

**Regional HA/HB/C3
Biting and Tack
April 24, 2007
Handout**

See Agenda for References

Bridles and Nosebands

**Dropped
(Hanoverian Cavesson)**



The Dropped Noseband correctly fitted:

When the bit is added, the corners of the mouth will be drawn up a little, and the chin strap of the noseband will be drawn down. The noseband will be buckled below the bit. The bit then exits the mouth above the chin strap. The noseband will constrict the opening of the jaw as low down towards the mouth as you can get. This is where the jaw will open the most, compared to higher up towards the eye. This noseband mustn't be too snugly adjusted. It will need to leave some room for a slight opening of the jaws, which stems from relaxation of the poll and jaw muscles. It must also be loose enough not to compact the nasal cartilage and the nostrils. When the horse is at standstill, you must be able to fit two fingers under it, easily. When the horse works and breathes hard, the nostrils widen to take in more air. This must not be hindered!

**Flash
(Aachen Cavesson)**



The Flash Noseband correctly fitted:

It is a regular English noseband/cavesson commonly used with the double bridle, and attached to it is an extra strap that is supposed to do what the drop cavesson would do - shut the mouth further down towards the mouth. It was "invented" for jumpers, where they wanted the control over the mouth of the dropped cavesson, but to keep the English cavesson part for attaching the standing martingale too. In a young horse, the molar teeth (at the sides of the jaw) are a lot bigger compared to the rest of the skull, than in the mature horse. You can see the upper and lower teeth bulging out through the cheeks like two ridges along the side of the face. These are a good reason to use the drop noseband, instead of the flash. The upper cavesson band will press the cheeks towards the teeth if too snugly adjusted, or even loosely adjusted if the horse resists the bit and gapes against the noseband. In a young horse the corners of the mouth can bulge upwards with the rein aids and help with the squeeze. And common are the ulcers and lesions on the insides of the cheeks of horses, young and old. This type of noseband is the main reason for it.

Flash fitted too tight



Crank (Swedish Cavesson)



The Crank Noseband:

The crank noseband should be able to fit 2 fingers under the cavesson for the horse to be able to relax and drop open his jaws (although still have the lips closed) as in throughness. This noseband is needed when rein contact is too heavy, or when the horse shows such blatant resistances as to gape widely, or cross his jaw. Nor does it "help" any of these flaws, it only conceals them. The crank noseband is used with the double bridle because the double cannot be used with a flash or a drop (which could also be shut too tight) or any other means of mechanically shutting the mouth so that no resistances can be seen.

Grackle (Mexican)



The Grackle or Figure 8 Noseband correctly fitted:

The figure 8 can be adjusted under the jaw and under the chin to stop horses from crossing their jaws, hanging on the bit or getting hold of the bit with the teeth. This noseband runs diagonally across the face, and is thus more flexible and giving, and doesn't give the horse anything to gape against. It also stays away from the teeth.

Figure 8 Noseband



The "**Combination Lever Noseband**" works in much the same way as the grackle. If you compare the two pictures here you'll see that they are basically the same. The combination lever noseband is a little stiffer, and does not "give" as much as the figure 8 and it has a tendency to push on the cheeks. It stays away from the lips, and does not rub against the bit or stabilize it in any way, like a drop or a flash can. It is ideal for hindering the horse to cross the jaws, because of the metal bars on the sides.

Combination Lever Noseband



Kineton Noseband

The **Kineton Noseband** originated in the racing circuit, for use on pulling horses or horses that would go out of control at higher speeds. It moves the pressure away from the bars and onto the nose. It has a restraining function on the nose of the horse, like a hackamore without leverage. The kineton can be adjusted so that most of the traction from the reins be taken up by the noseband, or less, or hardly anything. It can also be adjusted so that it is so short that it pulls the butts of the snaffle forward towards the nose, and thus inverts the V or U shape of the snaffle in the mouth. This is NOT how to use it. Used in a correct way, it can help hot, rushing, sensitive horses from fearing the bit, and it can also help horses who open their mouths against a conventional noseband, because they feel them around their heads. Here, there's no chin strap and nothing to open against.

