shorter or longer chains can be used to fit individual horses. Too shotr a chain will pinch; too long and it will cause a horse to 'play' with it - keeping his tongue on the move and stimulating salivation.

[WARNING: Under no circumstances should a link-chain dumbbit ever be used unless the rider has ensured that the bit bypass strap is long enough to prevent this dumbbit from applying pressure to the mouth when the reins are tensed]

## Indications for a dumbbit

1. The primary indication is to replace the physiologically contra-indicated bit. Unless a bit is used by someone with the hands of a neurosurgeon, the balance of a tight-rope walker, and the mind of a Buddha, it causes a horse pain and fear. This, in turn leads to over a hundred stress responses (unwanted behaviours) and many diseases. Accidents and injuries to horse and rider are too often the end point. In racehorses, the bit is a common cause of soft palate instability, 'bleeding' and sudden death (Cook 2013, 2016a, b). With a painful foreign body in its mouth, a horse cannot breathe properly. Every athlete needs energy and energy production needs oxygen. Oxygen is to the horse what gasolene is to a car. The rationale for bit-free racing has been further described and the bit/bitless risks compared (Cook 2005a, b).

- 2. A secondary but useful additional indication is to allow a horse with a sore mouth to continue in training or even in competition. As any trainer knows, bit-induced sore mouths are extremely common in racehorses of all types. Rather than taking a horse out of training while the mouth heals, a dumbbit can be used to *'let the mouth rest.'* The need to use a dumbbit for this purpose may, happily, provide a golden opportunity for demonstrating how much better a horse performs when emancipated from the bit. Veterinarians and equine dentists can use the occurrence of a sore mouth to introduce the primary indication for dumbbit use.
- 3. This article is focused on use of a dumbbit for flat racing and steeplechasing but the principles that validate bit-free horsemanship apply also to harness horse racing (Cook 2011).

#### How does a bit interfere with breathing?

In all mammals, the throat serves two systems, the respiratory system and the digestive system. It either directs air into and out of the lungs or directs water into the stomach. These are either/or options. A horse can either run or drink but cannot do both at the same time. Think of the throat's soft palate as a switch plate on a railway; 'down' for breathing and 'up' for swallowing (Figs 5-7).

A bit in the mouth stimulates the digestive system, not the respiratory. It causes the production of saliva, which now either has to be swallowed as the horse runs or it floods the lungs. What happens in a bitted racehorse is probably a bit of both. Repeated inhalation of saliva will irritate the lungs and cause inflammation. This could well be a cause of inflammatory airway disease (IAD). A repeated incentive to swallow while breathing at the rate of two and a half times a second (think about this) means that at intervals during a gallop, a racehorse may experience the option of either swallowing or drowning. The swallowing option, if followed, elevates the soft palate, which may now get caught-up in the hurricane and stay displaced (so-called dorsal displacement of the soft palate, DDSP).

But the DDSP story does not end here, as there are additional explanations for DDSP. Movement of the soft palate is controlled to some extent by two muscles. Neither of these muscles is particularly powerful. Nevertheless, the one that elevates the soft palate is strong enough to lift the soft palate for swallowing when a horse is drinking and even apparently when galloping. The act of swallowing is rapid, so the muscle does not have too much work to do. On the other hand, the muscle responsible for depressing the soft palate is relatively weak and, in any case, only acts on the front half of the soft palate. Even here, it is unlikely to be strong enough to prevent the soft palate from floating upwards in response to the negative pressure that develops in the throat at each inhalation. It is certainly incapable of holding down the front half of the soft palate during the approximately 180 strong inhalations that occur during a 6-furlong race. So if the mechanism for maintaining an open airway in the throat is not muscular what is it? My answer is that there are at least three mechanisms.

In the wild, a horse extends and lowers its head and neck at the gallop. This does two things. It straightens out the respiratory tract and reduces the work of breathing, which has the effect of rendering the suction forces less powerful. It also stretches the tract longitudinally which – like a Chinese puzzle under tension– helps it to resist being collapsed during inhalation. Both of these mechanisms are jeopardized in the racehorse because of bit-induced 'rating.'