Bits

The Snaffle Bit: A Non-Leverage Bit. It applies the same amount of pressure to the mouth as is applied to rein, i.e. 1 lb of pressure on the rein = 1 lb on the mouth.



The regular snaffle bit is jointed. This gives two separately mobile parts that join together via a link in the middle. This lets the rider move one side of the bit, while the other is still, as in bending to the inside/stretching the outside. Moving the inside of the bit makes the horse position to the inside at the poll, and the still outside of the bit gives the horse something to stretch for. The bit folds in the mouth when you pull on both reins (as in heavy contact). It folds around the lower jaw. It acts as a nut cracker on the bones of the lower jaw. Not only that, the V-shape of the bit will cause it to go higher in the middle and cause the link to hit the horse in the sensitive palate. Also, the more vertical (and beyond) the head, the more the V points into the palate. In horses the bit is supposed to rest on the tongue, and maybe compress it slightly but not much, and the bit still shouldn't hit the horse in the palate. This is only possible with a fairly thin bit, and light contact to avoid the V-shape. Horses ridden into heavy contact or with a long single-jointed snaffle (too wide for the horse's mouth) can sometimes even have a black spot on the palate that you can see if you open the mouth. Depending on your horse's facial conformation, you'll need to choose what width of bit you need. Single jointed snaffles should be fitted to allow about a quarter inch clearance between the bit ring and the horse's lips. If the bit is too narrow, it will pinch the lips as contact is taken on the reins. Bits that are too wide will slide from side to side and may bruise the lips and/or bars of the mouth. Another factor to take into consideration is the height of the bit in the horse's mouth. This can be adjusted by tightening or loosening the cheek pieces of the bridle. Ideally, a correctly adjusted bit will make one or two small wrinkles in the corner of the horse's mouth. Lower and the bit may clank on his teeth, causing him discomfort. Higher and the bit will pinch.

Snaffle Bits:



Double-Jointed Snaffle



French Link



Ball Bean Link



Dr Bristol Bit
With the flat middle piece
with its sharp edge across the
tongue.



Ported Link

A **Double Jointed Snaffle** has 3 pieces in the mouth of the horse. This makes the V-shape turn into a U-shape, which is slightly more anatomical. The sides can still be moved independently, so it works the same way as a single jointed. In some double jointed snaffles the two side pieces join the middle piece with vertical links (while the middle piece has horizontal links) and then the arches can still hit the horse in the palate, although not as much. Some bits have put horizontal links on the sidepieces, bowed the middle piece, bowed the sidepieces, so that the bit conforms to the U-shape of the mouth. This can be fine in combination with soft/light contact. But this kind of bit also has a greater tendency to work on the bars at the sides instead of the tongue in the middle. The French Link is a common double jointed bit. It is an oblong or 8-ish shaped flat piece in the middle that can be fairly thin. The thinness is usually not a problem, since it rests with the flat side against the tongue. If it doesn't it's not a French-link, it's then a Dr Bristol. The mid-piece is also usually longer than the bean, and thus lies flatter and wider on the tongue. There are snaffles with the middle bean shaped as a port for the tongue, too. There are middle beans that are exquisitely formed like a ball, with the intention of giving a rather distinct pressure on the middle of the tongue.

Mullen Mouthpieces



Horses that are extremely sensitive to bar contact can be ridden in an unjointed snaffle, which has a straight or bowed (mullen) mouthpiece. This applies pressure to the tongue. The straight bar can rest against the edges of the palate, when the tongue presses on it encouraging the horse to open his mouth to escape the pressure. The rubber bit may be more flexible and afford less pressure on the bars.

More Severe Snaffles



The thickness of the mouth bar(s) is important to the horse. In general, you can say that a thicker bit is milder while a thinner bit is sharper. The thicker bit has a larger contact surface than a thinner bit and therefore spreads the pressure better. But there are other problems when it comes to bit thickness. A thicker bit takes up more space in the mouth, puts more passive pressure on the tongue and the palate and opens the lips more. It can be more uncomfortable. A horse with a small mouth or large tongue may have trouble making room for a thick bit especially if the palate is flat and not arched.

Gag Bridle



A gag bridle works on the horse's mouth and poll simultaneously to increase braking and balancing power, and it has the potential to be very severe if used incorrectly. The gag concentrates pressure simultaneously on the corner of the lips and the poll causing the horse to raise his head. A gag is too severe for a heavy-handed rider. If the rider needs to rely on their hands for balance, a gag isn't an appropriate bit. Ideally, you want to ride mostly off your snaffle rein, adding gag-rein pressure only when your horse gets strong. The gag cheek piece passes through holes in the top and bottom of the bit ring and has a ring at the bottom to which the rein attaches. A correctly fitted gag bridle should leave one and a half "smile wrinkles" at the corners of the horse's mouth.

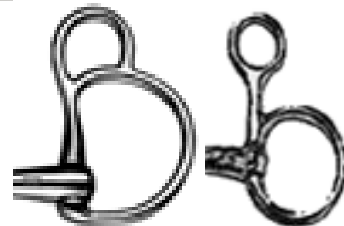
3 Ring Snaffle (American Gag, Dutch gag, Continental, 3 ring Pessoa Gag)



This bit works by providing:

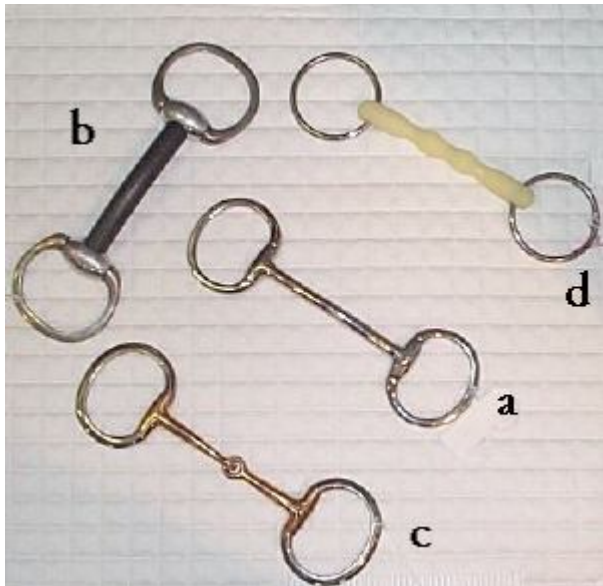
- *Leverage:* When you pull back on one of the lower rings with the rein, the top ring levers forward and pulls the cheekpiece down, which applies pressure to the horse's poll and encourages him to lower his head.
- *Lift:* As you pull on the reins, the mouthpiece rides up the snaffle ring in an elevating action. When combined with a strong leg pushing the horse forward into the bridle, it helps to balance him off his forehead. (This effect can be increased by the style of mouthpiece--it's normally smooth but can be a stronger slow-twist or even a custom design.)
- *Turning power:* The sidepieces function like the shanks of a full-cheek snaffle, helping to steer the horse by pressing against the outside of his face in a turn.