The third mechanism is the most powerful of the three and one that has taken me over 50 years to recognize. In the wild, a horse runs with closed lips. Prior to running it swallows once with closed lips. This generates a sub-atmospheric pressure in the oral cavity. The negative pressure persists for the duration of the gallop. It is, I believe, this vacuum that clamps the soft palate to the root of the tongue and ensures a fully-open airway in the throat. Evolution apparently 'invented' vacuum packaging. Unfortunately, a bit breaks the lip seal. The soft palate is untethered at the gallop and free to blow in the breeze. Hence the common diagnosis of 'palatal instability' and/or DDSP.



*Fig. 5: The label SP marks the soft palate. When breathing, the soft palate is in the 'down' position, in order to open the airway (nasopharynx). When drinking, the soft palate is in the 'up' position to open the digestive part of the throat (oropharynx).* 



Figure 6. The oral vacuum (red areas) in an exercising horse at liberty. The epiglottis is the pink cartilage of the voice box close to the horse's tonsil.



Figure 7. Without an oral vacuum at exercise, the soft palate is free to become elevated and/or dorsally displaced during inhalation. The red dots in this diagram indicate how, with elevation of the front half of the soft palate, the airway is obstructed at a bottleneck between the nose and the throat. The back half of the soft palate is also dorsally displaced, i.e., its free edge has become unbuttoned from the 'grip' of the epiglottis. This produces another bottleneck between the throat and the voice box. In any bitted horse, either bottleneck can occur, separately or together. Both are serious.

## External evidence of the oral vacuum

Evidence of the oral vacuum can be observed in a running horse at liberty. Its presence results in recognizable anatomical landmarks as the cheek gets sucked-in where there are no teeth, at the bars of the mouth. In particular, the 'straight edge' of the hard palate is thrown into sharp relief, behind and just below the bottom edge of the nostril (Figs 8-10). At the tail end of the 'straight edge,' the front edge of the first upper cheek tooth is clearly visible and, less sharply, the bottom edges of the first three upper cheek teeth. These features are also apparent when a horse drinks, as swallowing depends on an oral vacuum to provide suction (Fig 9).



Figure 8. Upper and lower jaw of a skull, with a model tongue (red). A link-chain dumbbit lies on the tongue at the level of the mental foramen, the point at which the sensory nerve to the bars of the mouth emerge. The edge of the hard palate lies between the two arrows. [The 'bulldog' mouth in this image should be ignored. A photograph of a skull with correct alignment of the jaw will replace this image in the next version of the article]



*Figure 9. The oral vacuum during drinking is apparent from the prominence of the edge of the hard palate, the first cheek tooth in the upper jaw and the bottom edge of the molar arcade.* 



### Figure 10. A frightened mustang in flight exhibits sealed lips and the presence of an oral vacuum.

A dumbbit does not interfere with the lip seal. It enables a horse to create and maintain the oral vacuum which clamps the soft palate to the root of the tongue and ensures a fully-open airway at the level of the throat ('nasopharynx' in Figs 5, 6). Over 95% of bitted racehorses 'bleed' from the lungs when raced. 'Bleeding' is a sign that a horse's lungs have become waterlogged (negative pressure pulmonary edema). It is caused, as in man, by suffocation. A bitted racehorse is being throttled. The bit breaks the lip seal and dissipates the mouth cavity vacuum so essential for keeping the soft palate (the floor of the throat) from being sucked upwards at each breath. At the gallop, an untethered soft palate is unstable. At each inhalation, it tends to elevate and in so doing, obstructs the airway. On occasion, it may even become completely unanchored, not just from the root of the tongue but also from the 'grip' of the epiglottis at the voice box, i.e., dorsal displacement of the soft palate – DDSP (Fig.7). To make matters worse, tension on a bit makes it too easy for a jockey to 'rate' a horse, i.e., by flexing the poll. Anything less than full extension of the head and neck constitutes an additional source of airway obstruction at the throat. Use of a dumbbit, on the other hand, avoids both problems. A dumbbit will not cause waterlogging of the lung. Suffocation can be avoided, 'bleeding' prevented and performance improved (Cook 2016).