D Ring & Full Cheek Snaffles



The cheek pieces of the D-Ring and Full Cheek can be helpful in refining the turning aids and for preventing the bit from being pulled through the mouth. The main benefit of the eggbutt shape is that the chance of the lip being pinched between the mouthpiece and bit ring is lessened. As you can see, the mouthpiece itself widens out at the sides, and the joint between the mouthpiece and the ring is distanced from the horse's lips. This shape makes the bit less mobile than the loose-ring snaffle -- the mouthpiece doesn't move quite so much in the horse's mouth. The Loose Ring snaffle is a bit in which the mouthpiece attaches to free sliding rings. If the horse tries to "take a hold" of the bit, it will rotate on the rings, making it difficult for the horse to grab the bit and evade the rider. Sometimes the lips can get pinched where the mouthpiece meets the rings. On the Full Cheek, the keepers, by fixing the bit in alignment with the cheek pieces of the bridle, also add a small degree of pressure on the poll when the rein is used. When used without the keepers, the bit will twist in the horse's mouth, turning a French-linked full cheek snaffle into a Dr. Bristol.

What Bits Are Made Of:



Probably the most inexpensive, and least desirable, material are nickel plated bits. With wear, the nickel plating can flake off, revealing the core metal underneath and leaving rough patches which can injure the horse's lips and tongue. These bits also tend to rust.

(a) Stainless steel is a much better option. It doesn't flake or rust. Stainless steel is probably the most common material for bits these days.

(b) Some bits come with mouthpieces made of a different material. Vulcanized rubber is a hard rubber coating which is baked on to the mouthpiece. This baking process makes the rubber stronger and less prone to flaking than non-vulcanized. Rubber mouthpieces are warmer on the bars of the mouth and the tongue and some horses prefer the softer feel they give.

(c) Copper is another popular choice for mouthpieces, with either the complete mouthpiece being made of rubber, or copper inserts or rollers being incorporated into it. Copper helps some dry mouthed horses salivate and become more responsive to the bit. It is soft and does tend to "pit" though, so care should be taken to make sure there aren't any sharp edges to hurt the horse's mouth.

(d) Happy Mouth bits are made of high tech plastics. They are soft and flexible, and come with an apple scent to encourage the most bit-shy of horses to accept them.

Another material that encourages horses to salivate and become softer and more responsive in the mouth is the Sweet black Iron mouthpiece. Whether they actually taste sweet to the horse is unknown. Another metal used in bits is German silver which is an alloy of copper, zinc and nickel that is white and shiny like stainless steel.

The Curb Bit: A Leverage Bit. Curb Bits multiply the pressure applied to the mouth by means of the shank and the curb chain. 4 ½ inch below the bit ring and 1 ½ inches above the bit ring = a 3:1 ratio – i.e. 1 lb to rein = 3 lbs to horse's mouth.

Curb Bit



The mouthpiece acts as a fulcrum. When contact is taken on the reins, which are attached to the lower end of the shank, the leverage action tightens the bit in the horse's mouth, exerts downward pressure the crown piece of the bridle over the top of the horse's head, behind the ears and closes the curb chain under the chin, exerting pressure on the lower jaw. The severity of the curb bit is partly dependent on the length of the shanks. The longer the shanks, the greater the pressure exerted on the mouth and poll. The length of the lower shank compared to the upper shank affects the degree of pressure exerted on the poll – the longer shank in relation to the upper increases the pressure on the curb groove and bars, the longer upper shank increase the pressure on the poll. The shape of the mouth piece has a direct effect on the horse in that it lies against the tongue and bars, and more or less in contact with the palate. So only lying there, the horse feels it and its shape with his sensitive mouth.

The purpose of the chin chain is to fix the curb bit at a certain height in the mouth, and stop it from moving about when used, and to take leverage against the chin, thus pressing the tongue down with its action. It is fastened to the upper shanks of the curb, usually in the very same ring where the side pieces go. From there it runs under the chin behind the curb bit but in front of the bridoon (in a double bridle). Hooks hang from the upper rings, and these should point with their opening to the front, or else they can catch the bridoon, or the reins. If the chin chain is too loosely fitted, the curb will be allowed to turn around the axis of the mouth bar until the lower shank points backwards, when reins are taut. If it is really loose, the shanks will point straight in the direction of the reins to the hand. The ideal is to adjust the chain so that the lower shanks are at a 45° angle to the mouth when the reins are taut (without firm pressure).

Lip Strap



The lip strap goes from the small hole in one shank, through an extra ring in the chin chain and to the other shank, in this way hindering the shanks from moving too far away from the back of the jaw (i.e. forward). And it does not have to be adjusted more than once - you can easily put the bridle on and off without opening it. To fit the double bridle, the bits should lie in a natural position on the bars of the mouth, with the bridoon slightly above the curb. They should be far enough apart to allow them to function correctly, while not being so far apart that the horse is at risk of getting his tongue stuck between them. Care should also be taken with the fitting of the curb chain. The simplest form of double bridle is one with a medium bridoon, preferably single-jointed, and a curb with a medium port, allowing room for the tongue. The bridoon is used for turning the horse and the curb bit encourages the horse to relax his jaw, and to flex at the poll and lower the head and neck.

The Pelham



The Pelham uses two sets of reins and functions like a snaffle and leverage bit combined. The top reins attach to the bit rings and act as a snaffle by providing direct pull, while the curb rein attaches to the rings on the shank, applying leverage and activating the curb rein for flexion of the poll and lowering of the head. But most riders using it only attach reins to the shank or possibly use a delta (converters) between the two rings. The converters will cause the reins to primarily put traction on the upper ring, and if more force is applied, put traction on the shank.

In the July 1993 EQUUS, an article by Dr. Deb Bennett evaluates a bit in terms of severity. The basic principles/rating system she describes applies to all types of bits (Walker, show horse, trail, western dressage, etc). The scoring scale described rates a bit with a total score of 1-5 as mild, 6-19 as moderate and 20 or more as severe. It evaluates the shape of the mouthpiece, the rings and how they attach to the mouthpiece, the thickness of the bit, length of the shanks for leverage bits, where the curb chain/strap attaches to the shanks, etc. The rating system is of necessity subjective because it cannot quantify the finesse of the hands holding reins or the temperament of the horse at the other end of the rein.

NOW, we are going to play this biting game- So pick 2 or 3 bits – one you think is more mild and one you think is severe and one somewhere in-between–

The Reins

Webbed with leather notches



Woven rubber canvas



Leather with notches



Braided from thin leather straps



Rubber coated leather



The Saddle



Saddle Tree

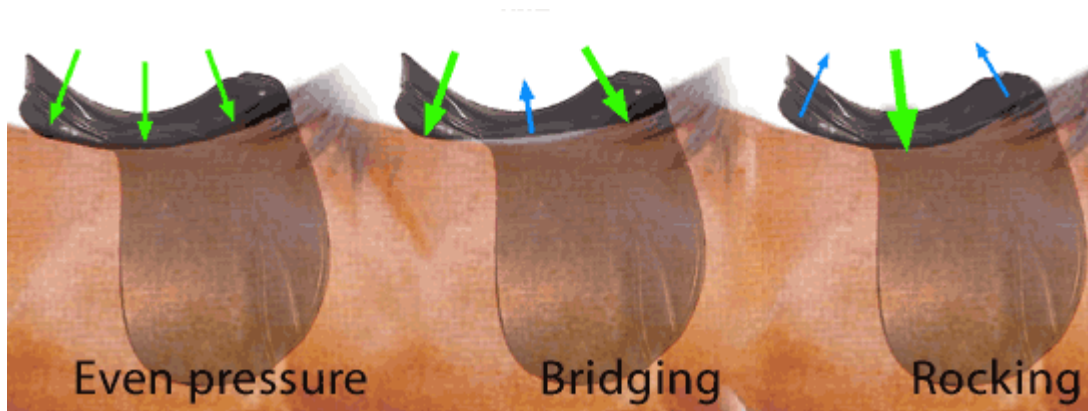


The saddle is a relatively straightforward construction which has less variation than one would think. The traditional saddles are built around a tree, which acts like a skeleton. This tree pretty much decides the shape of the saddle and of the greatest importance is the angle between the two points in the front. They decide the width of the saddle, and that is paramount for fit, and it usually cannot be changed easily. The exception to that is the Wintec system with interchangeable gullet irons. The angle of the points is set on older saddle trees,