#### Justification of dumbbit training

Evidence that use of a bit is incompatible with the physiology of the horse, a welfare issue and a handicap to performance was first published 17 years ago (Cook 1999). Since then the evidence has become even more compelling (Cook 2007, 2016). It is relevant to all equestrian disciplines. It is particularly relevant to racing, in which both ethics and success demand that racehorses should not be handicapped by any interference with their ability to breathe (Cook 2005a, b, 2013, 2016).

The equipment rules of racing in most jurisdictions mandate the presence of a bit. However, the rules don't mandate how it should be used. The only rule-book guidance commonly given is generally limited to the assertion that the welfare of the horse is paramount. It is no coincidence that an ability common to successful jockeys is that they have 'good hands.' For horsemanship in general, not just in racing, 'good hands' means 'light' hands, i.e., the most delicate use of reins that terminate with steel rods in a horse's mouth. Two long-revered goals for riders are, "Keep out of his mouth' and "Give him back his head." Given the current rules of racing, a dumbbit goes as far as it is possible to go with the first goal. It also facilitates the second goal.

## Historical evidence on bitless racing

Since the 18<sup>th</sup> century, when formal rules were first drawn up for flat racing, the use of a bit has been mandatory in most countries. As far as I am aware, the only racing jurisdiction that permits bitless racing is Germany (Fig 12). I have not combed through the rules of racing for Ireland but it is possible that the word 'bit' is never mentioned.

Chariot racing must have had rules too, though I am not aware of any equipment rules. Chariot horses in Roman times wore bits.

Nevertheless, the equivalent of bitless racing was an important part of Bedouin horsemanship. Superior speed was a matter of life and death, after a tribal raid. The Bedouin horsemen developed what may still be the finest of bitless bridles - for those who had learned how to use it (Fig. 11). Bedouin horsemen understood how horses could be controlled just by the *feel* of a weighted, bitless rein and no rein tension (Hanson and Cook 2015).



Figure 11a. Bedouin bridle. A slender link-chain noseband lies on a flannel pad and connects by a 'Y'-shaped link-chain to a single, weighted rein. Rider/horse communication is achieved on a loose rein with subtle vibrations that invoke the horse's exquisitely sensitive sense of proprioception.



*Fig.11b. Detail showing the 'Y' link-chain attached to a single weighted rein.* 



Fig 12: Bitless racing in Germany. An LG bitless bridle

Throughout this article, use of a dumbbit is described in conjunction with a crossunder bitless bridle. But mention of the Bedouin bridle reminds us that the dumbbit principle could be used in conjunction with many different designs of bitless bridle.

### Evidence from the last two decades of bitless riding, from riders who previously rode 'English.'

Since 1997, hundreds of thousands of riders worldwide, who had previously used bits on their horses, have chosen to switch to a bitless bridle. These are mostly amateur riders, rather than the professionals.

Regardless of their opinion about bitless riding, professional and competition riders in many disciplines are currently debarred from the benefits of bitless riding. The amateurs include increasing numbers of young riders who have no wish to compete if that requires them to use a bit.

Bitless riders of all ages have shown by example, with horses of diverse breeds (including many off-the-track Thoroughbreds), in a wide variety of disciplines and under all conditions that:

- Their horses are happier and healthier
- Their horses are safer and so are they themselves
- They have more control and better communication than with a bit.

Reassured about these three major concerns, there are other reasons too why trainers of Thoroughbreds could also explore the benefits for the horse (and trainer) of a horse being functionally bitless. The extra reasons are that:

- being able to breathe freely, horses obtain more oxygen and at a reduced cost with regard to the 'work of breathing' than when bitted
- Being given the freedom of their head and neck pendulum, they will be able to stride more efficiently and, again, with greater economy of energy.
- Being free of bit-related pain:
  - 1. Horses will run faster
  - 2. They will be easier to train and quicker to learn
  - 3. They will suffer none of the hundred or more stress responses (unwanted behaviors) caused by the bit (Cook 2007)
  - 4. They will suffer none of the 40 or more diseases caused by the bit (Cook 2007)

- 5. Many accidents, injuries and breakdowns will be avoided
- 6. Veterinary fees will be less
- 7. Racehorses will live longer, stress-free lives
- 8. Training costs will be reduced
- 9. Trainers will find that by eliminating the harmful effects of the bit (neutralizing a toxic handicap) they can improve a horse's performance far better than by using either legal or illegal race-day medication
- 10. By eschewing race-day medication, trainers will restore the public image of racing and promote the continuity of racing.

# Method for dumbbit training

Proof of the dumbbit concept for racing (and for any other discipline for which the bit is currently mandated, e.g., dressage) can be tested in three steps. The first two steps take place during training exercise and the third when racing, as below:

- 1. Exercise riders and jockeys in the trainer's barn are given the chance to gain confidence in using the crossunder bitless bridle during <u>training</u> at the walk and canter, and during work.
- 2. Exercise riders and jockeys ride horses in training, equipped with a crossunder bitless bridle and dumbbit.
- 3. Jockeys ride races in the crossunder and dumbbit.

An alternate approach to transitioning is as follows:

Riders/drivers can start with step 2 above, using the horse's ordinary bit attached to a crossunder bitless bridle with a bit bypass strap adjusted so that they are using the bit 100%. First they feel no difference and they come to trust the headstall's basic functionality. After that they can test what happens with less bit pressure and more on the cross under. At first perhaps they will use a rein pressure distribution of 75% bit and 25% bitless. This allows them to gain confidence – step by step – with the headstall in a partially bitless configuration. When they feel the horse responds well to less bit pressure, they trust the headstall and are prepared to experiment with different types of bit and bit pressures, trying to find the best way to handle their perticular horse. They may move on to a 50:50 distribution then 25% bit and 75% bitless. The next step is to test the headstall concept in relation to the horse's training results and measure the improvement this way. IF they see increased performance, they will now be ready to use the adjustment most suitable for the horse when competing, i.e., the 100% bitless adjustment. At this stage, the worst elements of a bit are eliminated and they use the headstall in a 100% bitless manner.

The bitless alternative could also be introduced using two pairs of reins for training, one to a bitted bridle and one to a bitless bridle. Riders can 'ring the changes' depending on which pair of reins they use. Once accustomed to bitless usage, they can use 'bitless' entirely for most training days and only use a bit bypass occasionally in order that the presence of a bit on race-days does not feel unfamiliar to the horse.

Trainers and jockeys need to be convinced that bitless is safer for them and their horses, and that performance will be improved

Exercise riders need to be assured about their increased safety

Owners will be motivated by the thought of improved ethics and performance but will also need to be reassured on the question of safety

While bits are still mandated, the objective is to minimize the handicap of the bit by switching to a bitless system of communication.

## The dumbbit

The switch from bit to bitless for racehorses depends on the use of two adjustable nine-inch straps as extensions of the racing rein for a crossunder bitless bridle. I refer to each strap as a 'bit bypass strap' (BBS) (Figs.11 and 12). Illustrations of a dumbbit I developed for harness racing in Sweden are available below (Figs. 8-10) and others online (Cook 2011). The text of the harness horse article provides further information. The concept of the dumbbit for driving is the same as for riding.



Figure 1'3a. FRITIOF PIRATEN. First harness horse to win a race in a dumbbit (Sweden, 2011).



Figure 1`3b Detail. Tension in the bit bypass strap indicates that control was not 100% bitless. The lip seal was broken by some tension on the driving bit.



Figure 14. Crossunder driving headstall and dumbbit. The bit is here hung from the open cheek straps of a crossunder bitless bridle. It is probably safer to hang the bit independently from a bit hanger, as rein tension causes the noseband to slide a little up a horse's head. If it moved sufficiently in this direction it might bring the bit back into pressure contact. (Photo: erstin Kemlen)

# **Order of fitting**

- 1. Take a crossunder bitless bridle headstall
- 2. Thread the buckle ends of a pair of racing reins through each 'O' ring of the crossunder straps AND the 'O' rings of two bit bypass straps
- 3. Put the bridle on the horse.
- 4. Over this fit a bit hanger carrying a dumbbit; for example a bridoon as in Fig 3).
- 5. Attach the buckle end of the bit bypass straps to the snaffle rings of whichever dumbbit you are using

6. Adjust the buckles of the bypass straps so that when rein tension is applied sufficient to activate the crossunder straps, both straps stay slack and apply no tension on the dumbbit.