as well as the location of the stirrup bar. In more modern saddles, both the width of the points and the stirrup bar can be exchanged or moved. On some saddles one can even do it oneself. It is usually riveted onto the steel part of the tree. This is important to look for when buying a saddle, because since it cannot be moved, nothing can be done if it doesn't fit you. In older type saddle it is common to have the stirrup bar placed too far forward.

The girth billets are also mounted on the tree. If the billets break or need to be changed, the saddle must be taken apart, to reveal this part, and change it. The tree is covered in fabric and stuffed to some degree with wool, flocking or foam for rider comfort, and then completely covered in leather, both on top and underneath. Under this tree are the panels, which are really two long rolls of leather filled with stuffing. They are attached in front and at the back parallel to one another so that the space in-between creates the channel for the horse's spine. They also continue down the sides of the horse in the direction where the points are pointing. In the photo you can see the small pockets where the points of the tree go. Then there are flaps and sweat flaps attached and the saddle is complete.

The seat of the saddle has the inverted shape of a human rump. The weight of the rider's body can be effectively spread over the entire surface of the seat bones, and the buttocks and thighs, and make the weight bearing area larger than just the seat bones. This is a lot more comfortable than sitting on a straight log or even a bare back for that matter. The spinous processes of the horse's back are fairly narrow.



Two major faults in saddle fit are bridging and rocking. This means the entire shape of the saddle is mismatched to the horse's back. A bridging saddle is too straight under, lying like a log on the back, bridging from withers to mid-back. The saddle does not rest on the back where the rider sits. This causes increased pressure at the withers and at the mid back. It also causes the saddle to move about because of the lesser contact surface to the back. In any case, it causes pain, soreness, abrasions and sometimes open wounds around the withers and the back of the saddle. Rocking is a subtler problem. It is the opposite of bridging, meaning the saddle is too round under, like the hull of a boat on flat land. This causes the saddle to rock back and forth with the gaits. This causes the same pain, soreness, abrasions and wounds as bridging, but naturally, right under the rider's seat.

This is the biggest problem of older saddles. The stuffing has rearranged itself into nice little lumps and filled out the softer spots of the leather of the panels. The heat and sweat of the horse will cause the leather to stretch, and when the least uneven, it will stretch unevenly. In the places where it will stretch more, there will be a bulge. This bulge will fill up with the stuffing, creating a bump, or a lump that will cause more pressure over a small area

See the Saddle Fit guidelines

Other Equipment



A lunge cavesson with double jaw straps.



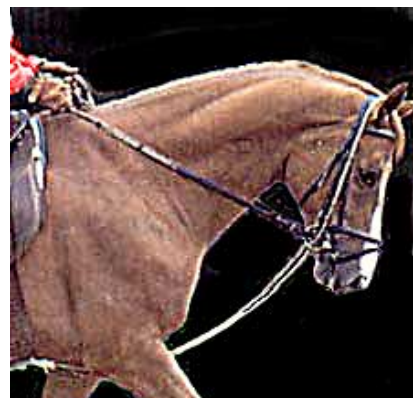
Bit attachment on the cavesson

Should be buckled so straps do not hit horse in eye



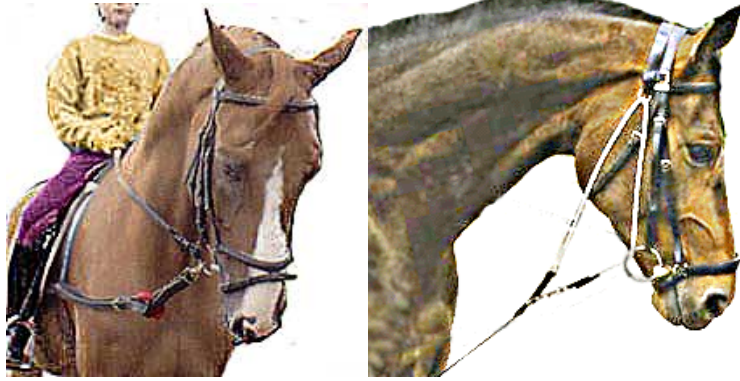
Draw Reins:

They are long reins that attach to the girth, either at the sides or between the frontlegs. From there they run through the bit rings to the hands of the rider where they are adjustable. This fixed length between girth, bit and hand, prevents the horse from raising his head or poking his nose further than the draw reins allow.



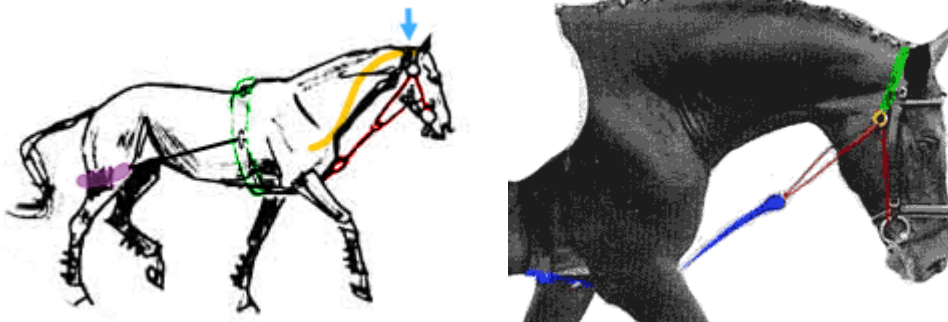
Mechanical Draw Reins:

This device is a mechanical draw rein that is not directly adjustable during riding. It goes from the girth area through the bit rings to the poll. It never reaches the hands, and the distance from hands to head has no impact on the horse's mouth. It is also elastic, and can thus invite the horse to take contact. Its biggest drawback is that it is not adjustable from the rider's point of view, so the rider cannot give, to reward the horse, or allow a full stretch. This is quite inflexible, and does not teach the horse much other than to lower his head



Side Reins:

The side reins fix the distance between the horse's mouth and a point on the girth or roller. The horse can handle that in many ways, by shortening the neck, by curling down, etc. To make a horse go "on the bit" in side reins, you need to be expert in driving it forward just so on the lunge, you have to release him often.



Chambon & De Gogue:

Of the two, the Chambon is the one that will allow the horse to stretch forward and down into the bridle and use his neck.



The Pessoa System:

The Pessoa System is advertised to get the horse to stretch down AND engage the hind legs forward, and thus be good for the back and promote engagement.

Martingales

In theory the educated rider on the well schooled horse should not need a martingale.



Running Martingale

The **Running Martingale** acts via the rein and should only come into action when the horse puts his head up. The easiest way to fit it is to hold both ring ends of the martingale together and to draw them toward the withers when the loop end is through the girth. If they can reach the withers the fit is loose. If adjusted too tightly they can cause damage to the horse's jaw by insensitive hands as they exert downward pressure on the horse's jaw. If the rein is not sewn to the bit, rein stops must be used to prevent the rings from becoming hung up on the fasteners.



Standing

The **Standing Martingale** prevents the horse from throwing or putting his head above the angle of control. This martingale is attached to a cavesson noseband – never a dropped noseband. With a well fitted standing martingale when the horse is standing you should be able to push the martingale up into the horse's gullet. It should not be adjusted so tight that it exerts continual pressure as this would cause the horse to lean on it and would restrict the horse's movement over a jump.



The **Irish Martingale** can prevent the horse from raising his head or shaking the reins over his head. In the event of a fall, the reins are less likely to go over the horse's head. An opening rein cannot be used with this martingale.



Irish Martingale