Figure 15. Dumbbit as in Fig 3, with the cheek straps of a bit hanger attached

With correct fitting, the reins function only by means of their connection to the crossunder bitless bridle. The reins will still be attached to the bit but will exert no pressure on the horse's mouth. Think of the rider's hands as each having a telephone line to the horse but only the bitless lines will be 'alive.' The lines to the dumbbit will be 'dead.'

A bit will still be present in the mouth and connected to the reins, complying with the current rules of racing in the U.S. and around the world, but it will be only a dummy. To minimize even the effect of a dummy, the smallest and lightest of bits can be selected. A

bridoon from a double bridle may be the least obtrusive as a starter. The horse will still have a foreign body in its mouth but in the absence of rein tension, there will be no pressure and it will be painless.

The ultimate objective, in due course, is to select a dumbbit the canons of which will be so narrow that the horse's lips will close around them completely, enabling the horse to generate and maintain an oral vacuum at exercise. As a step in this direction, a Waterford snaffle might be used as a dumbbit (Figs. 13, 14)



Figure 16a. Waterford snaffle



Figure 16b. Detail of Waterford snaffle, showing the relatively narrow link adjacent to the snaffle ring. A horse could probably close his lips around this link and maintain an oral vacuum at exercise.

As the mouthpiece is not for any purpose other than to maintain a pair of snaffle rings in their 'traditional' place at the corner of the mouth, there is no need to use a working mouthpiece. A slender link chain will probably best achieve the objective of permitting the horse to maintain an oral vacuum (Fig. 17). This can be constructed by cannibalizing a standard snaffle; cutting off both canons; and attaching a 5.5-inch (13.7 cm) length of stainless steel link chain as purchased from any hardware store. In due course, as a final refinement of a dumbbit, the stainless steel 'O' rings could be replaced with 'O' rings made from some lighter metal.



Figure 17. A dumbbit with stainless steel snaffle rings and a minimal mouthpiece of stainless steel link chain. The soft, elastic tissue of a horse's lip at the corner of its mouth should be able to close around the links and so avoid jeopardizing the oral vacuum at fast exercise.

### Training and racing 'on the buckle.'

The ultimate advantage of dumbbit racing will come when a yearling can be trained from the very start with a dumbbit. The objective is for a racehorse never to be exposed to the problems that arise from the standard use of a bit, for example, rein tension, mouth pain and lung damage (Cook 2016b). Such training, designed to prevent a horse from ever learning how to 'pull' should, ideally, start when a foal is first taught to lead on a head collar. The purpose is to train a racehorse (and all its riders – exercise riders and jockeys) to gallop on a loose and 'feeling' rein, i.e., a weighted rein. By tapping into their own and their horse's exquisite sense of proprioception, a rider can achieve the second goal of 'giving a horse its head.' Complete freedom of a horse's head and neck pendulum, essential for peak performance, is entirely compatible with rider control. For an introduction to 'on the buckle' riding, click on the link below to the article by Hanson and Cook 2015.

### **Summary**

To control a racehorse with a bit is akin to putting a crimp in the fuel line of a racing car, and rendering its brakes and steering unreliable. For both horse and rider, strap on skin trumps metal on bone (the bars of the mouth).

## **Online links to further reading**

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Cook, W.R. (1999b): Bitless Bridle User Manual. Online at

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Cook, W.R (2016b): "Asphyxia, drowning, 'bleeding' and sudden death in the racehorse: a cascade of catastrophic yet avoidable accidents." [Unpublished material, available on request]

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http://www.bitlessbridle.com/THEBEDOUBRIDLE.pdf